

Leeds City Region Energy Strategy and Delivery Plan

DRAFT

Introduction

The energy sector is currently experiencing a number of challenges in the UK; how to provide affordable and secure energy supplies, which are critical for economic development and ensuring businesses remain competitive, while responding to the requirements to decarbonise in line with international (Paris Climate Change Agreement) and national (Climate Change Act) agreements.

The Leeds City Region has a long history of energy generation, with its energy assets historically producing a major share of the UK's energy. With this long history comes a population with significant knowledge and expertise in delivering and operating energy generation projects. These are the strengths which it will be vital to maximise in ensuring the challenges currently faced are addressed and used to the City Region's advantage.

This Strategy and Delivery Plan sets out how the Leeds City Region could begin to meet the energy ambition set out in its Strategic Economic Plan to become a resilient, zero carbon energy economy. It also sets out the ways in which the City Region can gain an economic, social and environmental advantage from the unprecedented change happening within the sector and the challenges and opportunities that this brings.

Strengths and Challenges

The City Region is well placed to take advantage of the opportunities that are, and will, present themselves both within and outside the energy sector. These strengths are:

- A long legacy of energy generation within the region, having provided and indeed continuing to provide a significant proportion of the country's energy needs.
- An energy sector that has productivity levels among the highest of any industry in the region and is relatively high skilled, with strong representation in management, professional and technical occupations.
- A higher education sector which hosts a significant level of provision which is directly relevant to the needs of the energy sector.
- A high level of investment by employers in apprenticeships that relate to the specific needs of the energy sector.
- A large number of manufacturing, construction and distribution businesses that have the potential to play an integral part in moving to a zero carbon economy
- Significant existing low carbon programmes such as the Resource Efficiency Fund, Better Homes, Energy Accelerator

While these strengths will be built on as part of the Strategy and Delivery Plan there are a range of challenges that need to also be addressed, including:

- An estimated 13% increase in energy demand over the next 20 years and the need to reduce CO2 emissions in the face of this and across domestic, transport and industrial sectors.
- A continued reliance on fossil fuels and low uptake of low carbon and renewable energy sources (8.8% of energy consumed currently provided by renewables).
- A high number of households (12.5%) which remain in fuel poverty and need for all homes to achieve an EPC rating of C by 2035.
- A need to ensure the region's energy intensive industries (particularly in the chemicals, food and drink, and glass sectors) remain competitive on a global scale and are retained within the region.
- A need to ensure energy prices are kept manageable for businesses and households.
- Bringing our City Region in line with global emission reduction targets could require significant carbon savings and capital investment (initial estimate of up to £50 billion) and realise the economic benefits (initial estimate could be £11 billion in GVA and create 100,000 jobs).

Benefits

By implementing the Strategy and Delivery Plan the City Region is likely to see a wide range of benefits that directly affect businesses and households across the region. These include:

- A reduction in emissions, both from a CO2 and air quality perspective
- Potentially lower energy costs through a decentralised and more efficient energy system.
- An increase in the number of jobs directly and indirectly related to energy, especially through bringing our City Region in line with global emission reduction targets
- An increase in the GVA of the energy sector within the City Region, which even considering current trends will grow over the next 20 years, but will accelerate if the Paris Climate Change Agreement is met.
- An ability to increase productivity, attract inward investment and talent due to lower energy costs and an increase in employment.
- Contributing to the delivery of climate change targets, including the Climate Change Act and Paris Climate Change Agreement.
- Alleviation of fuel poverty in the 12.5% of households currently classed as fuel poor.
- An increase in the security of energy supply within the City Region, relying less on imported fuel supplies

Vision & Priorities

Vision:

The vision for the Strategy as set out in the Strategic Economic Plan is to **create a resilient, zero carbon economy underpinned by high quality green infrastructure** and **within the next ten years target investment and innovation to make the City Region a leading edge centre for zero carbon energy.**

Aim:

This strategy and delivery plan aim to accelerate action to support the development of a resilient, zero carbon economy underpinned by high quality green infrastructure.

Priorities:

To support the vision this strategy and delivery plan will focus on five priorities:

- **Resource efficient business and industry** (including delivering advice, financial support, new improvement programmes, support for innovation and new clean tech clusters)
- **New energy generation** (including test beds for innovation, driving investment, use of the City Region's Energy Accelerator and Energy Hub)
- **Energy efficiency and empowering consumers** (large-scale energy efficiency improvement schemes, new funding models, higher housing standards)
- **Smart grid systems integration** (unlock the transition to a smarter, more integrated energy economy, deployment of smart grid technologies, facilitate innovation through technology incubation)
- **Efficient and integrated transport** (including clean, integrated systems, development of clean transport technologies and networks of ultra low emission vehicles)

Delivery Plan

The vision and priorities will be met initially through the following proposed actions

Project	Summary
Resource Efficiency Fund 2	Extend the scope of the existing REF to reach a larger number of SMEs and widen the scope for the types of assessment provided. Pilot system-wide innovation and the circular economy.
Green City Region Web Portal	Build on the existing Business Growth Hub by expanding the energy and environmental services offered by the Hub.
Green Curricula in Apprenticeships	Incorporate good business practice around energy and water management into curricula of apprenticeships.
Advancing Industrial Energy Efficiency	Targeting of the high emission industrial sectors of the City Region with an energy efficiency innovation programme.
Industrial Waste Heat Recovery	Quick start the development of waste heat recovery infrastructure across the City Region, targeting energy from waste plants and energy intensive industries including the glass, chemicals and food and drink sectors. Also includes the equipping of retail stores with heat recovery systems connected to refrigeration units.
CCS	Deployment of new CCS installations across the City Region, supporting and building on the pilot bioenergy capture and storage project at Drax.
District Heat Networks	Continue to support the development of the six most advanced networks while developing the heat network pipeline and identifying potential funding sources to allow implementation.
H21 Implementation, Skills and Supply Chain	Continue to support the development of the H21 project led by Northern Gas Networks, retaining as far as possible the benefits of the project within the City Region.
Public Estate Renewables Programme	Utilisation of the public sector estate for the installation of renewable energy generation.
Community Energy Schemes	Provide support for, and facilitate the growth of the community energy sector and community energy projects, including the investigation of a community energy fund.
Carbon Budgets and Carbon Management	Implementation of carbon budgets and carbon management plans across the City Region's partners, in line with the Government's Emissions Reduction Pledge 2020 report.
Green Bonds	Development of a green bonds business model to support the ongoing transition to renewable energy.
Improve Local Plan Housing Policies	Introduction of planning policies which go beyond Building Regulations. (Identified due to the Deregulation Act 2015 not being enacted and the new National Planning Policy Framework stating 'local authorities are not restricted in their ability to require energy efficiency standards above Building Regulations'.)
Promote Sustainable Design and Construction	Consideration of alternative methods of house building, including Passivhaus and off-site modular construction.
Scaling Up Better Homes Yorkshire	Widespread rollout of retrofit fabric insulation and heating measures combined with new generation for households where it is suitable.
Whole System Domestic Energy Efficiency Retrofit Demonstrator	Takes a whole village or neighbourhood approach to the deployment of 'whole-system' energy efficiency measures to achieve a high level of efficiency.
Public Sector Retrofitting	Retrofit of the public sector estate with energy efficiency measures such as energy management systems, LED lighting, motion sensors.
Full Fibre Infrastructure	Support the City Region Local Full Fibre Bid as a catalyst for the implementation of a smart energy system.
Street Lighting Programmes	Accelerate LED replacement, smart lighting controls and networked solutions across local authority areas.
Solar Carports	Installation of solar PV canopies above car parking spaces, proving space efficient renewable generation.
Whole Energy System Approach Pilot	Identification of new early stage new developments in the City Region where a whole energy systems pilot could be undertaken.
Energy Storage for Council Housing Mounted Solar PV	Identification of housing blocks and estates with high density solar PV installations, and install battery storage to maximise the solar PV utility.
Smart Leeds	Innovative kick starter project aimed at delivering a large number of energy system pilot and demonstrator projects in the City Region.
Hydrogen Vehicles	Deployment of hydrogen buses on one City Region bus route, and build two hydrogen refuelling stations. Will enable the incorporation of hydrogen powered cars into corporate fleets where the fuelling stations are located.
EV Charging and Infrastructure	Deploy dedicated taxi and public EV charging points across the City Region, focusing on rapid charging technology and high demand locations.
Hyperhubs	Pilot project to demonstrate proof of concept in the City Region.
Smart Park and Ride	Targeting of two new P&Rs to include solar PV canopies, energy storage, electric buses, charging infrastructure, a grid / private wire export link.
Smart Travel Evolution Programme (STEP)	Consider the extension of STEP across the City Region, monitoring and analysing real time journey information to make interventions where vehicles and traffic signals work together to improve the network.
Behaviour Change Schemes	Promotion of cycling and walking through behaviour change schemes across the City Region.

Next Steps

The findings of the Strategy and initial Delivery Plan will be built on over the coming months. Key immediate activities include:

- Approval of the Strategy and Delivery Plan by the Combined Authority.
- Development of detailed work plans for the prioritised projects.
- Exploration of a City Region CO2 reduction target with Stakeholder, including the investigation of bringing our City Region in line with global emission reduction targets.
- A Leeds City Region summit in spring 2019 to explore setting a regional emission reduction target and how to meet it.
- Detailed delivery plan with potential regional carbon targets to be adopted by the end of 2019.

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