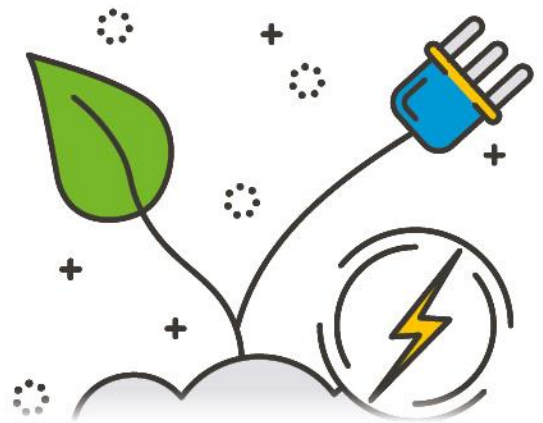


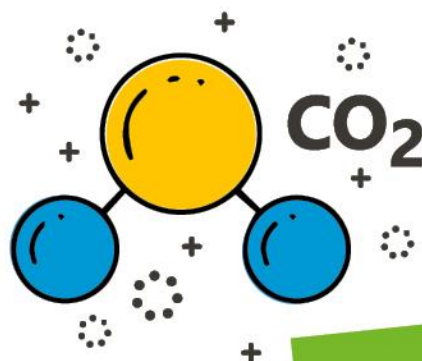
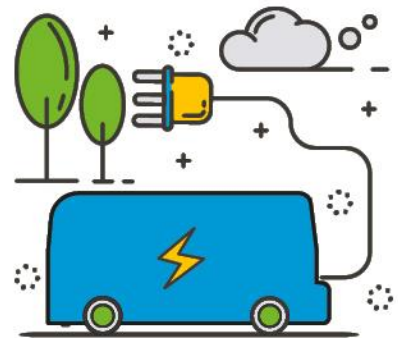
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2041



ANNUAL CARBON REPORT

2024



Haringey
LONDON

Appendix: Glossary and Emissions Data Sources

1.1. Glossary

Adaptation: Adjustment in our natural or human systems in response to the impact of climate change or expected climatic stimuli or their effects, where we reduce harm.

Air tightness: measures the infiltration of outdoor air into the building, or in other words how 'leaky' or 'draughty' the building is. A low energy building requires high levels of airtightness. Airtightness is measured by the volume of air in cubic meters (m³) that flows through the building fabric (for every squared meter, m²) every hour, at a pressure of 50Pa (the pressure of the airtightness test). It can also be measured in air changes per hour through the external envelope. In either case, the lower the value the better.

Air Source Heat Pump (ASHP): An energy efficient heating or cooling system that transfers heat to or from the air, typically to generate hot water and space heating or cooling.

Building Regulations Part L 2021: In the context of this document, it refers to Approved Document Part L which was published in December 2021 and came into force in June 2022. It sets out the minimum requirements for elements in new and existing buildings and sets out how a building should meet or exceed the requirements of the notional building (see definition below). The London Plan requires developments to show a minimum 35% on-site improvement but aim to improve the notional building by 100% (i.e. zero carbon in regulated operational energy).

Carbon budget: A carbon budget is the cumulative amount of carbon dioxide (CO₂) emissions permitted over a period of time to keep within a certain temperature threshold.

Carbon emissions: All greenhouse gas emissions, represented as the equivalent of CO₂ emissions.

Carbon factor: The factor that is applied to electricity or heating that is consumed by buildings, services, or transport. It helps to understand the carbon emissions associated with the electricity or gas use. The carbon factor of the UK grid changes throughout the day and the seasons depending on how much renewable energy is being generated. The carbon factor is an average of the emissions over a period of time.

Circular Economy: A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the linear economy and its 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of

toxic chemicals, and aims for the elimination of waste through the design of materials, products, systems that can be repaired and reused.

Climate is typically defined as the average weather (or more rigorously a statistical description of the average in terms of the mean and variability) over a period of time, usually 30 years. These quantities are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system.

Climate Change: A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer.

Climate Emergency: Acknowledgment of the urgency of actions required to mitigate the consequences on climate change before reaching tipping point. This corresponds to a non-return state where climate change can no longer be reversed, and adverse effects grow exponentially.

Controlled Parking Zones (CPZs) are areas where on-street parking is restricted during specified times. It is an area where you can only park for free during certain times.

Decentralised Energy Network: Also known as a district heat network, it is a system for distributing heat generated in a centralised location through a system of insulated pipes for residential and commercial heating requirements such as space heating and water heating.

Energy Performance Certificate: A certificate produced for new-build and existing dwellings which provides an A to G rating indicating the relative energy cost for that home. An EPC can be found [online](#) for any property.

Energy Use Intensity: Energy Use Intensity expresses a building's energy use as a function of its size, typically expressed as energy consumption in kWh/m²/year. The measurement of floor area can be expressed in terms of Net Lettable Area (NLA) or Gross Internal Area (GIA).

Fabric first: The concept of focussing on the building fabric before trying to reduce emissions using more efficient heat sources or using renewable energy systems. Heating systems must be sized based on the space heating demand, so it is better that this is reduced before installing a new system. The building fabric includes walls, floors, roofs, windows, doors, and the ventilation system.

Future Home Standard (FHS) The [Future Homes and Buildings Standards](#) are proposed to set energy efficiency standards for new and existing buildings and are proposed to come into play in the England in 2025. The key purpose of the standards are to further reduce carbon

emissions, with properties being built with 75% less carbon compared with Part L 2013 regulations.

Fossil fuels: A natural fuel such as petroleum, coal, or gas, formed in the geological past from the remains of living organisms. The burning of fossil fuels by humans is the largest source of emissions of carbon dioxide, which is one of the greenhouse gases that allows radiative forcing and contributes to global warming.

Fuel poverty: A household is considered to be in fuel poverty when its members cannot afford to keep adequately warm at a reasonable cost, given their income.

Greenhouse gases (GHGs): The atmospheric gases which are elements of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. The major GHGs are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Less prevalent - but very powerful - greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) due to their extreme global warming effect.

HCCAP targets: the carbon reduction target towards net zero by 2041 is based on Arup's technical analysis for the HCCAP. The foundation work was done with ARUP when the council first committed to becoming a net zero-carbon borough by 2050 and after declaring a climate emergency ARUP undertook the analysis to understand whether this could be achieved earlier, and recommended to change the target date to 2041. This was also reflected in the Borough Plan (2019-2024). ARUP provided science-based analysis that informed the actions that could be delivered and to what timeframe.

Low Traffic Neighbourhoods (LTNs): LTNs are areas with quieter roads which feel safer, encouraging residents to walk, cycle, play and meet in a healthier and more inviting environment. This can be done by filtering roads using planters, bollards, or cameras, by banning turns, or by making some roads no entry or exit, giving priority and access to residents who live in the area. LTNs always allow local motor vehicle access. Local residents and businesses can still use cars or vans, as well as receive visitors and deliveries, but non-local traffic cannot drive through the area. When non-local through traffic is reduced in an area, local people often choose to make short journeys on foot or by bike, further reducing traffic. Emergency services will still be able to access these neighbourhoods.

kW Stands for kilowatt. A kilowatt is a unit of power equivalent to a thousand watts.

kWh Stands for a kilowatt hour and is a unit of energy. It is equal to the amount of energy a system will generate in an hour whilst running at a kilowatt power output.

Low and zero-carbon technologies: Technologies which provide heat and energy whilst producing no or little carbon emissions.

Mitigation: In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other "sinks" such as land use changes to remove greater amounts of carbon dioxide from the atmosphere.

MW: abbreviation for megawatt. A megawatt is a unit of power equivalent to a million watts.

MWh: abbreviation for a megawatt hour and is a unit of energy. It is equal to the amount of energy a system will generate in an hour whilst running at 1 megawatt power output.

Notional building: in the context of Part L, the notional building is a modelling assumption for a hypothetical building based on the same massing, orientation, shading, area and activities as the proposed design but using energy parameters (fabric energy efficiency, energy consumption per unit floor area, energy cost rating and environment impact rating) as defined by the Approved Document. A carbon reduction would be measured against the notional building, e.g. achieving the 35% minimum on-site carbon reduction required under the London Plan.

Operational Energy (kgCO₂e): The carbon emissions associated with the operation of a building. This usually includes emissions associated with heating, hot water, cooling, ventilation, and lighting systems, as well as those associated with cooking, equipment, and lifts (i.e. both regulated and unregulated energy uses).

Passivhaus: Standard for the design and construction of comfortable, highly energy efficient buildings with set performance targets. This is certified and promoted by the independent [Passivhaus Trust organisation](#) in the UK.

Part L: The Building Regulations Approved Document for England Part L sets requirements for building work, including new buildings, creation of new dwellings or extensions to existing buildings in England. It sets the standards for the energy performance and carbon emissions of new and existing buildings.

Photovoltaics (PV): A technology which is used to generate renewable electricity using energy from the sun; typically installed on rooftops or across large fields.

Renewable energy: Renewable energy is derived from sources which are naturally replenished or are practically inexhaustible. They are often described as 'clean', 'green' or 'sustainable' forms of energy because of their minimal environmental impact compared to

fossil fuels. These will still have embodied emissions associated with the mining, transportation and production of renewable energy technologies (see whole life carbon below), such as the requirement for various metals in solar PV.

Resilience: The ability of a social or natural system to absorb disturbances while retaining the same basic structure and ways of functioning. It includes the capacity to adapt to stress and change.

Retrofit: The process of making changes to existing buildings so that energy consumption and emissions are reduced. These changes should also provide the benefit of a more comfortable and healthier home with lower fuel bills.

Scope of carbon emissions:

Scope 1: Direct emissions from sources that we own and control including fuel, combustion, company vehicles, and fugitive emissions.

Score 2: Indirect emissions, generated from the electricity and heat that we purchase and the cooling we require.

Score 3: All other indirect emissions such as waste, disposal, aviation, diets, and behaviour change.

Section 106 Carbon Offset Contributions are paid by developers to offset the shortfall (if any) in achieving the net zero carbon reduction target at the development against Part L. The sum paid to the council is calculated at £95 per tonne of CO₂ over a period of 30 years. The pot of collected contributions is used by the council in the implementation of projects to reduce carbon emissions in the borough. The Community Carbon Fund is an example of how this money is spent.

Simplified Building Energy Model (SBEM): A [government-approved](#) National Calculation Method for non-domestic buildings.

Space Heating Demand: The amount of energy per squared meter of internal floor area, over the course of an average year, which is needed to maintain a comfortable internal temperature. This is directly related to the thermal performance of the building and is therefore a good proxy for fabric efficiency.

Standard Assessment Procedure (SAP): A [government-approved](#) methodology for calculating estimated regulated energy demand (heating, hot water, lighting) and carbon emissions in homes. The reduced version of SAP (RdSAP) is used to calculate energy demand in existing homes. SAP is used to demonstrate compliance with Part L of the Building

Regulations and to generate EPCs for all homes. In December 2023, a consultation was published to replace SAP with a new methodology, the [Home Energy Model](#).

Whole life carbon (WLC): The purpose of using WLC is to move towards a building or a product that generates the lowest carbon emissions over its whole life, and to support the reduction of materials through a circular economy. WLC emissions are the sum of all assets that result in GHG emissions and removals, both when a building is in use, and embodied in its materials over the life cycle of an asset. Different modules are included in the assessments, as seen in Figure 33 below, including:

- Modules A1-A5: Upfront emissions to source and transport products, and any construction and assembly processes;
- Modules B1-B7: In-use emissions including the operation, maintenance and repair of buildings and materials (plus B8 and B9 for infrastructure only);
- Modules C1-C4: End-of-Life scenarios for demolition, waste or disposal.

Module D is reported separately, for any material re-use for (partial) retention of buildings or materials), including the potential benefit from future energy recovery, reuse, recycling. Sequestration of carbon from timber is included in Module A, but should be reported separately.

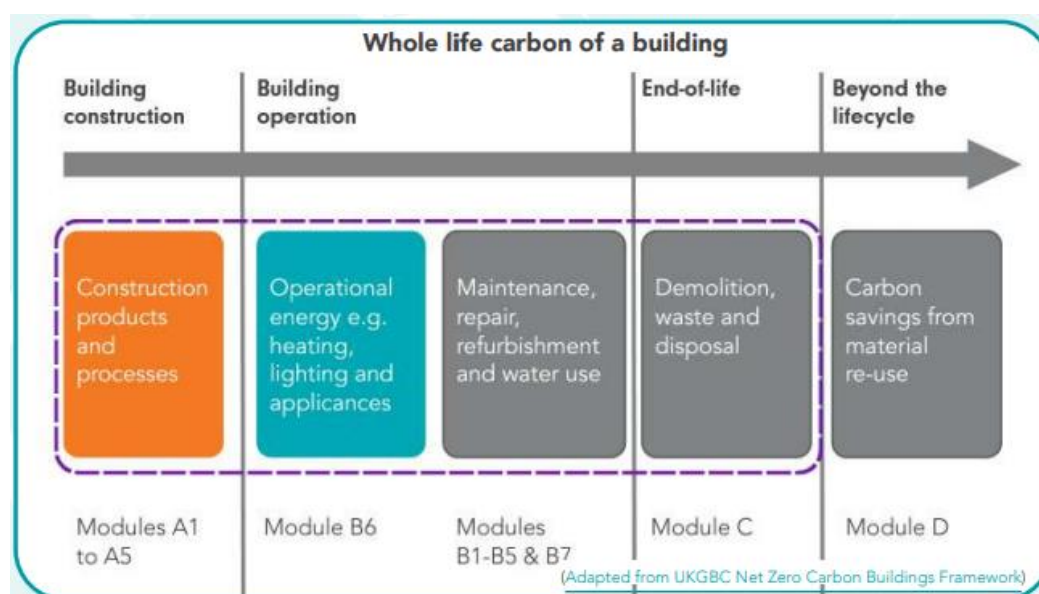


Figure 33: UKGBC's [Whole Life Carbon Explainer Guide](#) graph showing the different modules that calculate whole-life carbon emissions in a building's lifespan.

1.2. Emission Data Sources

2022 population figures are sourced from [GLA demographic projections](#). The GLA's population projections are updated annually, incorporating the latest data as it becomes

available. The 2020-based projections are the most recent set taking as their starting point an adjusted 2020 mid-year population estimate. They produce multiple scenarios and variants to cover a range of ways to apply the data. The variants can differ in the methodologies and assumptions used.

Borough-wide carbon emission figures are based on the GLA's [London Energy and Greenhouse Gas Inventory](#) (LEGGI) datasets on local authority carbon emissions, measured annually, spanning from 2015 to 2022. There is a two-year delay to collecting the emissions data and publishing this.

The LEGGI is an emissions inventory which quantifies greenhouse gas emissions released into the environment, such as:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Nitrogen Trifluoride (NF₃)
- Sulphur Hexafluoride (SF₆).

LEGGI provides estimates of:

- All scope 1 emissions are those emitted through the direct use of fossil fuels (such as oil and gas) within the borough boundary.
- Scope 2 emissions are those emitted in the production of electricity consumed within the borough boundary. Depending on where energy is generated, these emissions may physically occur inside or outside the borough boundary.
- Scope 3 emissions associated with the disposal or treatment of waste that is generated within the borough boundary but disposed of outside the borough boundary.

From 2018 onwards, we estimate emissions for five sectors: stationary energy; transport; waste; industrial processes, and product use (IPPU); and agriculture, forestry, and other land use (AFOLU). Including the latter three sectors brings us in line with the reporting requirements of our membership of [C40 Cities](#) and the Global Covenant of Mayors, to report in line with the [Global Protocol for Community-Scale Greenhouse Gas Emission Inventories](#) (GPC).

LEGGI is produced on an annual basis to measure progress against the Mayor's carbon reduction targets for London. Publications earlier than the 2018 LEGGI only included

emissions in the first two of these categories. However, LEGGI now provides estimates of these additional sectors for earlier years. Non-Road Mobile Machinery (NRMM) emissions are not recalculated every year and reflect 2019 levels. They are due to be updated next year.

The coronavirus (COVID-19) pandemic and the resulting restrictions introduced in 2020 across London and the UK had major impacts on various aspects of society and the economy, which had a significant impact on greenhouse gas emissions. 2020 statistics should therefore be cited with caution, and the ongoing context of the pandemic should be considered when reviewing 2022 emissions.

This dataset differs from the [UK local authority greenhouse gas emissions national statistics](#), published by the Department for Energy Security and Net Zero (previously published by the Department for Business, Energy & Industrial Strategy, BEIS). This data was used to report on the historic carbon-reduction target for Haringey, in previous Annual Carbon Reports.

Consumption-based emissions data:

Standard territorial accounting of greenhouse gas emissions, such as the London Energy and Greenhouse Gas Inventory (LEGGI), measures the direct emissions produced in the Greater London area. By contrast, consumption-based emissions accounts take a wider view by including the emissions embodied in the goods and services that are imported into London and consumed here. Whilst territorial emissions account for the climate impact of activities occurring in London, consumption-based emissions account for the climate impact of Londoners' lifestyles. The figures represent emissions caused by UK residents and industry whether in the UK or abroad, but exclude emissions within the UK which can be attributed to overseas residents and businesses and those emissions from Land use, Land Use Change and Forestry.

A detailed explanation of consumption-based emissions and the methodology used can be found in the technical report produced by the University of Leeds on the [London Councils website](#). London Councils, GLA and ReLondon have agreed to jointly commission consumption-based emissions accounting on annual basis. The dataset for Haringey can be downloaded separately, alongside the London Councils Briefing Note.

Consumption-based emissions have been analysed from 2001 – 2021, focusing on household consumption across themes: food, housing, transport, goods, services, and government & capital investments. This is the latest available data set.

Transport Journey data (2000 to 2023): Road traffic statistics from the [Department for Transport \(DfT\)](#)

Whilst historically significant, the long-term trends can be misleading in most cases due to the extraordinary circumstances observed as a result of the coronavirus pandemic. Vehicle miles travelled in Great Britain have had year-on-year growth in each year between 2011 and 2019. Following a sharp decline in 2020, traffic levels in 2021 and 2023 increased, but 2023 levels still remain lower than the 2016 levels. Therefore, to say traffic has fallen since 2016 would be misleading, as the overall decrease is entirely due to the decline in traffic levels observed during the pandemic.