

# Birmingham City Council

## City Council

9 January 2024



**Subject: Route to Net Zero Annual Report 2023**

**Report of: Councillor Majid Mahmood**

**Report author: Ellie Hignett – Principal Portfolio Officer**

Does the report contain confidential or exempt information?  Yes  No

If relevant, state which appendix is exempt, and provide exempt information paragraph number or reason if confidential :

### 1 Commissioners Review and Comments

- 1.1 Commissioners note there are no financial implications arising from this update report, all future activity must be kept under review to ensure it is in line with the revised MTFP and remains appropriate in the context of BCC 's response to the current financial challenge.

Commissioners support the report submission.

### 2 Executive Summary

- 21 This report to full Council follows on from the report in February 2023 which sought endorsement of the annual report updating on the council's progress to meeting net zero. Over the last year we have developed our Route to Net Zero team's capability to report on our greenhouse gas emissions annually. These are divided into scope 1 & 2 (direct) and scope 3 (indirect) for the council, and the city's emissions are reported using data published by the Department for Energy Security and Net Zero.
- 22 This report presents an update on the work undertaken since February 2023 on the Route to Zero Carbon programme across the council. Detailed information on project status can be found in Appendix 1 – this is the Route to Net Zero Annual Report 2023.

### 3 Recommendation(s)

- 3.1 To note the progress and achievements made in the last 12 months both on the route to zero carbon programme and wider council and city decarbonisation activities.

- 32 To note the Birmingham's City's greenhouse gas territorial emissions using the [UK local authority and regional greenhouse gas emissions national statistics](#) – which were 4,480 ktCO<sub>2</sub>e for 2021 (the most recent data available). This represents as 37% reduction since 2005.

- 33 To note the results of early accounting of Birmingham City Council's own emissions, calculated using the [Greenhouse Gas \(GHG\) Protocol](#) reporting standards. Birmingham City Council's scope 1 & 2 emissions for the 2022/23 financial year were approximately 40,000 tCO<sub>2</sub>e.

## 4 Background

- 4.1 Birmingham City Council (the 'council') recognises it has a key role in reducing emissions and improving the city's resilience and ability to adapt to a changing climate. We are making good progress in tackling our own greenhouse gas (GHG) emissions, working with and supporting the city to reduce its emissions, and improving the city's resilience. Since declaring a climate emergency in June 2019 our Route to Net Zero team has been bringing together the key teams working on climate change from across the council. We have developed our capability to report on our GHG emissions annually in accordance with the Greenhouse Gas Protocol standards, using UK Government Conversion Factors for greenhouse gas reporting.
- 4.2 Birmingham City Council's scope 1 & 2 emissions for the 2022/23 financial year were approximately 40,000 tCO<sub>2</sub>e. With roughly 52% arising from our corporate estate (our non-domestic buildings), 27% arising from Highways (primarily streetlighting), and the remaining 21% arising from our fleet vehicles (primarily bin lorries). We screened our scope 3 emissions and preliminary analysis suggests that these are much greater than our scope 1 & 2 emissions and are dominated by three activities: procurement of goods and services; council housing; and the emissions to air from the energy from waste plant. The council activities which make the greatest contributor to the council's emissions are the focus of our decarbonisation efforts.
- 4.3 We report on the city of Birmingham's GHG territorial emissions using the UK local authority and regional greenhouse gas emissions national statistics, and the City of Birmingham's territorial emissions for 2021 were 4,480 ktCO<sub>2</sub>e. This represents a 37% reduction since 2005. However, 2021's emissions were up 3.8% when compared to 2020 due to the easing of restrictions related to the COVID-19 pandemic, as people were able to travel more freely for large periods of 2021 compared to 2020, and an increase in emissions from heating buildings due to colder temperatures in 2021. This trend is reflected across 358 of the 374 UK local authorities.
- 4.4 To support our natural environment and climate adaptation goals we are reviewing the local plan's existing policies and green infrastructure evidence base to bring them in line with new and emerging legislation. Our Climate Risk and Vulnerability Assessment for Birmingham will support this work. We have also secured funding to deliver the next phase of the City of Nature Plan, and the council has partnered with the National Trust, the Woodland Trust and the Community Forest Trust to establish the Urban Forest Accelerator (UFA) Project.

- 45 The Route to Net Zero Annual Report 2023 provides updates on what work is currently underway in each of these areas. Key achievements from the last year include:
- Developing our inhouse capability to calculate our greenhouse emissions annually and have done so for the first time for the 2022/23 financial year.
  - Scoring an 'A' from the Carbon Disclosure Project for environmental action & transparency, which is the highest rating available, and recognises Birmingham as a leading city.
  - Producing the Climate Change Briefing Book with the council Insight, Policy & Strategy team, making data on our city's emissions (and other metrics) more open, accessible & engaging.
  - Securing £24.8m of Social Housing Decarbonisation Funding (SHDF) to improve the energy efficiency of 2,076 council homes.
  - Completing 90 Environment and Sustainability Assessments (ESA) ensuring proposals are compliant with the council's climate change, nature and net zero carbon commitments.
  - Concluding the Sustainable Warmth Competition project, delivering over 1,500 energy efficiency measures to 650 homes.
  - Launching and delivering 'Carbon Literacy Training for Local Authority Officers' to over 40 council staff, who have become accredited through the Carbon Literacy Trust.
  - Developing, in partnership with the University of Birmingham, a Climate Risk and Vulnerability Assessment for Birmingham.
  - Delivered the £1.7m Natural rivers and Green Corridors project, improving wildlife habitats and delivering community benefits in the upper River Rea and its tributaries.
  - Collaborating with Solihull Metropolitan Borough Council to secure funding to deliver circular economy support for small and medium sized enterprises (SMEs) across the region.
  - Installing 828 electric vehicle charge points across the city - 199 of which are rapid charge points.
  - Collaborating with 26 organisations on housing retrofit in Balsall Heath and winning the Accelerate to Net Zero 'Built Environment - Smarter Transformation' collaboration award.
- 46 Our next steps are to continue delivering against the climate change, nature & net zero initiatives and activities outline within this report, and we will do this working with the relevant council's directorates, departments and services.
- 47 Building upon our engagement to date, for example through working with citizens to draft our draft Climate Change Engagement Framework or running tailored engagement sessions for our tree planting and housing retrofit programmes, through to sharing data on our progress using the City Observatory, we will continue working with other city stakeholders and our citizens to achieve our outcomes, and consider how we can do things differently, to support outcome delivery.

## **5 Options considered and Recommended Proposal**

- 5.1 No options have been considered for this report as it is a report on activity relating to the council's climate emergency declaration over the past 12 months only, and our ambitions for the future.

## **6 Legal Implications**

- 6.1 There are no legal implications arising from this report.

## **7 Financial Implications**

- 7.1 There are no new direct financial implications as a result of this report.

## **8 Public Sector Equality Duty**

- 8.1 There are no equality implications arising from this report.

## **9 Other Implications**

- 9.1 The Council's Corporate Plan 2022-2026 sets a vision for 'A Bold Green Birmingham' through improving street cleanliness, air quality, and delivering against our net zero, nature and biodiversity commitments.
- 9.2 The adopted City of Nature Framework is also relevant.
- 9.3 The production of this monitoring report holds the council to account against both these key priorities.

## **10 Background Papers**

- 10.1 Report to City Council 7 February 2023 - Route to Zero – Annual Progress Report 2022

## **11 Appendices**

- 11.1 Appendix 1 - Birmingham Route to Net Zero Carbon Annual Report 2024



# ROUTE TO NET ZERO ANNUAL REPORT

January 2024

**Group memberships**

To support the delivery of our climate change, net zero and nature ambitions Birmingham City Council is a member of several groups:



**West Midlands  
Combined Authority**



**Birmingham**





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## Glossary

Term	Definition
<b>Adaptation</b>	Action that helps cope with the effects of climate change - for example construction of barriers to protect against rising sea levels, or conversion to crops capable of surviving high temperatures and drought.
<b>Carbon Dioxide (CO<sub>2</sub>)</b>	Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and is also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity.
<b>Climate Change</b>	Climate change refers to a large-scale, long-term shift in the planet's weather patterns and average temperatures.
<b>CO<sub>2</sub>e</b>	Each greenhouse gas has a different global warming potential. The overall warming effect of a mixture of these gases is often expressed in terms of CO <sub>2</sub> equivalent - the amount of CO <sub>2</sub> that would cause the same amount of warming.
<b>Fossil Carbon</b>	Carbon derived from fossil fuel or other fossil sources.
<b>Biogenic Carbon</b>	Carbon derived from biogenic (plant or animal) sources excluding fossil carbon.
<b>Global warming</b>	Global warming is the long-term heating of Earth's surface observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.
<b>Greenhouse Gases</b>	Greenhouse gases (also known as GHGs) are gases in the earth's atmosphere that trap heat. The gases act like the glass walls of a greenhouse – hence the name, greenhouse gases. Greenhouse gases consist of carbon dioxide, methane, ozone, nitrous oxide, chlorofluorocarbons, and water vapor.
<b>Mitigation</b>	Action that will reduce man-made climate change. This includes action to reduce greenhouse gas emissions or absorb greenhouse gases in the atmosphere.
<b>Net Zero</b>	Net Zero is about reducing and removing greenhouse gases to mitigate against increasing climate risk. The term net zero means achieving a balance between the greenhouse gas emitted into the atmosphere, and the greenhouse gases removed from it. This balance – or net zero – will happen when the amount of carbon we add to the atmosphere is no more than the amount removed. To reach net zero, emissions from homes, transport, agriculture and industry will need to be cut.
<b>Scope 1</b>	The direct emissions from council activities, for example the emissions from the combustion of fossil fuels in council buildings' boilers and council fleet vehicles.
<b>Scope 2</b>	The indirect emissions arising from the generation of purchased energy, which includes the emissions caused by council consumption of purchased electricity, heat, steam, and cooling.
<b>Scope 3</b>	The other indirect emissions (not in Scope 2) from sources that the council does not own or control, such as those from the procurement of goods and services, and our leased assets.

## Executive Summary

Birmingham City Council (the 'council') recognises it has a key role in reducing emissions and improving the city's resilience and ability to adapt to a changing climate. We are making good progress in tackling our own greenhouse gas (GHG) emissions, working with and supporting the city reduce its emissions, and improving the city's resilience. Since declaring a climate emergency in June 2019 our Route to Net Zero team has been bringing together the key teams working on climate change from across the council. We have developed our capability to report on our GHG emissions annually in accordance with the Greenhouse Gas Protocol standards, using UK Government Conversion Factors for greenhouse gas reporting.

Birmingham City Council's scope 1 & 2 emissions for the 2022/23 financial year were approximately 40,000 tCO<sub>2</sub>e. With roughly 52% arising from our corporate estate (our non-domestic buildings), 27% arising from Highways (primarily streetlighting), and the remaining 21% arising from our fleet vehicles (primarily bin lorries). We screened our scope 3 emissions and preliminary analysis suggests that these are much greater than our scope 1 & 2 emissions and are dominated by three activities: procurement of goods and services; council housing; and the emissions to air from the energy from waste plant.

We report on the city of Birmingham's GHG territorial emissions using the UK local authority and regional greenhouse gas emissions national statistics (which have a 2-year publication lag), and the City of Birmingham's territorial emissions for 2021 were 4,480 ktCO<sub>2</sub>e. This represents a 37% reduction since 2005. However, 2021's emissions were up 3.8% when compared to 2020 due to the easing of restrictions related to the COVID-19 pandemic, as people were able to travel more freely for large periods of 2021 compared to 2020, and an increase in emissions from heating buildings due to colder temperatures in 2021. This trend is reflected across 358 of the 374 UK local authorities.

To support our natural environment and climate adaptation goals, we are reviewing the local plan's existing policies and green infrastructure evidence base will bring them in line with new and emerging legislation. Our Climate Risk and Vulnerability Assessment for Birmingham will support this work. We have also secured funding to deliver the next phase of the City of Nature Plan, and the council has partnered with the National Trust, the Woodland Trust and the Community Forest Trust to establish the Urban Forest Accelerator (UFA) Project.

The initiative and activities underway to tackle the above climate change, nature and net zero challenges are presented within the relevant sections of this report. However, some of our most significant achievements to over the last year include:

- Developing our inhouse capability to calculate our greenhouse emissions annually and have done so for the first time for the 2022/23 financial year.
- Scoring an 'A' from the Carbon Disclosure Project for environmental action & transparency, which is the highest rating available, and recognises Birmingham as a leading city.
- Producing the Climate Change Briefing Book with the council Insight, Policy & Strategy team, making data on our city's emissions (and other metrics) more open, accessible & engaging.
- Securing £24.8m of Social Housing Decarbonisation Funding (SHDF) to improve the energy efficiency of 2,076 council homes.
- Completing 90 Environment and Sustainability Assessments (ESA) ensuring proposals are compliant with the council's climate change, nature and net zero carbon commitments.
- Concluding the Sustainable Warmth Competition project, delivering over 1500 energy efficiency measures to 650 homes.

- Launching and delivering ‘Carbon Literacy Training for Local Authority Officers’ to over 40 council staff, who have become accredited through the Carbon Literacy Trust.
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- Collaborating with Solihull Metropolitan Borough Council to secure funding to deliver circular economy support for small and medium sized enterprises (SMEs) across the region.
- Installing 828 electric vehicle charge points across the city - 199 of which are rapid charge points.
- Collaborating with 26 organisations on housing retrofit in Balsall Heath and winning the Accelerate to Net Zero ‘Built Environment - Smarter Transformation’ collaboration award.

The Route to Net Zero team has been successful in securing £1.64m in funding, accompanied with £534k of match funding, and are pursuing are additional £1.27m, to deliver their programme of activities. The team has also arranged, attended and/or presented at numerous local, regional and national events, including the Retrofit Reimagined Festival, Birmingham Retrofit Conference, the Schools Model Conference of Parties (COP), Tomorrow’s Net Zero conference and the Real Estate Investment and Infrastructure Forum.

We are proud of our successes to date and excited about the year ahead. We look forward to working with our city’s stakeholders and citizens in delivering our climate change, nature & net zero programme, reducing our emissions and improving our resilience to climate change.

We will continue to share and celebrate our successes.



## Chapter 1: Introduction

Birmingham City Council (the 'council') is making good progress in tackling its own greenhouse gas emissions, working with and supporting the city reduce its emissions, and improving the city's resilience to the impacts of climate change.

[The Council declared a climate emergency in June 2019](#), and Full Council unanimously made the commitment to take action to reduce the city's carbon emissions, and to do so in a way which reduces inequalities across the city and brings communities with us. The [Council's Corporate Plan 2022-2026](#) sets a vision for 'A Bold Green Birmingham' through improving street cleanliness, air quality, and delivering against our net zero, nature and biodiversity commitments. To achieve this, we are embedding climate action at the heart of council decision-making, ensuring that all directorates, departments and service areas make the necessary changes to deliver these outcomes.

Through the [2015 Paris Agreement](#), world governments committed to curbing global temperature rise to well-below 2°C above pre-industrial levels - and pursuing efforts to limit warming to 1.5°C. In 2018 the [Intergovernmental Panel on Climate Change](#) warned that global warming must not exceed 1.5°C to avoid the catastrophic impacts of climate change. Net zero is about reducing and removing greenhouse gases from across our society, including those emissions from our homes, transport systems, agriculture activities and industrial processes. We will reach net zero when we achieve a balance between the greenhouse gas emitted into the atmosphere, and those removed from it, in line with the 2015 Paris Agreement.

We also need to respond to our changing climate. Data shows that our historic emissions are already influencing our climate, and the UK Met Office has confirmed that [2022 set the record as the UK's warmest year on record](#). Alarming, [this record is likely to be broken in 2023](#), with scientists predicting that 2023 is going to be warmer than 2022. The changes are having an impact across our region, and the [Summary of Climate Change Impacts in the West Midlands Combined Authority Area](#), highlights several direct risks to Birmingham.

These include hotter and drier summers and warmer and wetter winters, increasing the risk of fires, floods and damage to property and infrastructure. We need to prepare for these changes and ensure that our current projects and policies embed resilience into our built and natural environments so they can best respond to our changing climate. The Climate Change Committee advocate that we assess our projects and policies against a 4°C rise in temperature, and plan for a 2°C average annual temperature rise.

The council recognises its role in tackling climate change through reducing emissions and increasing the city's resilience and ability to adapt to a changing climate. We established the Council's Route to Net Zero team in 2022, bringing together the council's key teams on climate change to draw on expertise from across the council to respond to these challenges. In our role as a civic leader, as a major local employer and partner with the local community, we need to ensure that we are doing all we can to address the net zero, nature and biodiversity challenges.

This Annual Reports presents an update on our progress across these activities over the last year, and our ambitions for the year ahead.

### *Case Study: Storms*

*Thunderstorms hit Birmingham on 11<sup>th</sup> and the 18<sup>th</sup> June, and the 8<sup>th</sup> July 2023, and were followed in the autumn with Storm Babet and Storm Ciarán. The thunderstorms were highly localised with intense rainfall, leading to internal flooding and major impacts on infrastructure, road and rail networks. In total, over 80 incidents of internal flooding were reported across the city, with trends suggesting that these extreme flood events will become more common and more frequent.*

## Chapter 2: The Council's Greenhouse Gas Emissions

We are committed to delivering net zero, and we must demonstrate leadership in tackling our organisation's emissions, as well as those of the city. Building upon previous greenhouse gas accounting work we have had commissioned, we have developed our Route to Net Zero team's capability to report on our greenhouse gas emissions annually. The following section describes our approach to calculating our emissions, what they were for the 2022/23 financial year, and the steps we are taking to tackle these emissions.

### The Council's Approach to Greenhouse Gas Accounting

Greenhouse Gas (GHG) accounting is how organisations quantify their greenhouse gas emissions<sup>1</sup>, and because these emissions are usually presented as CO<sub>2</sub> equivalents (CO<sub>2</sub>e), based on their global warming potential, their emissions are often referred to as an organisation's carbon footprint. The [Greenhouse Gas \(GHG\) Protocol](#) reporting standards are the world's most widely used greenhouse gas accounting standards and provide the requirements and guidance for organisations preparing and calculating their greenhouse gas emissions. In adopting these standards we categorise our emissions into three scopes:

- **Scope 1:** the direct emissions from sources which are owned or controlled by the council, including emissions from the combustion of fossil fuels in council buildings' boilers and vehicles.
- **Scope 2:** the indirect emissions arising from the generation of purchased energy, which includes the emissions caused by council consumption of purchased electricity, heat, steam, and cooling.
- **Scope 3:** the other indirect emissions (not in scope 2) from sources that the council does not own or control, such as those from the procurement of goods and services, and its leased assets.

While the council has control over its direct emissions, it has influence over its indirect emissions, and we have defined our organisational boundary for GHG accounting purposes using the 'Operational Control' approach. We have calculated our emissions using the UK Government Conversion Factors for greenhouse gas (GHG) reporting. These emissions factors are updated annually and more information on how these are generated and can be applied is available on the [Department for Energy Security and Net Zero website](#).

### The Council's Greenhouse Gas Emissions

The following sections outline our scope 1, 2 and 3 emissions for the 2022/23 financial year. Whilst we have been able to quantify our scope 1 & 2 emissions, this hasn't been possible for our scope 3 emissions. This is because the activities which contribute to our scope 1 & 2 emissions fall under our immediate control and accessing timely and good quality data on these activities is relatively straightforward. However, the activities which contribute to our scope 3 emissions fall outside of our immediate control and are often shared with third parties (e.g., suppliers) making it much more difficult to obtain and quantify high quality emissions data. Nevertheless, we have been able to conduct a high-level screening of our scope 3 emissions, and in addition to taking steps to improve the availability and quality of our scope 3 activities, we have also identified some initial priorities and are commencing activities to tackle these emissions.

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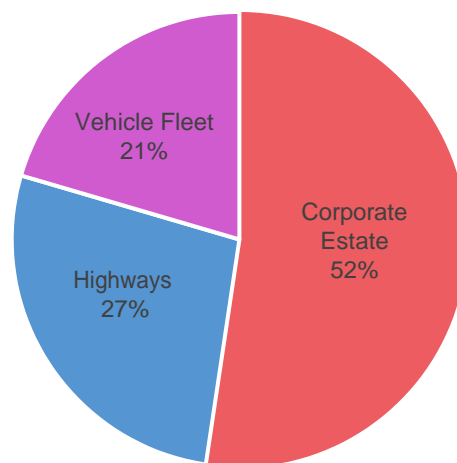
<sup>1</sup>These emissions usually include all six greenhouse gases covered by the Kyoto Protocol - carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>).

## The Council's Scope 1 & 2 Greenhouse Gas Emissions

Birmingham City Council's scope 1 and 2 emissions during the 2022/23 financial year were approximately 40,000 tCO<sub>2</sub>e - with roughly 52% arising from our corporate estate (our buildings), 27% arising from Highways (primarily streetlighting), and the remaining 21% arising from our fleet vehicles (primarily bin lorries).

Approximately 50% of the emissions are scope 1, arising from the combustion of fossil fuels, primary gas in our buildings and diesel in our fleet vehicles, whereas the remaining 50% are scope 2, arising from the consumption of electricity by our buildings and the city's streetlights.

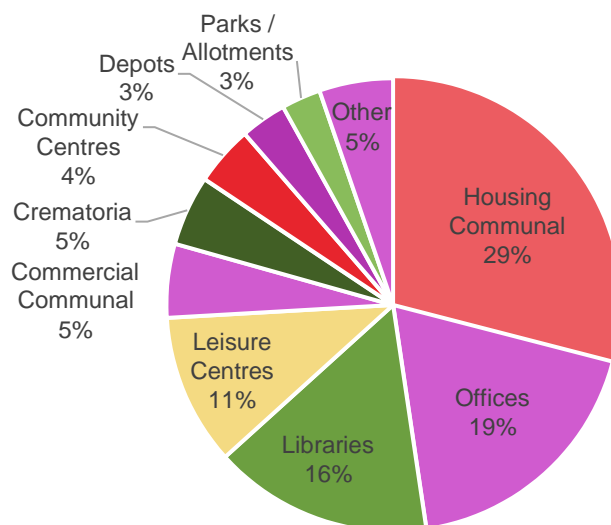
**Figure 1. The Council's Scope 1 & 2 GHG Emissions**



### Corporate Estate

Our corporate estate emissions account for roughly 52% of our scope 1 & 2 emissions. These emissions arise from across our estate including communal areas in our council houses and commercial estate (e.g., hallways, stairwells & lifts), and our offices, libraries, leisure centres, crematoria, depots, and parks.

**Figure 2. The Council's Corporate Estate Scope 1 & 2 GHG Emissions by Source**





We are taking several actions to reduce our corporate estate emissions, including improving the energy efficiency of our buildings, reducing our reliance on gas boilers for space heating, and exploring options to source high quality renewable electricity.

Managing our Corporate Estate - Corporate Landlord:

Our operational and community estate comprises of over 700 assets, and the management of most of these assets is currently disaggregated across the council. Our Corporate Landlord programme will create a single heavily rationalised and more optimum asset profile in parallel with the establishment of a dedicated corporate custodian service across all Birmingham City Council's operational and community- serving properties, transitioning the currently disaggregated portfolio into a centralised strategic function which is fully aligned to, and supportive of, the council's overarching objectives, including the delivery of Net Zero. The creation of the Corporate Landlord function is a significant evolution in the management of the council's corporate estate and represents a huge opportunity to embed a consistent approach to net zero at the heart of our asset management. The Route to Net Zero team will support the corporate landlord to inform and shape future asset strategy, ensuring it is net zero aligned, and provide technical and advisory support to guide estate energy management and decarbonisation approaches as well as assisting in the realisation of energy related efficiencies in the form of revenue savings.

Procurement of Green Electricity

The consumption of electricity by our corporate estate and streetlighting accounts for 50% of the council's scope 1 & 2 emissions. Whilst we continue to explore opportunities to improve the energy efficiency and reduce the energy consumption across our corporate estate, we are also taking steps to reduce the impact of the energy we consume through a more centralised management approach to operational assets (inclusive of ensuring energy consumption is minimised as a key asset management activity) but also through accelerated asset rationalisation and a significant overall reduction in the size of the estate. We currently source our electricity from solar, wind and hydro/wave technologies, and it is supplied with Renewable Energy Guarantees of Origin (REGOs) certificates. However, whilst this means we can technically report zero greenhouse gas electricity under the GHG Protocol Standards (scope 2), we have chosen not to, because the REGOs which accompany the electricity are 'unbundled'<sup>2</sup> and this doesn't align with our priority to source renewable energy directly from providers and drive investment in renewable energy sources where we can demonstrate it is also cost effective to do so. To do this we are exploring alternative energy and energy procurement solutions for the council, which may include specific energy purchasing strategies with conditions around renewable energy projects and investigating the role of time-based certification systems, so our energy demand is matched – to the greatest extent possible – with renewable electricity generated during those hours of demand.

Highways & Streetlighting

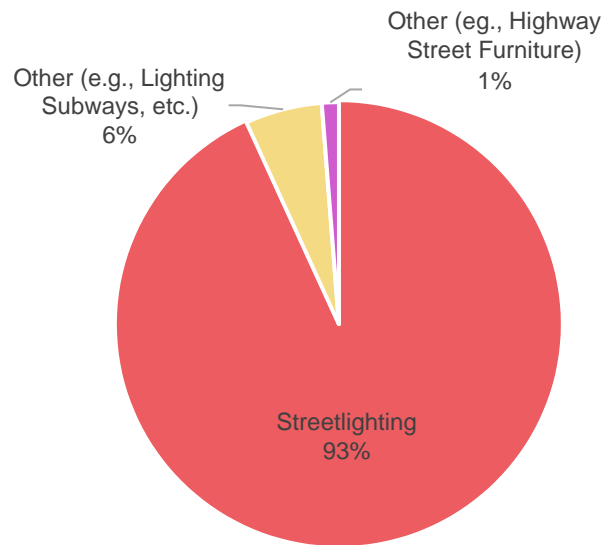
Birmingham's highway network includes 2,500km of roads, ~100,024 streetlights (116,420 lamps), and over 850 highway structures, such as bridges and subways, across the city. The electricity consumed by our highways accounts for roughly 27% of scope 1 and 2 emissions (their electricity

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<sup>2</sup> Renewable Energy Guarantees of Origin (REGO) certificates are issued by Office of Gas and Electricity Markets (Ofgem) to renewable electricity generators to certify that one megawatt hour of electricity was generated from a renewable source. However, these certificates can be sold independently from the power ('unbundled'), creating a secondary market for which mean that some suppliers can source their electricity from fossil fuels and then buy unbundled REGOs to claim that their tariff is green. This does not support the development of new renewable projects, nor does it reflect the true emission footprint of the electricity supply.

usage only contributes to our scope 2 emissions), and streetlights are responsible for 93% of these emissions, with subways and other street furniture making up the remaining 7%.

**Figure 3. The Council’s Highways Scope 1 & 2 GHG Emissions by Source**

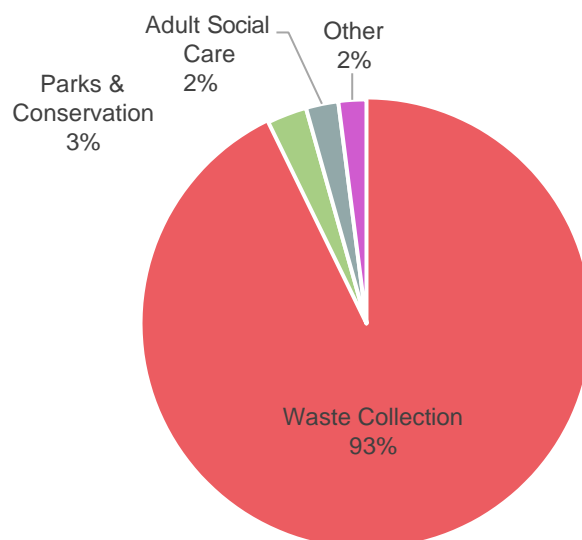


We have, through our Highways PFI contract, replaced 54,345 (47%) of our inefficient sodium lamps with more efficient LED lamps. Our streetlights are also controlled by a Central Management System (CMS) which enables the council to ‘dim’ the intensity of, and ‘trim’ the operational hours of individual streetlights, where it is safe and acceptable to do so, which will help reduce energy consumption further, and provide additional benefits, such as reducing light pollution and minimising the impact of streetlights on nature and biodiversity. We are also exploring alternative energy products, as described in the ‘Procuring Renewable Energy’ section above.

#### Fleet Vehicles

Our fleet vehicles account for roughly 21% of our scope 1 & 2 emissions, and this is primarily driven by the consumption of diesel by these vehicles. The emissions arising from our waste collection vehicles (i.e., bin lorries) make up over 93% of our total fleet vehicle emissions, with emissions from other fleet vehicle users (e.g., Parks & Conservation, and Adult Social Care) making a much smaller contribution.

**Figure 4. The Council’s Fleet Vehicles Scope 1 & 2 GHG Emissions by Source**



We are taking several actions to improve our understanding and tackle these emissions, including:

#### Fleet Vehicle Working Group:

We are establishing a Fleet Vehicle Working Group comprising of fleet operators from across the council to better understand and manage our fleet vehicles and coordinate actions to tackle our fleet vehicle emissions. This group will support activities and help coordinate actions to start decarbonising our fleet vehicles, mainly by replacing petrol or diesel vehicles, and some plant machinery, with electric alternatives. However, replacing vehicles may not always be possible because electric alternatives may not be available or affordable, particularly for larger vehicles with diesel engines, and we will need to plan our approach and future funding strategy to address these challenges. The group will also consider the additional infrastructure required (e.g., charging points) to support the transition to electric vehicles and funding for the replacement of fleet vehicles.

#### Waste Collection Vehicle Fleet:

We are taking several steps to reduce the emissions arising from our waste collection vehicles as they collect waste from across the city. We continue to refine our collections routes to reduce our fleet vehicle mileage, which saves fuel and money, and reduces emissions and vehicle traffic across the city. In light of new [UK Environment Act 2021](#) (the 'Act') we are taking steps to optimise our waste collection service to ensure it delivers value for money for the city and achieves high waste recycling rates through increased segregation of waste at source. These activities will support the delivery of our net zero outcomes and provide additional downstream benefits through reducing waste processing and treatment impacts.

#### The Council's Scope 3 Emissions

Our scope 3 emissions are much more difficult to determine, because they occur up and down our supply chains, fall outside of our immediate control, and are often shared with other parties (e.g., contractors and suppliers). This makes gathering data on these activities much more challenging, and whilst we are currently unable to provide accurate figures for all our scope 3 emissions, we are taking steps to improve our data and hope to publish accurate scope 3 emissions data in the future.

However, we have used the [GHG Protocol Corporate Value Chain \(Scope 3\) Standard](#) to screen our scope 3 emission sources and estimated the potential scale of these emissions. This preliminary analysis suggests our scope 3 emissions are significantly greater than our scope 1 & 2 emissions and are dominated by three activities: procurement of goods and services (the products and services we purchase to deliver our services); council housing (which we use to provide homes for our citizens); and the energy from waste plant (which we use to manage our citizens' / city's waste).

#### Procurement

With an annual spend just over £2bn we have estimated that the council's procurement of goods and services are one of council's greatest sources of scope 3 greenhouse gas emissions. This is common for most public (and many private) sector organisations. Tackling these GHG emissions is a huge challenge, but also a huge opportunity because we have the scale and influence to drive net zero and sustainability through the council's procurement and commissioning supply chain, encourage greater co-operation and deliver better outcomes for the council, the city and the wider region.

To tackle our supply chain emissions, we are building upon our previous procurement activities, and have partnered with Solihull Metropolitan Borough Council to secure £290k [UK Shared Prosperity Funding](#) to create a new 100% grant funded 'Net Zero Procurement & Supply Chain' team. This team

will span both councils and will: lead activities to improve the councils' understanding of their procurement spend profile and GHG emissions; engage with our suppliers about their net zero commitments, activities and performance; deliver targeted support for our suppliers (particularly Small and Medium Enterprises (SMEs) with the transition to net zero; and, review and make recommendations to refresh our procurement policies and frameworks, ensuring they facilitate net zero delivery and our wider climate emergency priorities.

#### Council Housing

Birmingham City Council is one of the largest landlords in Europe, with a stock profile of just under 60,000 properties. Preliminary analysis suggests that the emissions arising from the energy consumed heating and lighting these properties makes a significant contribution to the council's scope 3 emissions. Our council houses represent 13% of the city's total homes (453,980 in 2023) and maximising the opportunities to improve the energy performance of our council housing is a key priority. We are taking the following steps to improve our understanding of council housing energy consumption and start improving energy performance:

#### Council Stock - Boiler Replacement Programme

During 2023 we have continued our programme of hot water system replacement in residential tower blocks across the city. This project replaces poorly heated and insulated direct electric hot water tanks with [Mixergy's](#) direct electric smart hot water cylinders, which reduces the risk of legionella and consumes less energy, reducing the running costs for tenants and producing lower carbon emissions. Where the technology can be deployed alongside a solar PV system, the Mixergy tank supports the government's target for social housing providers to attain the minimum rating of Energy Performance Certificate (EPC) C for rented properties by 2035 (2030 for 'fuel poor' households). The installation of the Mixergy smart direct electric tanks reduce average daily energy consumption for hot water by half (from 12kWh/day to 6 kWh/day), which equates to saving of 0.4 tCO<sub>2</sub> per annum per home. A total of 425 units have been installed to date saving ~170 tCO<sub>2</sub> per annum.

#### Sustainable Warmth Competition

The [Sustainable Warmth Competition](#) (SWC) awards funding to Local Authorities to help them upgrade energy inefficient homes of low income households in England. Physical installations (under Local Authority Delivery Phase 3 – LADS3) on the SWC project closed at the end of September 2023. The Council has delivered energy efficiency measures to 650 homes with the support of local community groups including the [MECC Trust](#) and [Acocks Greener](#). Over 1,500 measures were installed – including wall insulation, loft insulation, windows, doors, ventilation and solar panels - leading to warmer, less draughty homes for 650 families this winter. As a project team we have learnt many lessons which will ensure improved delivery of future retrofit projects. The final step is for the project to register all properties under the [PAS](#) process, which is being completed by Dodd Group (contractor) with good progress. As part of the scheme, 896kWp of solar power has been installed which is expected to produce around 722,600kWh a year. Our collaboration on Retrofit involving 26 local partner organisations in Balsall Heath has won the ["Built Environment - Smarter Transformation"](#) ["Built Environment - Smarter Transformation"](#) award for Collaboration in the [Accelerate to Net Zero Awards](#). The MECC trust have also been recognised for their retrofit

collaboration, winning the [Unlock Net Zero Climate Champions' Power List](#) award. This is estimated to save ~183 tCO<sub>2</sub> per year.



Social Housing Decarbonisation Fund

The government's [Social Housing Decarbonisation Fund](#) (SHDF) provides grants for public sector bodies to fund decarbonisation and energy efficiency measures and improve the energy performance of social homes in England. [The Council has been successful in securing £24.8m of to improve the energy efficiency of 2,076 council homes from SHDF phase 3](#). This work will include the Whole House Retrofit in Bromford which is underway (more details in the following section). To support the delivery of this package of works, focus is being placed on tenant engagement to increase the uptake of interventions.

Bromford Housing Retrofit: Whole House Retrofit Pilot

The [Whole House Retrofit \(WHR\) Pilot was approved by Cabinet in July 2022](#) and commits the investment of £25.986m capital and £2.203m revenue over a 30-year term to retrofit 300 Housing Revenue Account (HRA) Council properties in Bromford, East Birmingham. The pilot is testing two different approaches to improve thermal efficiency, reduce carbon emissions and improve tenants' energy demand usage and with a view to scaling up the delivery of whole house retrofit across the council's wider HRA stock. A core principle for the pilot is to apply an incremental learning approach to retrofit works without committing the council to unaffordable levels of borrowing.

The Pilot will deliver the following outcomes: 174 low rise flats – 330 tCO<sub>2</sub> savings per annum across the project, space heating demand per property to be reduced to between 30-80kwh/m<sup>2</sup> and reduced tenant energy usage; and 126 cross wall homes – 270 tCO<sub>2</sub> savings per annum across the project, space heating demand per property to be reduced to between 50-70kwh/m<sup>2</sup> and reduced tenant energy usage. The project has made the following progress:

#### **Low Rise Flats**

- Works have now commenced on 10 blocks.
- Roofing, window and PV works are complete for blocks 1-3.
- External wall insulation is being applied to blocks 1-3.
- Roofing, window and PV works commence on blocks 4-6.





### Cross Wall Homes

- Scaffolding has been removed from the initial 10 properties, and external brick cladding installed.
- 30 properties now open with scaffolding in situ on 17 properties.
- 15 roofs completed.
- External wall insulation is being applied to 9 properties.
- Doors installed to 9 properties.
- Ventilation installed to 40 properties.



Since works commenced on site for the first set of properties in March 2023 several design changes have resulted in an extension to the programme plan. There have been lessons learnt on the project around the installation of solar PV – as many of the homes have had to have additional works undertaken to brace roofs and joists to take the additional load. The low-rise flats timeline has been extended 4 months from 31 May 2024 to 10 Sept 2024 and cross wall homes have been extended 2 months from 31 Jan 2024 to 31 March 2024.

New Build Social Housing – Birmingham Municipal Housing Trust (BMHT)

[Birmingham Municipal Housing Trust \(BMHT\)](#), Birmingham City Council’s housebuilding arm has taken forward a new housing scheme at Gressel Lane.

Gressel Lane - BMHT Energy Saving Technologies Pilot

BMHT have worked with partners to construct a pilot housing development of 36 units in [Gressel Lane, Shard End](#). The council applied for and secured [European Regional Development Fund \(ERDF\)](#) funding on this scheme to part fund 30 of 36, units on the site, which enabled the installation of an array of renewable technologies, which will be subject to a 12 month post occupancy monitoring period which will assist in informing the BMHT house building Specification. A design team has been

in place over the past 3 years to support the preparation of the planning application, detailed design and installation on site. Significant progress has been made on the project in the last 12 months and the installation of all the ERDF funded technologies was completed in June 2023. The properties were then audited and successfully passed the ERDF funding checks.



Practical completion was achieved in November 2023, with all internal council maintenance staff provided with training. Tenants will move in from January 2024. Between January 2024-25, 12 months of post occupancy monitoring will take place, alongside analysis to look for differences in energy savings between the different specifications, which will then be used to inform future BMHT building specifications post 2024.

Learning from this scheme will be shared with partners in the city as part of a wider learning piece on bringing forward sustainable housing new housing and will feed in with what other partners have also done, for example Midland Hearts project 80 scheme which has looked at different ways to achieve future homes standard and what this means for residents. This sharing of learning is linked to a wider partnership approach in the delivery of affordable housing in Birmingham going forward.

#### Energy from Waste

The [Tyseley Energy Recovery Facility \(ERF\)](#) was built in 1996 and is operated by Veolia, under an integrated waste management contract with Birmingham City Council, to manage the domestic waste arising from the city of Birmingham. The ERF processes approximately 350,000 tonnes of waste produced by the city annually and burns it to produce electricity, of which 25MW is fed into the National Grid, after providing for on-site needs. The facility is a large emitter of carbon dioxide in Birmingham and makes a significant contribution to the council's scope 3 greenhouse gas emissions. Further information on the facility's annual emissions can be found on the UK's [National Atmospheric Emissions Inventory](#) which reports fossil 'carbon dioxide as carbon' equating to 166,458 tCO<sub>2</sub> during 2021<sup>3</sup>. Recent investment in the plant has modernised its operations and the ERF maintains its R1 status, meaning it is classified as an efficient recovery option by the Environment Agency. The current management and future for the Tyseley ERF falls within the wider plans for city decarbonisation, which are discussed and outlined further in the 'City Emissions' section of this report.

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<sup>3</sup>The figure reported on the UK's [National Atmospheric Emissions Inventory](#) is for 'fossil' carbon dioxide only, whereas the UK government's [Pollution Inventory](#) reports a figure of 267,221 tCO<sub>2</sub> as it accounts for both 'fossil' and 'biogenic' carbon dioxide emissions.



### Other Council Scope 3 Emissions

In addition to what we are already doing to tackle our three-priority scope 3 emission described above, we are taking step to tackle other activities which contribute to our scope 3 emissions, and these are elaborated upon briefly below.

#### Commercial Estate

The City Council is the single largest owner of property in Birmingham and holds the largest land estate of any UK local authority, extending to 26,000 acres. The council's Property services provide property opportunities across Birmingham for business tenants, prospective landowners and developers. This is achieved through the management and letting of council-owned commercial land and buildings, including shops, offices, industrial units, warehouses, business parks and car parks. We will take steps to better understand the contribution our commercial property portfolio makes to our scope 3 emissions profile and investigate how we can quantify and start tackling these emissions.

#### Public Sector Decarbonisation Scheme

The government's [Public Sector Decarbonisation Scheme](#) (PSDS) provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures to reduce the emissions from public sector buildings by 75% by 2037, compared to a 2017 baseline, as set out in the 2021 Net Zero and Heat and Buildings strategies. Our most recent submission (October 2023) is to secure funding for the installation of ground source heat pumps at the historic Highbury Hall.

Although not PSDS funded, the [retrofitting of the Dolphin Centre in Ward End](#) was completed and funded by the council, the European Regional Development Fund (ERDF) and the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP).



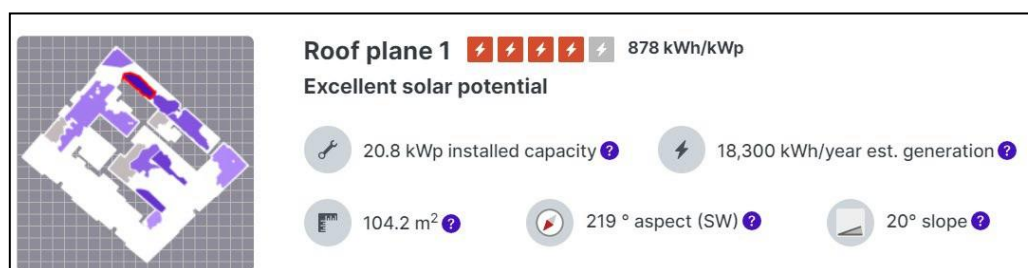
#### Solar Photovoltaics

The Centre for Sustainable Energy (CSE) have analysed the homes in Birmingham which are suitable for solar photovoltaic panels and have identified 15 solar photovoltaic hot spots (groups of streets) which have good energy generation potential. These hot spots have been cross referenced with ['Britain Talks Climate'](#) data to suggest the most effective communication and messaging to use when engaging homeowners. This will help prioritise which hot spots to approach first and present opportunities for the scaled uptake of solar photovoltaic panels. This is the first project of its kind in Birmingham, and it will provide a unique opportunity to engage our community, learn about the intricacies of aggregated solar photovoltaic buying schemes, and understand and address some of the nontechnical barriers to installing community solar photovoltaic systems across the city (e.g., procurement, legal, financial).



The council are also on CSE's advisory committee for the development of their new [Solar Wizard Tool](#), which overlays various datasets and provides users with information on the suitability of their roof for the installation of solar panels. [The tool](#) is free and is available for all Birmingham residents to use.

**Figure 5. Example Output from The Solar Wizard Tool - Centre for Sustainable Energy**



#### Schools

We have been developing climate change support for schools to help them reduce their greenhouse gas emissions and engage and encourage pupils to take action on climate change. As part of this we have met with the climate charity Ashden who are recruiting new [West Midlands Schools' Climate Action Advisors](#) to discuss how best the Council can support their work to decarbonise school assets and activities in Birmingham.

Engaging with schools also presents a great opportunity to encourage and raise awareness of climate change among staff, pupils, and parents. Currently, the Council engages with schools across several different service areas related to climate change like [transport](#), [clean air](#), waste, and the [natural environment](#). Our ambition is to link these different schemes, campaigns, and educational resources together so that teachers and pupils are able to access the help and support the Council provides on climate change-related topics with ease. Overall, we hope that this will help drive climate engagement and awareness in Birmingham's communities.

The Route to Zero team has also been supporting school events, and the Route to Net Zero Assistant Director spoke and facilitated the [UK Schools Climate Assembly](#) at King Edward VI Camp Hill School, and the wider team ran the Birmingham Schools' Model Conference of Parties (COP) event, which included 10 schools, and was hosted in the council chamber.

#### Leisure Centres

The City Council has been awarded £296,550 from phase I of the [Swimming Pool Support Fund - Sport England](#) that will be used to provide revenue support for our swimming pools that are facing utility and chemical cost pressures during 2023/24. The Government's Swimming Pool Support Fund is continuing - Phase II of funding, with a further £40m of government funding dedicated to capital investment to improve the energy efficiency of public facilities with pools in the medium to long term. Birmingham has submitted a bid as part of the phase II round of funding<sup>4</sup>.

<sup>4</sup> Note: whilst council owned and operated leisure centres will fall within our scope 1 & 2 emissions, this funding will also cover some leisure centres which are operated as concessions by third parties and fall within our scope 3 emissions. This is why our leisure centre activities are included in this section of the report.

## Chapter 3: The City of Birmingham's Greenhouse Gas Emissions

In addition to tackling our own emissions, we are also playing a key role in working with stakeholders and citizens across Birmingham and the wider region to tackle our city's greenhouse gas emissions. We are doing this in the following ways: 1) by tackling our own scope 1, 2 and 3 emissions, we will contribute to reducing the city's emissions; 2) by using our 'place shaping powers' and leading activities which will support the decarbonisation of the city, with our ability to influence planning policy, city transportation and district heat networks, being three obvious examples; and, 3) by acting as a convenor, bringing together different city stakeholders to share knowledge, expertise and experience, and explore opportunities to collectively take action to tackle our city's emissions.

To make data on the city's emissions more open, accessible and transparent, and facilitate greater engagement with our city stakeholders, the Route to Net Zero team has collaborated with the council's Insight, Policy & Strategy team to develop a [Climate Change Briefing Book](#). This briefing book, which is available on the [Birmingham City Observatory](#), takes extensive data sets on the city's GHG emissions, housing stock and energy performance, waste management and recycling, transportation, nature & environment, and many other areas, and consolidates and presents the information in a much more engaging and understandable format. Building on the success of the Climate Change Briefing Book we will continue working with the City Observatory to share data, and demonstrate and communicate our city's progress towards net zero - and other outcomes.

The following section of the report provides an overview of our city's emissions, and describes our approach to understanding our city's emissions, and the steps and activities we are taking to tackle these emissions.

### City Territorial & Consumption Greenhouse Gas Emissions

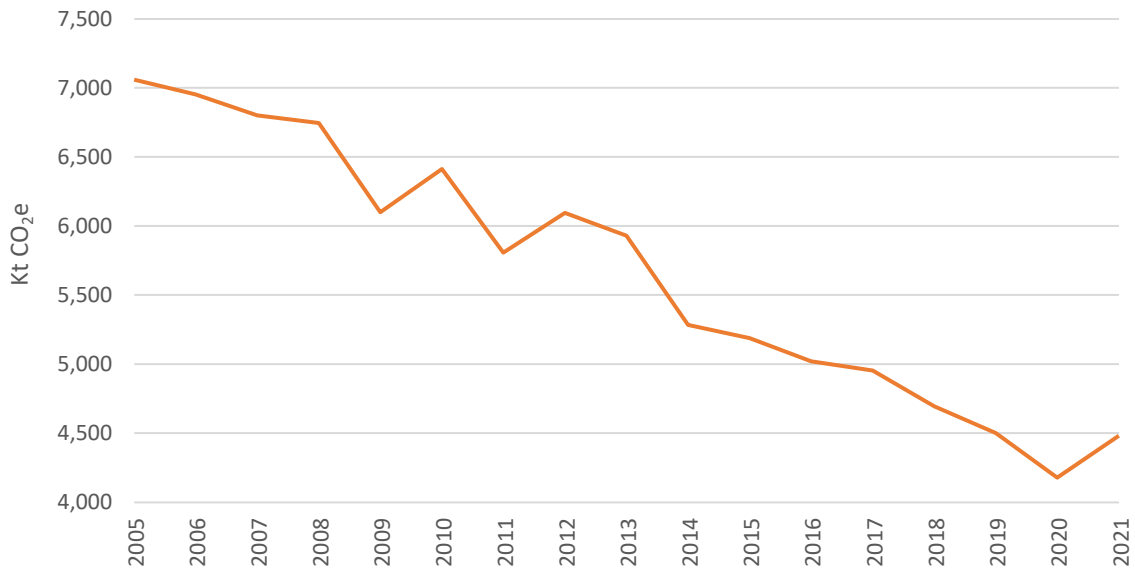
The City's emissions can be categorised and calculated as 'territorial' and 'consumption' emissions. These are complementary approaches, rather than being directly comparable to each other, and both provide useful information to help tackle local GHG emissions. Territorial emissions include all the direct emissions arising from the domestic, industry, commercial, transport and other activities which occur within the city boundary. Consumption emissions take a wider view by including the emissions embodied in the manufactured goods (e.g., appliances, electronics, foods & clothes) and services (e.g., cloud computing and music streaming services), which are imported into and consumed within the city, regardless of where in the world these emissions occur. By measuring our city's consumption emissions alongside our territorial emissions, we are to report a fuller picture of our city's activities and greenhouse gas emissions.

### The City of Birmingham's Territorial Emissions

Birmingham's territorial emissions include all those that are generated from within city's boundary. The Department for Energy Security and Net Zero (DESNZ) publish annual local authority and regional greenhouse gas emissions data on industry, commercial, public sector, domestic, transport, land use, land-use change, and forestry (LULUCF), agriculture and waste activities. These are the most reliable and consistent breakdown of greenhouse gas emissions across the country and show annual emissions from 2005, with the 2023 publication providing data for 2021 emissions: [UK local authority and regional greenhouse gas emissions national statistics](#). As this is the most up to date local authority source of greenhouse gas emissions data, we use this data to track progress in reducing the city's territorial emissions.

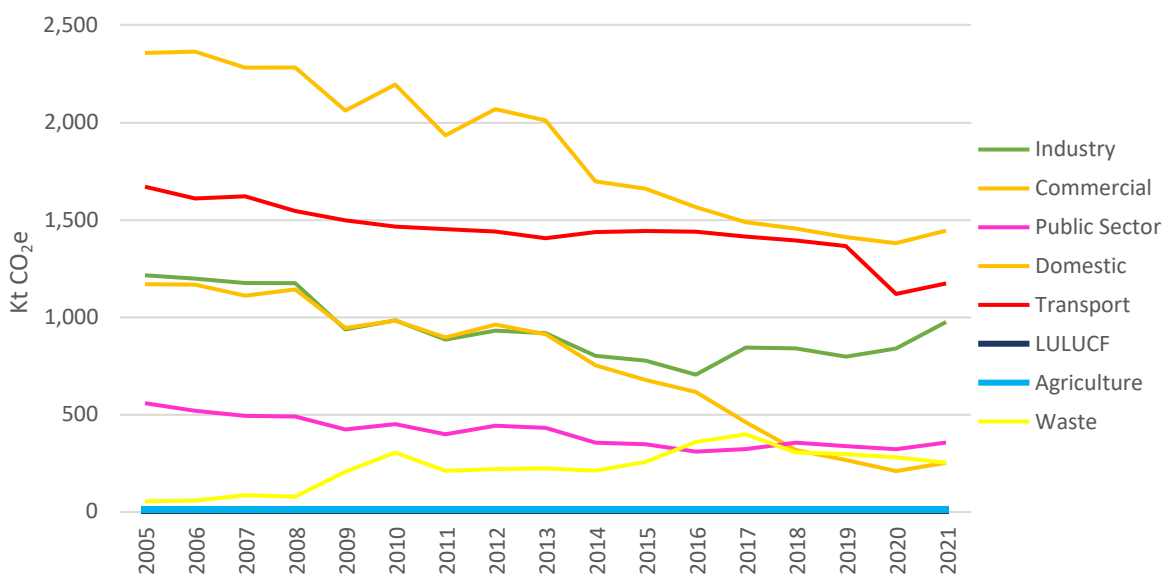
During 2021 the City of Birmingham’s territorial emissions were 4,480 ktCO<sub>2</sub>e. This is a 37% reduction when compared to the city’s 2005 emissions, as shown in ‘Figure 6. City of Birmingham Territorial Greenhouse Gas Emissions, 2005 – 2021’.

**Figure 6. City of Birmingham Territorial Greenhouse Gas Emissions, 2005 - 2021**

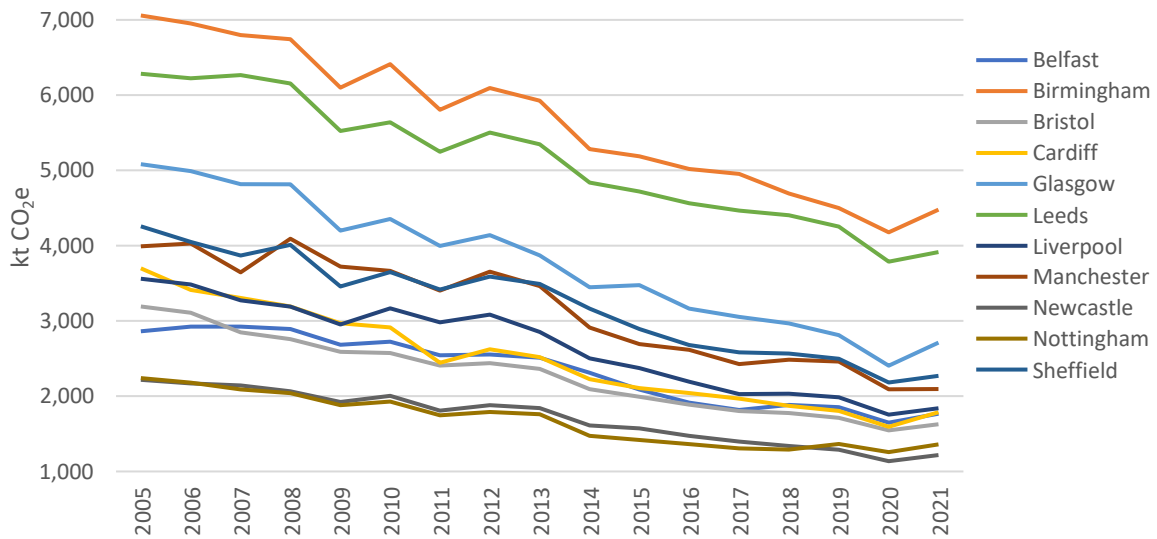


Most sectors within Birmingham have seen a significant reduction in emissions since 2005, as shown in ‘Figure 7. City of Birmingham Territorial Greenhouse Gas Emissions by Sector, 2021’, and this has largely been due to the nation-wide decarbonisation of electricity and would explain why the profiles and trajectories of core cities emissions are broadly similar, as illustrated in ‘Figure 8. Core Cities Total Emissions, 2005 - 2021’.

**Figure 7. City of Birmingham Territorial Greenhouse Gas Emissions by Sector, 2021**

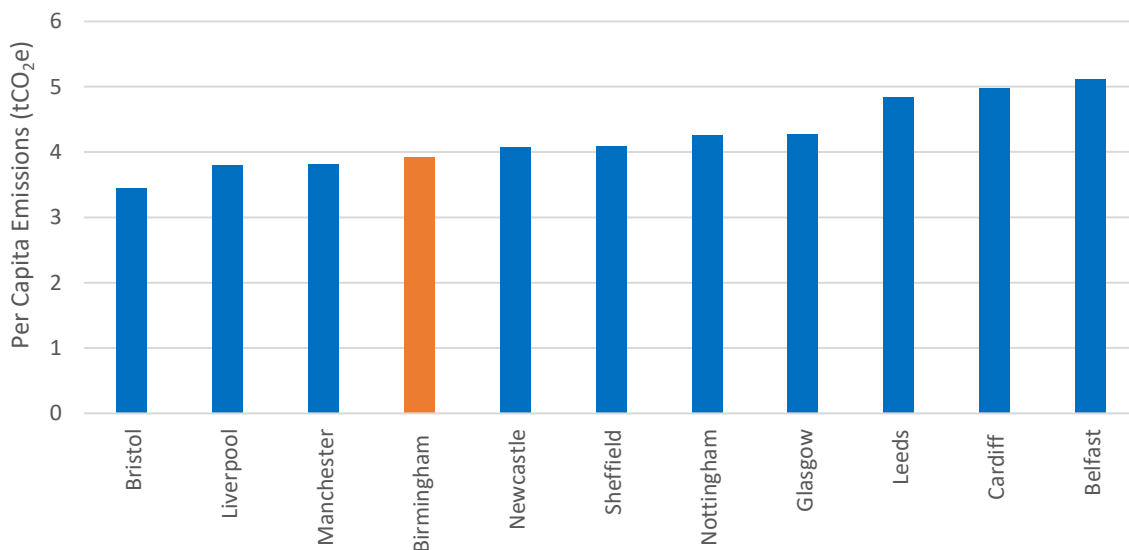


**Figure 8. Core Cities Total Emissions, 2005 - 2021**

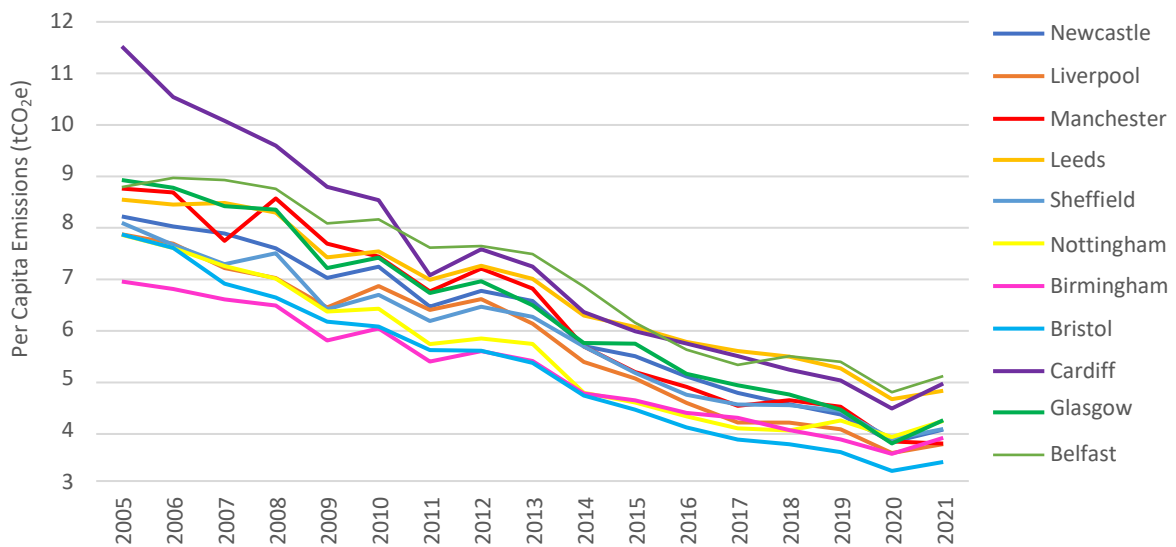


Birmingham’s per capita emissions have reduced by 44%, from 7 tonnes CO<sub>2</sub>e per person in 2005 to 4.3 tonnes CO<sub>2</sub>e per person in 2021. As shown in ‘Figure 9. Core Cities Per Capital Emissions, 2021’, compared to the other core cities, Birmingham (3.92 tCO<sub>2</sub>e) has the 4<sup>th</sup> lowest per capita emissions, after Bristol (3.45 tCO<sub>2</sub>e), Liverpool (3.80 tCO<sub>2</sub>e) and Manchester (3.81 tCO<sub>2</sub>e). The reduction in per capita emission is broadly consistent across the core cities (Figure 9. Core Cities Per Capital Emissions, 2005 - 2021).

**Figure 9. Core Cities Per Capita Emissions, 2021**



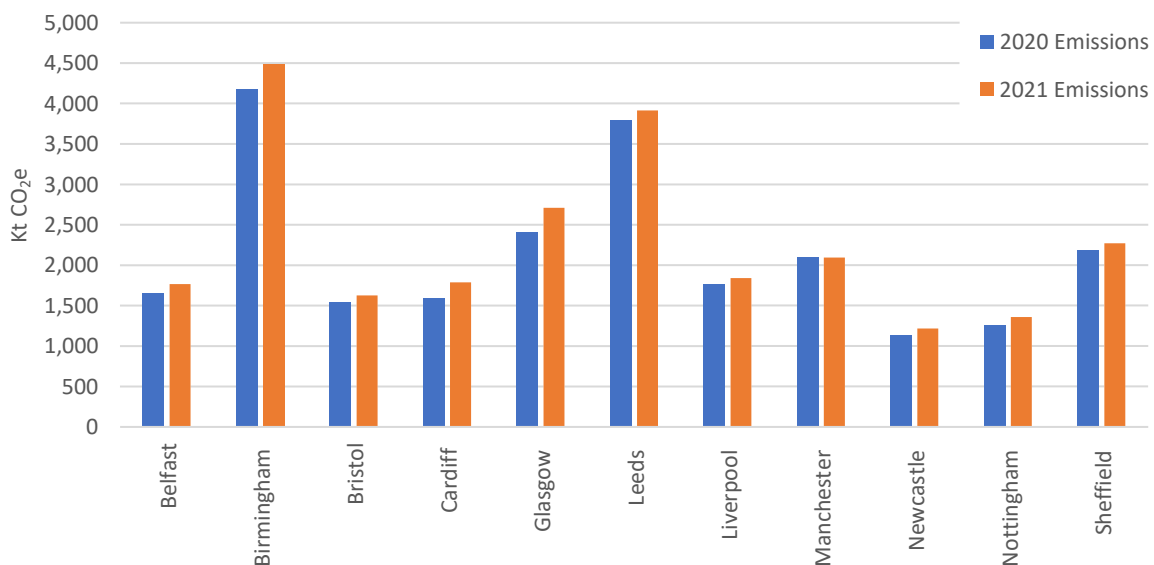
**Figure 10. Core Cities Per Capita Emissions, 2005 – 2021**



However, the City of Birmingham’s territorial emissions in 2021 were up 3.8% when compared to 2020 emissions, and a similar trend is reflected across 358 of the 374 local authorities between 2020 and 2021, and all the core cities (‘Figure 10. Core Cities Total Emissions, 2020 to 2021 Comparison’ and ‘Figure 11. Core Cities Total Emissions, 2020 to 2021 Comparison’).

These increases were due to a large increase in road traffic because of the [easing of restrictions related to the COVID-19 pandemic](#), as people were able to travel more freely for large periods of 2021 compared to 2020, and an increase in emissions from heating buildings due to colder temperatures in 2021. Many authorities also saw a significant increase in commercial emissions as business activity began to rebound, which was also largely due to the easing of COVID-19 pandemic restrictions.

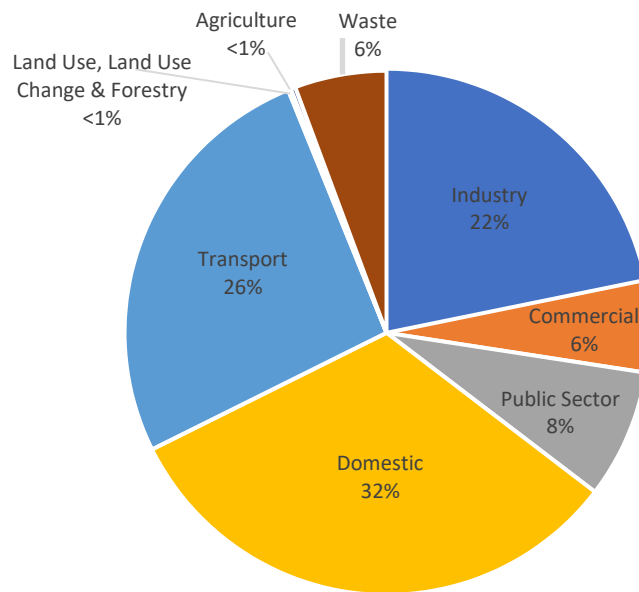
**Figure 11. Core Cities Total Emissions, 2020 to 2021 Comparison**



## Tackling Birmingham City’s Territorial Emissions

The domestic (32%), transport (26%) and industrial (22%) sectors make the greatest contribution to the City of Birmingham’s territorial emissions (Figure 12. City of Birmingham Greenhouse Gas Emissions by Sector, 2021). Whilst the council is not directly responsible for these city emissions, the council does have the ability to influence the emissions arising from buildings, transport systems, waste services and the natural environment, through its place shaping powers and activities.

**Figure 12. City of Birmingham Greenhouse Gas Emissions by Sector, 2021**



The council is also working with and encouraging other city stakeholders to reduce and/or enable emissions reduction, for example through bringing organisations from the public, private and third sectors together to share knowledge, expertise and experience and work towards reducing emissions, and by supporting community groups that wish to take climate action, for example through the development of renewable energy schemes or active travel initiatives.

The following section outlines some of the key actions the council is leading to help shape the city and tackle the city’s emissions, starting with those which will have an impact across many components of the city’s infrastructure and people, and then focusing on actions to tackle specific emission sources.

### Cross Sector City Wide Decarbonisation Enabling Activities

Through the use of our place shaping powers the council is helping influence the design of the city, and the following activities will support, enable and encourage wider city decarbonisation activities across multiple city sectors.

### Birmingham Local Plan Review

The Birmingham Local Plan (BLP) will support city wide decarbonisation across multiple sectors. The [Issues and Options consultation](#) – the first stage of public consultation on the new plan, took place between 24th October and 5th December 2022. The consultation gathered inputs from a wide range of stakeholders on a variety of issues spanning transport, employment, housing and sustainability, and the different policy options for addressing these issues. This feedback was then reviewed to inform the evidence base and the drafting of policies. The council has worked with



[Jacobs](#) to prepare a climate change evidence base for the BLP. This evidence has been used to inform the draft policies. These policies will form our 'preferred options' for our policy direction, which are scheduled to be published for public consultation in June 2024.



#### Decarbonisation of Birmingham District Energy Scheme (BDEC)

[Birmingham District Energy Company \(BDEC\)](#) supplies 40,000 megawatt hours of heat to major energy consumers across the city centre through a 12-kilometre network. The network is currently gas-powered and has ambitions to decarbonise in line with the council's net zero target. However, the capital costs and technical challenges associated with transitioning away from a gas fired system, to a lower temperature renewable technology and heat recovery system, along with the accompanying energy efficiency improvements required for existing buildings, present significant challenges. To support these decarbonisation activities, the Council has secured £200k funding from the Department for Energy, Security & Net Zero [Heat Network Delivery Unit \(HNDU\)](#) to complete a techno-economic study which will support further work on developing commercial, financial and legal management cases and inform the development of a decarbonisation roadmap for the BDEC District Heat Network - including estimated carbon savings.

#### East Birmingham Inclusive Growth Programme

The [East Birmingham Inclusive Growth Programme](#) is a 20-year initiative to bring investment into the area and create strong links between the council and the community. The programme is part of a wider plan for the East Birmingham and North Solihull Growth Corridor, which will establish a [Levelling Up Zone \(LUZ\)](#) stretching from Birmingham city centre to Birmingham Airport, the NEC and what will be the new Arden Cross HS2 Interchange. The zone will also include an [Investment Zone \(IZ\)](#) site, which has [now been approved](#). LUZs and IZs may provide investment opportunities to support the delivery of various projects which are aligned to and support East Birmingham and wider city decarbonisation. Birmingham's Cabinet Member for Environment has also been appointed as the chair of the Tyseley Strategic Alliance which brings together the council, the University of Birmingham and local businesses with a shared aim of establishing Tyseley as the city's Green Energy Innovation Quarter.

#### Tackling Domestic Emissions

Domestic Buildings account for 32% of the greenhouse gas emissions across the City of Birmingham, with most emissions resulting from the burning of gas for space and water heating. We are working

with communities and other partners to maximise access to grants to support energy and carbon emissions reductions and exploring funding and delivery approaches for large scale energy efficiency and renewable energy investment. Alongside this, the council seeks to ensure that development is as energy efficient and low carbon as possible, through the review of our local plan policies and by working with major developers as part of the planning pre-application process to maximise the energy performance of new buildings.

#### Housing Decarbonisation

Housing across the city makes up nearly 40% of emissions. To enable the council to meet net zero ambitions the reduction of carbon emissions from the City's 450,000 homes is essential. This requires a clear, ambitious yet deliverable plan which defines the standards of energy efficiency to be met across existing housing in Birmingham and addresses ways to tackle delivery challenges.

The council has no control of properties in private ownership and can therefore only support residents to access retrofit funding and help to stimulate retrofit demand to make it more accessible. In parallel, we will work with partners to build momentum in other sectors. Initially the work will commence with a clear understanding of the retrofit programme for council owned homes. This will lead to a delivery plan which will support future grant applications and help to attract alternative funding/finance sources.

#### Energy Companies Obligation (ECO4)

[ECO4](#) is a government programme funded by large energy companies which runs from 2022-2026. The programme is aimed at households on means tested benefits and energy inefficient homes. Through the funding, energy efficiency measures such as insulation, solar panels and boilers can be installed where the criteria are met. The council is working with E.ON (without exclusivity) to take a strategic approach to the delivery of ECO4. In the last period, a memorandum of understanding (MoU) has been agreed and the initial focus phases identified. Engagement with local residents commenced in July 2023 and to date four community events have taken place to facilitate sign-ups to the programme. The project will improve efficiency of residents' homes, whilst also reducing the cost of living. The next step is to commence the physical delivery of measures within the applicants' homes. Carbon emission savings will be captured once ECO4 works are in delivery.



## Digitalisation - Housing Retrofit

The council submitted a successful bid to the Social Housing Decarbonisation Fund for retrofit digitalisation, which will see humidity, heat and air quality sensors being installed in homes with the data outputs from the sensors to be used for understanding the performance of measures and how the property is used. Tenant engagement and monitoring is key to gather data for us to use as learning for future retrofit projects. The DIATOMIC project (pg. 37) may inform and support these activities and provide valuable insights on customer housing retrofit journeys. Analysis of the data collected will allow insights into the impact on the measures on the energy efficiency of different housing archetypes as well as supporting long-term management of properties. This information will be used to guide future retrofit work by the Council on its own stock and will be disseminated to other homeowners to inform their decarbonisation strategies.

## Tackling Transport Emissions

In 2021 transport contributed 26% of the City's greenhouse gas emissions. We cannot tackle the climate emergency without fundamental changes to the way people and goods move around our city – and transport can be an enabler of transformational changes. We know that we need to achieve a rapid shift away from single occupancy private car use. The adopted Birmingham Transport Plan, further details on which can be found below, outlines how the city's transport system needs to be transformed to meet the challenges of the next decade.

### Birmingham Transport Plan Delivery Plan

Work on the Birmingham Transport Plan (BTP) Delivery Plan has continued over the last 12 months, with publication scheduled for early 2024. The plan will set out the dramatic decrease in vehicle kilometres travelled required to deliver transport decarbonisation in Birmingham. The Delivery Plan includes:

- Adoption of targets that reflect the pace and scale of change required.
- Development of a spatial strategy and identification of packages of transport and demand management interventions to transform different geographies in the city across travel corridors, local centres, neighbourhoods and the city centre.
- Focus on the wider contextual changes (e.g., national policy) that need to take place for the BTP Delivery Plan to succeed.

To provide consistent guidance across the city, the Delivery Plan provides a toolkit that identifies what types of interventions should be implemented in different types of areas. The Delivery Plan explores how different packages of interventions can help achieve the BTP's objectives and targets, and proposes a bold, preferred option that can help transform the city into the next decade and beyond.

Associated with the Delivery Plan, several transport interventions have been implemented during 2023, which are helping to reduce the city's transport emissions, and include:

- Ongoing delivery of Transportation & Highways programme focussed on delivering infrastructure changes to promote sustainable modes of travel – including the delivery of active travel schemes. Some specific projects are showcased below.
- Programmes of travel demand management initiatives focused on schools (including Car Free School Streets) and workplaces.
- Business case development and design for the City Region Sustainable Transport Settlement schemes in Birmingham and wider across the Combined Authority.

- Updating of the BCC Travel Plan including consideration travel by elected members and BCC staff.
- Wider transport initiatives across the Combined Authority including rail, Metro, and bus investment as well as progression of the statutory WMCA Local Transport Plan

#### Dudley Road Transport Improvements:

Significant progress has been made on delivery of the Dudley Road project. The project aims to significantly improve facilities for people walking and cycling, provide new bus lanes and reduce traffic congestion through junctions in an area with significant investment in new homes. This year's progress has included the completion of new sections of cycle route and the installation of a new pedestrian and cycle bridge over the canal.



#### Clean Air Zone:

The Clean Air Zone (CAZ) was set up to improve the city's air quality which is directly and indirectly impacting the health of people living and working in our city. Whilst the CAZ's primary objective is to improve air quality, it is also a driver of change within the Birmingham Transport Strategy and influences transport carbon emissions. The CAZ is part of the council's [Brum Breathes Clean Air Strategy](#), which sets out an ambition to provide everyone in the city with clean air. The strategy also provides several pledges and a framework to help guide decision making (see case study below).





### Case Study: Schools Air Quality Monitoring

Birmingham's Clean Air Strategy includes a pledge to improve air quality monitoring at schools across the city. The first phase of the project is nearing completion and has been successful in installing 69 sensors in schools across the city. The sensors are supplied by Airly and monitor for a range of pollutants including Nitrogen Dioxide and Particulate, the results are in real-time and can be viewed at [Air Quality Map - Check air pollution in your area - MyAirly](#). The project aims to increase the understanding of the air quality around schools and to engage students, teachers and the wider public how positive behaviour change can help improve air quality.



Progress towards the improving the city's air quality is monitored and the data published regularly through the [Brum Breathes](#) website and the annual [Clean Air Zone progress report](#). Since the Clean Air Zone began operation in 2021, the percentage of the most polluting vehicles entering the city has dropped (from just over 15% in June 2021 to 5.8% in August 2023). There has also been a reduction in the daily average number of unique non-compliant vehicles from 14,873 (June 2021) to 5,842 (August 2023). These changes have reduced the levels of nitrogen dioxide. The success of the CAZ has seen [Cabinet support the expansion of the existing vehicle scrappage and mobility credit schemes](#) to residents living within the CAZ. This follows the end of the two-year exemption from the daily fee for residents in the Zone.

### Electric Vehicle Charging Points and EV Strategy:

There have been 828 charge points installed across the city, and 199 of these are rapid charge points (50kw-250kws - enabling a full charge in less than 30 mins), which is 71% of the 280 required to meet our 2025 commitment, as detailed on page 40 of our [EV Strategy](#). The uptake of EVs has been slower than anticipated across the UK (EVs represents 6% of all vehicles in Birmingham), and this is not likely to be helped by the UK government's recent decision to delay the ban on sale of new petrol and diesel cars from 2030 to 2035. The overall number of charge points required for the city will depend on the scale of the change in people's travel behaviours, moving away from using private cars towards adopting more sustainable modes of travel, in line with the [Birmingham Transport Plan](#). The EV Strategy modelled the need for at least 40% modal shift in Birmingham by 2032 as an interim step towards achieving the central government's 2050 net zero targets.



The Residential charge point strategy, is currently being developed which will set out the priorities for local community on-street charge point solutions where there is little or no off-street parking – roughly 30% of Birmingham’s households. Focus is on these areas, and particularly those with limited or no access to public transport, where there is more reliance on the need for private vehicles. The Council has secured £1m ORCs (Off Street Residential Charge Point scheme) funding and are in the process of procuring charge point providers to install 404 residential charge points (5kw-7kw), which will be piloted across residential various locations lacking off street parking. Further funding is being sourced through the LEVI (Local EV infrastructure) £14m funding allocation in collaboration with West Midlands Combined Authority (WMCA) partners.



Hydrogen Bus Pilot:

As part of the ‘Clean Air Hydrogen Bus’ pilot programme Birmingham’s first fleet of 20 double decker hydrogen buses have been fully deployed onto commercial bus routes across the city since August 2023. This is a significant step in decarbonising our public transportation systems. However, the operational availability and reliability of hydrogen fuel supply has been challenging, and work is ongoing with hydrogen fuel providers to review the range of ‘green’ & ‘blue’ products available across the hydrogen production/distribution market.



Tackling Industrial, Commercial & Public Sector Emissions

Data from 2021 shows that industrial (22%), commercial (6%) and public sector (8%) activities make a significant contribution to the city’s territorial greenhouse gas emissions. The council has a role to play in working with businesses and other organisations to support them on their decarbonisation journey.

Heat Decarbonisation

Heat networks are anticipated support significant emissions reductions through the decarbonisation of heating and cooling. Birmingham has been working alongside the Department for Energy Security and Net Zero (DESNZ) in the [Advanced Zoning Programme](#) to identify locations where heat networks present the most cost-effective method of decarbonising heat. Work completed to date has identified the potential for heat networks to support decarbonisation of around 13% of the city’s overall heat demand. Heat Network Zoning legislation is due to be introduced via the Energy Security Bill in 2025. To realise the scale of heat network potential across the City of Birmingham, it is anticipated that the Council will need to play a key enabling role. Supported by DESNZ, we hope to work alongside city stakeholders to identify how to realise this potential and kick start heat network investment.

Net Zero Living - Fast Followers

We have secured [Innovate UK Net Zero Living: Fast Followers](#) funding for a two year project which employs a Net Zero Innovation Delivery Officer (NZIDO) to support small and medium-sized businesses in the Tyseley area on their journey to net zero. The project commenced in July 2023 and the NZIDO is working with the University of Birmingham and Tyseley Energy Park (Webster and

Horsfall) to map existing businesses, carry out net zero audits and complete sustainability diagnostics, and support them to apply for further funding to allow for the implementation of their action plans, e.g., UK Shared Prosperity Fund Net Zero Grant Programme and the West Midlands Grant Programme. Several Community of Practice sessions are being held to identify barriers and opportunities, facilitate knowledge sharing and ensure good practice is maintained.

#### UKSPF - Circular Economy

We have collaborated with the Solihull Metropolitan Borough Council and successfully secured £520k from the [UK Shared Prosperity Fund](#) to procure and deliver tailored circular economy support for small and medium-sized enterprises (SMEs) across the region. The project will run for 15 months from January 2024 and will help SMEs improve their resource and waste efficiency by: providing training to increase their climate literacy and better understand their resource flows; supporting SMEs in mapping their businesses, conducting resource input – output audits and producing resource management action plans; identifying resource reuse opportunities, and providing support for SMEs and tracking/quantifying resource, energy, carbon savings.

#### Tackling Waste Emissions

The management of the city's waste accounts for 5.7% of the city's territorial emissions. Reducing the quantity of waste produced and increasing recycling are key to cutting these waste emissions. Whilst it is difficult to tease out the specific makeup of the city's waste emissions from the DESNZ data, the management of the city's domestic waste is likely to be a significant contributor. The domestic waste arising from the city of Birmingham is managed by [Veolia Environmental Services Birmingham Ltd.](#) who are responsible for operating the city's two major waste transfer stations handling most materials collected via the council-operated kerbside collection schemes, the Tyseley Energy Recovery Facility (ERF) and the five Household Recycling Centres. We are taking steps to increase waste recycling and resource efficiency, and reduce the emissions arising from the collections and treatment of our city's domestic waste.

#### Increasing Waste Recycling and Resource Efficiency

The [UK Environment Act 2021](#) (the 'Act') will influence our city's management of waste through setting a statutory target to cut residual waste produced per person by 50% by 2042, requiring all local authorities to provide households with separate weekly food waste collections from April 2026, and eliminating food waste from landfill by 2030. The increased segregation of waste at source will support the city's resource efficiency ambitions and contribute to emissions reduction and net zero.

#### Waste Processing & Treatment

The Tyseley Energy Recovery Facility (ERF) processes approximate 350,000 tonnes of the city's waste and burns it to produce electricity, of which 25MW is fed into the National Grid, after providing for on-site needs. The energy generated during 2021 was equivalent to powering ~63,000 Birmingham households for 12 months. The waste service recognises the contribution that it can make to the net zero agenda and, in line with the new Waste Strategy that is currently being developed, will focus its efforts on seeking ways to reduce carbon emissions - most pertinently in relation to waste disposal, fleet and waste treatment technologies.

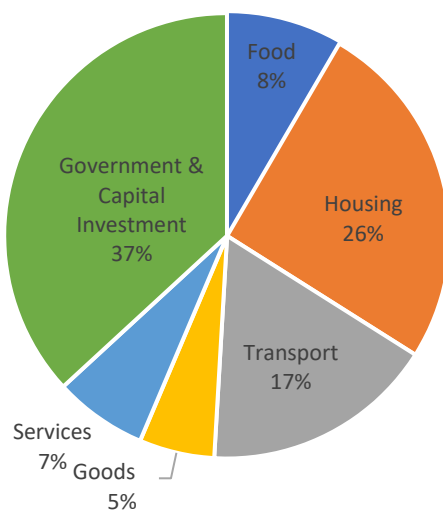


## The City of Birmingham's Consumption Emissions

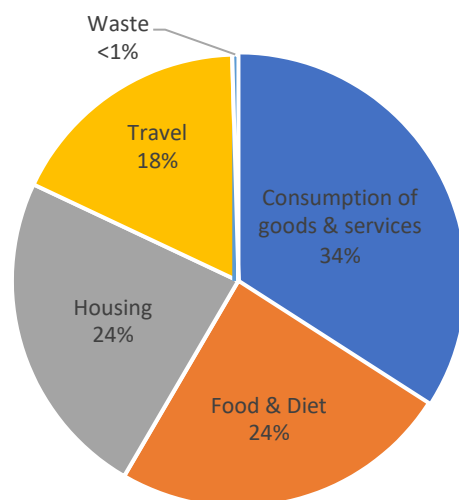
Whilst the role of consumption emissions in delivering net zero are acknowledged, consumption greenhouse accounting is a complex and evolving discipline, with different accounting approaches being developed, which are using different scopes and methodologies, and producing different results. These include, for example:

- [Local Authority Consumption Accounts \(LACA\)](#), which have been developed by University of Leeds and funded by Defra, London Councils and ReLondon, and calculate Birmingham's consumption emissions as ~8,600 ktCO<sub>2</sub>e.
- [Community Carbon Calculator \(Impact\)](#), which was developed by the Centre for Sustainable Energy (CSE) and the Centre for Energy and the Environment at the University of Exeter and calculates Birmingham's consumption emissions as ~6,028 ktCO<sub>2</sub>e.

**Figure 13: Birmingham Consumption - LACA**



**Figure 14: Birmingham Consumption - Impact**



Both tools enable local authorities to calculate and report on their consumption-based emissions and use the information to guide and develop net zero climate policies. For example, the [London Plan](#) includes a pioneering policy that targets the whole life-cycle emissions of new development through '[Circular Economy Statements](#)', and the [London's Food Footprint](#) has been developed to reduce consumption-based emissions and food loss and waste from the supply chain. Birmingham also has an innovative [Food Systems Strategy](#), which is the outcome of three years of collaboration with partners and citizens and sets out the city's ambitious eight-year approach to creating a bold, sustainable, healthy and thriving food system.

Consumption emissions are gaining greater attention and in response the council will review the tools available to calculate consumption emissions and explore how they can be used to calculate and report on our city's consumption related emissions and guide strategies and actions to tackle the city's wider carbon footprint. The council's role, along with the role of other stakeholders, and citizens, in tackling Birmingham's consumption emissions should be guided by these exploratory activities.

## Chapter 4: Natural Environment and Climate Adaptation

In tackling climate change, it is important to recognise the dual importance of both climate change mitigation, and adaptation and nature resilience. Adaptation and nature resilience are important for several reasons, including reducing the risk of flooding, moderating local temperature, reducing pollution and improving soil quality. Trees and other foliage are also a natural form of carbon sequestration.

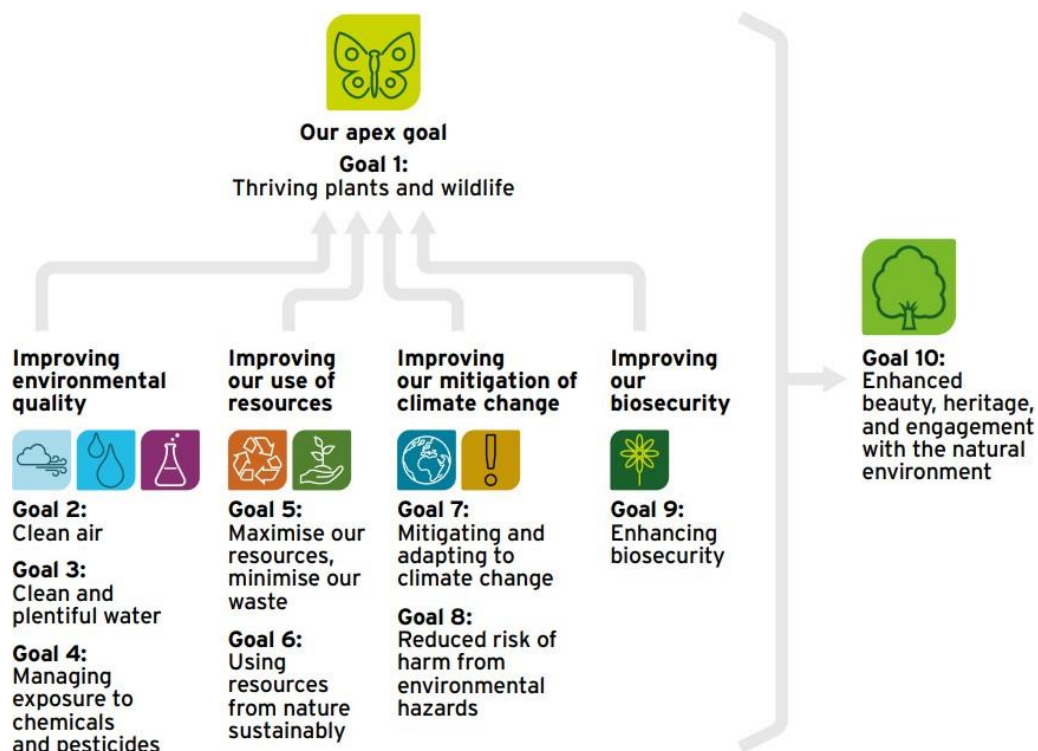
Clear local plan policies are key drivers in accelerating adaptation activity, and we are in the process of reviewing our local plan (pg. 23-24). To support this review, our existing policies and green infrastructure evidence base are being reviewed and refreshed to bring them in line with new and emerging legislation and the increasing focus on data relating to the climate change. These new and revised policy proposals will cover: biodiversity net gain; ecological networks and nature recovery (new); green infrastructure; provision of open space; urban greening factor (new); flood risk management; water quality and resources; and the green belt.

The revised policies and evidence base will support the aims and objectives of the government's Environmental Improvement Plan (2023), the council's green infrastructure strategy The City of Nature 25-year plan, and Our Future City Plan Development Framework.

### Environmental Improvement Plan 2023

The UK Government published the [Environmental Improvement Plan 2023](#) (EIP) in January 2023, which is the first revision to the 25-Year Environment Plan published in 2018. The EIP builds on the 25 Year Environment Plan, with new powers and duties from the Environment Act, Agriculture Act and Fisheries Act, and is a critical pillar in the Government's climate change strategy and sets ten goals intended to stop the decline of nature and to reverse it and presented in figure 15 below.

**Figure 15. Environmental Improvement Plan 2023 Environmental Goals & Their Relationships**



### Local Nature Recovery Network and Biodiversity Net Gain

From 2024, under the mandate set by the Environment Act 2021, all new developments will need to deliver measurable increases in Biodiversity (Biodiversity Net Gain). Local Authorities are required to define their nature recovery network and have identified opportunity sites for the delivery of biodiversity net gain where this cannot be delivered within a development's boundary. As off-site net gains must be funded by developers for a minimum of 30 years, this offers a significant opportunity to secure investment in the council's open spaces and make them more nature rich. Through the Urban Nature Development programme, a Nature Recovery Network has been defined and open spaces within that identified, which consists of 156 sites within the core ecological network and 470 within the primary ecological expansion zone. Work is progressing through a commission with the Birmingham and the Black Country Wildlife Trust to undertake ecological baseline assessments of 18 sites using the national Biodiversity Net Gain metrics and habitat condition assessment to quantify the opportunities to support habitat enhancement. The surveys were completed in October 2023 and the data is being finalised before being input into the DEFRA 4.0 metrics to allow the production of baseline Habitat Unit Values for each site.

### Urban Forest Master Plan

The city's [Urban Forest Master Plan](#) is a strategic document that states the intentions for the green space and natural capital of the city. Sustaining and increasing urban tree canopy cover supports the delivery of essential ecosystem services and provides increased climate adaptation benefits for local communities. Trees sequester carbon, decrease flood risks, and provide shade, which reduces the need for cooling and provides indirect carbon savings. The council partnered with the National Trust, the Woodland Trust and the Community Forest Trust to secure funding from the [Trees Call for Action Fund](#) to establish the Urban Forest Accelerator (UFA) Project. This project provides grant funding (alongside the Urban Nature Development Programme) for the council's Strategic Lead for the Urban Forest and two new members of staff at Birmingham [TreePeople](#). This charity is leading engagement with residents to support tree planting in Nechells and Hodge Hill and has also raised additional funding to deliver tree planting in Highters Heath and Newtown on land owned by the council's Housing Directorate. There are plans to continue expanding engagement to other areas of the city through to September 2024, and work has commenced on developing a 5-year strategic tree planting plan for the city, with consultation on the draft planned for early 2024. The learning outcomes from the UFA project will be shared through a nationally available 'tool kit' and Birmingham TreePeople will continue pursuing funding opportunities.

### City of Nature Plan for Birmingham

The council-backed Birmingham [City of Nature](#) Plan won the Judges' Award at the 2022 [West Midlands National Park \(WMNP\) Awards](#). Grant funding has been secured to deliver the next phase of the City of Nature Plan under a banner of the Urban Nature Development Programme and it is hoped to extend the UND programme to September 2024 to enable closer links to be developed with the Urban Forest Accelerator.

### East Birmingham Inclusive Growth

The [East Birmingham Inclusive Growth Programme](#) is a 20-year initiative to bring investment into the area and create strong links between the council and the community. We have numerous initiatives and activities underway which will enhance the nature and biodiversity of the East Birmingham area, including:

- The Pocket/Pop-up Parks pathfinder project will create of 3-4 pocket parks in East Birmingham and will use UKSPF funding.
- A [UK Shared Prosperity Fund project](#) will deliver improvements to a key green space during late 2023 and early 2024.
- The creation of a 1.8ha new [heathland at Ward End Park](#) combined with a variety of habitat enhancements on the Wash Brook and lake side margins.
- The Tyseley Community Commons project creates common community space, which can be used for outdoor/forest schools, nature trails and area for leisure and physical activities.
- The Ackers Adventure team created a community gardening/urban agriculture site and two areas in the River Cole catchment area to create marshland and meadow areas by the river.
- An East Birmingham Green Infrastructure Master Plan is being produced as part of the UND project (completion Spring 2024), which will identify opportunities and locations for new green infrastructure (GI) as well as locations where changes in management or GI composition will enable the delivery of greater ecosystem services, and health and well-being benefits.



#### Natural Rivers and Green Corridors – Phase 2

2023 saw the completion of the £1.7m [Natural rivers and Green Corridors](#) project that has been funded over the last 4 years through the [European Regional Development Fund – Priority 6 Axis for Biodiversity](#). This programme saw the restoration of watercourses and habitats through the Upper Rea catchment through to Cannon Hill Park. Work included the removal of several weirs, defunct engineered banks and the introduction of more diverse bankside vegetation. The success of this programme has led to securing of additional funds by the Environment Agency to expand the programme to a second phase that will be delivered in partnership with the EA, The Wildlife Trust for Birmingham and the Black Country and the Council through late 2023 into early 2024. This phase two will see the removal of further weirs and reprofiling of water courses to improve ecological connectivity while delivering an element of flood risk alleviation.

#### Flood Alleviation and Defence

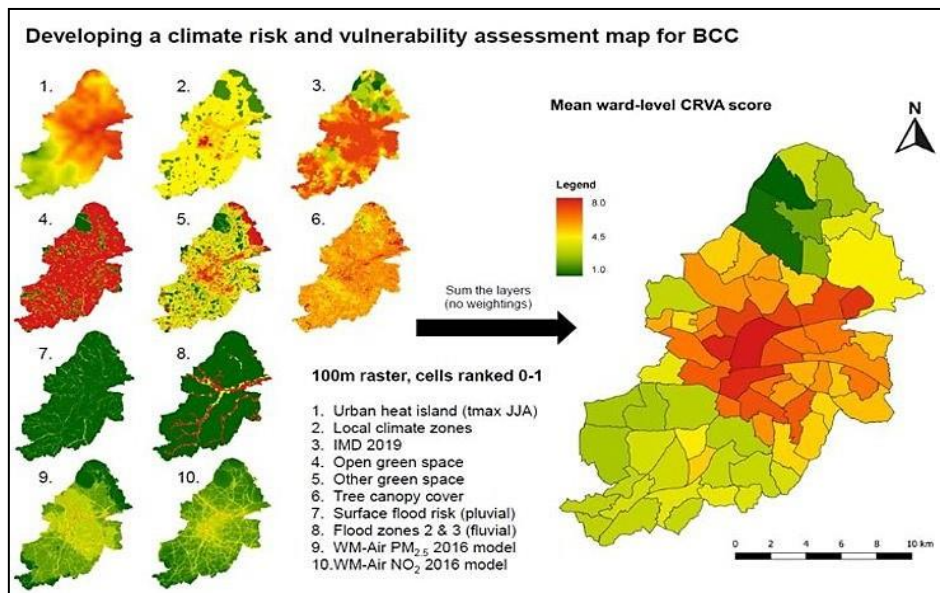
Several other projects have been or are being delivered that primarily deliver flood risk management while additionally delivering biodiversity benefits. An example of this work is new offline flood attenuation storage that was created along the Gressel Brook in Handsworth, which provides significant levels of flood water storage and also created new wet meadow - a key habitat for amphibians and a range of threatened farmland bird species.

At Pebble Mill playing fields, a new flood defence bund is being constructed by the Environment Agency to protect several residential properties from surface water flooding. Work commenced in early autumn of 2023 and is due for completion in early 2024. Once finished, the land surrounding the bund will be restored to species rich meadow with additional tree planting providing a significant biodiversity net gain when compared to the previous short amenity grassland.

### Climate Risk and Vulnerability Assessment

The council’s central Geographic Information System (GIS) team has been working with the University of Birmingham to develop a [Climate Risk and Vulnerability Assessment for Birmingham](#). The council has also been working with the University of Birmingham, in partnership with the UK Met Office, securing £1.2m from the European Horizon bid to explore the use of new satellite derived heat imaging. This work will [guide and improve the development of data driven decision making](#) in relation to the use of nature-based solutions over traditional methods to tackle climate risk and vulnerability.

**Figure 16. Developing a Climate Risk and Vulnerability Assessment for Birmingham**



### Wider City of Nature Engagement

The [Green Champions](#) programme is on-going, with meetings and workshops held face to face and online, recorded for wider dissemination. The network also publishes a monthly newsletter and has an active social media presence. To support its work, Public Health have been developing Daily Mile walking routes in parks and these have already been added to Highgate Park, Bloomsbury Park, Castle Vale Centre Park and Park Hayes Park. Expanding this work further, a “Noticing Nature” mile walk is being developed, pointing out trees and other natural features on the site as was developed in a Dawberry Fields pilot. Work is also underway with GPs on Social Prescribing for fitness in parks.



## Chapter 5: Enabling Activities

The delivery of the council's climate change, nature and net zero activities summarised in the previous three chapters is underpinned by the suite of enabling activities. Effective stakeholder engagement is key enabling activity which is critical to our success. We have run climate change sessions with the city's faith groups, led a net zero session with the [City Partnership Board](#) (sharing information using our [Climate Change Briefing Book](#)) and run supply chain workshops with major contractors – signposting businesses to the [West Midlands Net Zero Business Pledge](#) scheme. Other enablers which facilitate and support programme delivery span everything from having appropriate programme governance and scrutiny of decisions in place, through to the educational, communication, and behaviour change programmes we deliver across the council and the wider city.

### Climate Change, Nature & Net Zero Governance

The council's Climate Change, Nature and Net Zero Programme Board (the 'Board') is comprised of senior representatives from across the council and meets quarterly. The Board is responsible for setting the programme's overall strategic direction, overseeing a structured, cohesive, and coordinated approach to programme delivery, providing assurance, and managing emerging risks and issues. Further oversight is provided by the complementary Climate Change, Nature and Net Zero Advisory Committee, a cross-party group comprising of elected representatives from the city's political parties which also meets quarterly. The Advisory Committee's role is to provide political insight and oversight on the programme's strategic direction, to work collaboratively and provide collective support to support delivery.

### Carbon Disclosure Project Reporting

The council has been declaring its the city's climate change data to the [CDP \(Carbon Disclosure Project\)](#) since 2020, and in 2023 the [city scored an A](#). This is the highest rating available and recognises Birmingham as one of 119 cities across the globe that is taking bold leadership on environmental action and transparency. To achieve an 'A' requires the city, among other actions, to disclose publicly through CDP, produce a city-wide emissions inventory and provide a published climate action plan. Completing a climate risk and vulnerability assessment for the city was another key factor in achieving an 'A' rating.



### Climate Change Engagement Framework and Action Plan

Our draft 'Climate Change Engagement Framework and Action Plan' was written following the input of 85 residents via an online consultation session and outlines the council's approach to climate-related communications, behaviour change, public participation, and partnership working, based on evidence and expert advice. The Framework's Action Plan outlines how to apply the engagement approaches described in the framework, and summarises internal and external engagement activities, some of which are already completed, including the establishment of a 'climate action staff network' and delivering awareness-raising training to officers. The next step will be to undertake further public consultation on the draft framework.



## Environment and Sustainability Assessments

All relevant Council and Cabinet reports are accompanied with an Environment & Sustainability Assessment (ESA), and the ESA process has been developed to ensure that significant proposals are compliant with the council's climate change, nature and net zero carbon commitments. We have completed 90 ESAs in the last year. We have also been reviewing our ESA process and taken steps to refine and improve our ESA templates and produce more comprehensive and detailed accompanying guidance documents. We are piloting the revised ESA process and documentation on a small number of proposals, and we will use the feedback to make further refinements before considering extending the trial.

## Carbon Literacy Training

The [Carbon Literacy Project](#) aims to raise the awareness of the carbon dioxide costs and impacts of everyday activities, and the ability and motivation to reduce emissions, on an individual, community and organisational basis. The council has been delivering '[Carbon Literacy Training for Local Authority Officers](#)' to council staff (which covers the science of climate change, the local and international causes and impacts of climate change, and international, national, and local policy setting), and over 40 officers have received training and have become accredited through the [Carbon Literacy Trust](#). Owing to our success in delivering Carbon Literacy® training to officers we are extending the training to Councillors and Cabinet members.

## Major Events Sustainability

[Birmingham has a bold and proud history of successfully hosting major sporting events](#), which boost our visitor economy and enhance our reputation as a welcoming, diverse and inclusive place to study, live and work. Building on our success in placing sustainable transport at the heart of hosting the Commonwealth Games (CWG), we are encouraging the consideration of sustainability within other events. For example, the council worked with Sport England to ensure the 2023 '[World Trampoline Championships](#)' met the gold standard [ISO 20121: Sustainable Events](#) criteria, and supported the trial of the [Isla TRACE](#) platform to measure and minimise the carbon emissions from live, hybrid and digital events. The council is also working with Sustainability West Midlands to develop the [Sustainable Tourism Hub](#), which provides [free training and advice on sustainability for businesses and tourism](#), and includes [local case studies and information for creating sustainability strategies](#). The council also participated in the [Global Destination Sustainability Index](#) for the first time in 2023, which measures and benchmarks the sustainability performance of tourism destinations, and Birmingham scored 68% in the environment section – against the GDS average of 61%.

## Digital Birmingham

The council is a partner, alongside the Aston University, Birmingham Chambers of Commerce, Birmingham City University and the University of Birmingham, in the [Digital Innovation Transformative Change \(DIATOMIC\)](#) Accelerator project, which will develop innovation capability and capacity to drive growth and prosperity, and position Birmingham as a leading UK city in digital innovation and inclusive innovation. The Connected Places Catapult managed accelerator will nurture Birmingham's innovation ecosystem through tackling four urban challenges (data insights, performance, citizen engagement, and knowledge sharing), and each [participating SME](#) brings a unique solution to the project. The SMEs will receive expert support and the opportunity to access funding for live trials to test their solutions for the city's public services.

## Chapter 6: Summary & Next Steps

The council is making good progress in tackling our own greenhouse gas emissions, working with and supporting the city reduce its emissions, and improving the city's resilience to the impacts of climate change.

The Route to Net Zero team has been bringing together the key teams working on climate change from across the council. We have developed our internal capability to report on our greenhouse gas emissions, and will continue to improve the scope, availability and quality of data on our emissions. We have calculated the council's scope 1 & 2 emissions and screened our scope 3 emissions to identify the council's greatest emissions sources. These emissions are the focus of our decarbonisation efforts, and we are working with the relevant council's directorates, departments and services to identify emissions reductions opportunities. We will report our progress in tackling these emissions annually.

We have also improved our understanding of the city's emissions. The city has achieved a 37% reduction in its territorial emissions since 2005, and whilst these emissions for 2021 increased slightly when compared to 2020 (caused to due to easing of restrictions related to the COVID-19 pandemic and the colder weather), 2021 emissions were lower than the pre-pandemic year of 2019. The council is using its place shaping powers and leading several initiatives, including the Birmingham Local Plan Review, the Birmingham Transport Plan and the City Decarbonisation Delivery Programme to help tackle and reduce the city's territorial emissions.

We have also made good progress in delivering our natural environment and climate adaptation goals. Our review of the local plan's existing policies and green infrastructure evidence base will bring them in line with new and emerging legislation. This will be supported by our collaboration with the University of Birmingham to develop a [Climate Risk and Vulnerability Assessment for Birmingham](#). We have completed the £1.7m Natural rivers and Green Corridors project, secured funding to deliver the next phase of the City of Nature Plan, and the council has partnered with the National Trust, the Woodland Trust and the Community Forest Trust to establish the Urban Forest Accelerator (UFA) Project.

We will continue working with other city stakeholders and our citizens to achieve net zero. Our Climate Change Engagement Framework and Action Plan will guide our work with partners to share knowledge, expertise and experience, and explore opportunities to collectively take action to tackle our city's emissions. We hope the net zero focus of the most recent [City Partnership Board](#) will encourage these activities, and that consumption-based emissions data will provide further insight about our city's emissions, helping to further emphasise the role that our citizens and other organisations can play to supporting the delivery of net zero.

We will build upon our previous successes in securing funding to deliver our climate change, nature and net zero activities, and continue to pursue further funding opportunities. We will also consider how we can do things differently, exploring innovative, efficient and cost-effective means to support outcome delivery, particularly where there are opportunities to support the delivery of multiple other benefits (e.g., easing the cost-of-living crises and enhancing our energy security), and implement these where sensible and practical.

We are excited about the year ahead and look forward to working with our city's stakeholders and citizens in delivering our climate change, nature & net zero programme, reducing our emissions and improving our resilience to climate change, and we will share and celebrate our successes.