CLIMATE CHANGE BRIEFING BOOK: HEADLINE STATISTICS

Birmingham City Council
Date: September 2024

Introduction:

The Climate Change Briefing Book dashboard provides a wealth of data regarding key topics such as emissions, homes and energy performance, transportation, refuse, recycling and waste disposal and environmental justice. The dashboard provides an insight into climate-related topics within Birmingham and how as a city, it compares to other geographical areas such as the English Core Cities. This fact sheet extracts key data points and insights from the Climate Change Briefing Book dashboard.

Emissions[i]:

Greenhouse gas emissions:

Carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O) collectively accounted for an estimated 97% of greenhouse gas emissions in the UK in 2021, with CO2 alone accounting for 80% of all national emissions. Birmingham's estimated greenhouse gas emissions in 2021 were:

Greenhouse gases **4,478.9kt** ▲ 7.3% from 2020		
↙	↓	↘
Carbon dioxide (CO2) **3,863.11kt** ▲ 7.1% from 2020	**Methane (CH4)** **561.57kt** ▲ 9.1% from 2020	**Nitrous oxide (N2O)** **54.22kt** ◀▶ no change from 2020

Birmingham emissions by sector:

- In 2021, the top 3 emissions by sector in Birmingham were:
  - **Domestic**: 1,446.10kt emitted (32.3%), an increase of 4.7% from 1,381.51kt in 2020.
  - **Transport:** 1,174.23kt emitted (26.2%), an increase of 4.9% from 1,119.82kt in 2020.
  - **Industry:** 974.68kt emitted (21.8%), an increase of 16.2% from 838.68kt in 2020.

Comparison of greenhouse gas emissions:

- **English Core Cities –** Birmingham consistently emits the highest number of total greenhouse gas emissions when compared to other English Core Cities. Data for total greenhouse gas emissions in 2021 shows:

Birmingham	Leeds	Sheffield	Manchester	Liverpool	Bristol	Nottingham	Newcastle
4,478.90kt	3,913.87 kt	2,269.78kt	2,095.19kt	1,840.30kt	1,625.42kt	1,358.05kt	1,217.10kt

Air pollution:

- **Fine particulate matter (air pollution)** shows the annual concentration of fine particulate matter at an area level, adjusted to account for population exposure. It has a metric of micrograms per cubic metre (µg/m3).
  - **England average** – 7.4µg/m3
  - **Birmingham average** – 8.3µg/m3. This is the highest value when compared to other English Core Cities.

- **Fraction of mortality attributable to particulate air pollution** shows the fraction of annual all-cause adult mortality attributable to human-made particulate air pollution. It is expressed as a percentage of annual deaths from all causes in those aged 30+.
    - **England average –** 5.5%
    - **Birmingham –** 6.2%. This is the highest value when compared to other English Core Cities.

Homes and Energy Performance[ii]:

Energy Performance Certificates (EPCs) tell you how energy efficient a building is and give it a rating from A (very efficient) to G (inefficient). This tells you how costly it will be to heat and light the property, which will influence the property's carbon dioxide emissions.

Total dwellings 453,395 ↙	↘
A – C rating: **151,248 (33.4% of total dwellings)**	**D – G rating:** **302,147 (66.6% of total dwellings)** *the most amount of dwellings are rated D (185,561) (40.9%).

Energy performance by characteristics:

- For **tenure:**
    - Highest % of A-C rating – **Social Housing** (43.5%)
    - Lowest % of A-C rating – **Owner Occupied** (21.2%)
- For **property type:**
    - Highest % of A-C rating – **Flat** (56.0%)
    - Lowest % of A-C rating – **House** (21.4%)
- For **construction age:**
    - Highest % of A-C rating – **2012 onwards** (94.2%)
    - Lowest % of A-C rating – **Pre-1930** (8.8%)
- For **build type:**
    - Highest % of A-C rating – **Detached** (39.6%)
    - Lowest % of A-C rating – **Semi-detached** (25.8%)
- For properties rated A-C, the highest proportion were in:
    - **Constituency –** Ladywood (56.6%)
    - **Ward –** Ladywood (74.6%)
- For properties rated D-G, the highest proportion were in:
    - **Constituency** – Hodge Hill (78.1%)
    - **Ward –** Small Heath (91.7%)

Fuel poverty:

- A household is classified as being in **fuel poverty** if the household's fuel poverty energy efficiency rating (FPEER) is band D or below and their disposable income is below the poverty line. The latest data for 2020 shows:
- Lowest proportion of fuel poor households are in:

- **Constituency** – Sutton Coldfield (4,639 households, 10.3%)
- **Ward** – Sutton Walmley & Minworth (713 households, 8.5%)

- Highest proportion of Fuel Poor Households are in:
  - **Constituency –** Hodge Hill (12,428, 26.8%)
  - **Ward** – Bournbrook and Selly Park (2,307, 36.9%)

Transport[iii]:

In 2021, Birmingham City Council accepted a 12-year electric vehicle strategy which aims to tackle barriers to electric vehicle use. Ultra-low emission vehicle (ULEV) describes any vehicle that:

- Uses low carbon technologies.
- Emits less than 75g of CO2/km from the tailpipe.

Ultra low emission vehicles (ULEVs):

- As of 2022 Q4, there are 6,143 ULEVs registered in Birmingham.
- The majority of ULEVs registered in Birmingham are privately owned (67.1%). Company owned ULEVs make up the majority of ULEVs in the UK (56.85%).
- **Fuel types for ULEVs** in Birmingham:
  - Battery electric – 55.4%
  - Plug-in hybrid electric (petrol) – 39.3%

Comparison of the number of ULEVs:

English Core Cities – In 2022 Q4, Birmingham had the 2nd highest number of ULEVs (6,143). However, in 2020 Q2, Birmingham had the most ULEVs registered (24,874), suggesting a company has changed the registration location for their company ULEVs.

Birmingham	Leeds	Sheffield	Bristol	Manchester	Liverpool	Nottingham
6,143	43,660	5,627	3,905	2,491	2,197	1,890

Electric vehicle charging schemes:

- **Electric Vehicle Homecharge Scheme** (now known as EV Chargepoint Grant) supports the costs of the purchase and installation of EV charge points at residential properties.
  - The number of charging devices installed decreased from 1,189 in 2021 to 805 in 2022.
- **Workplace Charging Scheme** supports organisations towards the cost of installing up to 40 electric vehicle chargepoint sockets at their sites.
  - The number of sockets installed increased from 519 in 2023 Q1 (Jan – Mar) to 562 in 2023 Q2 (Apr - Jun)
- The number of publicly available electric vehicle charging devices at all speeds per 100,000 population in Birmingham increased from 39.9 in 2023 Q1 (Jan-Mar) to 41.3 2023 Q2 (Apr-Jun). This is an increase of 12.7 compared to the previous year 2022 Q2 (Apr-Jun).

Comparison of the number of ULEVs:

English Core Cities – In December 2022, for the **Electric Vehicle Homecharging Scheme,** Birmingham had the 2nd highest number in relation to the number of charging devices installed.

Number of charging devices installed							
Birmingham	**Leeds**	**Sheffield**	**Liverpool**	**Bristol**	**Manchester**	**Newcastle**	**Nottingham**
805	945	472	285	276	242	238	159

English Core Cities – In December 2022, for the **Workplace Charging Scheme,** Birmingham had the 2nd highest number in relation to the number of sockets installed.

Number of sockets installed							
Birmingham	**Leeds**	**Sheffield**	**Bristol**	**Manchester**	**Nottingham**	**Liverpool**	**Newcastle**
562	889	428	321	321	207	195	160

English Core Cities – In December 2022, for the number of **public electric vehicle charging devices per 100,000 population,** Birmingham ranked 5th out of the 8 English Core Cities.

Number of charging devices per 100,000							
Birmingham	**Liverpool**	**Nottingham**	**Leeds**	**Newcastle**	**Sheffield**	**Manchester**	**Bristol**
41.3	84.8	72.0	63.5	50.6	40.6	34.2	31.6

Transport:

- In 2021, the most popular forms of transport into Birmingham City Centre were:
  - Cars – 23,123 trips (41.17% of total trips)
  - Bus – 15,778 trips (28.09% of total trips)

Waste[iv]:

Reducing waste, reusing and recycling, and devising solutions to manage and reduce the impact of waste management processes across the city all play a critical role when striving towards a net zero goal. There are a number of local factors that could impact a city's statistics when it comes to waste and therefore making comparisons should be done with caution.

Refuse, recycling and waste disposal:

- % of household waste recycled:
  - Reduction from 30.4% in 2008/9 to 22.9% in 2022/23
- Total household waste per 1,000 households (in tonnes):
  - Decrease from 1,024 in 2010/11 to 921 in 2022/2023

Comparison of refuse, recycling and waste disposal:

English Core Cities – In 2021/22, for the **percentage of household waste recycled,** Birmingham ranked last out of the English Core Cities.

% of household waste recycled							
Birmingham	**Bristol**	**Manchester**	**Newcastle**	**Leeds**	**Sheffield**	**Nottingham**	**Liverpool**
22.8%	45.6%	39.7%	36.7%	36.0%	32.1%	25.3%	22.9%

English Core Cities – In 202122, for the **total household waste per 1,000 households,** Birmingham ranked first out of the English Core Cities.

Total household waste per 1,000 households							
Birmingham	**Nottingham**	**Leeds**	**Liverpool**	**Newcastle**	**Bristol**	**Sheffield**	**Manchester**
948 tonnes	942 tonnes	929 tonnes	927 tonnes	901 tonnes	866 tonnes	832 tonnes	784 tonnes

Nature and the environment:

To effectively tackle climate change, adaptation and nature resilience are important factors to consider. The Birmingham Future Parks Accelerator Project has looked at how other cities around the world respond to the issue of unequal access to green space and developed a measurement tool for Environmental Justice. Trees and the wider green infrastructure of a city can be a cost effective remedy to the negative impacts of urbanisation.

Environmental justice:

An Environmental Justice score measures: • access to a green space (2 hectares or larger) within 1,000m; flood risk; urban heat island effect; • health inequalities (through excess years of life lost); and • Indices of Multiple Deprivation (IMD).

- In Birmingham, the wards with the **most environmental justice** tend to be the Sutton wards. For example:
  - Sutton Roughley – mean index score of 0.14
  - Sutton Four Oaks – mean index score of 0.16
  - Sutton Walmley & Minworth – mean index score of 0.18
- In Birmingham, the wards with the **least environmental justice** tend to be inner-city areas. The wards are:
  - Aston – mean index score of 0.53
  - Bromford & Hodge Hill – mean index score of 0.45
  - Bordesley & Highgate – mean index score of 0.41

Tree canopy cover[v]:

- **Tree canopy cover** (as of 6 June 2023):
  - Highest tree cover
    - **Constituency** - Sutton Coldfield
    - **Ward** – Sutton Coldfield
  - Lowest tree cover
    - **Constituency** - Ladywood
    - **Ward** – Castle Vale and Alum Rock.

[i] Department for Energy Security and Net Zero (DESNZ) and Department for Business, Energy & Industrial Strategy (BEIS); data relates to time period of 2021.
[ii] Department for Levelling Up, Housing and Communities (DLUHC); all Domestic EPCs found for Birmingham up until the end of June 2023.
[iii] The data sources for the vast majority of the information relating to transport in this dashboard are the Department for Transport and the Driver and Vehicle Licensing Agency. The data relating to the modal share of transport in Birmingham comes from Transport for West Midlands.
[iv] Department for Environment, Food and Rural Affairs and relates to the time period of 2021/22.
[v] Treetopper via Birmingham Tree People use mapping to identify tree canopy cover across the city.