Leeds City Region Energy Strategy

Executive summary

1. Introduction

This Energy Strategy and delivery plan is the response of City Region partners to the global challenge of providing a secure, affordable energy supply for our residents and businesses, while also lowering carbon emissions to help the UK meet its national (Climate Change Act) and international (Paris Climate Change Agreement) carbon reduction targets.

With its long history of energy generation – historically producing a major share of the UK's energy including 12% of electricity – Leeds City Region has the knowledge, skills and infrastructure to play a key role in meeting the UK's future energy requirements.

In this strategy and delivery plan, we set out how we will target investment over the next 10 years to meet our ultimate goal of becoming a zero-carbon energy economy, while also taking advantage of unprecedented change within the global energy sector to grow our region's economy and improve people's lives.

2. Where we are now: our strengths and challenges

Given its long history of energy generation, Leeds City Region has a number of distinctive strengths that will enable it to play a leading role in the UK's transition to a low carbon economy with the right investment.

Our strengths:

38%

reduction in carbon emissions since 2005

12%

of UK electricity generated here

£918m

GVA value of City Region's energy sector

31%

of electricity generated here from low carbon or renewable sources

7,900 people employed in energy

Range of support available to help households and businesses become more energy efficient

The challenges we must address:

- Continued reliance on fossil fuels – only 8.8% of energy consumed currently is provided by renewables
- Estimated 13% increase in energy demand over the next 20 years
- 12.5% of households in the City Region in fuel poverty
- Ensuring our energy-intensive industries (including the UK's largest manufacturing centre) remain productive and globally competitive
- Keeping energy costs manageable for businesses and households
- Reducing carbon emissions to meet national and international targets

3. Where we want to be: our vision

Our ultimate ambition – as set out in our Strategic Economic Plan – is to make Leeds City Region a zero-carbon energy economy.

In this Energy Strategy and its accompanying delivery plan we set out how we will target investment and innovation over the next 10 years and up to 2036 to make our region a world-leading centre for zero-carbon energy.

We will also make the most of our region's significant natural assets to develop high quality green and blue infrastructure, that will improve our resilience to the effects of climate change, such as increased flooding. Our plans to achieve this are set out in our Green and Blue Infrastructure Strategy and delivery plan.

The major opportunity:

If our region were to reduce carbon emissions in line with the targets set in the Paris Climate Change Agreement by 2036, we would see:

53% reduction in emissions

£11 billion-plus
increase in annual
economic output

100,000 more jobs

Leeds City Region at the leading edge of climate policy in England

Long term climate goals achieved

including net zero carbon emissions by around 2050

4. How we will get there: our priorities

To achieve our zero-carbon energy economy ambitions we will focus on five priority action areas:



1. Resource-efficient businesses and industry – we will increase support to help companies reduce their energy costs and carbon emissions



2. New energy generation – we will develop an energy network that provides locally generated low-cost, low carbon energy to homes and businesses, including district heat networks and the landmark H21 hydrogen energy project in Leeds



3. Energy efficiency and empowering consumers – we will help households become more energy-efficient, lower their energy bills and reduce fuel poverty



4. Smart grid systems integration – we will develop the technology and infrastructure that enables people and businesses to use energy more intelligently



5. Efficient and integrated transport – we will target investment and influence transport operators to develop a sustainable transport network, including a greater proportion of electric and hydrogen-powered vehicles and increased opportunities for cycling and walking

5. Top 10 projects and initiatives

Our zero carbon energy economy ambition will only be achieved through collective action. These are the key projects partners across Leeds City Region will explore together over the next 10 years, ranked by estimated carbon savings:

Hydrogen vehicles

Hydrogen buses and refuelling stations on a key City Region bus route



874 ktCO

Industrial energy efficiency

Targeting high emission industrial sectors



590 ktCO₂

Electric vehicle charging and infrastructure

Across the City Region, focusing on rapid charge technology



565 ktCO₂

Carbon Capture Storage (CCS)

Building on the pilot bioenergy CCS project at Drax in Selby



335 ktCO₂

Industrial waste heat recovery

Targeting energy from waste plants and energy intensive industries



290 ktCO₂

Carbon budgets and carbon management plans

To help businesses and public sector bodies limit their emissions



180 ktCO₂

H21

Continued support for the development of this project to convert the existing natural gas network in Leeds to 100% hydrogen



116 ktCO₂

Street lighting programmes

Improving the energy efficiency of street lighting through use of LEDs and smart technologies



100 ktCO₂

Public estate renewables programme

Installing renewable energy generation in public sector buildings



60 ktCO,

District heat networks

Continued development of 11 district heat networks across Leeds City Region



53 ktCO,

Together with government action these projects would enable the region to meet 63% of a carbon reduction target in line with the Paris Climate Change Agreement. If the region were to sign up to the target we will need to identify the additional 37% of savings needed.

Total CO2 savings: 3,173 ktCO₂*

* The equivalent of taking 680,000 cars off the road for a year or driving a car to the moon and back over 16,000 times!

6. How the strategy will make a difference

Benefits of delivering this strategy for people and businesses in the region will include:



Increased economic growth and productivity

- Faster economic growth within the energy sector
- Improved ability to attract business investment and talent to the region
- Increased business efficiency and competitiveness



Inclusive growth that benefits everyone

- Lower energy costs for households and businesses
- More skilled jobs related to energy
- Significant reductions in fuel poverty



Reduced carbon emissions

- Reduction in carbon emissions and improved air quality
- Achievement of climate change targets
- Improved energy security with less reliance on imported fuel supplies

Find out more

Read our full Energy Strategy and delivery plan here

westyorks-ca.gov.uk

Twitter: @westyorkshireca

Enquiries: @westyorkshire-ca.gov.uk

Tel: +44 (0) 113 251 7272

#zerocarbonlcr



