

Climate Emergency
Report to Transport and Environment Scrutiny Committee
Inclusive Growth Directorate
25 September 2019

Introduction

The Climate Crisis is an existential threat that requires us to change the way we invest in, grow and sustain our cities and regions. The environment, economy and communities will be severely affected without significant changes in the way we work, move around and live.

Delivering cleaner and more sustainable growth by transitioning to a low carbon economy is widely acknowledged to bring about major economic benefits as well as limiting the city's impact on climate change and contributing to health and social objectives.

This briefing note focuses on the existing and planned policies and activities within the Inclusive Growth Directorate (planning, energy and sustainable transport) which would contribute to addressing climate change. It does not cover all of the Council's strategies and activities such as those being delivered by other Directorates; these are subject to separate reports to the Committee. .

Context

In 2013, the Council set its own ambitious target of 60% reduction in carbon emissions by 2027. This represents a reduction from 6.874m tonnes baseline in 1990 to 2.750m tonnes by 2027. Following a full Council motion on the 11th of June 2019, the carbon reduction goal was updated to net zero carbon by 2030.

The Council currently monitors carbon reduction data which shows that Birmingham's CO₂ emissions have decreased by 38.6% against a 1990 baseline. The main source for carbon emissions data is reported via the Government retrospectively every 2 years. Current data for Birmingham shows that the total CO₂ emissions for **2017 was 4.222m tonnes**, where:

- 34.4% of emissions were domestic;
- 33.8% from industry and commercial sectors; and
- 31.8% from transport.

Recent analysis of energy mapping work undertaken indicates that around 82MWe (mega watts of energy) of renewable energy is generated in the city from a range of sources including anaerobic digestion, combined heat and power, energy from waste,

photovoltaics, heat pumps and more. 52MWth useable heat generation. Included in the above, 7.9MWp is generation capacity of solar PV installed distributed across the city. Predicted renewable energy requirements indicate a level of at least 444MW.

The challenge

Achieving net zero carbon emissions in Birmingham by 2030 will require fundamental changes to the way all people live. It will also be heavily dependent on national government intervention and its target which is currently net zero by 2050. A net zero carbon city will mean, as a minimum, that:

- All buses, taxis, HGVs, cars would need to be zero emission including the existing fleet. Petrol and diesel cars would not be permitted.
- The train network would need to be to be fully electrified.
- The development and regeneration of all buildings would need to be zero carbon.
- Our waste strategy would need to change to divert all waste into energy production – current capacity at Tyseley is 10 MW against the required target of at least 444MW.
- Nationally there would need to be significant intervention to increase off shore and on shore wind turbines and nuclear power.
- All homes would need to be insulated to reduce thermal loss by a minimum of 75%.
- Gas supply to homes would cease (electric only) currently less than 10%.
- Average room temperatures would need to be from 18 degrees to 16 degrees.
- A significant drop in heating and cooling demands from commercial premises and 100% reduction in gas usage.

Existing and emerging policy framework

The Birmingham Development Plan (2017) - sets out a development strategy and planning policies to promote a sustainable, inclusive and connected city. Policies of relevance are:

- BDP Policy TP1 Reducing the City's Carbon Footprint provides an overarching policy which seeks to reduce the City's carbon footprint by 60% by 2027. This is an accelerated commitment compared to the current government target which requires a 22% reduction by 2022 and an 80% reduction by 2050. This has since been superseded by the net zero by 2030 target.
- BDP Policy TP2 Adapting to Climate Change sets out measures that can help to adapt to the impacts of climate change including the management of flood risk and promoting sustainable drainage systems (Policy TP6); Promoting and enhancing a green infrastructure network in the City (Policy TP7); Protecting the natural environment and promoting and enhancing biodiversity and ecosystems (Policy TP8); Encouraging greater resilience to extreme weather conditions in the built environment

and to transport, energy and other infrastructure; Minimising the impact of overheating.

- BDP Policy TP3 Sustainable Construction expects new development to be designed and constructed in ways which will maximise energy efficiency and the use of low carbon energy; conserve water and reduce flood risk; consider the type and source of the materials used; minimise waste and maximise recycling during construction and operation; be flexible and adaptable to future occupier needs; and incorporate measures to enhance biodiversity value.
- BDP Policy TP4 Low and Zero Carbon Energy Generation requires new developments will be to incorporate the provision of low and zero carbon forms of energy generation or to connect into low and zero carbon energy generation networks where they exist, wherever practicable and unless it can be demonstrated that the cost of achieving this would make the proposed development unviable.
- BDP Policy TP5 supports the transition to a low carbon economy, particularly supporting low carbon vehicle technologies, new technologies for the sustainable management of the City's waste and Low carbon design and construction.
- The Council's Local Validation Requirements for Planning Applications requires applicants to submit a Sustainable Construction Statement and an Energy Statement for major applications (10+ dwellings or 1,000 m2) to demonstrate policy compliance. A Guidance Note has been prepared to support the application of the policies.
- BDP Policies TP38 -41 promotes sustainable transport systems including cycling and walking.

Birmingham Connected - seeks to reduce the impact and minimise the contribution of the city's transport to climate change by introducing controls on most polluting vehicles, reducing traffic (through parking controls and reallocation of road space), providing more sustainable alternatives (public transport, walking and cycling) and encouraging people to reduce, remode, retime and reroute their journeys.

Other key policies/ strategies currently **in development**:

The Development Management in Birmingham DPD - proposes a new policy in relation to parking and servicing which seeks to promote sustainable transport choices and reduce reliance on the private car for work and other journeys. Revision of the city's Parking SPD will see significantly reduced parking standards for new development in the city centre and in areas with good public transport connectivity. The Draft Parking SPD will be reported to Cabinet in October for consultation on the document to take place in Nov-Dec 2019.

Birmingham Transport Plan – will set out a bold approach to reducing transport emissions; by reallocating road space, transforming the city centre, promoting active travel and managing demand through parking.

Birmingham Parking Supplementary Planning Document – will support the Birmingham Transport Plan through clear parking management policies and standards, based on accessibility.

Birmingham Walking and Cycling Strategy, Local Cycling and Walking Infrastructure Plan – will set out a co-ordinated approach to enabling, developing and inspiring more walking and cycling in the city, and set out network plans for future cycling infrastructure and focussed walking investment.

Birmingham Transport Space Allocation toolkit – will provide practical guidance on assessment and review of schemes to ensure that there is better provision for more resource-efficient and environmentally sustainable modes of transport.

Birmingham Clean Air Strategy – sets out six pledges; introduce a Clean Air Zone; prioritise public transport, cycling and walking; work with schools to reduce children's exposure to air pollution; expand air quality monitoring; tackle building emissions; work in partnership and provide leadership.

Birmingham Blue Print - sets out the strategy for the level of the low/zero emission re-fuelling infrastructure required in Birmingham, to enable transport meet/contribute towards the overall 60% carbon reduction requirements by 2027. Zero emission re-fuelling includes electric and hydrogen, low emission re-fuelling includes compressed natural gas, bio-diesel and liquid petroleum gas.

Existing and planned Project and Programmes

Green Travel Districts – The concept of Green Travel Districts was first outlined in Birmingham Connected as a strategic, holistic and multi-modal partnership approach to reducing single occupancy car trips. Our experience of piloting this approach in a number of locations across the city over the last few years has shown there is a need for the coordination of different interventions across a variety of settings and that this needs to be adequately resourced. The aspiration to develop Green Travel Districts in key growth areas and local centres across Birmingham remains and will be prioritised for identified areas including Perry Barr, Sutton Coldfield and East Birmingham. This work will be overseen by a new Green Travel taskforce providing strategic leadership, a forum for stakeholder engagement and facilitating opportunities for support and networking across the city.

Ultra-low and Zero Emission Refuelling Infrastructure Development - to support the transition of transport to ultra-low and zero emission vehicles and supporting business fleet transition to low/zero emission vehicles through online support (development of

BusinessBreathes.co.uk) and accessing government grants to support take up of zero emission vehicles and retrofit of existing. Supporting low carbon vehicle technologies and the use of renewable energy through the development and deployment of a comprehensive EV charge point network for taxis, public accessibility and for commercial vehicles from vans to heavy goods vehicles (HGVs). 36 private & public electric vehicle charging points have been installed within the wider city, with a forthcoming programme to add a further 197+ charging points to focus on electric taxis, public charge point accessibility and electric commercial vehicles. The Council is also currently procuring up to 22 hydrogen buses to be in operation by 2020 within the City, using renewable energy to produce the hydrogen fuel on site at the re-fuelling hub at Tyseley Energy Park.

Car Club Scheme - Delivering Council's car club scheme (operated by Co-Wheels) with low emission vehicles. At present there are 20 low emission cars available across the city which members can borrow instead of having to buy their own car. As well as our cars in South Birmingham, Co-wheels will be expanding to operate from 10 fixed bays in the city centre, taking over from the current operator Enterprise Car Club. Co-wheels will also be setting up new 'floating' bays operating from named streets but without a fixed parking spot. Car clubs have a role to play in supporting a number of the council's objectives for transportation, regeneration, climate change and sustainability, and are supported within the Local Transport Plan, the Climate Change Action Plan, the Low Carbon Transport Strategy and the Birmingham Connected.

Clean Air Zone - Introducing the Clean Air Zone within the city centre will also support the transition from carbon intensive diesel and petrol vehicles to ultra-low and zero emission vehicles. Working with the private sector to accelerate the development of retrofit solutions for public and private sector vehicles to enable Clean Air Zone compliance.

Birmingham District Energy Company - Birmingham District Energy Scheme is the largest low carbon heating network in Birmingham. It is owned, operated and developed by ENGIE through a partnership with Birmingham City Council, Aston University and Birmingham Children's Hospital under the name of Birmingham District Energy Company (BDEC). BDEC supplies low carbon, low cost energy to major energy consumers across the city centre. The scheme makes use of highly efficient large-scale combined heat and power (CHP) technologies across 6 energy centres, and uses conventional boilers for 'top up', standby and increased resilience. The network currently provides 60,000MWh of heat, 47,000MWh of electricity and 8,000MWh of chilled water per annum, with a 12km network infrastructure. A strategy to introduce lower cost and lower carbon technologies for future generation and growth may also incorporate technologies such as heat pumps, fuel cells and waste heat sources. To date there has been £17m worth of investment, a total of £6.4m of energy savings and 120,000+ carbon tonnes saved. Due to the cities development growth and climate change commitments the potential growth is forecast at 50MW demand, equating to 88,000 MWh heat per year additional generation, and 26,000 carbon tonnes per year based on current technologies. The next step is to clarify the direction of the Council's future contract with BDEC in light of national government timelines on the use of gas.

Birmingham Municipal Housing Trust Building Specification – The BMHT building specification includes energy and water saving measures including:

- Using a fabric first approach to construction.
- Building components to wherever practicable have a rating of “A” as stipulated in The Green Guide to Housing Specification” published by the BRE. Where not practicable to use an “A” rated material, the Employer may consider an alternative which must achieve a minimum “B” rating.
- Air tightness and thermal bridging – every property on the scheme is to achieve an air permeability maximum figure of 3m³/hr/m² @ 50Pa. To ensure best practice in the construction of the properties the design and construction solutions incorporated into the scheme are to comply with the guidance of “Enhanced Construction Details for Thermal Bridging and Air Tightness”, Energy Saving Trust Guide CE302.
- Use of sustainable urban drainage, with a Sustainable Drainage Operation and Maintenance Plan will be required for all major development in Birmingham.
- Reasonable provision must be made by the installation of fittings and fixed appliances that use water efficiently for the prevention of undue water consumption. The potential consumption of wholesome water by persons occupying each dwelling must not exceed 110 litres per person per day (including a fixed factor of water for outdoor use of 5 litres per person per day), calculated in accordance with the methodology set out in “The Water Efficiency Calculator for New Dwellings” by the DCLG.
- All contractors must arrange for the proposed design to be assessed on the National Home Energy Rating (NHER) and provide certification to the Employer, together with an estimate of the annual energy cost. The certificate shall confirm that the property has achieved a minimum rating of 9.0.

Modular Housing - Developing innovative construction methods such as modular construction through the BMHT programme and the requirement for social value actions to address carbon reduction targets from building design, materials used, standards for heating and power through to providing EV charge points.

Partnerships

Energy Capital - Working with regional academic experts, businesses and industry through Energy Capital to understand how the transition to a decarbonised system through ‘Energy Innovation Zones’ can work for the West Midlands.

West Midlands Low Emissions Bus Strategy – Strategic Bus Alliance and TfWM – a regional partnership, where Birmingham has the largest bus fleet, enabling the transition to low and zero emission buses including electric, hydrogen and hybrid buses, with minimum standards set at Euro 6 for diesel (using bio-diesel).

West Midlands Local Transport Plan – will update ‘Movement for Growth’ in context of concerns over climate change, introduction of Clean Air Zones, a shift to the use of low or zero emission vehicles and more regional approach to walking and cycling investment.

West Midlands Air Quality Improvement Programme - Birmingham City Council are partners in the West Midlands Air Quality Improvement Programme –a five-year project to apply environmental science research expertise to improve air quality in the West Midlands, delivering health, economic and environmental benefits. The project is led by the University of Birmingham, in collaboration with over 20 local partners providing direct and in-kind input, and is supported by a £5 million award from the Natural Environment Research Council (NERC).

Next steps

Heating and Powering the City

- Accelerate investment in how we heat and power the city with support to create more local renewable energy, with a first step of working with BEIS to develop a City Decarbonisation Specification – The Department for Business, Energy and Industrial Strategy (BEIS) is seeking to commission a set of studies to define a number of city-region scale decarbonisation delivery plans for the UK’s largest cities to develop credible and deliverable pathways that each location could take to meet the national 2050 zero carbon target as well as advanced timescale zero carbon targets. The decarbonisation delivery plans will identify specific and evidence-based projects and interventions, drawing on UK and international exemplars, which can be taken at by cities and which will form the basis of a phased, time bound and deliverable Decarbonisation Plan to achieve net zero carbon targets. The decarbonisation delivery plans will also need to identify and critically appraise a range of financing and commercialisation options for all the identified interventions and, undertake soft-market testing and engagement with potential partners, and make specific recommendations of how to fund and deliver the identified interventions required to meet the zero carbon targets. This work will be supported by a separate study to identify potential funding, commercialisation and delivery options for the likely interventions, based on existing and new approaches and building on experience within the UK and internationally. As well as providing the results of this study to the cities, the experts will also be appointed to provide bespoke guidance to the cities on which approaches are applicable to the specific projects and interventions they have identified. A bid for Birmingham to act as one of the trail cities for this work was submitted on the 24th of August 2019 to BEIS- we await the outcome of the bid.
- Building upon initial energy mapping work, which identified potential opportunities to be further developed through the BEIS ‘City Specification for Decarbonisation’ – resulting in the development of a City-wide Energy Prospectus to launch the level of

investment required to develop and deliver a Birmingham Energy Plan that addresses key priorities of decarbonisation, energy security and energy efficiency.

Reviewing investment plans and policies

- Review planned Transport, Planning and Energy Investment plans and policies to ensure they are fit to support a transition to a zero-carbon future with Sustainability and Transport Overview and Scrutiny monitoring progress and to provide an update to Council in winter 2019 and annually thereafter.

Working the Climate Taskforce

- Work with the Climate Taskforce in delivering carbon reduction strategies and developments via Planning, Energy and Sustainable Transport actions, in order to contribute towards the corporate development of a Climate Emergency carbon reduction plan and strategy, which is essential to understanding how the City with its wider Stakeholder groups can achieve zero emission targets by 2030.
- Work with the Taskforce to establish the baseline relating to planning and development, energy and transport; review existing measures; evaluate zero emission carbon options and identify priorities.

Working with regional partners

- Work with regional partners in updating 'Movement for Growth' and the 10 year delivery plan, the Cycle Charter and the Bus Network Development Plans, supporting more sustainable transport. Regional programmes and projects include major public transport projects including bus and Sprint priority routes, Metro extensions and new railway stations.