

***An audit of existing low carbon strategy from across the Humber, and  
York, North Yorkshire and East Riding Local Enterprise Partnership regions***

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for the Humber Technical Assistance Partnership

June 2016



For help with European Funding  
across Humber, York and North Yorkshire



**European Union**  
European Regional  
Development Fund

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## Appendix A: Audit sources by geographic coverage

## Executive Summary

This report presents findings from an audit undertaken with the purpose of identifying and unifying all relevant local low carbon strategy and ambition from across the Humber, and YNYER LEP regions. The scope of the audit has been far-reaching in order to capture as much relevant strategy as possible. Findings therefore include explicit low carbon ambition, as well as that which is secondary and/or an indirect benefit of other primary goals. The report is a result of an assessment of 147 different sources including recent low carbon strategies, as well as other local strategies, visions and plans containing low carbon ambition. The audit's findings bring together and connect previously released material, it does not represent a new strategy, nor does it provide any original material.

Audit findings are broken down into six sectors: economic growth; higher education; energy; health and social care; land use; and transport. Sections three to nine of the report provide a detailed account of all findings from each sector. Together these findings form a composite framework of existing low carbon strategy from across the Humber and YNYER LEP regions. A brief summary of the key messages from each sector is provided below.

Key low carbon messages found within local strategy, by sector:

### Economic growth

- Realising the economic and employment potential of the renewable energy and biorenewables sectors.
- Increasing knowledge transfer between centres of expertise and local businesses.
- Overcoming skill shortages, developing and maintaining local skills in support of low carbon sectors.
- Improving business productivity and competitiveness through energy efficiency and low carbon technologies.
- Developing local supply chains and helping to build the local market in low carbon technologies, goods and services.

### Energy

- Capitalising on significant opportunities in renewable energy in the Humber and bioeconomy in YNYER.
- Realising the low carbon benefits of large-scale heat networks.
- Maximising the opportunities for distributed energy generation.
- Increasing energy efficiency and energy savings in buildings.
- Collaborating to deliver energy based services that promote low carbon transition.

### Higher education

- Enabling the regions' world-class research centres and facilities to spearhead future economic growth and activity in low carbon sectors.
- Encouraging collaboration between the regions' business base and university-led research and development programmes to provide businesses with low carbon opportunities and know-how.

### Health and social care

- Raising awareness and encouraging sustainable behaviours with communities and workforces.
- Targeting carbon reduction in transport, buildings and operations and maximising self-generation.
- Low carbon procurement and commissioning

#### Land use

- Supporting larger decentralised low carbon energy technology in new development.
- Delivering more energy efficiency through innovative design.
- Utilising natural assets to mitigate climate change and as a low carbon energy source.

#### Transport

- Encouraging people to travel sustainably by improving public transport making it smarter, more efficient and reliable.
- Support low emissions vehicles and alternative fuels.
- Reducing carbon emissions by improving non-car transport infrastructure.

## 1. Introduction

- 1.1 This audit is in response to guidance published on 27 January 2016 by the Department for Communities and Local Government (DCLG) for European Regional Development Fund (ERDF) Priority Axis 4 (PA4): *'Supporting the Shift Towards a Low Carbon Economy in All Sectors'*. This guidance seeks to clarify the types of project proposals that would be eligible under each of the investment priorities. Guidance on Investment Priority 4e<sup>1</sup> includes a requirement to 'have in place a low carbon strategy(s) to provide a framework for measuring activities that reduce CO2 emissions'. In addition, it states 'where an existing low carbon strategy doesn't cover the full breadth of the activity proposed, the use of supplementary strategies can be combined to deliver a whole place approach'.
- 1.2 Given the guidance explained above the aim of this audit is to establish a framework of existing low carbon strategy(s) for use by the Humber Local Enterprise Partnership (LEP), and the York, North Yorkshire and East Riding (YNYER) LEP, as well as potential applicants, to inform their decisions relating to Investment Priority 4e. This report is the result of an assessment of recent local low carbon strategies, as well as other local strategies, visions and plans containing low carbon ambition, from across the Humber and YNYER LEP regions. It attempts to distil the low carbon ambition and actions within these strategies to create a composite framework.
- 1.3 It should be noted that the resulting framework is a composite of findings from existing strategies and other sources. It does not represent a new strategy, nor does it provide original material. Rather, it brings together and connects previously released material for ease of reference.

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<sup>1</sup>Promoting low carbon strategies for all types of territories, in particular urban areas, including the promotion of sustainable multimodal urban mobility and mitigation – relevant adaptation measures'

## 2. National context

- 2.1 Our understanding and evidence base of the climate change impacts of global carbon emissions are ever increasing, whilst carbon fuel supplies are ever depleting. The EU is leading the transition to a low carbon economy across the world. Governments and major corporations are recognising this through legislation, targets and incentives, to stimulate the move to renewable and low carbon energy sources.
- 2.2 In the UK the *Climate Change Act* (2008) provides the framework for the UK's domestic action, binding this and future Governments to a target to reduce greenhouse gas emissions by at least 80% below the 1990 baseline by 2050. It also established a series of carbon budgets to help the UK on a pathway to 2050. These budgets set a limit on the amount of greenhouse gases the UK can emit over consecutive five year periods. The UK met the first carbon budget (2008–2012) and the Government reports that the UK is on track to meet the second and third budgets (2013–2017 and 2018–2022). Overall, in 2014 emissions were 35% lower than in 1990, the base year<sup>2</sup>.

**UK Carbon Budgets 2008-2027 (Source: Committee on Climate Change)**

Budget	Carbon budget level	% reduction below base year
1st Carbon budget (2008-12)	3,018 MtCO <sub>2</sub> e	23%
2nd Carbon budget (2013-17)	2,782 MtCO <sub>2</sub> e	29%
3rd Carbon budget (2018-22)	2,544 MtCO <sub>2</sub> e	35% by 2020
4th Carbon budget (2023-27)	1,950 MtCO <sub>2</sub> e	50% by 2025

- 2.3 The fifth carbon budget, covering the period from 2028 to 2032, will be ratified in 2016. The Committee on Climate Change recommends that the fifth carbon budget limits annual emissions to 57% below 1990 levels, and includes for the first time emissions from international shipping. This says the Committee keeps the UK on its path to the 2050 commitment to reduce UK emissions by 80% on 1990 levels.
- 2.4 The Government<sup>3</sup> acknowledges that the approach for a post–2020 framework must include support for low carbon technologies in the power sector, doing more to tackle emissions from buildings and next steps on electric vehicles. Following publication of the fifth carbon budget a new emissions reduction plan will be published that will set out proposals in full.
- 2.5 In June 2015, the Committee on Climate Change produced its five year *Progress Report to Parliament* in which it reports the uptake of low carbon technologies and behaviours as having ‘good underlying progress, but this is not universal’. The Committee reports progress in the ‘deployment of renewable electricity generating capacity (wind, solar and biomass), installation of efficient boilers, loft and cavity wall insulation, improvement in new car and van efficiency, diversion of biodegradable waste from landfill, and deployment of low carbon heat in industry’. However, there has been limited progress in other areas, for example deployment of low carbon heat in buildings, and take-up of the most efficient domestic appliances and schemes to reduce travel demand. It should be noted that these are national

<sup>2</sup>Committee on Climate Change (<https://www.theccc.org.uk/tackling-climate-change/reducing-carbon-emissions/how-the-uk-is-progressing/>)

<sup>3</sup> Amber Rudd speech on a new direction for UK energy policy (18/11/2015)

trends and that overall this picture demonstrates that emissions reductions are possible and with the right level of investment, research and development low carbon transition can be delivered through a variety of means.

## 2.6 **The UK Low Carbon Transition Plan and Renewable Energy Roadmap**

Published by the Department of Energy and Climate Change (DECC) under the last Labour Government in 2009, this *National strategy for climate and energy* sets out a path to transform the UK into a low carbon economy by 2050. It identifies a number of ways in which individuals, businesses, local authorities and energy providers can contribute to reducing greenhouse gas emissions and move to more low carbon technologies.

2.7 *The UK Low Carbon Transition Plan* remains broadly consistent with the most recent recommendations of the Committee on Climate Change in their *Progress Report to Parliament* (2015). Its assertion that decarbonising the energy system will be more achievable and less costly if overall demand for energy is significantly reduced remains valid, as does the ambition to generate at least as much, if not more, electricity from a variety of low carbon sources.

2.8 Under the *EU Renewable Energy Directive* (2009), the UK has signed up to a legally binding target of 15 per cent of its energy consumption coming from renewable sources by 2020<sup>4</sup>. *The UK Renewable Energy Strategy* (2009) sets out the Government's plans for ensuring the UK meets its EU target. *The UK Renewable Energy Roadmap* (DECC, 2011) seeks to increase the deployment of renewable energy across the UK in the sectors of electricity, heat and transport. It aims to make the UK more energy secure, and protect consumers from fossil fuel price fluctuations, whilst stimulating investment in new jobs and businesses in the renewable energy sector.

## 2.9 **Industrial Decarbonisation and Energy Efficiency Roadmaps to 2050**

In 2013, the Government committed to working with industry to develop long-term decarbonisation and energy efficiency roadmaps with industrial sectors, focusing on those that use the greatest amount of heat and represent the greatest greenhouse gas emissions. The resulting project focused on eight sectors: cement, ceramics, chemicals, food and drink, glass, iron and steel, oil refining, and paper and pulp. In 2015 eight sector-specific reports were published which explain the specific features of each industry, how the processes work and what fuels they currently use. The reports identify potential ways that progress could be made to help enable transition towards a low carbon economy with a competitive industrial sector.

## 2.10 **The low carbon economy**

Whilst there is a pressing need to reduce carbon emissions and develop alternative energy supplies in order to avert the worst consequences of climate change, the transition to low carbon lifestyles also represents a significant opportunity for economic growth. This opportunity is recognised by the Humber, and the YNYER LEPs.

2.11 *The Stern Review: the Economics of Climate Change* was published in 2006 by HM Treasury, and subsequent 'Mini Stern Reviews' have been produced for the Humber region and for the City of York by the Centre for Low Carbon Futures. These studies examine the evidence on the economic impacts of climate change, and explore the economics of stabilising greenhouse gases in the atmosphere. The 'Mini Stern Reviews' recognise that decarbonising local economies should be possible and the economic returns on investment could be 'very

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<sup>4</sup> The EU has an overall target of producing 20% of its energy from renewable sources by 2020.

significant indeed'. Many of the measures would pay for themselves in a relatively short period of time, they would generate significant levels of employment and economic growth in the process, and if done well there may be a wider range of indirect benefits such as job creation in the low carbon and environmental goods and services sector.

#### **2.12 Local and regional context**

In recent years a variety of organisations and partnerships operating within the Humber and YNYER regions have published strategies, some of which are primarily concerned with climate change and low carbon, and many more of which integrate low carbon ambitions within strategies concerned primarily with separate topics (such as health or transport). The aim of this audit is to identify the various strands of independent low carbon ambition and combine them to create a single discourse.

2.13 To put the challenge of low carbon transition into a local perspective it is important to recognise that due to a concentration of carbon intensive industries, the Humber has amongst some of the highest end-user emissions in the country. CO2 emissions per capita from the YNYER LEP region have reduced between 2005-2011, but in most places, reductions have been significantly below the national and regional averages, the main exceptions to this trend being in York and Selby. The region is characterised by its rural areas, where higher than average CO2 emissions are primarily caused by road transport. As a less industrially intensive region compared to the Humber, emissions from industry in YNYER vary significantly but are highest in Selby and the East Riding, reflecting concentrations of heavy industry in the Hull and connected area.

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### 3. Audit methodology

3.1 Low carbon strategies, and/or other strategies with clear low carbon ambitions, have been audited according to the sector to which they belong (identified in the table below). The audit process comprised a call for evidence, analysis of key documents, and stakeholder interviews. Findings from the audit of each sector were then analysed to identify common themes and the low carbon ambitions of each sector. Key messages from each sector have been drawn together to form a composite framework of carbon strategies across the LEP regions.

**Broad sectors to form audit themes**

ECONOMIC GROWTH	EDUCATION	ENERGY
HEALTH	LAND USE	TRANSPORT

3.2 A wide range of local stakeholders from across sectors has been consulted as part of the audit. The second stage of the project proposes to identify a 'pipeline' of credible project ideas that potentially fit with future PA4 Calls. Proposals identified during the audit will be supplemented by project ideas submitted as 'Expressions of Interest' to the Technical Assistance Partnership.

3.3 Audit findings are broken down into chapters for each sector. Each chapter provides a narrative of the audit and its findings, and a table of low carbon key messages from that sector. Key messages are based on common themes identified throughout the audit process.

3.4 The intention of this audit is to cover all existing strategies and content of strategies relevant to a low carbon transition. As a consequence all sources covered by, and referred to, in this audit report are included based on an assessment of their contribution to local low carbon outcomes and regardless of eligibility for ERDF or any other funding.

#### 4. Low carbon in local economic growth strategy

##### Key messages

Low carbon is a fundamental element of local economic growth strategies. Strategy covering both LEP regions includes explicit objectives designed to realise the economic and employment potential of the renewables and low carbon industries. In the Humber region this is primarily, yet not exclusively, associated with off-shore wind and biomass and in the YNYER region this is primarily, yet not exclusively, associated with agri-food and bio-renewables. A number of common themes relating to low carbon are evident throughout the various strategies. These are:

##### Knowledge transfer

Increasing knowledge transfer between centres of research excellence and businesses will help overcome knowledge gaps within local Small and Medium-sized Enterprises (SMEs). It will also ensure that research and development outputs are a catalyst for local economic activity and help local businesses to gain entry into the market in low carbon technologies, goods and services.

##### Skills development

Developing and maintaining local skills to support the continued growth of low carbon sectors. Overcoming skills shortages in the local workforce will ensure that local communities and businesses gain maximum benefit from the growth of low carbon industries in both LEP regions.

##### Business support

Facilitating the transition to a low carbon economy by supporting local SMEs to improve their productivity and competitiveness through implementing energy efficiency advice and adopting low carbon technologies. Business advice, support and training can help connect them to supply chain opportunities and will help build the local market in low carbon technologies, goods and services.

- 4.1 In this chapter we present findings from our analysis of economic growth strategies produced by the economic, commercial and industrial sectors. Stakeholders covered by the audit include: the Northern Powerhouse; Local Enterprise Partnerships (LEPs); higher education institutions; local authorities; and other membership organisations, partnerships and initiatives with an interest in the local economy.
- 4.2 Present and future economic planning across both LEP regions will take place within the wider context of the Northern Powerhouse. Amongst the plans announced by HM Treasury and the Prime Minister's Office in February 2015 are several that demonstrate the importance of low carbon transition to future economic growth and prosperity. For example, they include major investment in low carbon transport in Yorkshire and North Lincolnshire, including the electrification of existing rail lines such as the Selby to Hull line, and investments in scientific excellence with a particular focus on renewable energy on the Humber, and food production in North Yorkshire.
- 4.3 Low carbon ambition is evident within both the Humber and YNYER LEP strategies. LEP Strategic Economic Plans and European Structural and Investment Fund strategies integrate low carbon ambition throughout the economic growth agendas they set out.
- 4.4 *The Humber Strategic Economic Plan* recognises that energy intensive industries are, and will remain, very important to the economic prosperity of the Humber, but this needs to be

balanced against the need to meet targets for reducing greenhouse gas emissions. Supporting the sustainable diversification of industries is therefore a key priority for local economic growth in the Humber. This includes supporting the development of biofuels and exploiting opportunities in renewable energy.

- 4.5 An ambition to become a leading national and international centre of energy is at the centre of economic growth strategy for the Humber with energy from renewable sources a key component of this vision. *The Humber's Future Economic and Sustainable Development Plan*, produced by the Hull University Business School (White Paper, 2013), was developed to identify the future economic landscape of the Humber Estuary to 2025. The study finds that the sub-region has significant resources for renewable electricity generation from commercial scale wind energy turbines and biomass co-firing. To realise the significant economic and employment effects of the renewables industry, in particular off-shore wind, the report recommends that local economic strategies must facilitate business support, training and research and development (R&D); establish a supplier base for the industry; support SMEs in accessing funding in order to qualify as suppliers; and overcome skills shortages by strengthening training provision.
- 4.6 YNYER's *Strategic Economic Plan* sets a priority for the region to become "a global leader in agri-food and biorenewables". A significant part of the strategy for achieving this priority is to facilitate greater knowledge transfer between innovation and research facilities and the local business base. The plan also advocates supply chain development through business-to-business connections, and support for further research and development, especially where this helps bridge the gap between concept and commercialisation.
- 4.7 Strategies by both LEPs signal the ambition to provide significant support for SMEs and the wider business community. Aligned with this is the aim to secure low carbon, energy efficient economies. An important component of this is knowledge transfer between centres of excellence and the regions' businesses.
- 4.8 A common theme across economic growth strategies including *Local Growth Deals* for both LEP regions is the need to develop and maintain local skills that support a continued growth in low carbon sectors. This applies to both training opportunities linked to industry and also in terms of research and development through collaboration with universities and technical colleges. *Regional Growth Funds* attach significant emphasis on skills and employment, business support, and research and development to ensure that local people and business gain maximum benefit from the renewable energy and biorenewables sectors. Future strategy also seeks to attract and retain high value jobs, and new businesses to the regions.
- 4.9 *Strategies for a low carbon industrial future in Yorkshire and the Humber* (2015) is a partnership report between trade unions and industry. It, too, supports the common theme for Yorkshire and the Humber to be the prime region for a low carbon industry based on its status as a UK centre for both energy generation and energy intensive industries. The strategy advances the case for investment in the electrification of heat used by industry; switching to biogas from oil based fuels; waste heat recovery; and renewed efforts to promote materials recovery and recycling in the region. Carbon capture and storage is identified as having the potential to be at the heart of the region's low carbon future, capturing carbon emission from power stations and heavy industries such as steel and chemicals.

4.10 Unitary Authorities and District Councils within the LEP regions have developed area-specific economic development strategies, often in partnership with other local stakeholders. In the majority of cases these strategies align closely with the relevant LEP strategic economic plan. Unitary Authorities in the Humber sub-region include within their strategies support for the renewable energy sector. In York and the seven District Councils within North Yorkshire economic growth strategies include low carbon aims through their support for business growth in the bioeconomy, agri-tech and renewables sectors and through developing the economic potential of sustainable tourism and sustainable transport.

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## 5. Low carbon in local higher education strategy

### Key messages

Research and development undertaken within the higher education sector can make a key contribution to the direction and growth of the local economy. Universities within the LEP regions have high quality research facilities undertaking research programmes in the areas of renewables, low carbon buildings, bioeconomy and bioenergy. These research areas have the potential to spearhead future economic activity. Links with the regions' businesses must be strengthened to enable them to take advantage.

Through encouraging collaboration between the regions' business base and university-led research and development programmes it will be possible to stimulate low carbon economic growth. This can be achieved by developing centres of knowledge and innovation in both energy and biorenewables. These centres of excellence will provide businesses with the opportunities and know-how to develop new products and services, and will help to build supply chains by connecting businesses with others who can supply them with low carbon solutions.

5.1 In this chapter we present findings and analysis of low carbon research undertaken by the higher education sector within the LEP regions. The audit considers recent and ongoing research programmes, projects and collaborations being carried out by universities in relation to low carbon.

### 5.2 **Sir Andrew Witty's review**

*Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth* (July 2013) looks at how universities are able to make a key contribution to the direction and growth of the economy. In the report Sir Andrew Witty says, "Universities generating cutting edge research and resulting insights may be likened to the tip of an arrow, with the arrowhead behind it representing the economic activity enabled by research-led innovation. Maximising the size of these arrowheads and their economic benefit to the UK, specifically, is fundamental..." This statement is significant in the context of this audit because it positions research and development taking place within universities as a forerunner with the capacity to guide growth strategies along a certain path. The table (top of page 15) summarises the university research facilities and programmes within the LEP regions. Using Witty's rationale research and development within these areas will be at the forefront in local growth strategy.

Research theme/facility Humber region	Low carbon research areas
Centre for Adaptive Science and Sustainability (CASS), University of Hull	- Offshore wind - Tidal stream energy - Photovoltaics and energy saving - Carbon capture and utilisation
Energy and Environment, University of Hull	- Sustainable cities and economies - Ports, low carbon shipping and logistics - Environmental monitoring and sustainable design - Virtual reality wind turbines - Total Environment Simulator at The Deep
Research theme/facility YNYER region	Low carbon research areas
Biorenewables Development Centre, not-for-profit research and development company based at University of York	- Bioeconomy and business support
Centre for Novel Agricultural Products, University of York	- Biorenewables and biofuel production
The Green Chemistry Centre of Excellence, University of York	- Renewable materials - Clean synthesis and platform molecules
York Environmental Sustainability Institute, University of York	- Sustainable food production and resilient supply chains - Services from plants, soils and ecosystems
Stockholm Environment Institute, University of York	- Reducing climate risk - Rethinking development

### 5.3 Collaboration through Yorkshire Universities

The role of Yorkshire Universities (YU) is to promote Yorkshire nationally and internationally to politicians, students, business, investors and other stakeholders to ensure that the many opportunities created within the region are known and maximised. YU works in collaboration with universities across the Yorkshire region. One of the key aims of YU “is to foster collaboration and partnership working to maximise the value and impact of higher education in Yorkshire”. The audit identifies two reports by YU that contribute to local low carbon strategy: *Report on Energy in the Yorkshire and Humber* (2014) and *Report on Agri-Tech and Bio-Renewables* (2014).

- 5.4 YU’s report on energy highlights the importance of the region to the energy sector due to its gas, coal and biomass powered energy production and the opportunities that are being created in the renewables sector. It identifies the region’s universities as important regarding energy due to the world-class research centres and facilities they host. With regard to local low carbon strategy the YU report on energy recommends exploring ways to improve collaboration between the region’s business base and universities. It advocates the provision of support and intelligence needed for the region’s SMEs to develop new products and services for the energy sector. YU’s report on agri-tech and bio-renewables also advocates greater collaboration between the region’s universities and business base in the interests of assisting businesses both in the development, and uptake of new greener processes and products. These findings are consistent with the recommendation by the Witty Review that universities should pro-actively seek out innovative and potentially innovative SMEs and support them with technology, expertise, talent and know-how.

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## 6. Low carbon in local energy strategy

### Key messages

Significant opportunities and ambition exist with regards to large-scale low carbon energy generation. In the Humber the greatest potential is in off-shore wind, biomass, district heating networks, and renewable energy research and skill development. This level of opportunity and ambition is matched in the YNYER region where there is a greater focus on food and agricultural industries and expertise in the fields of the bioeconomy and biorenewables.

### Large-scale low carbon heat generation

Heating networks represent a significant opportunity to deliver large-scale low carbon transition in urban areas, areas with high concentrations of existing industries, and locations earmarked for high density new development in the future. There is a mix of options for generating and sharing low carbon heat including biomass, combined heat and power (CHP), heat from energy from waste facilities, and geothermal resources.

### Distributed energy generation

Increasing the supply and demand in low carbon and renewable energy generated and stored by decentralised technologies in both domestic and commercial settings.

### Increasing energy efficiency in homes and buildings

Supporting the uptake of measures designed to increase energy efficiency and upgrade the energy inefficient fabric of existing properties.

### Collaboration

Consider strategic opportunities to set up local delivery vehicles for energy based services including energy supply, energy savings projects and energy generation.

6.1 In this chapter we present findings from our analysis of local strategies covering energy and carbon management, housing, and climate change mitigation. Local strategies generally set their emission reduction targets in line with the national target of a 34% reduction on 1990 levels by 2020. A general finding from the strategies assessed in this audit is that most individual strategies are composed of two approaches: first, promoting an uptake in measures designed to increase energy efficiency, and secondly, promoting measures to increase the supply and demand in energy from renewable and low carbon sources.

### 6.2 Large-scale low carbon

In 2011, Local Government Yorkshire and Humber (LGYH) commissioned Architecture, Engineering, Consulting, Operations, and Maintenance (AECOM) to produce the report, *Low carbon and renewable energy capacity in Yorkshire and Humber*. This document provides a comprehensive assessment of low carbon and renewable energy resources, albeit now relatively dated. Sub-regional action plans are included for both the Humber and York and North Yorkshire, and these provide region-specific strategies for facilitating a low carbon transition.

6.3 Regarding the Humber region, AECOM identifies the most significant opportunities with respect to renewable energy as biomass (imported, home grown straw, and energy crops and poultry litter), wind, district heating networks, and renewable energy research and skill development. The Humber is earmarked as having the unique potential to establish an

industry which supports renewable energy development. For York and North Yorkshire, AECOM reports that there may be significant wind power potential in those areas of lower landscape sensitivity. This region also has the largest potential for growing energy crops in Yorkshire and the Humber, and the second largest for straw. In addition, AECOM identify York and North Yorkshire has a significant potential resource in the form of energy generation from the anaerobic digestion of animal wastes from the large numbers of livestock kept in the rural areas. An emphasis on food manufacturing, agriculture and biorenewables within economic growth strategies for YNYER therefore presents an opportunity to promote biorenewable rather than oil based products, and to develop low carbon processes in food and farm businesses.

6.4 AECOM highlights the growing potential in combined heat and power (CHP) district heating schemes. In both LEP regions CHP and district heating represent a significant opportunity to deliver large-scale low carbon transition. However, due to relatively low density of development within rural areas, existing strategies for district heating and CHP tends to focus on more urban areas. In the Humber, Hull's significant heat densities justify making it a priority area for district heating. Other urban areas in the Humber with heat densities capable of supporting a growth in heat networks include Bridlington, Grimsby, Immingham and Cleethorpes. Urban areas within the York and North Yorkshire region with load densities suitable for district heating networks include, but are not restricted to, York, Harrogate and Scarborough. Although many of the urban settlements identified in AECOM have now developed heat networks, heat networks remain a low carbon growth opportunity. Several Local Authorities within the LEP regions are working with DECC's Heat Networks Delivery Unit (HNDU) as part of their commitment to long term strategies to develop affordable, low carbon heat in their areas.

6.5 Micro-scale geothermal (or ground source) heat pumps supplying hot water to individual buildings are a relatively common renewable energy source. However, a unique feature affecting both LEP regions is the potential to exploit geothermal resources more expansively. Beneath parts of East Yorkshire an extensive geothermal resource has been identified and there are good prospects for achieving the required water supply at appropriate temperatures to serve larger-scale district heat networks<sup>5</sup>.

#### 6.6 **Microgeneration**

A key strand of local low carbon strategy is the application of small scale energy generation and storage technologies. Technologies commonly supported within local strategies include air-source heat pump systems, biomass heating and solar PV. In addition, many local strategies identify a need to develop innovative approaches to providing affordable finance to lower income residents to assist them in installing renewable energy systems. Providing low carbon heat to properties located in areas off the gas network is also a local issue.

#### 6.7 **Energy services**

Energy Service Companies (ESCOs) can be private, public or partnerships that provide a broad range of energy based services including energy supply, energy savings projects and energy generation. The potential for a local ESCo entering the energy generation sector is a topic included in a recent devolution proposal<sup>6</sup> covering both LEP regions. ESCOs are also identified as a 'strategic opportunity' by AECOM which says that there are opportunities for Local Authorities or partners to set up a delivery vehicle of this kind.

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<sup>5</sup> *East Riding of Yorkshire Council Heat Network Feasibility Study*, Land and Water Resource Consultants, 2015

<sup>6</sup> *A Devolution Proposition for the City of York, North Yorkshire and East Riding*, 2015

6.8 Northern Powergrid owns and operates the power network in the North East, Yorkshire, the Humber and Northern Lincolnshire. When considering local strategies covering energy generation and storage it is appropriate to refer interested parties to the Northern Powergrid *Business Plan 2015-23* and, in particular, the annex, *Smart Grid Development Plan*, and associated low carbon transition work being undertaken by the Distribution Network Operator.

6.9 **Energy efficiency**

*The UK Low Carbon Transition Plan* (2009) sets out an approach to meeting national carbon saving targets, calling for carbon emissions from existing homes to be reduced by 29% by 2020 and emissions from workplaces to be reduced by 13% by 2020 (against a 2008 baseline). *Mini-Stern Reviews* were published in 2013 for the Humber and for York by the Centre for Low Carbon Futures. The review undertaken for the Humber goes into greater detail and identifies the most cost effective opportunities to reduce emissions from workplaces as the installation of biomass boilers, biomass district heating schemes and air source heat pumps<sup>7</sup>. The most cost effective measure which has the highest potential to reduce carbon from industry is renewable heat. In relation to homes the *Mini Stern Review* identifies wind turbines and biomass boilers as the most cost effective measures for reducing carbon emissions<sup>8</sup>. Wide scale deployment of energy efficient lighting and investment in loft and cavity wall insulation are also identified as ways to achieve a significant level of cost effective carbon saving. One of the biggest aggregate carbon savings for existing homes as recommended in the *Mini Stern Review* is solid wall insulation.

6.10 Leading housing strategies from across the LEP regions reinforce the key messages contained within the *Mini Stern Reviews*. Despite being primarily concerned with social issues such as affordable warmth and reducing fuel poverty, local housing strategies are a consistent source of low carbon strategy. Evident within existing strategies is a preference for what is known as a ‘fabric first approach’. This involves targeting improvements to the energy inefficient fabric of properties before graduating towards installing energy generation technologies. Popular measures for improving the energy efficiency of homes include replacement windows and doors and insulation for cavity walls, lofts, floors and solid walls. This last measure remains a priority for older housing stock across both LEP regions.

6.11 **Energy from waste**

In 2000 the Government produced the *Waste Strategy for England and Wales* in response to earlier EU Directives on waste. This strategy sets out the future for waste management in England and Wales. A number of targets are included within the strategy that focus on recovery, recycling, composting and landfill reduction. A review of this strategy in 2007 included further aims to use resources more efficiently and make greater use of secondary materials. One of the outcomes of this review was the development of a waste hierarchy that underpins waste legislation. It ranks waste management options according to what is considered best for the environment, giving top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, and then recycling, recovery and, last of all, disposal (e.g. landfill). The inclusion of ‘recovery’ ahead of ‘disposal’ has led to a rise of energy from waste treatment facilities.

6.12 Local *Joint Sustainable Waste Management Strategies* provide long term plans on how local waste authorities intend to manage municipal waste across their areas. Within the LEP regions there are three such strategies: the *Joint Municipal Waste Strategy for Lincolnshire*

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<sup>7</sup> Findings take into account the effect of renewable heat incentives (RHIs) at the time of the review.

<sup>8</sup> Based on feed in tariffs (FiTs) and RHIs at the time of the review.

(Lincolnshire Waste Partnership); the *Joint Sustainable Waste Management Review* (Hull City Council and East Riding of Yorkshire Council); and *Let's Talk Less Rubbish: Joint Municipal Waste Management Strategy* (York and North Yorkshire Waste Partnership). In the first two partnership areas energy is now created from waste, whilst the latter partnership has advanced plans in place to do the same.

- 6.13 Energy from waste is not only the preserve of local authority waste management plans. Many industries and organisations have strategies for exploiting energy from waste technologies to generate their own energy by converting their waste into a resource. For example, the UK water industry is the fourth most energy intensive sector in the UK and contributes to just under 1% of total UK emissions<sup>9</sup>. The *Yorkshire Water Climate Change Strategy* (2013) seeks to minimise the use of electricity and maximise self-generation of low carbon electricity. A key element of this strategy is energy produced from waste because sewage sludge digestion is Yorkshire Water's largest source of electricity generation in a portfolio that also includes wind developments and hydro generation.
- 6.14 AECOM identifies the potential to utilise waste heat from energy derived from waste treatment facilities. The co-location of energy from waste treatment facilities with major heat demand from industry and homes is an opportunity for district heating networks to make use of waste heat from energy from waste plants. AECOM also highlights the potential to further develop opportunities for generating renewable gas from waste via anaerobic digestion. Wet organic waste, sewage from sewage treatment works, and landfill all provide opportunities to generate renewable gas that can be injected into the existing gas infrastructure network and supplied to homes and businesses.
- 6.15 **Organisational strategies**  
Many individual organisations operate environmental policies and/or carbon management plans covering their own business activity. Whilst the nature and number of these plans place them outside the scope of this audit, it is worth noting that they may be relevant in the context of PA4. Interested parties may wish to consider such plans when demonstrating how their own low carbon proposals support the delivery of an existing low carbon strategy.

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## 7. Low carbon in local health and social care strategy

### Key messages

The sector as a whole is working together to deliver significant carbon savings and achieve economic savings from using renewable and low carbon resources. Strategy is somewhat complicated by the large number of stakeholders with interconnected responsibility and authority and therefore collaboration is important.

Because of the nature and scope of the sector, actions target known carbon hot spots where the greatest carbon savings can be made. Priorities are:

- Engaging communities and workforces, raising awareness and encouraging sustainable behaviour
- Reducing energy use in operations and buildings and maximising on-site self-generation
- Targeting emissions reductions in transport and travel through both low and high-tech measures
- Offsetting emissions by increasing Green Infrastructure
- Identifying and exploiting opportunities for carbon savings in procurement and commissioning

- 7.1 Low carbon strategies exist throughout the Health, Public Health and Social Care System both at national and local levels. The carbon footprint of the National Health Service (NHS), public health and all local authority commissioned and provided adult social services in England is estimated to represent 40% of public sector emissions in England<sup>10</sup>. The NHS is one of the largest employers across the combined LEP regions. Stakeholders with low carbon ambitions operating locally include Clinical Commissioning Groups (CCGs), NHS Foundation Trusts and Hospital Trusts, and the Yorkshire Ambulance Service NHS Trust.
- 7.2 All NHS organisations in the LEP regions come under two major national strategies developed and maintained by the NHS Sustainable Development Unit: *The Carbon Reduction Strategy for England* (2009 and updated in 2010) and *The Sustainable Development Strategy for the Health, Public Health and Social Care System 2014-2020*. The former sets out an ambition for the NHS to help drive change towards a low carbon society and achieve a 34% reduction in carbon emissions on 1990 levels by 2020. The second strategy advocates a sustainable health and care system driven by reducing carbon emissions, protecting natural resources, preparing communities for extreme weather events and promoting healthy lifestyles and environments. An update on this strategy, called *Sustainable Development in Health and Care Report – Health Check 2016*, reports that *Sustainable Development Management Plans* (SDMPs) are the cornerstones of delivering the aims of the overarching *Sustainable Development Strategy* at the local level.
- 7.3 SDMPs set out an organisation's sustainable development baseline, targets and approach. Across both LEP regions nine SDMPs have been identified and through analysis of each it has been possible to extrapolate a shared low carbon strategy across the health sector in the LEP regions. The primary objective is to reduce the impact of rising utilities costs, and in order to achieve this, SDMPs identify two main methods, which are to use less energy and realise on-site self-generation.

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<sup>10</sup> *The Sustainable Development Strategy for the Health, Public Health and Social Care System 2014-2020*, 2014

7.4 Across the SDMPs low carbon strategy can be categorised into six general priorities for achieving carbon savings:

**Community and workforce engagement** – raising awareness to encourage sustainable behaviour from staff and patients

**Energy use in buildings** – energy efficient improvements in building and investment in technologies for on-site self-generation.

**Fleet and transport** – Yorkshire Ambulance Service’s *Fleet and Transport Carbon Management Programme* provides a yardstick in low carbon travel strategy for the local health sector. This covers relatively low-tech measures such as Eco-driver training, lift share schemes, and speed limiters on vehicles, through to relatively hi-tech measures such as aerodynamic assessment of vehicles, electric vehicles and alternative power sources such as solar technologies on vehicles.

**Offsetting emissions and carbon sequestration** – capture and storage of atmospheric carbon dioxide in vegetation grown either on- or off-site. Coordinated by the Centre for Sustainable Healthcare and funded by NHS trusts, the NHS Forest is a project which allows health sector organisations to offset some of their emissions by planting new trees.

**Procurement** – reducing overall carbon emissions through sustainable commissioning and procurement is recognised across health sector strategies for its potential gain in terms of maximising carbon savings

**Water efficiency and minimising waste** – achieving carbon savings through improved water conservation and preventing and reusing organisational waste.

7.5 Six Health and Wellbeing Boards operating across the LEP regions have representation from across the health and care system. *Fair Society, Healthy Lives: The Marmot Review (2010)* makes six policy recommendations for reducing health inequalities including the push to ‘create and develop healthy and sustainable places and communities’. In reviewing local *Health and Wellbeing Strategies* as part of the audit process we also found that these documents promote actions that indirectly support the low carbon agenda. Although commitments vary, common actions found within these strategies include improving air quality through sustainable transport programmes, encouraging sustainable lifestyle choices, and tackling fuel poverty.

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## 8. Low carbon in local land use strategy

### Key messages

#### Supporting the low carbon energy sector

There is a positive strategy for promoting energy from renewable and low carbon sources and a general presumption in favour of low carbon and renewable energy schemes. Larger developments are an opportunity to facilitate investment in larger installations such as district heating. These initiatives can be used to drive larger decentralised schemes to benefit the wider area.

#### Energy efficient design

On-site renewable energy will become common-place. New development is an opportunity to achieve energy efficiency through innovative design. Specific requirements include the need to consider the use of materials, and ways of designing out high energy demand.

#### Utilising natural assets for carbon sequestration and generating low carbon energy

Conservation and careful management of natural assets which support low carbon transition by providing significant carbon stores, biomass energy generation, and important carbon sequestration. Increasing Green Infrastructure to absorb more carbon to mitigate climate change and provide low carbon alternatives in food production, fuel sources, and travel. Protection and restoration of major carbon stores in the natural environment, specifically peatland management.

### 8.1 Built environment

A Local Plan is the name given to a range of planning documents that together provide the long term approach to development in the area managed by a local planning authority. Local Plans are generally made up of a lead strategy document accompanied by an allocations plan (which indicates what type of development is planned where). In this chapter we present findings from our analysis of Local Plans covering the LEP regions. There are seven District Councils (Craven, Hambleton, Harrogate, Richmondshire, Ryedale, Scarborough and Selby) and five Unitary Authorities (East Riding, Hull, North East Lincolnshire, North Lincolnshire and York). Each organisation either has an adopted Local Plan or is in the process of producing one.

8.2 National guidance set out in the *National Planning Policy Framework* (NPPF) says that one of the core planning principles is “to support the transition to a low carbon future in a changing climate and encourage the use of renewable resources such as renewable energy development”<sup>11</sup>. In this context, each Local Plan included in the audit was found to include overarching policies on sustainable development, and contain more detailed policy on low carbon developments. Analysis of all the relevant policies finds them to be broadly consistent in their strategies for facilitating a low carbon transition through new development.

8.3 Local Plans in the LEP regions generally adopt a positive strategy to promoting energy from renewable and low carbon sources. Policies seek to maximise renewable and low carbon energy in new developments and in some instances proactively identify suitable areas, often large brownfield sites, for the possible development of renewable and low carbon energy infrastructure. There is a general presumption in favour of low carbon and renewable energy

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<sup>11</sup> *National Planning Policy Framework*, section 17, 2012.

schemes. However, approaches to commercial scale proposals vary between Local Planning Authority areas depending on landscape sensitivity and other local issues.

- 8.4 Local Plan policies require new developments to incorporate energy efficient design. Specific requirements include the need to consider the use of materials, both in terms of embodied carbon and their energy efficiency. Another feature found within several Local Plans is the requirement for developers to consider design features such as layout and orientation of buildings in order to reduce the need for energy consumption by maximising the potential of natural heating, lighting and cooling.
- 8.5 Local planning policies also seek to maximise the use of decentralised renewable or low carbon technologies within new development. Larger developments are seen as opportunities to consider larger-scale technologies such as heat networks. In addition, Local Plans contain policies that aim to initiate opportunities for existing buildings close to new developments to share the benefits of locally produced renewable or low carbon energy.
- 8.6 Typically, the Local Plans reviewed contain policies that promote strategies for implementing sustainable transport and travel and these complement *Local Transport Plans* that are covered in chapter 9.
- 8.7 **Minerals and Waste**  
*Minerals and Joint Waste Plans* (MJWPs) set out new planning policies for minerals and waste developments which guide decisions on planning applications. Three draft MJWPs cover both LEP regions and have been reviewed as part of the audit: *East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan* (Revised Preferred Approach Consultation May 2016); *Minerals and Waste Joint Plan, Preferred Options Consultation* (City of York Council, North Yorkshire County Council and North York Moors National Park, 2015); and *Lincolnshire Mineral and Waste Development Framework, Preferred Minerals and Waste Strategy* (June 2010). MJWPs advocate the waste hierarchy (see findings on energy from waste in chapter 6), which gives priority to preparing waste for re-use, then recycling, recovery and, last of all, disposal.
- 8.8 *Mineral Plans* provide the policy framework against which applications for minerals development will be assessed in the future and cover future policy on energy minerals such as coal, oil and gas. Conventional oil and gas used as an energy resource are obtained from sandstone or limestone and as such are referred to as 'conventional'. 'Unconventional hydrocarbons' refer to oil and gas which come from other sources such as shale or coal seams which cannot be extracted by conventional techniques. Unconventional hydrocarbons are emerging as a form of energy supply to displace significant amounts of coal. There are no target guidelines for energy minerals and it is government policy to allow the market to establish appropriate levels of production for oil, gas and coal.
- 8.9 **Natural environment**  
The natural environment has a significant role in the LEP regions' low carbon future because its landscapes, natural habitats, soils, and woodlands store large quantities of carbon.
- 8.10 **Green Infrastructure**  
Green Infrastructure is the network of natural and semi-natural areas, features and green spaces found in rural, urban, terrestrial, freshwater and coastal areas. It is a broad concept which includes natural features such as parks, woodlands, hedgerows, wetlands and marine areas, as well as man-made features such as gardens, green roofs and cycle paths. Green

Infrastructure has a significant role to play in helping people and wildlife adapt to climate change. It can also contribute to climate change mitigation by reducing greenhouse gas emissions via carbon sequestration.

- 8.11 A number of strategies across the LEP regions, including Local Plans, champion Green Infrastructure. Strategies and policies are broadly consistent in that they aim to deliver low carbon benefits by increasing the amount of Green Infrastructure. Common elements found within these strategies include carbon storage and sequestration (or storing carbon in soils and vegetation); providing low carbon fuels (replacing fossil fuels with lower carbon alternatives); material substitution (replacing materials such as concrete and steel which involve high fossil fuel consumption in their production with sustainably managed wood and other natural materials); locally produced food (promoting environmentally sustainable food production that delivers food security); and reducing the need to travel by car (providing green travel routes to encourage walking and cycling).
- 8.12 **Rural energy**  
Large rural areas within both LEP regions are covered by strategies aimed at ensuring sustainable rural communities. These recognise that there is a role for rural areas to play in expanding the use of renewable energy through wood fuels, micro-hydro, anaerobic digestion, and wind and solar power installations. Additionally, as more large industrial plants and power generators within both LEP regions are utilising energy crops as fuel, rural areas also have opportunities to meet the growing demand for dedicated energy crops. An important consideration affecting low carbon strategy in rural areas is the need to ensure sensitive environments are protected from inappropriate development.
- 8.13 **National Parks**  
YNYER LEP region includes both the Yorkshire Dales National Park and North York Moors National Park. Authorities for both national parks have *adopted Management Plans*, both of which incorporate low carbon aims within their vision.
- 8.14 The *North York Moors National Park Management Plan* (2012) and its accompanying sustainability statement adopt 14 sustainability objectives including the need to reduce the causes of climate change, respond and adapt to the effects of climate change and use and re-use resources in a sustainable way. Conservation and careful management of the Park's natural assets must be seen as an important component of local low carbon strategy. This is because the Park's moorland is a significant carbon store; its farmland is used to grow crops for biomass energy generation; and its woodland performs important carbon sequestration. The *Management Plan* contains a number of specific objectives that contribute to a low carbon transition including planting 300 hectares of new woodland by 2017, increasing agricultural production, and offsetting the National Park's CO<sub>2</sub> emissions through energy efficiency and renewable energy.
- 8.15 Similarly the *Yorkshire Dales National Park Management Plan* (revised 2016) must also be seen as an important component of local low carbon strategy. Its vision for 2040 includes an ambition "to be resilient and responsive to the impacts of climate change, storing more carbon each year than it produces". Within the plan are several initiatives with direct low carbon benefits including restoring degraded peatland to prevent carbon loss to the atmosphere; cutting carbon emissions by promoting the uptake of energy efficiency measures suited to traditional building stock; increasing the uptake of small-scale renewable energy; supporting farmers and landowners to plant new native woodland and increase

carbon sequestration; supporting local woodfuel initiatives; and cutting emissions by minimising road haulage of timber and quarry products.

#### 8.16 **Woodland management**

Trees and woodland are a major component of the North York Moors National Park landscape and have a recognised role in storing carbon in wood and forest soils. It is estimated that nationally 7.5 million tonnes of carbon is stored in the Forestry Commission owned woodland. Although woodland is not as extensive in the Yorkshire Dales, the National Park is supporting the creation of least 400 hectares of new native woodland by 2020.

8.17 Apart from the National Parks there are several strategies, such as the *HEYwoods* initiative in Hull and East Yorkshire and *Treemendous York*, which aim to increase woodland cover and improve the management of existing trees, woods and associated habitats. These initiatives provide a sustainable source of local woodfuel for renewable energy purposes as well as increasing natural stores for carbon.

#### 8.18 **Peatland management**

Globally, peat contains the largest amount of carbon of all terrestrial ecosystems. Peat moorlands hold the UK's largest single store of carbon<sup>12</sup>. In the North York Moors there are around 4,100 hectares of blanket peat on the moorland, and around a further 46,000 hectares of peaty soils. It is estimated that over 6 million tonnes of carbon is stored in peat in the North York Moors<sup>13</sup>. The Yorkshire Dales has extensive areas of moorland that contain upland heath and blanket and raised bog, which are internationally important for the carbon they store as peat.

8.19 Climate change and other pressures including deliberate and wild fires, air pollution, drainage, and over-grazing are damaging the peat moorland and cause carbon loss. Strategies agree that the most efficient approach to carbon benefit is the re-vegetation of bare peat to help prevent erosion when it rains. Peatland management is therefore a key component of local low carbon strategy. Yorkshire Peat Partnership<sup>14</sup> works with both National Parks and several other agencies on restoring degraded peatland habitats.

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<sup>12</sup> Centre for Ecology and Hydrology, *Greenhouse gas emissions associated with non-gaseous losses of Carbon - Fate of particulate and dissolved carbon*, 2010

<sup>13</sup> Natural England, *Draft Estimated Peatland Carbon Storage and Greenhouse Gas Flux in English National Parks and Areas of Outstanding Natural Beauty*, 2011.

<sup>14</sup>The Yorkshire Peat Partnership comprises the Yorkshire Wildlife Trust, Yorkshire Dales National Park Authority, Natural England, North York Moors National Park Authority, Yorkshire Water and the Environment Agency. It also receives support from Nidderdale AONB, Pennine Prospects, Environment Agency, National Trust, Moorland Association, National Farmers Union and Yorkshire Dales Rivers Trust.

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Yorkshire Dales National Park Authority, *Yorkshire Dales National Park Management Plan, revised 2016*

<http://www.yorkshiredalesmanagementplan.org.uk/>

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Craven

<http://www.cravenc.gov.uk/newlocalplan>

East Riding of Yorkshire

<http://www2.eastriding.gov.uk/environment/planning-and-building-control/east-riding-local-plan/>

Hambleton

[http://hambleton.gov.uk/info/20172/planning\\_policy/239/emerging\\_local\\_plan](http://hambleton.gov.uk/info/20172/planning_policy/239/emerging_local_plan)

Harrogate

<https://www.harrogate.gov.uk/plan/Pages/LDF.aspx>

Hull

<http://hullcc-consult.objective.co.uk/portal/localplan/po15>

North East Lincolnshire

<https://www.nelincs.gov.uk/planning-and-development/planning-policy/the-local-plan/the-new-local-plan/>

North Lincolnshire

<http://www.northlincs.gov.uk/planning-and-environment/planning-policy/local-plan/north-lincolnshire-local-plan/>

Richmondshire

<http://www.richmondshire.gov.uk/planning/local-plan/1041-local-plan>

Ryedale

<http://www.ryedaleplan.org.uk/local-plan-strategy>

Scarborough

<http://www.scarborough.gov.uk/home/planning/planning-policy/local-plan/new-local-plan>

Selby

<http://www.selby.gov.uk/sites-and-policies-local-plan-plan-selby>

York

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Treemendous York accessed May 2016

[https://www.york.gov.uk/info/20058/trees\\_and\\_hedgerows/543/treemendous\\_york](https://www.york.gov.uk/info/20058/trees_and_hedgerows/543/treemendous_york)

## 9. Low carbon in local transport strategy

### Key messages

#### **Making public transport more attractive**

Smarter, more reliable public transport infrastructure will reduce carbon emissions by taking cars off the road. Electrification and improvements to railways will reduce journey times.

#### **Low carbon technology and low emission vehicles**

Improving road infrastructure to support an uptake of low emission vehicles, and developing use of low carbon technology and alternative fuels in public transport services.

#### **Sustainable travel modes and public awareness**

Prioritising sustainable travel modes that encourage people to choose to travel in ways that benefit their health and the environment.

#### **Improving infrastructure**

Supporting Park and Ride schemes and encouraging the freight and logistics industry to reduce its carbon emissions by transferring from the road network onto the rail network.

### 9.1 Introduction

In this chapter we present findings from strategies of organisations with responsibilities for and/or an interest in the highways network, railways, regional transport, public transport providers, and freight and logistics. The transport sector is and will continue to be a critical element of low carbon transition. Stakeholders in the transport sector that have low carbon ambition include the Department for Transport; Local Authorities with a statutory duty to deliver a Local Transport Plan (LTP); Transport for the North; regional and local transport operators; and interest groups.

### 9.2 Northern Powerhouse

Transport for the North (TfN) has developed *Transport for the North, The Northern Transport Strategy* (2016). This is the first joint publication from Government, Northern City Regions and LEPs working together and with Highways England, Network Rail and HS2 Ltd as the Transport for the North Partnership Board. The shared aim is to transform Northern growth, rebalance the country's economy and establish the North as a global powerhouse. The strategy sets out how transport is a fundamental part of achieving these goals.

9.3 The *Northern Transport Strategy* is not primarily a low carbon strategy but the vision and actions it sets out for the future are seen as a significant contributor to reducing carbon emissions and achieving low carbon transitions. Low carbon is inherent within objectives that encourage people to be more sustainable in the way that they travel; encourage the development road infrastructure that is more supportive of low emission vehicles; increase the amount of freight being distributed by the rail network; and electrify parts of the railway network (including lines across the LEP regions).

### 9.4 Transport planning

At a national level *Creating Growth, Cutting Carbon Strategy* (2011) by the Department of Transport sets out a vision for a transport system that supports economic growth but significantly reduces carbon in order to help meet UK carbon reduction commitments. The

Government requires all transport authorities outside London to produce a Local Transport Plan (LTP) setting out transport strategies and policies for their area and explaining how funding will be invested to maintain and improve the local transport network. These strategies provide the most significant contribution to local low carbon strategy from a transport and travel perspective. Within the LEP regions the following local authorities are required to produce an LTP: City of York Council; East Riding of Yorkshire Council; Hull City Council; North East Lincolnshire Council; North Lincolnshire Council; and North Yorkshire County Council.

- 9.5 LTPs are not low carbon strategies themselves but in most cases they present clear goals for targeting a reduction in transport related carbon emissions. All the LTPs covering the LEP regions have commitments which support a low carbon transition. Common low carbon themes found within the LTPs are summarised below.
- 9.6 **Making public transport more attractive** - public transport is a sustainable travel option and will help reduce carbon emissions as it will take cars off the road. It must be made more attractive if it is to offer a viable alternative to car travel. Common proposals found in the LTPs include improved waiting/interchange facilities, smart and integrated ticketing, and electrification and improvements to railways to reduce journey times.
- 9.7 **Low carbon technology and low emission vehicles**  
All of the LTPs support the use of low emission electric and hybrid vehicles. Common proposals found within the reviewed LTPs include charging points for electric vehicles, improved road infrastructure to support an uptake of low emission vehicles, investment in hybrid electric and gas buses, and the introduction of Low Emission Zones.
- 9.8 City of York Council has adopted a *Low Emissions Strategy* (LES) with the aim of reducing emissions across the city from operations and buildings, but primarily from transport. The strategy focuses on tackling congestion by promoting walking, cycling and public transport and also encouraging the uptake of low emission vehicles. The LES emphasises the use of low emission technologies and alternative fuels, especially in public transport services.
- 9.9 **Sustainable travel modes and public awareness**  
This area of strategy has strong support within the assessed LTPs. Sustainable travel modes include walking, cycling, and the use of public transport. Many actions have already been taken locally. However common proposals found within the LTPs include promoting healthier travel options such as walking and cycling; supporting car clubs and car sharing; reducing journey times and increasing reliability of buses; encouraging workplaces and schools to adopt Travel Plans; providing cycle training; and providing walking buses (especially to and from schools). Sustrans is a UK charity that encourages people to travel in ways that benefit their health and the environment. Sustrans campaigning is influential within local transport policy and LTP strategy is generally found to be consistent with the charity's aims.
- 9.10 **Improving infrastructure**  
LTP strategies endeavour to improve transport infrastructure through partnerships with transport providers and infrastructure operators. Common proposals identified within the analysed LTPs include supporting Park and Ride schemes and encouraging the freight and logistics industry to reduce its carbon emissions by transferring its loads from the road network onto the rail network. The region's waterways also provide a focus for low carbon ambition in terms of sustainable transportation. The East and North Yorkshire Waterways

Partnership's *Waterways Strategy 2012-2020* advocates the promotion of local freight transportation, in particular freight transit on the Aire and Calder Navigation.

**9.11 Public transport providers**

Within the region there are a number of public transport providers for both bus and train travel. The audit covers the following providers: East Yorkshire Motor Services, Stagecoach PLC, Northern Rail, First Group (Hull Trains, First Buses and First Trans Pennine Express), and Arriva. All of these providers either have a sustainable strategy in place or have made a public commitment to take action to reduce carbon emissions. Common actions include the uptake of low emission vehicles, the use of alternative fuels, effective Eco-driving for drivers, and encouraging a modal shift to public transport.

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Stagecoach Group Plc, *Shared Responsibility, Shared Future: Our Sustainability Strategy, 2015-2019*  
<http://www.stagecoach.com/~media/Files/S/Stagecoach-Group/Attachments/pdf/stagecoach-group-sustainability-strategy-2015-2019.pdf>

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<https://canalrivertrust.org.uk/business-and-trade/freight>

East Yorkshire Motor Services, accessed May 2016  
<https://www.eyms.co.uk/about-eyms/values>

Northern Rail, accessed May 2016  
<https://www.northernrailway.co.uk/corporate/environment>

## **10. Conclusions**

- 10.1 This audit compiles low carbon strategy and ambition found within 147 sources including strategies, visions and/or action plans. As there are relatively few low carbon-specific local strategies in existence the scope of the audit has been far-reaching in order to capture as much relevant strategy as possible. Findings therefore include explicit low carbon ambition, as well as that which is secondary and/or an indirect benefit of other primary goals. For ease of reference findings are grouped into six sectors: economic growth; higher education; energy; health and social care; land use; and transport. Together findings from each sector form a composite framework of existing low carbon strategy(s) for the Humber and YNYER LEP regions.
- 10.2 The audit's findings bring together and connect previously released material for ease of reference. This report does not represent a new strategy, nor does it provide any original material.
- 10.3 Concluding our analysis this audit report is being presented as a composite framework of existing low carbon strategy for the benefit of all parties within the Humber, and YNYER LEP regions with an interest in ERDF Investment Priority Axis 4.

## **11. About us**

- 11.1 This audit has been undertaken by East Riding of Yorkshire Council's Sustainable Development team for the Humber Technical Assistance Partnership. Our audit team is comprised of Robert Beardsworth and Gary Arnold, both Senior Sustainable Environment Officers and Lead Environmental Auditors. The report was edited by Robert Beardsworth.
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## Appendix A: Audit sources by geographic coverage

**Note:** This document is an appendix to the report *An audit of low carbon strategy from across the Humber, and York, North Yorkshire and East Riding Local Enterprise Partnership regions (2016)*. It provides further details on the geographic coverage of source materials assessed in undertaking the audit. For details of websites accessed as part of the audit see reference lists provided in the main audit report.

Audit report chapter theme	Source author and title	LEP region	Specific Local Authority area	Author &/or commissioned by
Economic	City of York Council, <i>York Economic Strategy 2011-15</i>	YNYER	York	Local Authority
	Craven District Council, <i>Economic Development strategy for Craven District 2010-16</i>	YNYER	Craven	Local Authority
	East Riding of Yorkshire Council, <i>East Riding of Yorkshire Economic Development Strategy 2012-16</i>	Humber and YNYER	East Riding	Local Authority
	Hambleton District Council, <i>A Place To Grow Economic Strategy 2014-24</i>	YNYER	Hambleton	Local Authority
	Harrogate Borough Council, <i>A Strong Local Economy Action Plan 2015-20</i>	YNYER	Harrogate	Local Authority
	Hull City Council, <i>Hull City Plan</i>	Humber	Hull	Local Authority
	Hull University Business School, <i>The Humber's Future Economic and Sustainable Development Plan, 2013</i>	Humber	Humber all	University
	Humber Local Enterprise Partnership, <i>European Structural and Investment Fund Strategy for the Humber 2014-2020, 2016 Refresh</i>	Humber	Humber all	LEP
	Humber Local Enterprise Partnership, <i>Growth Deals</i>	Humber	Humber all	LEP
	Humber Local Enterprise Partnership, <i>Strategic Economic Plan 2014-20</i>	Humber	Humber all	LEP
	PM Office and HM Treasury, <i>Long term economic plan-for Yorkshire and Northern Lincolnshire, 2015</i>	Humber and YNYER	All	Government department
	Richmondshire District Council, <i>Draft Economic Action Plan 2015-19</i>	YNYER	Richmondshire	Local Authority
	Ryedale District Council, <i>Economic Action Plan 2012-15</i>	YNYER	Ryedale	Local Authority

	Selby District Council, <i>Economic Development Strategy 2008-13</i>	YNYER	Selby	Local Authority
	Trade Union Congress, <i>Strategies for a low carbon industrial future in Yorkshire and the Humber, 2015</i>	Humber and YNYER	All	Partnership
	York, North Yorkshire and East Riding Enterprise Partnership, <i>Strategic Economic Plan, 2014</i>	YNYER	YNYER all	LEP
	York, North Yorkshire and East Riding Enterprise Partnership, <i>Local Growth Deal Implementation Plan, 2014</i>	YNYER	YNYER all	LEP
	York, North Yorkshire and East Riding Enterprise Partnership, <i>Strategic Economic Plan, ESIF Submission, 2014</i>	YNYER	YNYER all	LEP
Education	Centre for Adaptive Science and Sustainability, University of Hull, <i>Renewable energy, sustainable future, 2011</i>	Humber	Humber all	University
	Wells, David, Hull University, Yorkshire Universities Technical Assistance (YUTA), <i>Report on Energy in the Yorkshire and Humber, 2014</i>	Humber and YNYER	All	University
	Witty, Sir Andrew, <i>Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth, 2013</i>	Humber and YNYER	All	Independent review
	Yorkshire Universities Technical Assistance, <i>Report on Agri-Tech and Bio-Renewables, April 2014</i>	Humber and YNYER	All	Universities
Energy	AECOM, <i>Low carbon and renewable energy capacity in Yorkshire and Humber, 2011</i>	Humber and YNYER	All	Private sector consultant
	AECOM, <i>Harrogate District Planning and Climate Change Study, 2011</i>	YNYER	Harrogate	Private sector consultant
	AECOM, <i>Managing Landscape Change: Renewable and Low Carbon Energy Developments – a Landscape Sensitivity Framework for North Yorkshire and York, 2012</i>	YNYER	YNYER all	Private sector consultant
	Centre for Low Carbon Futures, <i>The Economics of Low Carbon Cities A Mini-Stern Review for the Humber, 2013</i>	Humber	Humber all	University
	Centre for Low Carbon Futures, <i>A Mini-Stern Review for York The</i>	YNYER	York	University

<i>Economics of Low Carbon Development, 2013</i>			
City of York Council, <i>Climate Change Framework, 2010-15</i>	YNYER	York	Local Authority
Craven District Council, <i>Climate Change Strategy and Business Plan 2009-12</i>	YNYER	Craven	Local Authority
Craven District Council, <i>Climate Change Business Plan and Climate Local Commitments 2013-2016</i>	YNYER	Craven	Local Authority
DECC, Heat networks delivery support, 2015	Humber and YNYER	All	Government department
Defra, <i>Guidance on applying the Waste Hierarchy</i> , June 2011	Humber and YNYER	All	Government department
Defra, <i>Waste Strategy for England 2007</i>	Humber and YNYER	All	Government department
East Riding of Yorkshire Council, <i>Environmental Policy</i> , 2014	Humber and YNYER	All	Government department
East Riding of Yorkshire Council, <i>Draft Energy and Carbon Management Plan 2012-20</i>	Humber	East Riding	Local Authority
East Riding of Yorkshire, Hull City Council, North East Lincolnshire Council and North East Lincolnshire Council, <i>Humber Housing Strategy 2009-2019 – Consultation Draft October 2009</i>	Humber and YNYER	East Riding, Hull, North East Lincolnshire and North East Lincolnshire	Local Authorities
Harrogate District Council, <i>Climate Change Strategy</i> , 2009	YNYER	Harrogate	Local Authority
Hull City Council and East Riding of Yorkshire Council, <i>Joint Sustainable Waste Management Review 2012</i>	Humber and YNYER	East Riding and Hull	Local Authorities
Hull City Council and East Riding of Yorkshire Council, <i>Joint Waste Development Plan Document, Issues and Options 2012</i>	Humber and YNYER	East Riding and Hull	Local Authorities
Hull City Council, <i>Housing and Neighbourhood Renewal Strategy 2011-2016</i>	Humber	Hull	Local Authority
Hull City Council, <i>Kingston upon Hull Climate Change 2010-2020: A low carbon framework for Hull</i>	Humber	Hull	Local Authority
Lincolnshire Waste Partnership, <i>Joint Municipal Waste Management Strategy for Lincolnshire</i> , June 2008	Humber	North East Lincolnshire and North East Lincolnshire	Local Authority

	Land and Water Resource Consultants, <i>East Riding of Yorkshire Council Heat Network Feasibility Study, 2015</i>	Humber and YNYER	East Riding	Private sector consultant
	North Lincolnshire Council, <i>Climate Change Action Plan 2007-2012</i>	Humber	North Lincolnshire	Local Authority
	North East Lincolnshire Council, <i>Climate Local Agreement, 2016</i>	Humber	North East Lincolnshire	Local Authority
	Northern Power Grid, <i>Business Plan Annex 1.9 Smart Grid Development Plan, 2014</i>	Humber and YNYER	All	Distribution Network Operator
	North Yorkshire County Council, <i>Delivering on Climate Change, 2009</i>	YNYER	YNYER all	County Council
	York, North Yorkshire and East Riding Strategic Housing Partnership, <i>Housing Strategy 2015-21</i>	Humber and YNYER	East Riding, North Yorkshire and York	Partnership
	York and North Yorkshire Waste Partnership, <i>Let's Talk Rubbish: Joint Municipal Waste Management Strategy</i>	YNYER	YNYER all	County Council and Local Authorities
	Yorkshire Water, <i>Climate Change Strategy, 2013</i>	Humber and YNYER	All	Water company
Health	Airedale, Wharfedale and Craven Clinical Commissioning Group Corporate, <i>Social Responsibility Plan 2015/16-2017/18</i>	YNYER	Craven	CCG (Clinical Commissioning Group)
	East Riding of Yorkshire Health and Wellbeing Board, <i>East Riding of Yorkshire Joint Health and Wellbeing Strategy 2016-19</i>	Humber and YNYER	East Riding	Health & Wellbeing Board
	East Riding of Yorkshire Clinical Commissioning Group, <i>Sustainable Development Management Plan</i>	Humber and YNYER	East Riding	CCG
	Hambleton, Richmondshire and Whitby Clinical Commissioning Group, <i>Sustainable Development Management Plan, 2014</i>	YNYER	Hambleton and Richmondshire	CCG
	Harrogate and rural district Clinical Commissioning Group, <i>Sustainable Development Management Plan, 2013</i>	YNYER	Harrogate	CCG
	Hull and East Yorkshire Hospitals NHS Trust, <i>Estates Strategy 2013-18</i>	Humber and YNYER	East Riding and Hull	NHS Trust
	Hull Health and Wellbeing Board, <i>Hull Healthier Together – Health</i>	Humber	Hull	Health & Wellbeing

	<i>and Wellbeing Strategy 2014-20</i>			Board
	Humber NHS Foundation Trust, <i>Estates Strategy 2015-20</i>	Humber	Humber all	NHS Trust
	Marmot, Sir Michael, <i>Fair Society, Healthy Lives: The Marmot Review – Strategic Review of Health Care Inequalities in England post 2010</i>	Humber and YNYER	All	Independent review
	NHS Sustainable Development Unit, <i>The Carbon Reduction Strategy for England, 2009 (updated in 2010)</i>	Humber and YNYER	All	NHS
	NHS Sustainable Development Unit, <i>The Sustainable Development Strategy for the Health, Public Health and Social Care System 2014-2020</i>	Humber and YNYER	All	NHS
	NHS Sustainable Development Unit, <i>Sustainable Development in Health and Care Report – Health Check 2016</i>	Humber and YNYER	All	NHS
	NHS Property Services, <i>Sustainable Development Management Plan 2014-18</i>	Humber and YNYER	All	NHS
	North East Lincolnshire Health and Wellbeing Board - <i>A Joint Health and Wellbeing Strategy for North East Lincolnshire 2013-2016</i>	Humber	North East Lincolnshire	Health & Wellbeing Board
	North Lincolnshire Clinical Commissioning Group, <i>Sustainable Development Management Plan, 2013</i>	Humber	North East Lincolnshire	CCG
	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust, <i>2015-20 Sustainable Development Management Plan, 2015-20</i>	Humber and YNYER	East Riding and North Lincolnshire	NHS Trust
	North Lincolnshire Health and Wellbeing Board, <i>North Lincolnshire Joint Health and Wellbeing Strategy 2013-2018</i>	Humber	North Lincolnshire	Health & Wellbeing Board
	North Yorkshire Health and Wellbeing Board, <i>Draft Joint Health and Wellbeing Strategy 2013-2018 (2015 update)</i>	YNYER	YNYER all	Health & Wellbeing Board
	Scarborough and Ryedale Clinical Commissioning Group, <i>Sustainable Development Management Plan, 2014</i>	YNYER	Scarborough and Ryedale	CCG

	Vale of York Clinical Commissioning Group, <i>Sustainable Development Management Plan, 2013</i>	YNYER	York	CCG
	York Health and Wellbeing Board, <i>Improving Health &amp; Wellbeing in York – Our Strategy 2013-16</i>	YNYER	York	Health & Wellbeing Board
	Yorkshire Ambulance Service NHS Trust, <i>Estate Strategy 2012-17</i>	Humber and YNYER	All	NHS Trust
Land use	City of York Council, North Yorkshire County Council and North York Moors National Park, <i>Minerals and Waste Joint Plan, Preferred Options Consultation November 2015</i>	YNYER	YNYER all	Partnership
	Communities and Local Government, <i>National Planning Policy Framework, 2012</i>	Humber and YNYER	All	Government department
	East Riding of Yorkshire and Kingston upon Hull, <i>Joint Minerals Local Plan Revised Preferred Approach Consultation, May 2016</i>	Humber and YNYER	East Riding and Hull	Local Authorities
	Lincolnshire County Council, <i>Lincolnshire Mineral and Waste Development Framework, Preferred Minerals and Waste Strategy, June 2010</i>	Humber	North East and North Lincolnshire	County Council and Local Authorities
	North York Moors National Park Authority, <i>North York Moors National Park Management Plan, 2012</i>	YNYER	North York Moors National Park	National Park Authority
	Rural Action Yorkshire, <i>Rural Strategy for Yorkshire 2014-2020</i>	Humber and YNYER	All	Partnership
	Yorkshire Dales National Park Authority, <i>Yorkshire Dales National Park Management Plan, revised 2016</i>	YNYER	Yorkshire Dales National Park	National Park Authority
	Craven	YNYER	Craven	Local Authority
	East Riding	Humber and YNYER	East Riding	Local Authority
Land use (Local Plans)	Hambleton	YNYER	Hambleton	Local Authority
	Harrogate	YNYER	Harrogate	Local Authority
	Hull	Humber	Hull	Local Authority

	North East Lincolnshire	Humber	North East Lincolnshire	Local Authority
	North Lincolnshire	Humber	North Lincolnshire	Local Authority
	Richmondshire	YNYER	Richmondshire	Local Authority
	Ryedale	YNYER	Ryedale	Local Authority
	Scarborough	YNYER	Scarborough	Local Authority
	Selby	YNYER	Selby	Local Authority
	York	YNYER	York	Local Authority
Transport	City of York Council, <i>Local Transport Plan 2011-2031</i>	YNYER	York	Local Authority
	City of York Council, <i>Low Emission Strategy 2012</i>	YNYER	York	Local Authority
	Department for Transport, <i>The Creating Growth, Cutting Carbon Strategy: Making Sustainable Local Transport Happen</i> , January 2011	Humber and YNYER	All	Government department
	East Riding of Yorkshire Council, <i>Local Transport Plan, Strategy 2015-2029</i>	Humber and YNYER	East Riding	Local Authority
	East and North Yorkshire Waterways Partnership, <i>Waterways Strategy 2012-2020</i>	Humber and YNYER	All	Partnership
	First Group Plc, <i>Climate Change Strategy 2014</i>	Humber and YNYER	All	Public transport provider
	Hull City Council, <i>Local Transport Plan, 2011-2026</i>	Humber	Hull	Local Authority
	MDS Modal Ltd and Mott MacDonald, Transport for the North, TFN Freight Strategy, Draft Strategy Conference 14th January 2016	Humber and YNYER	All	Partnership
	Network Rail, Sustainable Development Strategy, Our vision and strategy: A railway fit for the future 2013 – 2024	Humber and YNYER	All	Arms Length Public Body
	North East Lincolnshire Council, <i>Transport Strategy April 2011- March 2026 – Local Transport Plan 3</i>	Humber	North East Lincolnshire	Local Authority
	North Lincolnshire Council, <i>Local Transport Plan 2011 to 2026</i>	Humber	North Lincolnshire	Local Authority
	North Yorkshire County Council, <i>Local Transport Plan Four</i>	YNYER	YNYER all	County Council

	Northern Rail, <i>Northern Rail Environmental Sustainability Strategy 2014 to 2016 incorporating the 2014 Environmental Action Plan</i>	Humber and YNYER	All	Public transport provider
	Stagecoach Group Plc, <i>Shared Responsibility, Shared Future: Our Sustainability Strategy, 2015-2019</i>	Humber and YNYER	All	Public transport provider