Route to Zero Action Plan - Progress Report

January 2022

Contents

Executive Summary

There can be no denying that we are now in the midst of a climate crisis. International, national and local action is imperative to reduce carbon emissions at a rate sufficient to limit global warming to well below 2°C and pursue efforts towards limiting this to 1.5°C above pre-industrial levels.

Birmingham City Council declared a climate emergency on 11th June 2019. It made the commitment to take action to reduce the city's carbon emissions and limit its part in the climate crisis. The ambition was set for the Council and city to become net zero carbon by 2030, or as soon as possible thereafter as a 'just transition' allows. A 'Call to Action' action plan, approved by Full Council in January 2021, set out an initial set of actions the Council would take on its path to achieving its 'Route to Zero (R20)'.

This report is the first annual report on the progress made against the action plan. It sets out the important foundation work which is vital to get right to enable carbon reductions over the long term. It sets out the progress made over the past year, and the future opportunities for Birmingham to drive its carbon reductions further and faster.

There is still much to do – both locally and internationally. At an international level a United Nations Framework Convention on Climate Change (UNFCCC) February 2021 report revealed that current emissions goals will put the world on course to produce only 1% less greenhouse gases in 2030 than it did in 2010. Reductions will need to be 25% to just meet the Paris Agreement's 2°C trajectory.

Locally, Birmingham is heading in the right direction – the City's CO2 emissions decreased by 40.6% in 2019 from a 1990 baseline and are at an all-time low since 1990.

Over the past year there have been many notable achievements. We have:

- introduced the Clean Air Zone (CAZ) (1st June 2021) , and since introduction the percentage of vehicles that do not meet the emission standards of the zone has reduced month on month;
- secured funding and planning permission to deliver 36 new homes which will pilot new energy efficient technologies;
- signed agreements with energy companies to make at least 185 homes more energy efficient;
- delivered 13 hydrogen buses which are now in use, operated by National Express;
- driven forward a partnership in East Birmingham to develop a Net Zero Neighbourhood as a demonstrator for a place-based approach to carbon reduction and investment; and
- adopted the Birmingham Transport plan (October 2021) which will help bring down emissions from cars and support a modal shift to lower carbon travel options

Alongside this the Council has also been putting in place the vital strategy and policy foundations which will underpin the city's Route to Zero, including review of the Birmingham Development Plan and improved energy specifications for BMHT new build homes. We are also embedding the behaviour change needed across the Council to ensure to ensure that carbon reduction is mainstreamed and driven in everything the Council does – both projects and day to day operations.

The Council, in collaboration with public and private sector partners and members of the community have been working on 41 projects from the original Action Plan (January 2020) These projects span housing, both new build and retrofit; waste; transport; energy; the natural environment; and driving cultural change in the council itself. We are also building the capacity and capability of the Council through investing in a dedicated R20 team who will drive forward both existing and new initiatives. We report on the progress of all of these projects in the body of the report in Chapter 3 below.

The delivery of Wave 1 Projects is a significant step to continue and accelerate the reduction of carbon emissions in Birmingham. In this period, 2021/2022, the wave 1 projects have already started to show an emissions reduction impact and are setting the foundations to boost carbon savings in scale and pace in the following years. In this period, Wave 1 Projects have reduced emissions by 215,931 tCO2e.

This reduction might seem modest, as it accounts for c.4.7 % of the Birmingham's total baseline emissions – meaning there is still c.95 % of emissions to reduce to meet net zero. These are projected savings based only on the projects which BCC has been delivering this year – which were specifically chosen as foundation projects where we have direct influence and control. We cannot yet say if there have been wider reductions across the City in other areas. A key next step is to improve our data and reporting on progress, across not just the Council but City wide, so we have better visibility on progress as a whole. We would expect some of the leadership the Council has already shown with its commitment and initial projects will have also driven further behaviour change across the City.

These foundation projects have started to build pace – and all programmes nationally and globally are expected to ramp up and multiply over time. Reductions targets are not a straight line.

For BCC to continue on their ambitious path there is a need to focus effort, be braver, and take calculated risks to accelerate delivery on target outcomes. The 41 initial projects are setting the foundations, but we have particularly focused on 5 projects which have real potential to be scaled up across the city, show leadership in carbon reduction and/or bring in new investment. These are:

- delivering whole house retrofits in social housing, using a self-funding approach
- creating a Net Zero Neighbourhood at Bromford and Castle Vale
- delivering larger and better district heat network(s)
- leveraging the Council's significant Commissioning and Procurement budget to drive more carbon reductions across the city's supply chain; and
- creating a total waste strategy, including energy from waste

More details on these projects are set out in the review, but they have the potential to help make the case and drive further investment and larger carbon reductions in future years, and scaling these opportunities up will be a key focus area for the future.

The Council has agreed a strategy to ensure its next steps help support its ambitious targets This includes the implementation of a rigorous approach to portfolio management which assesses projects against carbon reduction and other key strategic outcomes (for example economic, health and social), prioritises activity and rigorously evaluates and re-evaluates to ensure outcomes are maximised.

A similar assessment tool will also be implemented to demonstrate the environmental and sustainability outcomes of all non-R20 enabled Council investment and project decisions. This tool will inform Council decision makers of the emissions impact of recommendations, but it

will also serve to increase knowledge and understanding across all Council departments. Projects and investments that do not support the Council's Route to Zero ambition cannot be supported if the Council is to achieve a positive trajectory.

Working collaboratively with City Council departments, fostering existing external relations, and facilitating new public-private sector partnerships to build investment and delivery capacity will need to sit at the heart of the R20 approach. Key actions to empower and advance collaborative activity will include:

- Identifying the range of powers and tools available to the City to build and motivate action, including policy and financial mechanisms.
- Driving a more place-based approach, attracting private sector investment from citizens and organisations through clarity of purpose and community level benefits.
- Clear focus on the City Council's role and the direct influence, indirect impact and enabling function it will need to fulfil.
- Collaborating with public and private sector partners to design carbon reduction initiatives that are investible, scalable and deliverable.
- Leading by example, sharing and gaining knowledge from others.
- Being honest and transparent on the decisions we make and the outcomes our actions will achieve to create trust and build relationships.

We will constantly monitor, review and evaluate our portfolio of projects to ensure we are focusing in the right areas. And vitally, we will continue to use our leadership and ambition to persuade local and regional partners and Central Government and other key stakeholders to deliver and match our ambition. This will include lobbying for both adequate investment and the radical policy changes which are needed to support the delivery of our ambitious targets.

Chapter 1 - Strategic Overview

1.1 Overview

The Net Zero Strategy: Build Back Greener published by the Department for Business, Energy and Industrial Strategy (BEIS) on 19th October 2021, sets out the UK government's overarching approach to meeting its 2050 net zero emissions commitment. Overall, the Strategy's ambitions align to the UK's Net Zero by 2050 target and the requirement to reduce carbon emissions by 78% by 2035 compared to 1990 levels (63% relative to 2019) as enshrined in the UK's sixth Carbon Budget.

The strategy sets out Government's plans for reducing emissions from each sector of our economy, while tackling any remaining emissions with greenhouse gas removals – either via the use of natural carbon sinks or technological means such as carbon capture and storage. The document sets out clear policies and proposals for keeping Britain on track to achieve its Carbon Budget commitments and sets out the Government's vision for a decarbonised economy in 2050.The Strategy sets out the investment needed to 2037 amounting to more than £700bn, rising from around £5bn per year during 2020-2022 to around £32bn during the fourth carbon budget period, £48-59bn in the fifth and £52-61bn in the sixth budget, covering 2033-2037.

The document sets out policy proposals to hit the 2050 target across a range of economic areas including power, heat and buildings, and transport.

The Strategy sets out four key principles:

1. Working with the grain of consumer choice: no one will be required to rip out their existing boiler or scrap their current car.
2. Ensuring the biggest polluters pay the most for the transition: through fair carbon pricing.
3. Ensuring that the most vulnerable are protected through government support: including energy bill discounts and efficiency upgrades.
4. Working with business to continue developing deep cost reductions in low carbon tech: through support for the latest state of the art kit to bring down costs for consumers and deliver benefits for businesses.

The Net-Zero Strategy includes a breakdown of what will be required in the coming years from each area of the economy. It includes charts showing "indicative" pathways up to 2037, which government use as a guide to ensure that it is on track to achieve its targets, including upcoming carbon budgets and the UK's nationally determined contribution under the Paris Agreement.

The Net Zero Strategy has revealed that the government will seek to "embed transport decarbonisation principles in spatial planning" and reiterates that the National Planning Policy Framework (NPPF) will be reviewed to "make sure it contributes to climate change mitigation and adaptation as fully as possible".

The Strategy also acknowledges the role of local leaders and communities in tackling climate change and states "we will empower local leaders to kickstart their own net zero initiatives, taking responsibility for improving their areas and shaping their own futures".

On top of this Strategy, a number of additional Key commitments have been made, most notably from the recent COP 26 summit in November 2021:

- Pledges to bring projected warming to below 2°C;
- 100 nations make pledge to "halt and reverse" deforestation by 2030;

- Chancellor Rishi Sunak promises to make Britain “world’s first net-zero aligned financial centre”;
- Nearly 100 countries commit to methane Pledge - agreeing to cut methane emissions by 30%;
- Ecuador’s president announced that his country is expanding the marine reserve around the Galapagos Islands – one of the world’s biodiversity jewels – by almost half;
- India set out a net-zero emissions target for 2070, along with a commitment to increase India’s renewable energy sources in the country’s energy mix by 50 per cent by 2030;
- A total of 40 nations are backing the ‘Glasgow Breakthroughs’, to give developing countries access to the innovation and tools needed to make the shift to net zero carbon emissions;
- In a first-of-its-kind agreement, South Africa will receive around $8.5 billion from the United States and European countries to help it ditch coal, its major power source;
- The UK’s financial institutions and listed companies will be forced to publish their plans on how they will transition to net zero

Birmingham responded to the increasing public concern and extensive scientific evidence on climate change by unanimously passing a climate emergency declaration at a meeting of the Full Council 11th June 2019 and made the commitment to take action to reduce the city’s carbon emissions and limit the climate crisis. The ambition was set for the council and city to become net zero carbon by 2030, or as soon as possible thereafter as a ‘just transition’ allows – ensuring we reduce inequalities in the city and bring our communities with us. This is the city’s ‘route to zero’ (R20). On 25th June 2019 the council’s Cabinet agreed to add a new priority to the Council Plan which states that Birmingham will be "a city that takes a leading role in tackling climate change". This commitment will embed climate action in the council’s decision-making process to make sure that all service areas contribute to the R20 journey. Acknowledging the council’s role as a leader, major local employer and partner with the local community we wanted to ensure that we are doing all we could to change this path. This led to the creation of various governing bodies and studies undertaken to kick start the journey to Route to Zero. Some of the bodies that helped shape the work are listed below.

1.2 R20 Taskforce

The Route to Zero (R20) Taskforce was created in autumn 2019 and brought together elected members and officers from the council and representatives from the West Midlands Combined Authority, the NHS, higher education, the business community, faith communities, young climate strikers, climate campaigners, and other key partners and stakeholders. The taskforce used to meet every 4-6 weeks to discuss various climate change related topics that could form a part of the Action Plan. Two workshops took place in July and August 2020 to discuss the actions to be taken forward in detail. Following on from those discussions the Council prepared a Route to Zero-Action Plan setting out the key projects and identifying the lead officers within the Council.

1.3 R20 Community Assembly

The taskforce was transitioned into a R20 community assembly as a part of the wider governance arrangements. The first R20 community assembly took place online on Wednesday 23rd June 2021. More information can be found here: Climate emergency

The second R20 community assembly took place on 6th October 2021 as a hybrid event at the University of Birmingham. The event was attended by 62 attendees and was based around two discussion topics, one relating to air quality and one relating to transport modal shift. A third event will take place on the 9th February 2022. Meetings will be held four times per year with different discussion topics being covered in each session.

1.4 Internal Working Group (IWG)

The City Council's Internal Working Group is made up of individuals who have responsibility for taking forward projects that will deliver carbon savings. Representatives have regular meetings with R20 Team supported by external consultants Inner Circle to provide a monthly update on progress of the projects, review the RAG status and provide information on carbon savings associated with each project. The Group is chaired either by the Interim Director - Inclusive Growth or the Head of Development Policy. Moving forward, the group will be chaired by the new Assistant Director and supported by the wider R20 Team.

1.5 R20 Team Structure

The Next Stage Business Case for R20 was approved by Cabinet in October 2021. This included approval to create a dedicated R20 team to sit underneath the Assistant Director. The team includes six new posts and the transfer of three existing posts into the R20 team. The R20 team will perform a critical corporate role:

- Supporting the Council in delivering its net zero carbon ambition.
- Focusing on the Council's strategies, policies and targets to address the climate crisis.
- Working with the Council's delivery functions and partnerships, joining them up and holding them accountable.
- Working with external bodies, including WMCA, GBSLEP, central government departments and private sector partners in shaping and implementing the R20 portfolio.
- Leading the shift in behaviours.
- Leading on key relationships relevant to R20: international, national, regional, city wide and local increasing Birmingham's profile, generating investment in R20 across the city, winning consent for change.

The team structure is shown in appendix 2.

1.6 Levelling Up

Birmingham City Council has prepared a Levelling-Up prospectus, entitled Prosperity and Opportunity for All in East Birmingham. This prospectus seeks funding from Government for a number of areas of work, including accelerating the development of net zero neighbourhoods and establishing a national centre for heat decarbonisation at Tyseley.

Chapter 2 - Priority Actions and Wave 1 projects

The following detail sets out the progress on the projects identified in the Action Plan. The portfolio of projects all sit under 1 of 7 themes. For each theme we set out:

- the key achievements over the past year
- the progress of individual projects

The reporting on wave one projects began in April. 46 projects were initially identified. Since June monthly reporting has been undertaken for 41 active projects, as 5 projects were discontinued or merged into other projects as part of the ongoing evaluation of the portfolio.

All of these projects have moved forward, and those with issues or delays are being proactively managed by the R20 team and project leads. We are building the capacity and capability in the Council through investing in a dedicated R20 team to continue to drive the projects forward and expand the portfolio.

The table below lists wave 1 projects, and their (Red, Amber or Green) RAG rating as of October 2021. The projects appear in the order that they were set out in the September 2020 Route to Zero Action Plan.

Reference No	Name of the project	RAG Rating
	Theme: Buildings New Build	
1.	To agree an environmentally sustainable standard	Green
2.	Energy Saving Technologies Pilot (Gressel Lane)	Green
3.	Passivhaus Pilot - Dawberry Fields	Amber
4.	Review the Birmingham Development Plan	Green
5.	Future City Plan	Green
6.	Zero Carbon Homes Route Map (WMCA)	Amber
	Theme-Retrofit	
7.	Thermal Impact / Energy Efficiency Survey and Delivery Plan (Retrofit)	Red
8.	Large Panel Block (LPS) Retrofit and Ground Source Heating Pilot	Red
9.	Phase 2 Green Homes LADs funding	Amber
10.	Boiler Replacement Programme	Red
11.	East Birmingham Heat Taskforce produce retrofit and decarbonisation OBC	Green
12.	Partnerships with Utilities	Green

Reference No	Name of the project	RAG Rating
	Theme: Buildings New Build	
14.	Housing Retrofit – Energy Efficient Demonstrator - Consider Quick Wins converting garages under flats to new energy efficient accommodation units	Discontinued
15.	Retrofit – Implementation of city-wide retrofit plan	On hold
16.	Housing Retrofit – Social Housing Demonstrator. Whole House Retrofit Bid for Green Homes Scheme 1b and match the funding for existing and planned developments.	Discontinued
17.	Retrofit – Promote/educate all key stakeholders	Discontinued
	Theme-Transport	
18.	Birmingham Transport Plan and Delivery Plan	Green
19.	Delivery of Active Travel Fund	Amber
20.	EV Charging Points	Green
21.	Hydrogen Bus Pilot	Green
22.	Bus Franchising	Amber
23.	City Centre Clean Air Zone	Green
	Theme-Waste	
24.	Commission a Joint Study with WMCA	Green
25.	Municipal Waste Strategy	Amber
26.	Waste Fleet – Hydrogen/EV Fleet Demonstrator	Amber
27.	Circular Economy	Green
28.	Waste to Recycling	Green
	Theme – Energy	
29.	Tyseley Energy Innovation Park	Green
30.	Tyseley Energy Recovery Facility, Waste Transfer Stations and Household Waste Recycling Centres Operate, Maintain and Renewal Procurement.	Amber
31.	District Heat Networks Energy Centres	Green
32.	BEIS – City Decarbonisation Delivery Plan programme- (CDDP).	Green
33.	Council House Electrical Rewire	Green

Reference No	Name of the project	RAG Rating
	Theme: Buildings New Build	
	Theme- City of Nature	
34.	Future Parks Accelerator Project	Green
35.	Biodiversity Supplementary Planning document	Red
36.	Urban Forest Masterplan	Red
37.	Ward End and Cole Valley Green Skills Hub	Green
38.	WM National Park Concept	Amber
39.	Design Guide SPD	Amber
	Theme- Council	
40.	Agile / Remote Working	Green
41.	Training and Induction	Amber
42.	Council - wide Route to Zero Behaviour Change Communications Strategy, Campaigns and Monitoring	Red
43.	Working with Partners	Amber
44.	Embed carbon reduction in decision making	Green
45.	Update all Strategies/Policies to embed carbon reduction	On hold
46.	Council Procurement	Green

We will now proceed by giving detailed project by project updates, categorized by theme.

Chapter 3 - New Build

Headline achievements in 2021

- Funding secured and planning permission gained for 36 new-build homes trialling innovative energy efficiency technologies.
- A new build specification for BMHT homes has been in use since July 2021. Each home built to the new standard will save an average of over 1 tonne of carbon when compared to the old specification.

3.1 Birmingham Municipal Housing Trust (BMHT) Specifications and Passivhaus Pilot

December 2020 Status

Since 2009, BMHT has strived for high quality and energy efficient properties, already building to a minimum EPC B standard. The detailed specification of the build and standard house types will continually be amended to reflect improvements in materials and technologies and ultimately support carbon reduction goals.

October 2021 update

The BMHT Build Specification has been updated to meet the proposed uplift to energy efficiency standards in readiness for the proposed introduction of the Future Buildings Standard from 2025. The new specification features a move away from gas boilers and the installation of air source heat pumps, triple glazing, mechanical ventilation and heat recovery systems and car charging points on new houses. The new specification has been in use since July 2021.

In terms of carbon savings, BMHT is expecting to build approximately 100 properties per year for the next 5 years. The previous carbon output for an average 3 bed house was 1.30 tonnes per year. The average for a 3 bed house using the revised July 21 build specification is approximately 0.24 tonnes per year. The carbon saving per property using the new specification would therefore be 1.06 tonnes per year for one house. The average carbon saving for a year would be 106 tonnes per year for 100 houses.

3.2 Gressel Lane (European Regional Development Fund (ERDF) bid

December 2020 Status

The council have successfully gained ERDF funding which will be used to part fund a trial of technologies for reducing energy demand, such as heat pumps, photovoltaics and storage batteries. A site in East Birmingham has been identified, Gressel Lane, to build 36 new properties that will include energy saving technologies. A plan has been developed and planning permission has been granted. The scheme is due to complete in June 2023.

October 2021 update

This project will include different technologies that will improve energy efficiency and reduce carbon emissions. The following milestones have been achieved:

- Planning permission has been secured for 36 houses to be built.
- European Regional Development Funding – (ERDF) has been secured to help fund the energy saving technology on the scheme.

- Tendering process to appoint a developer has been undertaken and award report is currently in the approval process with the aim to appoint contractors by the end of November 2021
- The development is scheduled to commence in January 2022 with completion in June 2023.
- The homes will include technology to allow the team to monitor the environmental performance of the homes.

3.3 Passivhaus trial-Dawberry Fields
December 2020 status

A review of the current BMHT build programme has seen a site at Dawberry Fields selected to pilot Passivhaus development. A new build Passivhaus pilot will test the cost, effectiveness and appeal of this form of housebuilding for Birmingham Council tenants. Passivhaus works on the principle of increased insulation, and air tightness combined with mechanical ventilation and heat recovery. Homes built to this standard typically use 80% less energy than traditionally built homes, which delivers a major cost saving to residents. They are also reported to improve resident health outcomes by providing warmer and better ventilated homes. The learning from the Passivhaus pilot will be applied across all BMHT developments.

October 2021 update

A design team has been set up and draft plans are currently being designed for the scheme. The aim is to obtain planning permission and go out to tender for a contractor in 2022 with an aim to be on site in 2023.Some surveys have been undertaken on the site.

3.4 Review the Birmingham Development Plan (BDP)
December 2020 status

Raising the sustainability standards of new development within the City will be an important part of achieving net zero carbon. The Council can facilitate and support this change through planning policies. An update of the BDP has commenced and policy towards zero carbon development will be explored through the BDP update.

October 2021 update

On 29th June 2020, the Cabinet approved the Local Development Scheme, setting out the timetable for the update of the Birmingham Plan. The update is progressing to timetable, and low and zero carbon policies will be explored as part of the update. Various studies have been commissioned and work is being undertaken on the evidence base that will inform the update of the BDP. The BDP update is scheduled to be adopted in 2025.

3.5 Our Future City Plan
December 2020 status

In addition to the BDP review, the City Council are working on ‘Our Future City Plan (OCFP)-Central Birmingham 2040’. The plan sets the vision for the City Centre for the next 20 years. The City Councils R20 initiative is at the heart of the plan that includes a zero-carbon approach to development, green solutions for climate change adaptation and mitigation, supporting positive public health outcomes, the promotion of green infrastructure corridors including

extending the tree canopy cover in the City Centre and utilising technology to better adapt our City for the future. The vision 'Shaping Our City Together' was launched by the Leader in January 2021.

October 2021 update

'Our Future City Plan – Central Birmingham Framework 2040' will replace the existing Big City Plan with a new vision for the central area of the city. The framework will provide the basis of a review of relevant sections of the Birmingham Development Plan – the statutory planning framework for the city. The framework will also identify and promote a number of projects which will range from the development of more detailed masterplans, development briefs or Supplementary Planning Documents to the identification of major development opportunity areas and sites

The OFCP 'Draft Central Birmingham Framework 2040,' is now being produced with the intention of adopting the framework in 2022.

The anticipated accompanying Central Birmingham Delivery Plan will test OFCP proposals and will sit alongside the OFCP Framework - viability, delivery vehicles and options. will be a significant element of the commission. Engagement support for framing questionnaires and the analysis of results from the Draft Central Birmingham Framework consultation will be important to ensure the approach is inclusive and community focused. It is anticipated the consultant contract will start in November 2021 and last for a duration of 6 months.

3.6 Zero Carbon Homes Route Map West Midlands Combined Authority (WMCA)
December 2020 status

The WMCA published a green paper in early 2020 to start the conversation around their response to climate change. They are now working with consultants to produce 5-year action plans. The first of these 5 year action plans is in the early stages of preparation and will be published in 2021. Birmingham City Council is engaging with this activity and working with the Combined Authority (CA) to identify those areas where the CA is best placed to lead and where the City Council is best placed to lead.

Birmingham City Council are also working with the CA through the Low Carbon Officers' Group which brings together climate change leads from across the CA to share experiences and best practice and engage in delivery. Collective lobbying across the CA region will be important in seeking the national changes required to deliver Route to Zero.

Birmingham City Council has also begun working with the CA to set up a Jobs taskforce. The Council recognises that the transition away from a high-carbon economy towards a green economy is interwoven with two other transitions in the coming period: to a post-Covid economy and a post Brexit economy.

October 2021 update

The Zero-Carbon Homes Route Map and the charter have been approved and published. The Route Map provides an implementation plan for delivering the charter's vision, with a number of interim low-carbon requirements and aspirational targets to 2025 and beyond. These interim requirements would ensure all schemes in which WMCA invests or intervenes meet a standard of net-zero operational carbon by 2025. This is in line with the Future Homes Standard (FHS) requirement for all new homes to be 'zero-carbon ready' from the same year.

There has been excellent support from local authority officers on the Zero-Carbon Homes Working Group and industry experts of the Zero-Carbon Homes Taskforce in formulating the Zero-Carbon Homes Charter and Zero-Carbon Homes Route Map.

Chapter 4 - Retrofit

Headline achievements in 2021

- The Council signed agreements with energy companies to make at least 451 homes more energy efficient, with an expected 1,000 homes by March 2022
- Driven forward a partnership in East Birmingham to develop a Net Zero Neighbourhood as a demonstrator for a place based approach to carbon reduction and investment.
- 83 inefficient boilers have been replaced since July.

4.1 Thermal impact energy efficiency survey

December 2020 Status

We will need to dramatically increase the thermal efficiency of our stock's building fabric, by implementing a range of improvements, such as external/internal insulation and electric heat pumps, eliminating draughts and replacing windows and doors. We will Introduce ventilation where appropriate, incorporating all the things that need to happen to homes to reduce energy bills and get carbon emissions down to zero. We need to develop an impact analysis for a 6 and 12-month period monitoring the thermal efficiency improvements made and thus be able to demonstrate the efficiencies and the installations/improvements. Just to remove the "E, F and G" rated boilers from the city the financial outlay would be circa £3.8 million. The area of heating has been underfunded for some time and where we have circa 12,000 homes with boilers that have past their end-of-life cycle and would need replacing (end of life is based on 15 years usage). This will require additional funding.

October 2021 update

The wider energy efficiency survey is still to be defined. A Letter of Authority to Acivico to share the existing Energy Performance Certificate (EPC) data to Panacea (energy partner) has been undertaken. This is required to progress the Energy Efficiency / Thermal Impact Survey to inform the Local Authority Delivery (LADS) 2 proposal submission. Acivico and Panacea are reviewing 10,000 EPC's to support the LADs 2 funding proposal, the second part wider survey which will help the city to identify a city-wide retrofit plan. Meetings are taking place to progress this action. Unfortunately, the survey was not started as agreement with partners could not be concluded. The EPC survey will now form part of a city-wide stock condition survey to be commenced in the new financial year.

4.2 Implementation of city-wide retrofit plan

December 2020 status

We need to give due consideration to the size of the undertaking in retrofitting all of Birmingham City Council's properties, it will need a large strategic commitment. The retrofit of 60,000 homes over 30 years equates to 2,000 properties per year every year (40 homes every week). Our key next step will be to create a plan for citywide retrofit in to include a trial 2021, with a view to scale up towards 2030.

October 2021 update

This project has not yet started as is dependent on the Thermal Impact / Energy Efficient Survey project above which has not been completed.

4.3 Large Panel Block (LPS) Retrofit and Ground Source Heating (GSH) Pilot and heating option available

December 2020 status

We are in early discussions with our contractors / supply-chain including energy providers, investors, for the planned structural works on LPS blocks, with a view exploring the most suitable heating options.

October 2021 update

Jordan House is the trial LPS block. The independent structural report on the method of securing the facade to the main structure of Jordan house in order for the project budget and works programme is still awaited.

Preliminary preparation work at Jordan House is complete. The pilot is not appropriate for Ground Source Heating (GSH) and will instead be all electric (other blocks on the estate or / city may be in a better position for GSH). All internal works have been agreed, including soil and ventilation pipes, rewire, hot water cylinders, kitchen and bathroom renews, (positive input ventilation) and heating (myson electric oil filled radiators). Rainwater and soil ventilation pipes have been completed to all 1 and 2 bedroom properties at Jordan House. 14 kitchen and Bathroom renews have started and progression is steady.

4.4 Phase 2 Green Homes LADs funding

December 2020 status

We have our sight on Green Homes LADs phase 2 as a potential to pursue a larger grant, this will be subject to match funding that can be secured, although a notional figure of £5 million could lever in a further 50 to 70% providing an excellent platform to conduct deep energy efficiency works on various archetypes and which would support our forward planning.

October 2021 update

City housing colleagues are considering match funding via the housing revenue account and a change request was put forward to Midlands Energy Hub (MEH) to adjust the focus to more private housing. This is aligned to resident engagement from the initial open day at Perry Barr where there was proportionately more interest from owner occupiers – this change request was approved. MEH have approved BCC's proposal and are confirming funding. Cabinet has agreed the changes and delegated authority has been approved, so it is anticipated that any changes can be dealt with in a timely manner.

Mobilisation has started in the three Constituency area's identified for Phase 1: Perry Barr, Hall Green and Yardley. These have the worst EPC rated properties with the highest level of fuel poverty based on the revised 'LILEE' (Low Income Low Energy Efficiency) fuel poverty metric. BEIS have recently confirmed (Oct 2021) that all social housing providers do not need to prove income from their residents as it has been accepted that these are receiving lower levels of income or benefits, so a further barrier to installation has been removed.

HUG1 and LAD 3 - Details of the scheme were announced in June. An open day has taken place for Perry Barr designed to find residents interested in taking part in the scheme- 30/40 responses received, mix between 70% owners, 30% social tenants. Birmingham has been advised by MEH (Oct 2021) that their Midlands region consortia bid has been successful and agreed in principle by BEIS.

4.5 Boiler Replacement Programme
December 2020 status

Ensure boilers have a minimum Sedbuk rating efficiency of not less than “C” and are “hydrogen” ready, thus allowing them to take a natural gas/hydrogen blend from the grid.

October 2021 update

During 2021/2022 the Boiler Replacement Programme will replace around 250 boilers which are more than 25 years old with A rated boiler each saving 1.4 tonnes carbon per year. BCC has 85% of their properties with an A to C rated boiler, meaning that over 8,000 are rated as “D, E, F or G”. The replacement programme will improve SAP / EPC ratings and reduce carbon emissions

The programme has been paused due to budget constraints and there is no restart date. Some 83 boilers were replaced until July. It is unlikely that budget constraints will be alleviated this financial year. Therefore, new boilers will not be installed, the focus will be on repairing and maintaining existing boilers.

4.6 Promote/educate all key stakeholders
December 2020 status

To promote/educate all key stake holders about the benefits of retrofitting and decarbonisation, through a city-wide programme, bringing about a concept of value, ethical thinking and future proofing of homes as a normal approach. This will form part of an ongoing and collaborative approach.

October 2021 update

There is no update for this project as it will be merged into the overall behaviour change and awareness project to be undertaken by the Council more centrally.

4.7 East Birmingham Heat Taskforce – produce retrofit and decarbonisation Outline Business Case
December 2020 status

An East Birmingham Community Heat Taskforce has been set up, which had its first meeting on the 22nd October 2020. The aim of the taskforce is to make the East Birmingham Corridor a pioneer/epicentre for retrofit and heat decarbonisation as part of the Route to Zero transition recognising that we need to decarbonise at the same time as creating good jobs for a just transition. East Birmingham is a national exemplar of what can be done in this space and developing models locally that can be scaled up across the city and then nationally.

October 2021 update

In July 2021 a business case was agreed by Cabinet for the East Birmingham inclusive growth programme which seeks to implement the East Birmingham Inclusive Growth Strategy which was adopted by the Council in February 2021. The approval of the business case enables the establishment of a programme team with the budgets it will require to develop and deliver a comprehensive package of projects that will address the full scope of the Strategy vision. This will include the development of business cases, funding bids and the commissioning of

delivery through appropriate routes. There will be continuous engagement with stakeholders, ensuring that the community play a key part in shaping the programme and the projects within it. The programme will make East Birmingham a space for the acceleration and/or amplification of corporate activities including the Route to Zero.

The East Birmingham programme is currently mobilising, and the team is expected to be fully established in early 2022. Currently within the programme are two phases of projects: Phase 1 (8 projects) which is currently underway, and Phase 2 (17 projects) which is in development. The programme team are currently working in collaboration with the R20 colleagues on three main elements:

East Birmingham Community Heat Taskforce: continuing the work with stakeholders to establish East Birmingham as a Low Carbon Heating Innovation Zone, including supporting the Cadent Foundation supported Community Learning Platform for Community Heat.

Net Zero Neighbourhood: developing the Bromford, Firs and Castle Vale housing areas as a demonstrator for a place-based approach to carbon reduction and investment. This includes the location of the Whole House Retrofit pilot.

Tyseley Clean Energy Masterplan for Growth: The Council and Tyseley Energy Park stakeholders are involved in the development of a Clean Energy Growth Masterplan for Tyseley which will combine spatial planning with strategies for power heating, transport and waste processing. The Masterplan will include a roadmap for energy technologies and solutions and will highlight opportunities for investment.

4.8 Partnerships with Utilities

December 2020 status

This was not identified in the December 2020 report and was added subsequently in February 2021.

October 2021 update

The Statement of Intent (SOI) has been published, legal agreement signed, and utility companies contacted. We have started tracking measures to be installed –, as of 12 Nov 21, 451 homes identified with 721 measures to be installed, this includes 288 boiler replacements, 124 electric storage heaters and a range of other fabric first energy improvements, such as loft, cavity, internal and external wall insulation. Based on the current requests 620 homes could receive support for fuel poverty and carbon saving reduction measures. It is expected that as we move towards the closure of ECO3 and ECO 3 flex in March 2022, over 1,000 homes will be included in this scheme. Our utilities partners are keen to discuss future plans for ECO 4, and we are working to agree BCC's approach to this. Data sharing agreement has been signed and the project is on track.

4.9 Social Housing Demonstrator

December 2020 status

The council have participated in a consortium bid with WMCA with a small project, (subject to securing match funding), with a view of retrofitting flats over garage properties and separately but linked the potential of converting the garages to accommodation. The project is focussed on Social Housing Demonstrator Fund (SHDF) whole house retro fit in Cottsmeadow Drive - Hodge Hill 16 flats above garages, match funding contribution from

BCC of around £1million will be required. The project will provide insight to whole house retrofit, opportunity to explore economies of scale, and ultimately provide the residents with energy efficient accommodation, the additional conversation would provide vitally needed and energy efficient social housing. Unfortunately, consortium bid was not successful.

October 2021 update

This project has been discontinued as the funding bid was unsuccessful.

4.10 Energy Efficient Demonstrator

December 2020 status

We are exploring potential bid to Green Homes 1b, with existing or committed projects which may be easier to match fund. We have our sight on Green Homes LAD's phase 2 as a potential to pursue a larger grant, again this will be subject to match funding that can be secured, although a notional figure of £5 million could lever in a further 50 to70% providing an excellent platform to conduct deep energy efficiency works on various archetype and which would support our forward planning. We were successful in our bid for LAD2 funding in September 2021. The project is now live targeting the most fuel poverty areas of the City, with a focus of 70% Council and 30% Private dwellings.

October 2021 update

This project has been discontinued as the funding bid was unsuccessful.

Chapter 5 – Transport

Headline achievements in 2021

- The Birmingham Transport Plan was adopted on 12th October 2021.
- 13 hydrogen buses have been delivered and are in use.
- 10 new EV Charging sites (55 individual charging points) are now fully operational.
- The Clean Air Zone (CAZ) was introduced on 1st June 2021 and continues to help reduce the percentage of the most polluting vehicles entering the city centre.
- Development and commencement of delivery of the Active Travel Fund Tranche 2 programme

5.1 Birmingham Transport Plan

December 2020 status

The Birmingham Transport Plan (BTP) sets out 4 'big moves' to deliver Birmingham's vision for a sustainable, green, inclusive, go-anywhere network:

1. Reallocating road space:
2. Transforming the city centre:
3. Prioritising active travel in local neighbourhoods
4. Managing demand through parking measures

October 2021 update

The Birmingham Transport Plan was adopted by Full Council on 12 October 2021 and shows that the Council is taking bold, progressive steps to transform local transport. The purpose of the Plan is to outline how the city's transport system needs to be transformed to meet the challenges of the next decade.

The Plan highlights the key role transport plays in achieving economic, social, and environmental sustainability for our city. The Plan also stresses that we need to urgently and drastically reduce carbon emissions from transport. The climate emergency sets the pace and scale of ambition for the Plan, but we recognise that the delivery of a zero carbon, resilient transport system cannot be achieved without taking down the barriers that sustain inequality in Birmingham.

The Transport Plan is not solely focussed on decarbonisation of transport. Even without the climate emergency, the vision for the transformation of the city's transport network to support sustainable and inclusive economic growth and create a more equitable and liveable city would look very similar. However, the urgency of the need for intervention and the pace of change will be very much dictated by the need to rapidly decarbonise.

The Birmingham Transport Plan sets out the four principles that will guide the delivery of our ambitious vision for Birmingham's transport system:

- The allocation of road space will change away from prioritising private cars, to support the delivery of public transport and active travel networks, fundamentally changing the way that people and goods move around the city.

- The city centre of Birmingham will be transformed through the creation of a network of pedestrianised streets and public spaces, integrated with public transport services and cycling infrastructure. Movement within the city centre for private cars will be limited, with no through trips allowed.
- Walking, cycling and active travel will become the first choice for most people making short journeys in their local neighbourhoods. Cars will no longer dominate street life around homes and schools.
- Parking will be used to manage demand for travel by car through availability, pricing and restrictions.

The Birmingham Transport Plan will be followed by a Delivery Plan that will detail the programme of interventions that will deliver our vision for transport in Birmingham. The work on the Delivery Plan is expected to start in January 2022 and to be completed by the end of 2022. The Delivery Plan will specifically examine which transport interventions can contribute to delivering the Council's decarbonisation commitment and when they need to be implemented to do so.

Moving forward, all delivery of transport schemes in the city will come under the umbrella of the Birmingham Transport Plan and its associated delivery plan. Subsequent updates will therefore focus on the delivery of the Transport Plan with selected highlights in terms of what schemes are being delivered and what has been achieved.

5.2 Delivery of Active Travel Fund (ATF)
December 2020 status

The Emergency Active Travel Fund has allowed the Council to create more space for people by reducing the volume of through traffic and the dominance of vehicles on minor roads in the city centre, by introducing traffic segments in the City Centre. The first phase of measures was introduced alongside new pop-up cycle lanes in the city centre in 2020 using temporary traffic management including barriers, cones, signs and road markings.

Streets for People aims to reduce traffic in residential neighbourhoods so that it is safer for people to walk and cycle, and more rewarding to be outside. Early demonstration projects to address traffic problems on identified streets in Bournville, King's Heath and Moseley and Lozells are in the engagement and development phase to develop detailed proposals in these areas.

The Cycle Routes package seeks to make earlier "pop-up" cycle lanes permanent and add spurs to them to enable more people to cycle more often. Seven schemes are in development, although funding will dictate the pace at which they can be delivered. To complement new cycling infrastructure, the Big Birmingham Bikes scheme will provide cycles to people in the poorest parts of the city to overcome the ownership barrier.

October 2021 update

Places for People – In response to community concerns the pace of delivery has slowed to allow a more conventional approach to engagement and further technical work to be undertaken. Public consultation in King's Heath and Moseley has now concluded and a Full Business Case is in development phase for a preferred option to be delivered in early 2022. Consultation is underway on an evolution of schemes in Lozells, also with a view to delivery in 2022 The Bournville scheme, whilst still committed, is now programmed for delivery in later 2022 with engagement ongoing and the Castle Vale scheme is being pursued further at this

time. Six Car Free School Street Schemes are progressing well and will be delivered shortly in early 2022.

Cycle Routes – Some prioritisation of which routes to take forward has been undertaken as not all could be funded within the ATF allocation. Preferred options for the corridors being pursued at this time have been selected and all public consultation is underway before proceeding to detailed design and Full Business Case approval. Delivery is programmed for 2022.

City Centre Traffic Segments - Formal public consultation closed on 10th September 2021 and the outcome is under review. It is likely that the scheme will proceed largely as per the consultation option, but some tweaks are required to ensure alignment with other city centre changes including major development projects and the temporary traffic management overlay required for the Commonwealth Games.

Local Centres and Cycle Parking - Two out of six local centre schemes going forward. The cycle parking scheme is in design phase.

Big Birmingham Bikes - The necessary approvals are in place to proceed with the scheme and the legal documentation progressing to enter into necessary arrangements with Active Wellbeing Society. We anticipate the programme to be launched in early 2022, subject to the availability of bikes. The delivery of the ATF schemes so far is seeking to highlight the scale of the challenge in terms of decarbonising transport. These relatively small-scale interventions are proving highly controversial and are attracting significant opposition from some citizens and stakeholders. Resolving local issues is proving to be costly and resource intensive, sometimes beyond the scope of available resource. Ultimately the success of these schemes will be measured in terms of behaviour change which doesn't happen overnight and therefore resulting in difficult bedding in periods for schemes.

5.3 Bus franchising

December 2020 status

Produce an Outline Business case for bus franchising.

October 2021 update

This project is owned by West Midlands Combined Authority (WMCA) and we are liaising with the CA, to monitor progress and get updates. An outline assessment has been undertaken and WMCA Board will consider whether to undertake a Full Business Case for franchising at its meeting in January. If agreed, the Full Business Case (FBC) is likely to take around two years to undertake after which time the mayor will determine whether or not to implement a Franchising scheme, with implementation like to take up to two further years.

5.4 Electric Charging Points

December 2020 status

To enable further expansion of Birmingham's Electric Vehicle (EV) network, a wider city EV charge point network strategy will be produced by August 2021. This strategy will be key in allowing Birmingham's EV network to be scaled to meet market growth in regard to EV take up for cars, taxis, vans and heavy goods vehicles. In line with the strategy, there is a need for the market to step forward to support with the delivery of EV charging points. We need to continue our collaboration with Western Power Distribution, to ensure grid capacity and

capability for EV expansion. We need to align EV infrastructure and highway and public realm major development projects including bus opportunity charging (TFWM), metro development (WMCA/TFWM), as well as developments including e-scooters/bikes. To ensure EV infrastructure is as accessible as possible, we will need to simplify the EV framework in the city – at present an EV user may need to use up to 8 apps across Birmingham to identify charging points – this will be simplified under the public accessible EV charge point contract arrangements, that specify 'universal accessibility', which includes contactless credit/debit card payments.

October 2021 Update

The first 10 EV charging sites (55 charge points) are now fully operational. The Navigation Street car park site is now operational as the first Rapid charge point hub in Birmingham City Centre.

Site identification and assessments are ongoing across another 45 potential sites, which will be followed by applications for WPD grid capacity assessments.

The R20 Action Plan had indicated that 9,000 charge points will be installed by 2030. However, the EV Strategy has modelled Transport for West Midlands (TfWM) , Department for Transport (DFT) and BCC transport and market data, aligning with the Birmingham Transport Plan in regard to the priority of achieving significant modal shift (reduced reliance on the private car) of at least 40% by 2030 and the number of charge points to align with this is around 3,600 by 2030. The strategy notes that If modal shift is not fully achieved through BTP infrastructure developments and policy levers, then this figure is nearer 5,000+, and much more than this if BTP and all interventions have failed. Therefore, the 9,000 quoted in the R20 Action Plan, based on existing car numbers has been revised down in line with the EV charge point Strategy to take account of forecast modal shift.

To enable further expansion of Birmingham's Electric Vehicle (EV) network, the wider city EV charge point network strategy was developed August 2021, and submitted for Cabinet approval November 2021.

This strategy sets out how the Birmingham's EV network will be scaled to meet market growth in regard to EV take up for cars, taxis, vans and heavy goods vehicles by 2030.The strategy aligns with the ongoing private sector development of charge points at supermarkets, retail outlets, fuel stations and other places of destination.

The city-wide strategy will be implemented in collaboration with Western Power Distribution (as the District Network Operator) to ensure that charge point planning and implementation meets grid capacity and capability. We will work with strategic partners to ensure the EV infrastructure can operate alongside highway and public realm major development projects including bus opportunity charging (TFWM), metro development (WMCA/TFWM), as well as developments including e-scooters/bikes. To ensure the EV infrastructure is as accessible as possible, – the publicly accessible network will be available 24/7, with customer support 365 days a year, 'universal accessibility' is assured through pay-as-you-go, as well as other universal accessible payment arrangements.

5.5 Hydrogen Bus Pilot
December 2020 status

Birmingham City Council has purchased 20 new hydrogen double decker buses as part of their Clean Air Hydrogen Bus Pilot. The Clean Air Hydrogen Bus Pilot looks to 'kick-start' the hydrogen market as a viable zero-emission fuel with the procurement and deployment of 20 hydrogen buses in Birmingham. The buses, which are made by Wrightbus and are the world's first zero-emission hydrogen fuel-cell double deckers, will be introduced with National Express West Midlands from July 2021.

It's intended that the pilot will be the catalyst for the next generation of hydrogen buses, hydrogen production and re-fuelling infrastructure development. The council have also collaborated with ITM, who will be producing and dispensing the hydrogen fuel from the new re-fuelling hub at Tyseley Energy Park.

October 2021 update

13 buses now delivered with mandatory inspections and sign offs completed– re-fuelling/compression issues in process of being resolved. Operational changes within the depot to comply with industry standards for Health and Safety have been completed. Training of drivers and maintenance staff has commenced.

5.6 City Centre Clean Air Zone
December 2020 status

The Birmingham Clean Air Zone (CAZ) is to be introduced by 1 June 2021, at the earliest. It aims to reduce levels of NO_2 in the air to a maximum average of 40µg/m3, as soon as possible. The CAZ received government approval in 2019 and follows London's Ultra Low Emission Zone (ULEZ), introduced in the same year. Birmingham's Clean Air Zone will cover all the roads within the A4540 Middleway Ring Road, but not the Middleway itself.

October 2021 update

The CAZ was introduced as planned in June 2021. A factsheet published at the end of September 2021: Brumbreathes September Factsheet shows that the percentage of compliant vehicles entering the zone continues to improve (July = 80.4% v. September = 81.8%.). At the end of September, the volume of PCNs issued in the month was 81.3k (compared with 112k for July).

At the end of September 2021, the number of locally issued exemptions had increased to 8.4k with c. 60% worker exemptions with the second biggest category being resident exemptions (30%). Similarly, just over £3m in grants have been issued with the scheme for Birmingham-licenced taxi drivers proving the most popular.

Birmingham's CAZ is a measure that aims to improve air quality, and therefore is not considered a measure that focuses entirely on decarbonisation. The compliant vehicles that enter the CAZ are not all carbon-emission free. However, it is considered that the CAZ supports decarbonisation in principle as it overall discourages people from driving their cars to the city centre, especially when combined with upcoming measures such as the introduction of city centre segments. Figures 1 and 2 below show how traffic flows have changed since covid and the introduction of the CAZ. Both figures appear to demonstrate a drop in traffic flow after the CAZ's implementation, however it is difficult to separate this reduction from the impacts of covid and other traffic reduction measures. With this in mind, more detailed data collection and modelling is needed to extrapolate traffic reductions and CO_2 savings. A proposal for providing options to update the Birmingham City Council transport model is being completed. Birmingham City Council (BCC) are reviewing their transport model Birmingham City Model (BCM) in the context of the future usage of the model.

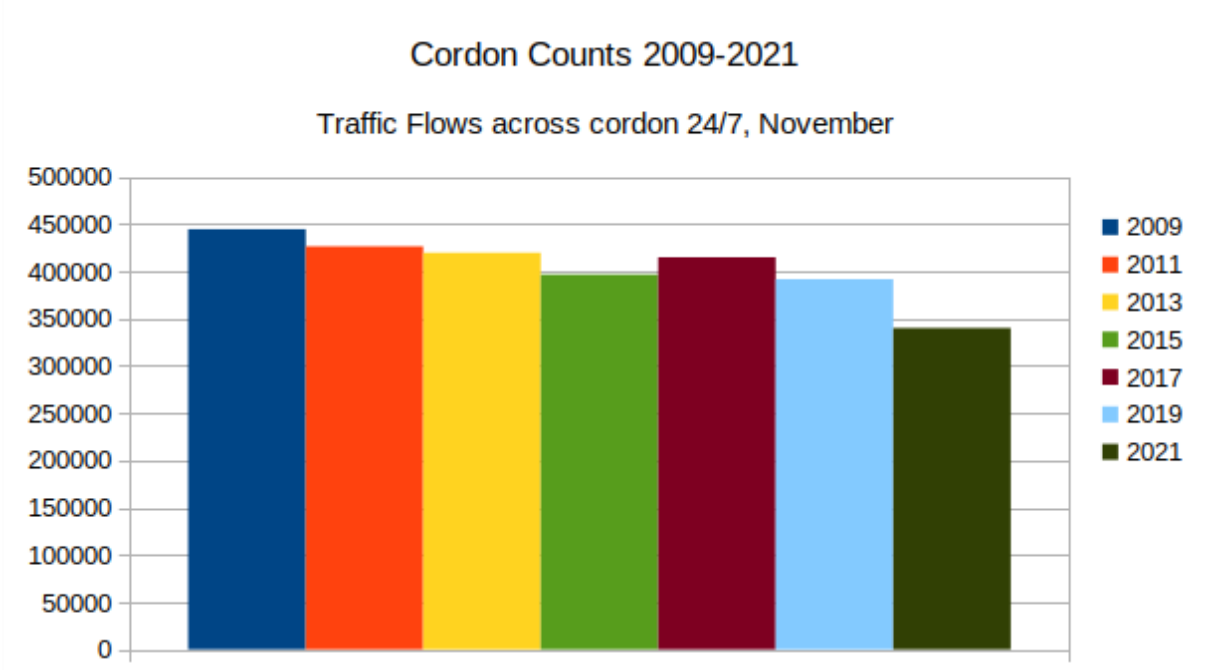

Figure 1 – Traffic flow cordon counts between 2009-2021

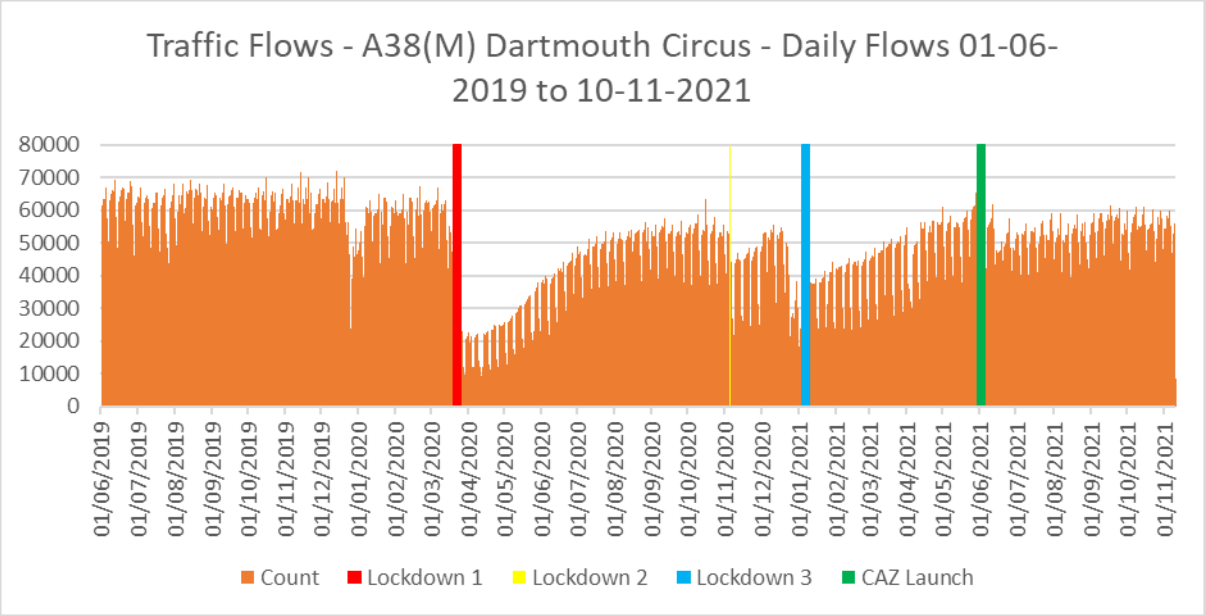

Figure 2 – Traffic flows across the A38 cordon from 2019 to 2021

5.7 Cole Valley Walking and Cycling

December 2020 status

Birmingham City Council has submitted an expression of interest to the GBSLEP for part funding for the Ward End and Cole Valley Green Skills Hub project. The deliverables will be the creation of a skills hub at Ward End Park in Washwood Heath, consisting of training and community facilities at the Dolphin Women's Centre (run by Norton Hall Children and Family Centre) and Ward End Park House; expanding existing Access and Level 2 functional skills provision to encompass Level 2 and Level 3 sector specific pathways with the potential for digital and low carbon themes. There will be an associated package of connectivity, leisure and Green Infrastructure improvements focussing on Ward End Park, where there will be improvements including a cycle path link, a cycle proficiency training circuit; an outdoor fitness training hub and a MUGA, and links to the Cole Valley walking and cycling corridor including new and improved cycling and walking routes, a new bridge access across the river Cole at Glebe Farm and landscape, amenity and biodiversity enhancements. The project aims to contribute towards the regeneration of East Birmingham, and the economic recovery of the area in the aftermath of the COVID-19 pandemic.

October 2021 update

Cole Valley Walking and Cycling will be jointly delivered by R20 and the East Birmingham Programme. Several elements of activity have been identified associated with the transformation of the Cole Valley as a key natural resource and active travel corridor for East Birmingham. This will include the development of project proposals, business cases and funding applications for sub-projects including:

- Glebe Farm Recreation Ground Improvements
- Castle Bromwich Hall Gardens Access Improvements
- Cole Valley Walking and Cycling including the elements designed under the East Birmingham Phase 1 project EB002: Ward End/Cole Valley Skills Hub
- Ackers active travel interchange
- Tree planting and landscape improvements

There will also be partnership working with stakeholders including the Environment Agency, Canal and Rivers Trust and University of Birmingham and Birmingham and Black Country Wildlife Trust. This will include the ERDF-funded *The River Cole and Tyseley Energy Park: Creation of Community Commons* project which is being led by the University of Birmingham. Funding for this project was confirmed in October 2021.

Chapter 6 – Waste

Headline achievements in 2021

- A Total Waste Strategy for the City is being commissioned, including looking at collaboration across the Combined Authority.
- Trials of electric refuse vehicles have taken place.
- The region's first ever "Circular Economy Routemap" has been produced by the Combined Authority

6.1 Commissioning a joint study with WMCA

December 2020 status

Commission a joint study with WMCA to look at waste movements in the conurbation. The Council is also considering the future impact of the Resources and Waste Strategy. Part of the consultation for the Waste and Resources Strategy explored the introduction of food waste collections. If food waste collections did become legislation, then this could see a reduction in tonnage from residual waste collections. This waste would require alternative means of processing.

The next step will be to approach the Combined Authority, to request they act as the facilitator between county councils to commission a joint study looking at waste movements across the conurbation. The aim of this study would be to observe the ways that all types of waste is moving across the wider West Midlands area and identify the most energy efficient way of managing waste at sub regional level. Ideally, this study will be commissioned through the Combined Authority, but could also be facilitated through the housing market area group, which would enable districts to take it back to the county councils. This work will need to feed into BCC's post 2034 Municipal Waste Strategy.

October 2021 update

BCC is commissioning a Total Waste Strategy for the City. Discussions have taken place at the WMCA's Net Zero Director's Group to look at collaborating across the WMCA and integrating other total waste strategies, where they are being commissioned, to provide a clearer picture across the region.

The Total Waste Strategy will be a robust document that provides updated evidence regarding existing and required facilities for the management and processing of waste and the waste arisings that are generated across WMCA and in the city. The study will identify the waste capacity needs to 2042 and will inform both future planning policy documents, the council's energy strategy; the WMCA and city council's corporate strategies for the management of waste.

6.2 Charging Infrastructure at Waste Depots

December 2020 status

The current tranche of the City Council's fleet of waste vehicles are all Euro VI compliant, meaning they meet the Clean Air Zone standards. However, the Council is currently trialling alternative fuel vehicles within its waste collection fleet and will move towards alternative fuels

in the next generation of vehicles. The two new planned City Council waste depots will have charging capability designed in.

October 2021 update

This project has been closed. However, the council is continuing to develop 2 waste depots, with the retrofit including the appropriate ducting to support electrical charging points.

*6.*3 Draft Municipal Waste Strategy

December 2020 status

The draft Municipal Waste Strategy will outline the Council's approach to household waste for the next ten years. A group is also to be established to look at the Council's approach to household waste, post 2034, including what disposal / treatment paths should be utilised for the City's household waste and recycling.

The Council is also considering the future impact of the Resources and Waste Strategy. Part of the consultation for the Waste and Resources Strategy explored the introduction of food waste collections. If food waste collections did become legislation, then this could see a reduction in tonnage from residual waste collections. This waste would require alternative means of processing.

The next step will be to approach the Combined Authority, to request they act as the facilitator between county councils to commission a joint study looking at waste movements across the conurbation. The aim of this study would be to observe the ways that all types of waste is moving across the wider West Midlands area and identify the most energy efficient way of managing waste at sub regional level. Ideally, this study will be commissioned through the Combined Authority, but could also be facilitated through the housing market area group, which would enable districts to take it back to the county councils. This work will need to feed into the post 2034 Municipal Waste Strategy.

October 2021 update

The Tyseley Energy Recovery Facility (ERF) is a Birmingham City Council asset that is operated under a long term waste contract. The facility converts electricity which is exported to the grid and is located in an area of waste to energy innvation. The Council is in a procurement process for a new waste disposal contract which include operating Tyseley ERF, Waste Transfer Stations and Household Waste and Recycling Centres. The Council collects and manages 500,000 tonnes of municipal waste each year and this is expected to increase with a projected growth of 51,000 households. This significant waste volume makes Tyseley a critical facility for the City, its residents and businesses however the Council recognises the need to develop a robust decarbonisation plan for of all its estate. A carbon management plan to support Council asset management decision making will commence development in 2022 as part of the Council's R20 next steps. The Council is also working with major contract partners to ensure energy efficiency and carbon reduction principles are embedded into activities undertaken on behalf of the Council.

Municipal waste accounts for only a portion of the City's waste and this is why the Council has commissioned a Total Waste Strategy for 2022-2050 to identify the type and quantum and City wide action needed to minimise waste, promote resource efficiency and move towards a

circular economy. The Council's Municipal Waste Strategy will be a key pillar of the Total Waste Strategy and represents an area of greatest influence for Birmingham City Council. The Total Waste Strategy will seek to engage with organisations generating and managing waste across the City as well as innovators in waste reduction, repurposing and circular economy including eliminating problematic waste streams and utilising waste to energy, to build the capability and capacity of the City of Birmingham to harness new approaches to waste management. The strategy will be built on the fundamental need to achieve net zero carbon emissions and will enable the Council to make informed and well evidenced decisions on its own areas of responsibility in waste management, as well as collaborate and support positive decision making across other public and private sectors.

Strategy review is on hold while we await the Resource and Waste Strategy outcomes, so this can be reflected with the upcoming government legislation.

Further work in this area is unclear, BCC along with all other LA's wait for the government to confirm its direction, this will then be dictated by future legislation. The Environment Bill was passed on 10th November. The work to update the existing 2017 Municipal Waste Strategy will now commence.

6.4 Waste Fleet – Hydrogen/EV Fleet Demonstrator
December 2020 status

The current tranche of the City Council's fleet of waste vehicles are all Euro VI compliant, meaning they meet the Clean Air Zone standards. However, the Council is currently trialling alternative fuel vehicles within its waste collection fleet and will move towards alternative fuels in the next generation of vehicles. The two new planned City Council waste depots will have charging capability designed in.

October 2021 update

BCC is regularly reviewing the market, discussions are taking place with major manufacturers, BCC has put itself forward to take part in any trials of vehicles with cleaner fuels.. We are experiencing supply issues asthe market is still maturing and catching up with the demand. An electric refuse collection vehicle trial has taken place. A request for a longer trial has been made. We are waiting for a hydrogen vehicle to trial. The service is still in contact with leading manufacturers and as soon as vehicles become available trails will continue. Trials have also taken place with small electric vans. A procurement process is about to commence for both Parks and Waste vehicles.

6.5 Circular Economy
December 2020 status

The council is currently rewriting the Council's Waste Prevention Plan and are in discussions with Keep Britain Tidy to co-ordinate a campaign to address the Circular Economy with actions prioritised on the top end of the waste hierarchy (prevention, minimisation and reuse).

October 2021 update

The region's first ever "Circular Economy Routemap" has been produced by the Combined Authority (CA) to show what can be done to make sectors such as manufacturing, construction

and food more efficient in their use of resources. It will contribute to sustainable inclusive growth, social economy and green recovery.

The route map is the first step for region's journey towards circular economy. The next steps include:

- Implementing key actions across five enablers;
- Developing business cases for West Midlands Industrial Symbiosis delivery programme and for a Zero Waste Construction Hub;
- Developing a network of circular community hubs;
- Working with partners to convene a Circular Battery Partnership;
- Accelerating a circular construction repurposing programme.

6.6 Waste to Recycling

December 2020 status

Birmingham City Council's Waste Management service is undertaking significant change and investment in order improve the Council's recycling performance and green credentials. The Council has entered into a procurement process for the new waste disposal contract. The City Council has committed to a £44.2m investment in the Energy from Waste Facility at Tyseley Energy Park (TEP), the potential building of a new Materials Recycling Facility and modernisation of Household Recycling Centres and Waste Transfer Stations.

October 2021 update

A Pilot fleet of 4 Mobile Household Recycling Centres (MHRCs) are set to roll out on the streets of Birmingham as part of the council's effort to achieve cleaner streets. Capturing data on sources of recycling streams contamination.

Work is continuing to establish the CO_2 baseline pre changes in recycling working practices, and to capture the arising CO_2 benefits. The roll out of the MHRCs has taken place. They are deployed daily across the City, the material collected at the moment is more waste than recycling but we hope to see an improvement over the next few months. Roads are recorded with high levels of contamination. Individual bins are tagged so residents know where they are going wrong with recycling. All current materials available to residents is being reviewed and updated. We are working with Keep Britain Tidy and other core cities in this area. A new reuse centre has been opened at Tyseley and anything taken to any HWRC across the city that can be reused is taken there for sale.

We have been working with our disposal partner to open up new recycling opportunities such as mattress and hard plastic recycling.

Chapter 7 – Energy

Key highlights from 2021

- Agreement has been reached to develop East Birmingham Low Carbon Innovation Zone, including a proposal for a Net Zero Neighbourhood to be a demonstrator project and attract capital funding.
- The Council house rewire programme is anticipated to complete by March 2022.

7.1 Tyseley Energy Park (TEP)

December 2020 status

Tyseley Energy Park (TEP) is an Energy Innovation Zone situated in East Birmingham on the A45 Coventry Road that connects the airport to Birmingham City Centre. TEP was established by Webster and Horsfall, a 300-year-old steel wire manufacturing company, to diversify their site operations but in keeping with their long history as industry innovators benefiting/supporting the surrounding community. The Tyseley area, has through local area planning been identified as an Environmental Enterprise District (EED), and has potential to cluster complementary waste and sustainable energy uses. The City Council actively encourage energy generation and air quality improvement schemes in this location. The University of Birmingham is a strategic partner of TEP and has invested in the development of the site and related research activity. The mission of Tyseley Energy Park (TEP) is to deliver a green technologies hub for the City of Birmingham as part of a wider intention by Birmingham City Council and Energy Capital to create one or more large scale Energy Innovation Zones in the city. TEP seeks to deliver new jobs and growth through the deployment of innovative energy supplies.

October 2021 update

The partners have agreed to establish an East Birmingham Low Carbon Heat Innovation Zone, the vision has been agreed and supported discussions at COP26 and with other interested stakeholders. The partners are developing a Net Zero Neighbourhood (NZN) proposal (which will include the Whole House Retrofit Energiesprong Pilot) and will co create the proposal with WMCA from Oct - Dec 2021 with the aim to become one of the first cohorts of NZNs across the region and attract capital funding from the WMCA NZN Demonstrator Programme. In parallel funding bids are being developed as part of the BEIS Social Housing Decarbonisation Fund and the Growing Places Capital Grant Fund and discussions are taking place with Lloyds.

Other supporting actions include:

- **Creating a Clean Energy Growth Masterplan for Tyseley**
- **Low and Zero Carbon Refuelling Station** - options for a re-fuelling facility which will support market expansion into low and zero carbon fuels e.g. are being investigated.
- **Energy from Waste** - Planning for 2034+ after current facilities' end of life and potential new EFW facility optimising and extending usage of electricity and heat for residential/domestic use and hydrogen for transport use
- **Develop plans for a National Centre for Heat Decarbonisation (NCHD)** - which will provide national leadership in the field and contribute to economic growth and development (jobs, skills, innovation, green tech and industry growth).

- **Levelling Up Fund** - Phase 2 bid c£20m for the National Centre and the development of solutions for low carbon heat in domestic and industrial applications.

7.2 Tyseley Energy Recovery Facility, Waste Transfer Stations and Household Waste Recycling Centres Operate, Maintain and Renewal Procurement

December 2020 status

Birmingham City Council's Waste Management service is undertaking significant change and investment in order improve the Council's recycling performance and green credentials. The Council has entered into a procurement process for the new waste disposal contract. This procurement seeks to find a new partner who will:

- Operate and maintain the Tyseley Energy Recovery Facility (ERF) for the treatment of the Council's residual waste and the continuous improvement of the Tyseley ERF to ensure it meets any future legislation. This shall include management of all residues, materials and products from the Tyseley ERF.
- Operate and maintain five Household Waste and Recycling Centre (HWRC) sites at Kings Norton, Tyseley, Sutton Coldfield, Castle Bromwich and Perry Barr, and the continuous improvement of all the HWRCs.
- Operate and maintain the three Waste Transfer Stations (WTS) at Kings Norton, Tyseley and Perry Barr, and the continuous improvement of all the WTSs
- Manage the Council's clinical waste disposal service

This Contract will be for a term of ten years with the opportunity to extend for a further term of up to five years.

October 2021 update

The contract is operating to specification. All planned maintenance has been carried out. Monthly contract meetings are taking place. We are currently working with bidders in dialogue phase 3 and have received submissions which are currently being evaluated.

7.3 Birmingham District Energy Company (BDEC)

December 2020 status

Birmingham District Energy Scheme is the largest low carbon heating network in Birmingham. It is owned, operated under the name of Birmingham District Energy Company (BDEC). BDEC supplies low carbon, low cost energy to major energy consumers across the city centre. Overall, the BDEC network comprises of three schemes: The Broad Street Scheme, Aston University Scheme, and Birmingham Children's Hospital, with interconnecting pipework linking the three schemes to enable future growth and densification of the scheme. There is also an energy centre at Birmingham New Street Station.

The next step will be to investigate how the concession can be extended and the network's energy centres can be converted to a carbon neutral energy sources (or as close to neutral as is feasible) as soon as possible. The BDEC Service Provider has provided an outline scope and proposal in respect of decarbonising the existing heat network. This proposal targets an application for Green Heat Network Funding (GHNF) to be readied for a second-round submission. This proposal is being considered a decision will be made shortly as to whether it meets the Council's overall ambitions. Any future extension of the concession will be dependent on a shift to green energy.

October 2021 update

A District Heat Network partners working group has been established consisting of BCC, Aston university and Birmingham Children's Hospital. Memorandum of Understanding (MoU) has been created to allow partners to freely exchange information whilst respecting commercial sensitivities. Next steps are to agree the MoU, priorities for engaging Service Provider around decarbonisation, profit share and customer service improvements.

7.4 BEIS City Decarbonisation Delivery Plan programme (CDDP*)*

December 2020 update

Work on the BEIS CDDP (decarbonisation of heat within buildings) project commenced in January 2020. Output from BEIS work stage 1 shows that 16 heat decarbonisation intervention have been shortlisted, as potential options for Birmingham, based on modelled data.

If they were implemented across building types and sectors by 2050, the modelling shows that as technical solutions, they could potentially achieve around 80% reduction in carbon from heating of buildings from homes, council buildings, industrial, university, health to retail.

However, the scale of what is required would mean the cost would be around £6.8billion, with no investment rate of return until after 2050.

BEIS work shows that Air source heat pumps will significantly provide the biggest impact because they are an easier (smaller) solution for most residential areas and do not require planning permission (it should be noted that the issue here will be the market availability within this timeline).

The BEIS study phase 2 therefore set out to produce 4 business case developments (identifying funding sources and funding models, legal, financial and procurement modelling) of 'early pathfinder' developments across:

- Domestic Social Rented
- Non-Domestic Public Sector EE/Retrofit/LZC Heat – LA Whole Estates (excl. schools but including commercial estate)
- Non-Domestic Public Sector EE/Retrofit/LZC Heat – Non-Academy Schools
- Non-Domestic Public Sector EE/Retrofit/LZC – including Health Estates/University Campuses.

October 2021 update

As a BEIS led funded programme, the development of draft business cases for early options for intervention has required a process of working across 6 UK cities, identifying general heat decarbonisation themes such as heat zoning, heat as a service and understanding how existing heat networks can be decarbonised where these are common across the 6 cities. The draft business cases for Birmingham were completed in September 2021 and have been submitted.

Following initial feedback, BEIS have requested their commissioned consultants to input their 'methodology'/'method statements'- we are awaiting return of these completed documents.

Phase 3 of CDDP is currently being developed by BEIS to provide support to the 6 Local Authorities taking part, in how decarbonisation of heat options identified in Phase 2, can be developed further into full business cases in readiness for Local Authority governance processes to be able to take forward.

7.5 Council House Rewire

This action was not identified in the January 2021 council report and was added to the wave 1 projects in February 2021.

October 2021 update

This project is on schedule. The end date for Council House works is anticipated to be March 2022 and Council house extension works are aimed to end by February 2023.

Chapter 8 - Natural Environment (now City of Nature)

Key achievements of 2021

- The cabinet report is being prepared to take to Cabinet in February 2022 for adoption of Birmingham City of Nature 25 year delivery framework.
- Urban Forest Master Plan (UFMP) (2021) has been adopted and has attracted considerable interest and praise from outside the Council.

8.1 Future Parks Accelerator (FPA)

December 2020 status

Birmingham's Future Parks Accelerator initiative is producing a 25-year Delivery Framework for Birmingham's City of Nature ambition stated in the Our Future City Plan 2040.

It represents a corporate transformation programme that seeks to put nature and environmental justice at the centre of the city's decision-making for the next 25 years.

It will achieve this through the adoption of a new governance and finance model for the city's natural and green environment including all parks and green spaces. This will provide a new delivery and funding mechanism for the sustainable future of the city's green and natural environment. This action will deliver a major plank of the city's R20 adaptation ambitions.

Full Council Engagement- The FPA programme takes a systems-change approach that has mapped the integration between the city's strategic outcomes and the natural environment across the following areas of the council -– Housing and the built environment; the Children's Trust and Education; the Health and wellbeing agenda; Employment and skills; new ideas and activities have been tested on the ground through four community neighbourhood pilots.

Embed Permanent Change - Phase 2 of the project will involve building the new governance model for green space in Birmingham supported by 5 city themes, these are:

- A Fair City
- A Healthy City
- A Valued City
- An Involved City
- A Green City

The FPA programme will proceed until its conclusion in March 2022.

October 2021 update

All the areas of the project are on track. A cabinet Report is being presented in February 2022 for the adoption of the Birmingham City of Nature 25-year Delivery Framework.

Work on natural capital account has been commissioned which will be used to calculate the proposed carbon sequestration achieved through the implementation of the full City of Nature delivery framework. These calculations will be used to provide a carbon estimate for parks and open spaces to be used in Council's 25-year Plan. Initial modelling shows that plans to improve and provide new greenspaces could increase carbon capture by 177,521 tCO_2 once it is implemented in full, over the 2022-2047 period. This would represent c. 4% of baseline yearly city-wide emissions.

8.2 Birmingham Urban Forest Master Plan (UFMP)
December 2020 status

The Birmingham Urban Forest Master Plan draft will be produced early 2021 – once completed Birmingham will be the first UK city to have such a plan. The Urban Forest Master Plan will identify priority areas for tree planting, based on a variety of factors, such as air quality.

October 2021 update

The draft plan has been completed and approved by the Council.

BCC's work in this area continues to attract attention from outside the Council and has had significant engagement at all stages from industry experts and wider stakeholders.

Tree Inventory and Assessment of Plantable Areas - Current information/data is held in multiple systems and requires an intensive manual exercise and manipulation to inform tree planting planning. An investigation into suitable software to aid prioritisation of areas for tree planting has been undertaken, will digitise data and help identify "plantable space".

8.3 Biodiversity Supplementary Planning Document (SPD)
December 2020 status

A biodiversity information note will be drawn up to set out Biodiversity Net Gain principle and outline the Local Nature Recovery Network and strategy ahead of this being mandated through the Environment Act 2021. A Biodiversity SPD will follow after the BDP review.

October 2021 update

The project needs to be reprofiled based on timescales for the BDP and the Environment Act 2021. Still looking for clarity around the government's environment bill, which will impact this work.

8.4 Ward End and Cole Valley Green Skills Hub
December 2020 status

One of our big moves within the natural environment is how we will create enhance existing green corridors and create new routes and green infrastructure within Birmingham. A key focus within this agenda is the Cole valley route, aiming to maximise the cities 'green lungs' and green routes that allow easy access into city, making it more enjoyable for walking and cycling.

Birmingham City Council has submitted an expression of interest to the GBSLEP for part funding for the Ward End and Cole Valley Green Skills Hub project. The project aims to contribute towards the regeneration of East Birmingham, and the economic recovery of the area in the aftermath of the COVID-19 pandemic.

Additional funding is being sought through ERDF funding. The project is seeking investment for a programme of interlinked green and blue infrastructure improvement activities that will develop an underutilised urban green corridor into an accessible and connected corridor and community commons with improved water, woodland and grassland habitats. Alongside the infrastructure improvement project activities there will be a programme of community engagement to inform the ongoing rehabilitation of this currently underused area to create a community common that is used by and accessible to the local community. Community

engagement will focus on developing the area as a green, post-Covid recovery, connecting corridor to the wider city that benefits local citizens economically and socially as a site for green skills training and learning pathways and enterprise opportunities, as well as improved health and wellbeing.

An ERDF bid is being formulated by University of Birmingham (UoB) in partnership with TEP, Ackers and community and BCC for habitat restoration, in channel modifications and removal of the weir at Ackers – this will provide biodiversity and flood alleviation benefits. In addition, the works is seeking to gain greater involvement of the local community, increase participation in and access to local green space (environmental justice strand). Consideration is also being given to providing a section of cycleway to avoid the need for cyclists to cross the busy Tyseley incinerator access road.

October 2021 update

The East Birmingham Inclusive Growth Programme is considering the component projects and securing additional resource to develop the Outline Business Cases (OBCs). Acivico and Landscape Practice group have been commissioned to carry out design work on these projects, work on developing the designs. Stakeholder engagement currently underway.

8.5 West Midlands National Park (WMNP)

December 2020 status

The West Midlands Combined Authority formally adopted the West Midlands National Park (WMNP) project on the 5th July 2020 as a key component of a post-Covid green economic recovery. The WMNP project will result in a region-wide spatial vision to kick-start the post-Covid economy in the context of WM2041, the West Midlands zero-carbon strategy and accelerated brownfield-first house building. It will also provide an overarching context for a range WMCA post-Covid recovery interventions, and a roadmap to increased and inclusive regional prosperity, spatial and environmental justice and growth where no one is left behind. The WMNP proposal was formulated by a professor of landscape architecture at Birmingham City University, and would make the region home to the UK's 16th official National Park. The WMNP have recently published their Award Criteria and will announce their first winners in Winter 2021.

October 2021 update

The WMNP concept is still in the early stages. The concept forms part of the West Midlands zero-carbon strategy and is seen as a key component of the region's green economic recovery

Work continues to develop conversations with partners and to identify opportunities to link up. A set of accreditation criteria for WMNP status has been agreed -

WMNP Lab has been established to support delivery. The WMNP concept was highlighted in the. August 2021 WMCA Natural Environment Plan as an important first delivery step.

8.6 Design Guide Supplementary Planning Document (SPD)

December 2020 status

The Design Guide SPD was subject to consultation between November 2020 and January 2021. The SPD sets out the design aspirations of the city, with guidance to ensure all development aids the creation of high quality, people focused places that are resilient, innovative and healthy. The Design Guide is a Supplementary Planning Document (SPD), which once adopted will replace a number of existing SPDs.

October 2021 update

Work has started on drafting relevant revisions, but this work is not complete.

Chapter 9 - Council Strategy and Behaviour Change

Key achievements in 2021

- Climate Change module launched for all staff to raise awareness about the issue.
- Environmental and Sustainability Assessment (ESA) Template has been used for CLT/cabinet reports to assess any environmental or sustainability impacts of the decisions.
- Good progress and positive engagement have been made by procurement with four big areas that have the biggest impact on climate change.

The projects included under this theme were not included in the Action Plan. The discussions post the report submission suggested that there is merit in considering these projects as they will contribute towards the Council's net zero emission target. The section below provides an update on the projects as they were in October 2021.

9.1 Agile / Remote Working

All BCC staff are being supported to remain working from home where possible and so a first baseline travel habits survey has been drafted and subject to approval at New Ways of Working (NWOW) programme board will run in October.

A methodological approach to our Bin, Scan, Store operation to remove existing files is being planned, which will then roll out across our entire estate. This will be in conjunction with a campaign of activity to push the Paper Light approach which will see more digital options, training and support to limit the production of paper per individual. The team are in a process of establishing the Paper Light sub-group under NWOW to tether all activities together to enable the measure of reduction in carbon emissions.

9.2 Training and Induction

The climate change module is now complete and was launched (November 2021). The climate change module is now complete and was launched (November 2021). The possibility of making the module mandatory for all staff in 2022-23 is being explored.

9.3 Council-wide Route to Zero Behaviour Change Communications Strategy, Campaigns and Monitoring

The implementation of the strategy will be taken forward by the Principal Behaviour Change and Engagement Officer when they are recruited as a part of the R20 Team.

9.4 Working with Partners

The meetings are ongoing with respective partners and good progress is being made. The final reports and documents are still being prepared.

Enterprise Zone Investment Plan with LEP: Next steps are to look at how it is taken through the Governance processes at the LEP and BCC.

WMCA- Net Zero battle bus came to Birmingham on the 21st of September. Birmingham was part of a joint regional green zone bid for COP26 led by the CA which took place on 11th November (Cities and Regions Day).

Core Cities – BCC are contributing to the Connected Places Catapult work - The Connected Places Catapult (CPC) in collaboration with its partners Core Cities UK and London Councils has commissioned a piece of research and analysis, to help determine the potential investment opportunity for low carbon technologies across the UK's largest cities. The goal is to develop a City Investment Portfolio in support of the low carbon ambitions of London and Core Cites leading up to and including the launch of COP 26.

9.5 Embed carbon reduction in decision making

The implementation of an environmental assessment template is currently being trialled across the council. A report has been considered by CLT and recommendations have been made which have been considered by the Team. It has been agreed that Environmental and Sustainability Assessment template (ESA) will still be undertaken for all the decisions that may have an environmental impact. However, it has been suggested that the reports will not be made public until the trial is completed and the process is finalised. Training is being rolled out to all the Directorate Management Teams (DMTs) and elected members will be provided with more detail about the process. More training sessions are being offered to the staff to make them aware of the process and the template. The ESA Team has been given access to the forward plan folder and will be regularly monitoring it to ensure that all decisions that need an ESA should complete one.

9.6 Council Procurement

Key categories of focus have been identified - Construction, Highways, Repairs and Maintenance and Adult Social Care. Stakeholder meetings have been held.

Construction – An initial meeting has taken place with the consultants and a follow up meeting being scheduled with the identified consultants to tie into their sustainability reporting.

Highways – Introductory meeting took place with Kier. BCC representatives will be participating in Kier hosted workshop in October to develop a BCC Highways Contract One Planet Action Plan. This will identify opportunities to reduce CO_2 and be basis for starting to report to BCC.

Repairs and Maintenance - BCC representatives participated in a Wates hosted workshop on 1st September. Next steps re for Wates to propose 3-month milestone plan by 17th September to achieve contract level sustainability reporting.

Adult Social Care – A workshop with Green Mark certified Care Home was held. Sustainability planning framework developed for BCC run residential and day care facilities. Awareness training session on Green Mark certification originally scheduled for early September postponed and to be rescheduled. Target initiating plan start of October.

Chapter 10 - Carbon Savings

10.1 Context

At present, Birmingham City Council does not directly monitor its own carbon emissions. However, BEIS provides local authority level carbon emissions data, which can then be used to derive carbon reductions from. The most up to date carbon emissions data is from 2019, as data is back casted two years previous and can be accessed at: UK Local Authority and Regional Carbon Dioxide Data. The data used to analyse Birmingham's carbon emissions is a subset that excludes emissions in the main data set which are considered to fall outside the scope of influence of Local Authorities (e.g. emissions from motorways and emissions from some installations in the EU Emissions Trading System are excluded). The figures shown for per capita emissions are based on population estimates published by the Office for National Statistics at the Local Authority level.

Data Revisions

The local authority carbon emissions estimates published previously have now been superseded by the latest revised figures. In order to ensure that the data for 2005 - 2017 are consistent with the data now available for 2017, the estimates for these years have been revised to incorporate both new data and improvements in the underlying methodology.

10.2 Summary of Citywide Carbon Emissions

1) In 2019, **Birmingham's CO_2 emissions had decreased by 40.6%,** against a 1990 baseline. This is a decrease in CO_2 emissions since 2018 when there was a 38.2% reduction.

2) Birmingham's total CO_2 emissions are at an all-time low since 1990.

3) Total emissions in 2019 were 4.083m tonnes (city wide).

4) CO_2 emissions across industry, commercial and domestic sectors continued to **decrease** from 2018-2019.

5) The largest contributor to Birmingham's emissions is transport – at 34.9%.

6) Domestic emissions now account for 34.4% of total emissions within the local authorities' scope.

7) On a per capita basis, Birmingham's CO_2 emissions are at their **lowest since data collection began** – 3.6 tonnes CO_2 per person (please see table 1).

10.3 Overall Carbon Emissions Data

Total emissions in 2019 were 4.083m tonnes. The overall carbon emissions data table can be seen in table 1. On a per capita basis, Birmingham's CO_2 emissions are at their lowest since data collection began – 3.6 tonnes CO_2 per person (please see table 1). Figure 4 shows our actual carbon emissions to date (the green line) along with the required trajectory for us to meet Birmingham's 2030 net zero carbon goal, as well as to meet central government's 2050

target. Figure 5 shows a close up view of how our carbon emissions have fluctuated since 2005.

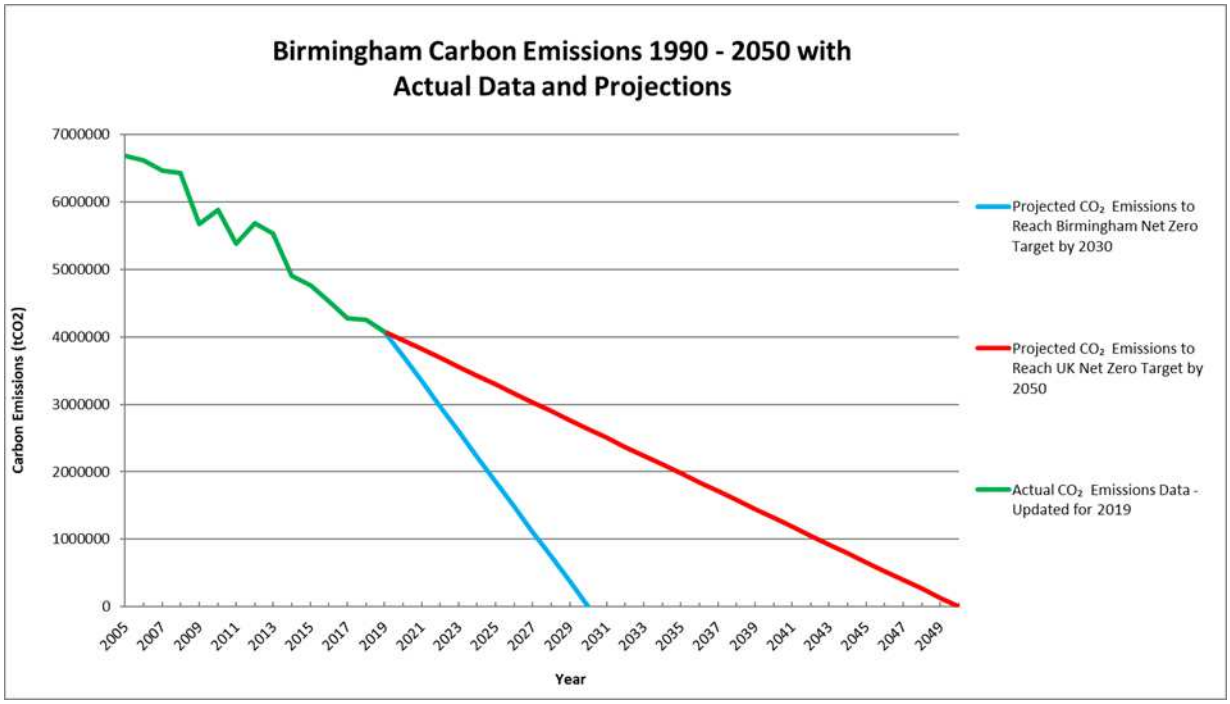

Figure 4: Actual carbon emissions data 2005-2019, with trajectories for Birmingham and Central Government targets

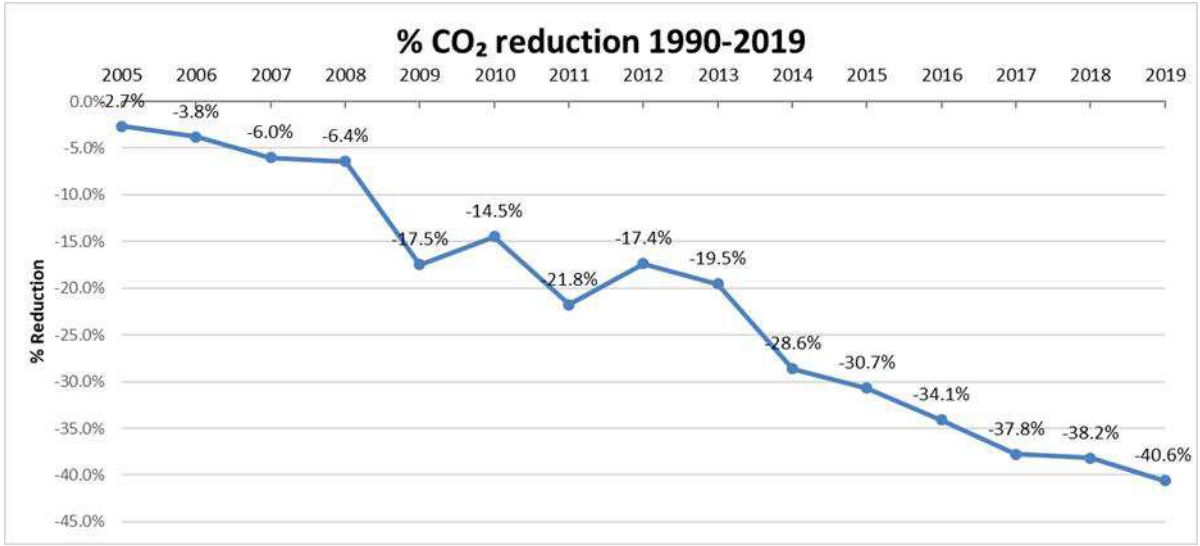

Figure 5: The percentage CO_2 reduction Birmingham has achieved each year since 2005 against 1990 data.

Sector Specific Breakdown

The breakdown of 2019's carbon emissions are as follows:

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

The largest contributor to Birmingham's emissions is domestic – at 34.4%. As a local authority data only started to be collected in 2005, it is not possible to provide any data by sector to 1990. All sector specific emissions are at an all-time low against the available data since 2005. Figure 6 shows a breakdown by sector from 2005-2019.

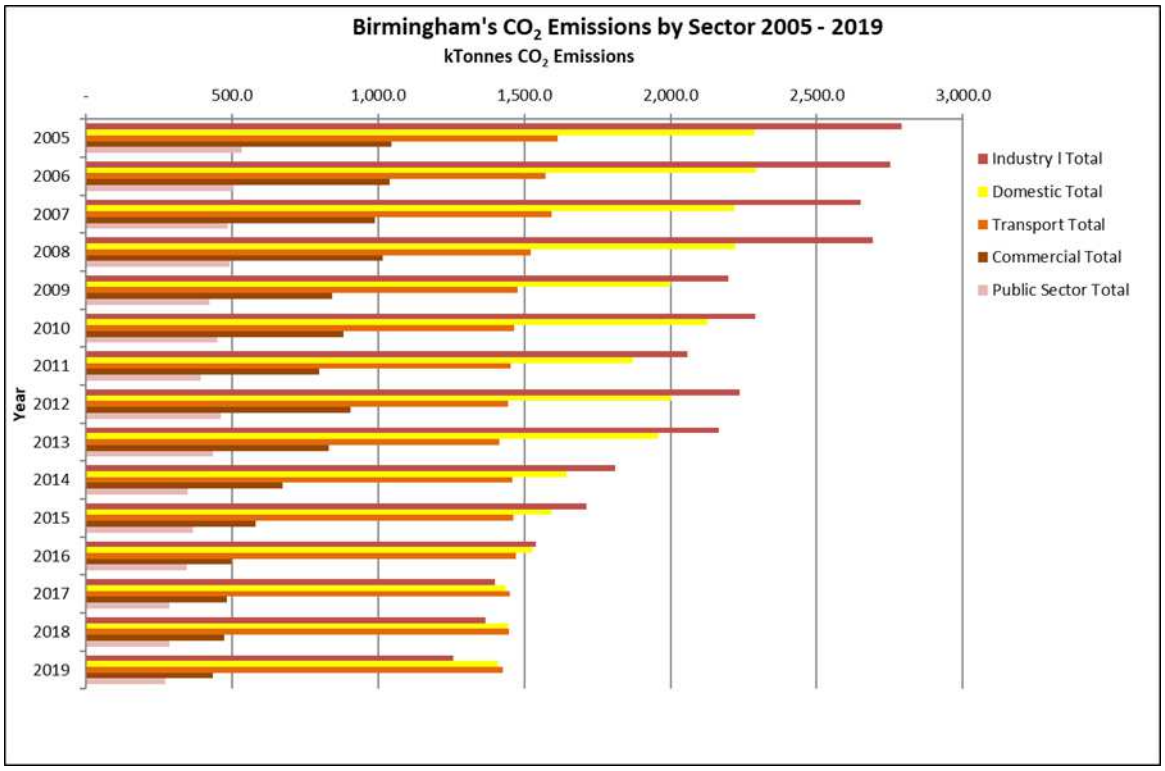

Figure 6: Sector breakdown of 2019 CO_2 data from 2005-2019.

Year	Industry Total	Commercial Total	Public Sector Total	Domestic Total	Transport Total	Grand Total	Population ('000s, mid-year estimate)	Per Capita Emissions (t)
2005	1,211.8	1,045.7	534.0	2,286.9	1,613.6	6,690.8	1,014.7	6.6
2006	1,206.4	1,037.9	507.5	2,292.4	1,572.4	6,614.6	1,020.8	6.5
2007	1,175.2	990.1	485.2	2,217.8	1,594.3	6,459.9	1,029.0	6.3
2008	1,188.2	1,015.1	489.9	2,222.1	1,520.7	6,432.6	1,039.0	6.2
2009	931.3	843.4	422.0	2,001.9	1,478.2	5,672.9	1,050.1	5.4
2010	962.4	880.9	448.1	2,127.6	1,465.0	5,879.6	1,061.1	5.5
2011	865.3	799.2	393.8	1,871.3	1,453.6	5,378.2	1,074.3	5.0
2012	871.3	904.3	460.9	2,005.7	1,443.2	5,679.9	1,085.2	5.2
2013	900.2	831.9	433.3	1,956.2	1,414.7	5,530.2	1,092.2	5.1
2014	787.7	672.8	349.0	1,643.3	1,458.9	4,905.4	1,101.5	4.5
2015	767.1	581.2	365.1	1,594.1	1,463.0	4,763.5	1,113.0	4.3
2016	696.7	496.4	346.7	1,527.2	1,470.5	4,530.5	1,128.1	4.0
2017	633.3	482.4	284.8	1,434.9	1,450.1	4,277.9	1,137.1	3.8
2018	607.5	472.3	286.2	1,442.9	1,448.2	4,249.1	1,141.4	3.7
2019	550.1	434.2	272.2	1,408.6	1,426.4	4,083.2	1,141.8	3.6

Table 1: Birmingham's detailed CO_2 emissions within scope and influence ($ktCO_2$)

10.4 Impact of Wave 1 Projects on Carbon Savings

The delivery of Wave 1 Projects is a significant step to continue and accelerate the reduction of carbon emissions in Birmingham. In this period, 2021/2022, these projects have already started to show an emissions reduction impact and are setting the foundations to boost carbon savings in scale and pace in the following years.

In this period, Wave 1 Projects have reduced emissions by 215,931 tCO2e. Projects within Transport and Connectivity, such as Electric Vehicle Charging Points, Hydrogen Bus Pilot, and the City Centre Clean Air Zone, are the main contributors, accounting for c.75 % of carbon savings this year. These projects also have the potential to promote behaviour change and a long-term shift from fuel-based transportation towards more sustainable options, bringing future reductions.

An additional c.22 % reduction has been driven by projects in the Council Strategy and Behaviour Change category, such as Council Commissioning and Procurement, and Agile Working. On top of this, these projects have been successful in embedding environmentally sustainable approaches to the council's activities, which will be key to secure the council's net zero target.

Other projects have had a limited impact on carbon reduction in this period. However, important steps have been made to set in motion policy and institutional arrangements that

will make future carbon savings possible. Such is the case of the Birmingham Transport Plan which was adopted this year and will bring about future transport-related carbon savings. Similarly, through the Future Parks Accelerator project a new governance mechanism is being set up which will help fund and deliver green and natural environment projects.

A significant contribution to council-wide carbon savings will come from New Build projects. Though new construction will inevitably produce additional emissions, the recently agreed environmentally sustainable construction standards will allow the council to avoid future carbon emissions. It is calculated that each new unit built would add only 0.11186 tCO2e, which represents a 2.3 tCO2e reduction compared to the previous standard. Considering that the target is to build 2,850 per annum, the new standards will allow for considerable carbon savings in the coming years.

The Wave 1 Projects are the first step towards achieving BCC's carbon reduction goals in 2030. The 215,932 tCO2e reduction in 2021/2022 might seem modest, as it accounts for c. 4.7 % of the Birmingham's total baseline emissions – there is still c.95 % of emissions to reduce to meet net zero. However, they provide the solid foundations to generate opportunities for broader medium- and long-term reductions within and outside the council.

To move forward and achieve the net zero targets more work needs to be done, and a renewed focus on putting into place and accelerating phase 2 projects will begin. This will require bolder initiatives to accelerate delivery. Focus must also be made on building capacity and generating mechanisms to ensure a comprehensive and timely collection of carbon reduction data. This will allow the council to measure and monitor progress more regularly and accurately and ensure R20 efforts are on track.

Chapter 11 - Next Steps

The 2020s have been highlighted as the ‘decade of delivery’ of emissions reductions at scale. Aligned with the Council’s own ambitious plans to reach net zero carbon by 2030 or as soon thereafter as a just transition allows, and with approval to scale up the Council’s own R20 capacity via the formation of a dedicated R20 enabling team, the work programme of the forthcoming 12 months will identify and focus on projects and initiatives that will lead to significant carbon reductions by 2030.

The City will need to be bolder, braver and take calculated risks to accelerate delivery.

The 41 initial projects in Wave 1 are setting good foundations. Activity will continue on these projects ensure they deliver and stay on track to deliver carbon reduction outcomes.

This will require the implementation of a rigorous approach to portfolio management which assesses projects against carbon reduction and other key strategic outcomes (for example economic, health and social), prioritises activity and rigorously evaluates and re-evaluates to ensure outcomes are maximised.

A similar assessment tool will be implemented to demonstrate the environmental and sustainability outcomes of all non-R20 enabled Council investment and project decisions. Not only will this tool inform Council decision makers of the emissions impact of recommendations, but it will also serve to increase knowledge and understanding across all Council departments. Projects and investments that do not support the Council’s Route to Zero ambition cannot be supported if the Council is to achieve a positive trajectory.

Working collaboratively with City Council departments, fostering existing external relations, and facilitating new public-private sector partnerships to build investment and delivery capacity will need to sit at the heart of the R20 approach. The R20 team will provide leadership, inspire, and enable carbon emissions reduction for the Council and City as a whole, but it cannot deliver the significant scale of activity required across key emissions sectors. Key actions to empower and advance collaborative activity will include:

- Identifying the range of powers and tools available to the City to build and motivate action, including policy and financial mechanisms. All core City functions need to be aligned with the R20 ambition and Council’s Corporate Plan.
- Driving a more place-based approach, attracting private sector investment from citizens and organisations through clarity of purpose and community level benefits. Making sure communities are involved in the design, delivery and learning process.
- Clear focus on the City Council’s role and the direct influence, indirect impact and enabling function it will need to fulfil.
- Collaborating with public and private sector partners to design carbon reduction initiatives that are investible, scalable and deliverable. This will include identifying and assessing new delivery models and partnership arrangements.
- Leading by example, sharing and gaining knowledge from others.
- Being honest and transparent on the decisions we make and the outcomes our actions will achieve to create trust and build relationships.

Alongside this we need to ensure that we develop a comprehensive communication and engagement plan to raise awareness, demonstrate the benefits of positive environmental action and drive behaviours that support a net zero society.

The five priority projects summarised in the Executive Summary and listed below can be scaled up to deliver a greater level of carbon reduction and demonstrate an investment-ready approach. These projects are:

- delivering whole house retrofits in social housing, using a self-funding approach
- creating a Net Zero Neighbourhood at Bromford and Castle Vale
- delivering larger and better district heat network(s)
- leveraging the Council's significant Commissioning and Procurement budget to drive more carbon reductions across the city's supply chain; and
- creating a total waste strategy, including energy from waste

Words around waste – Ellie HS

Alongside the R20 recruitment activity already underway to form the full capacity of the new R20 team, we will develop the processes and infrastructure that will support the identification and prioritisation of Wave 2 projects. Particular consideration will be given to the theme areas which account for the highest share of carbon emissions across the city. Key areas of activity are likely to include:

- Scaling up of currently self-funded housing retrofit projects, learning from pilots currently underway and seeking to secure additional capacity to fund and deliver.
- Working with a range of partners to create and mobilise investment in retrofit of private sector buildings in the domestic and non-domestic sectors.
- Agreeing a roadmap towards decarbonisation of the City's district heating network.
- Undertaking a carbon management assessment of Council assets to identify opportunities and challenges to decarbonising the City's own emissions, supporting asset management decision making.
- Accelerating supply chain carbon reductions through a strengthened procurement and investment strategy, common measurement approach and supporting City supply chains through collaboration with businesses and strategic partners such as WMCA, GBSLEP and Core Cities.
- Building an environment of mutual interest and benefit for all sectors of the City economy to enable partners to match the City's net zero ambition.