Local Area Energy Planning in the Leeds City Region

ERP Local Area Energy Planning Plenary Event

David Reilly, Director, Cities & Regions

Emma Ashcroft, Senior Manager, Cities & Regions

10th July 2019

This document is marked as confidential

Agenda

1. Introduction
2. Background to the Leeds City Region
3. The evolution of local energy in the Leeds City Region
4. District Heat Programme
5. Where next
6. Key Sector Challenges

1

Introduction

Carbon Trust & Leeds City Region

Carbon Trust Cities & Regions Team	Dedicated team of 25 staff based in London, Cardiff and Edinburgh – Technical, Commercial, Stakeholder Engagement, Strategy, Project and Programme Management capabilities
Key areas of focus	Working with Central and Local Government to accelerate the development and delivery of clean energy and carbon reduction at a local level
Track record with the Leeds City Region	We've been working in the region for more than 15 years, supporting carbon reduction across the public and private sectors
Recent activity	Supporting zero carbon ambitions in their recently adopted energy strategy and accelerating delivery through the Leeds City Region Energy Accelerator

2

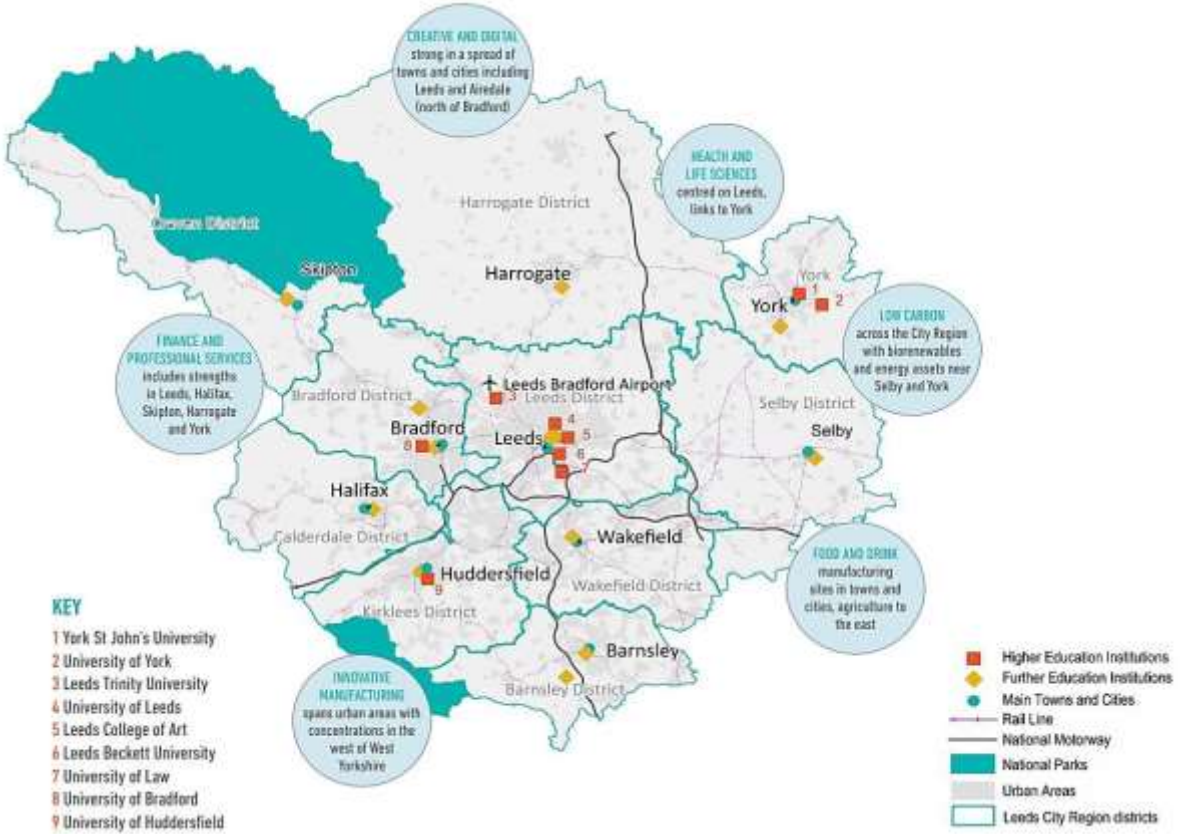
Background to the Leeds City Region

Economic landscape of the Leeds City Region

- Largest City Region economy outside of London
- Economy worth £66.5 billion (5% of England's economic output)
- 10 local authorities
- Population of 3 million
- 125,000 businesses
- Strengths in financial and professional services, manufacturing, health and digital sectors
- Energy sector employment heavily concentrated in Leeds, Wakefield and Selby

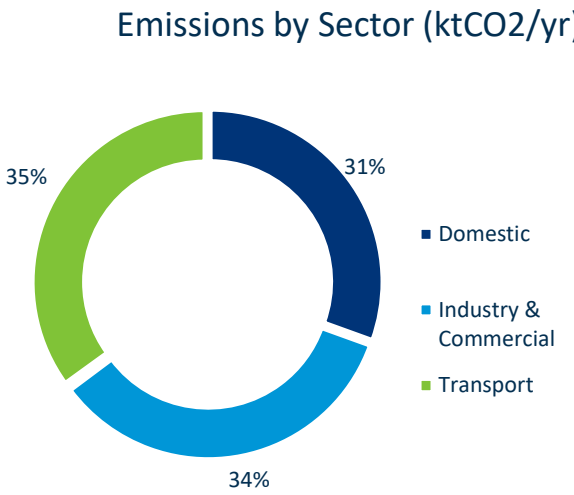
Building on the City Region's strengths

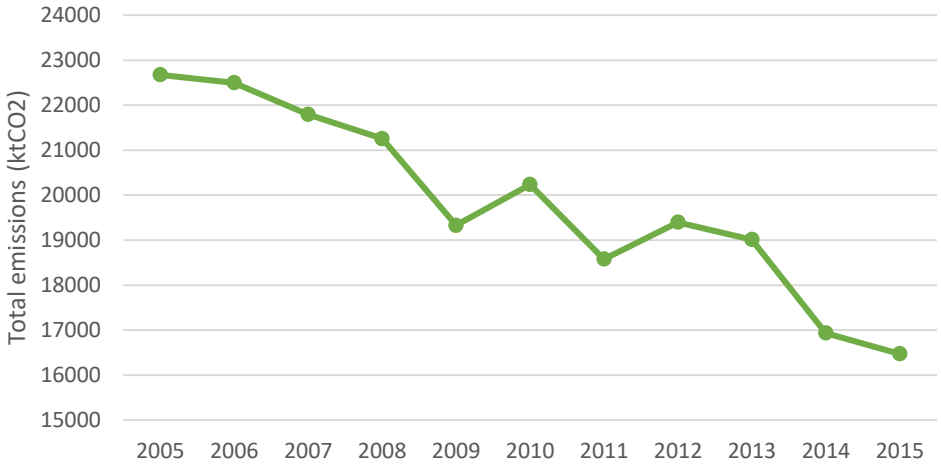
- Energy generating region, producing 12% of the UK's electricity.
- Highly skilled and productive energy sector, compared with other industry in the region.
- Strong higher education sector with direct relevance to the energy sector.
- Leeds will cement role as a transport hub through arrival of HS2.



This document is marked as confidential

Baseline – carbon emissions

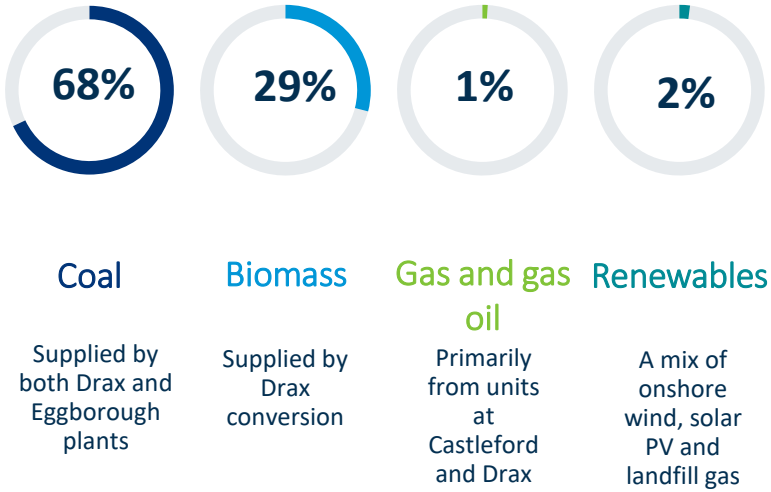


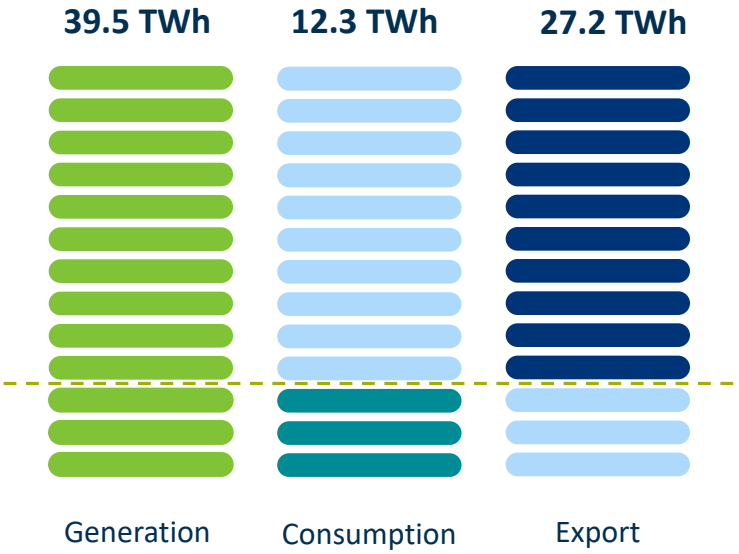


- Total emissions **decreased by 27%** between 2005 and 2015
- Total emissions were **16,472 ktCO2 in 2015**
- The greatest decrease in emissions over the last ten years has been from ***the industry and commercial sector (36% decrease)***
- Over the same period **domestic emissions fell by 32%**, but **transport emissions decreased by only 9%**

Electricity generation in the Leeds City Region

Drax power station generates **68% of the region's 39.5 TWh of electricity**





Key energy system challenges

Region continues to rely on fossil fuels
– only 8.8% of energy consumed is provided by renewables

Estimated 13% increase in energy demand over the next 20 years, if BAU trends continue

12.5% of households in the City Region live in fuel poverty

Ensuring the City Region's energy-intensive industries remain productive and globally competitive (e.g. chemicals, food and drink, glass)

Keep energy costs manageable for businesses and households

Reducing carbon emissions to meet national and international targets

3

The evolution of local energy in the Leeds City Region

The evolution of local energy in the Leeds City Region

Green Economy Panel is established
2015

District Heat Programme begins to advance pipeline of projects
2014

Launch of Resource Efficiency Fund
2016

Leeds City Region Energy Accelerator programme launch
2018

Development of Local Inclusive Industrial Strategy
2019 onwards

2016
Adoption of the Strategic Economic Plan, including zero carbon energy ambition for 2036

2016
Launch of Better Homes Yorkshire

2018
Adoption of the Energy Strategy and Delivery Plan to 2036

2019
Eight LA's declaring a climate emergency

LCR Energy Strategy and Delivery Plan 2036

- Ambition for the Leeds City Region to be a zero carbon economy
- Seeking to strengthen ambitions an set a 1.5°C science based target
- Potential to deliver £11bn in economic output and 100,000 jobs

Resource efficient business and industry

New energy generation

Energy efficiency and empowering consumers

Smart grid systems integration

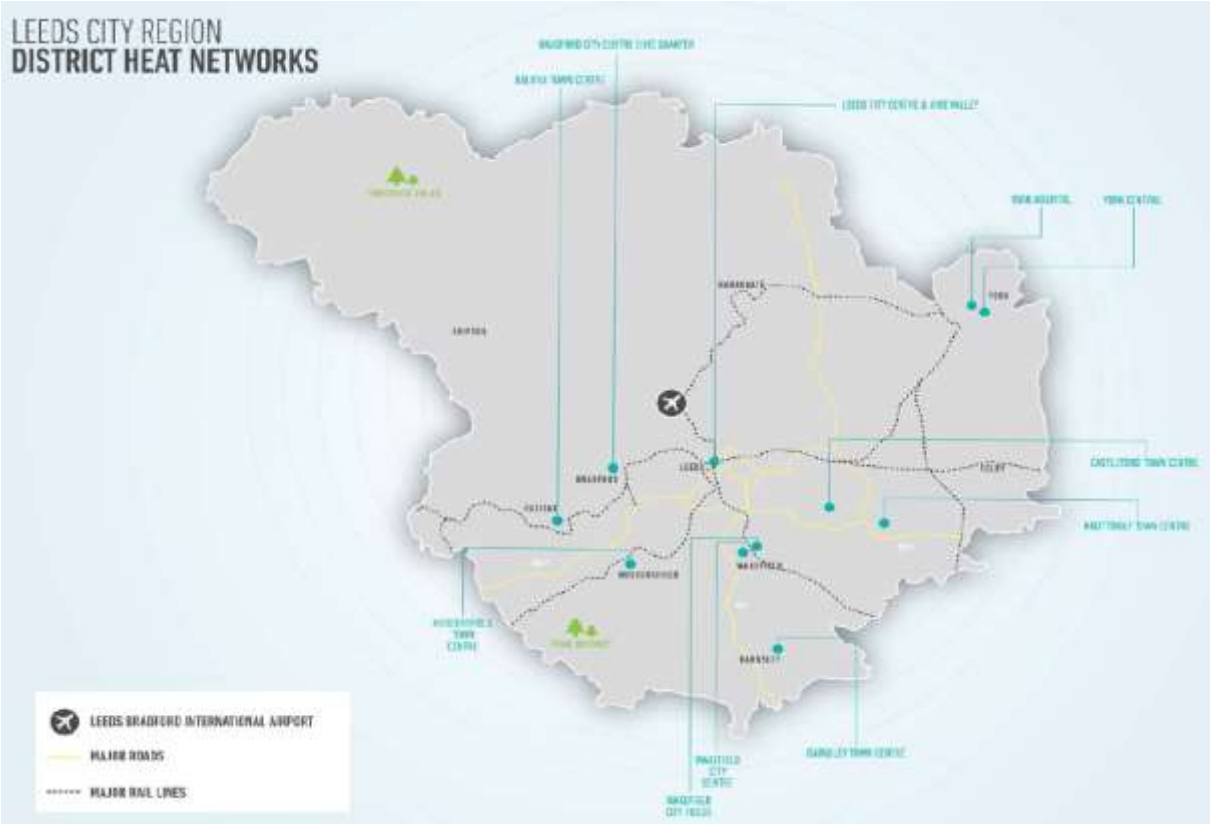
Efficient and integrated transport

4

District Heat Programme

District Heat Programme

- Quantifying the socio-economic benefits
- Building a project portfolio through Heat Mapping, Energy Masterplanning and techno-economic feasibility studies
- Implementing planning policies to enable long term growth of infrastructure
- Knowledge sharing and capacity building
- Stakeholder engagement to unlock barriers and build support



Leeds PIPES

Leeds City Council are leading the way in ***demonstrating successful local energy*** projects, aligned with local strategic objectives

- One of the UK's largest heat networks, owned by Leeds City Council and delivered in partnership with Vital Energi
- Primary supply of heat is from the Leeds Recycling and Energy Recovery Facility (RERF) operated by Veolia

Phase 1: *£35m investment connecting 2,000 multi-storey flats, now operational*
Phase 2: *£5.6m extension to commercial and public buildings in the city centre, construction will commence Q3 2019*
Phase 3: *c.£15m extension to South Bank development area*

This document is marked as confidential

Challenges to progressing district heat in the LCR

- Lack of resource and capacity within local authorities to drive projects forward
- Competing priorities within the public sector
- Need for public investment and ownership – schemes typically aren't meeting private sector hurdle rates and cannot afford high cost of capital
- Reliance on subsidy, both in terms of development (HNDU & ELENA funding) and capital (HNIP)
- Demand risk and alignment of infrastructure timescales (e.g. for new developments, road infrastructure etc.)
- Commercialising renewable heat (e.g. mine water) and competing against the low price of natural gas

Outcomes

- Political and senior management support for district heat across the LCR, and commitment to its delivery
- More effective planning policy framework to ensure connection and encourage heat network growth
- Understanding of long term potential for district heat across the region, and of the financial, environment and social benefits associated with taking action
- A pipeline of £100m+ investable projects that will deliver carbon reduction, fuel poverty alleviation and inclusive economic benefits along with a sustained source of revenue for local authorities

5

Where next?

Where next?

- Focussed on strengthening the delivery plan and addressing the "gap to target"
- Last week the Combined Authority and LCR LEP declared a Climate Emergency
- Now carrying out work to strengthen ambitions and set ambitious yet realistic target
- Developing a new clean growth programme, to include new policies and delivery plan
- Integration of energy into Local Inclusive Industrial Strategy
- Drive implementation through the LCR Energy Accelerator and related delivery vehicles

6

Key sector challenges

Key local energy sector challenges

Capacity and capability is still limited at a local level

Not enough joined up thinking across heat, power and transport

Uncertainty about how to tackle heat is impacting decision making

Lack of awareness about finance/business models available

Energy is not core business for local government – need to embed into core strategies

Any questions?

Keep in touch

Emma Ashcroft, Senior Manager, Cities and Regions

Emma.Ashcroft@carbontrust.com

@EmmaAshcroft

Emma Ashcroft

Whilst reasonable steps have been taken to ensure that the information contained within this publication is correct, the authors, the Carbon Trust, its agents, contractors and sub-contractors give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions. All trademarks, service marks and logos in this publication, and copyright in it, are the property of the Carbon Trust (or its licensors). Nothing in this publication shall be construed as granting any licence or right to use or reproduce any of the trademarks, services marks, logos, copyright or any proprietary information in any way without the Carbon Trust's prior written permission. The Carbon Trust enforces infringements of its intellectual property rights to the full extent permitted by law.
The Carbon Trust is a company limited by guarantee and registered in England and Wales under company number 4190230 with its registered office at 4th Floor Dorset House, Stamford Street, London SE1 9NT.
Published in the UK: 2019.
© The Carbon Trust 2019. All rights reserved.

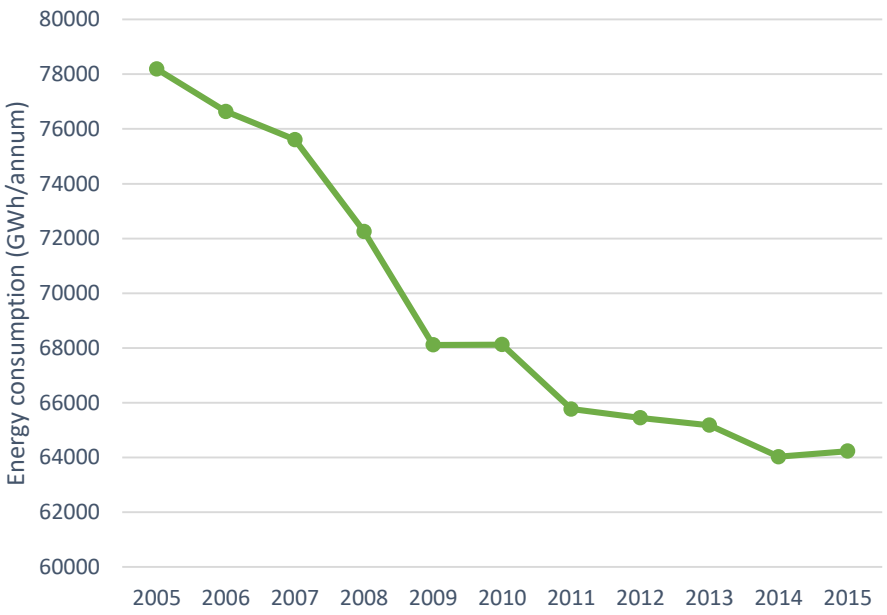
This document is marked as confidential

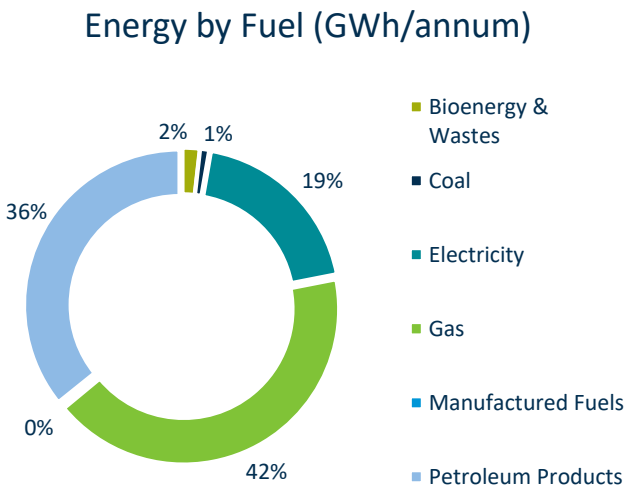
7

Extra slides

Baseline – energy consumption

Rate of energy **consumption reduction has slowed since 2010**. Energy consumption ***decreased by 15% from 2005 to 2010***, but only a ***further 4% in the five years following***





- **60% of gas is consumed by the domestic sector** (40% by I&C), whereas **60% of electricity is consumed by the I&C sector**, (40% by domestic)
- Sector breakdown is 35% domestic, 32% road transport, 32% Industrial & Commercial and 1% Rail

This document is marked as confidential

Leeds City Region Energy Accelerator

- Three year programme to accelerate the implementation of low carbon energy projects with public and private sector sponsors
- £3.8m project development unit, seeking to leverage £115m CAPEX investment
- Providing specialist technical, commercial and legal advice to develop low carbon energy projects
- Focus on energy efficiency, renewables, street lighting and heat networks
- Delivered in partnership with Turner & Townsend, the Carbon Trust and Sweco
- Co-funded by the Horizon 2020 Programme of the European Union

Delivered in partnership with:

Supported by:

This document is marked as co