

Environment Strategy 2023-2026



Foreword



Cllr Chris Hossack

Leader of Brentwood Borough Council

The council's corporate strategy outlines the importance of **protecting our environment** as one of our five key priorities. We have committed in the corporate strategy to protect the space we all live in, but beyond our local commitment, there is our responsibility to act locally as part of a global effort in protecting the planet and reducing the harm inflicted on it by human activity.

The environmental agenda is expanding rapidly and the response to climate change becoming more urgent with many councils now setting targets for carbon neutrality as we

have done here in Brentwood. Not many years ago an environmental strategy would have outlined the things the council would need to do in order to tackle 'traditional problems' such as littering, fly tipping and unlawful development in the green belt. Now the agenda is much wider and we must gear up to tackle a broader range of issues, issues that demand new skills and additional resources.

Brentwood Borough Council is already underway on this journey: we have a carbon absorption plan that has already commenced; we have a plan to build on our electric



Cllr Will Russell

Chair of Community, Environment & Enforcement Committee

vehicle (EV) charging network; we actively incorporate renewable energy into our housing regeneration projects; and we have employed new staff that bring the knowledge and expertise required to tackle complex issues that require carbon literacy.

This strategy brings further detail to our corporate plan to ensure this council plays a vital role in neutralising carbon emissions, reducing waste, increasing recycling, preventing biodiversity loss and maintaining a clean environment.



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Introduction

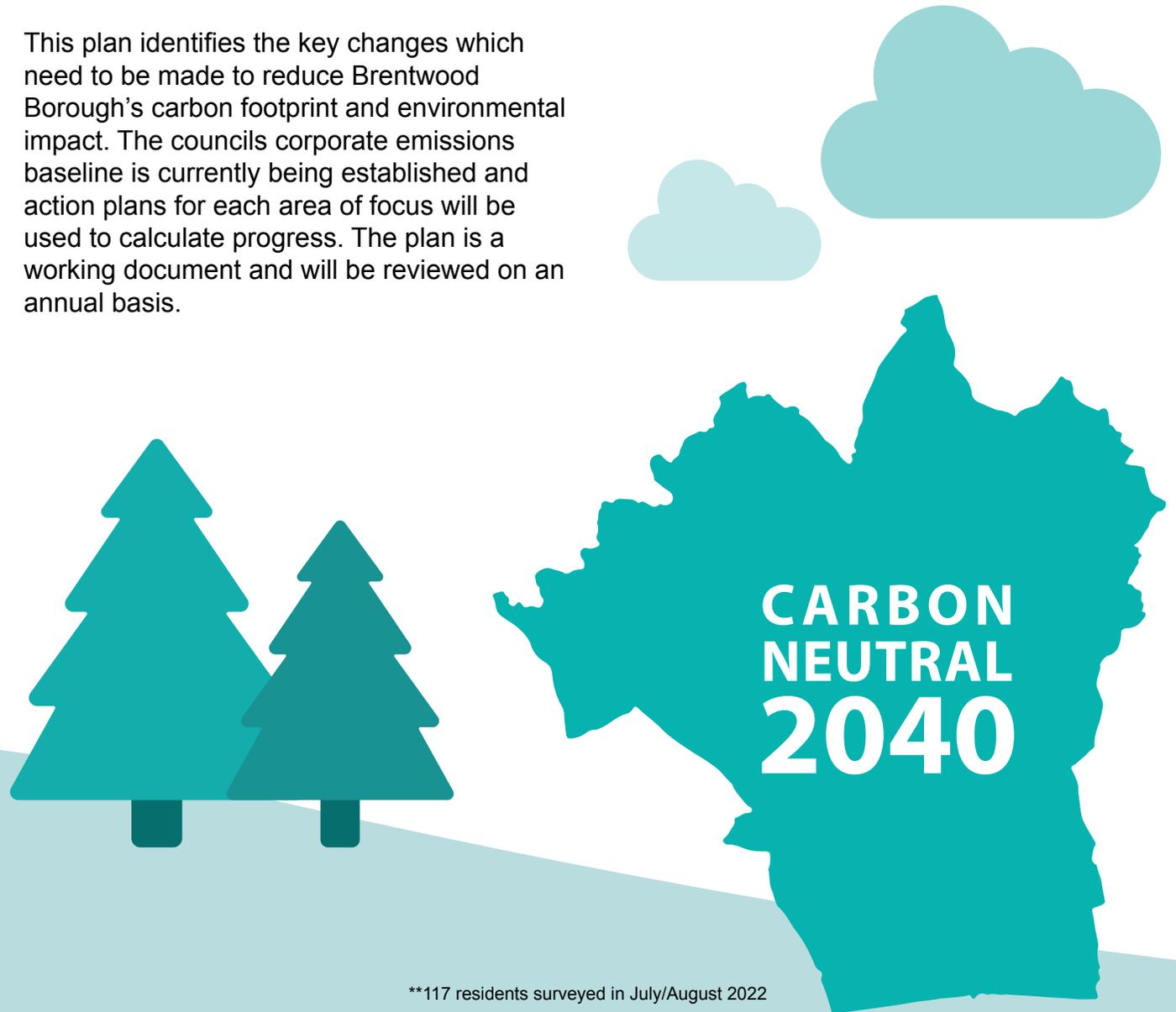
The Climate Change Act (2008) highlighted the UK's aim to become carbon neutral by 2050. Brentwood Borough Council wants to do its bit and aims to be carbon neutral within its own activity and Borough-wide by 2040. The council has been action-orientated and has already made several steps to reduce its environmental impact including carbon emissions.

Carbon neutrality is achieved when the concentrations of carbon dioxide in the atmosphere do not change, as any emissions are offset. The key to achieving carbon neutrality is to reduce our carbon footprint as much as possible, and offset any emissions. There are several environmental issues, which all link to climate change. These include energy use, waste management and biodiversity.

This plan identifies the key changes which need to be made to reduce Brentwood Borough's carbon footprint and environmental impact. The council's corporate emissions baseline is currently being established and action plans for each area of focus will be used to calculate progress. The plan is a working document and will be reviewed on an annual basis.

86.3% of Brentwood residents surveyed are concerned or very concerned about climate change**

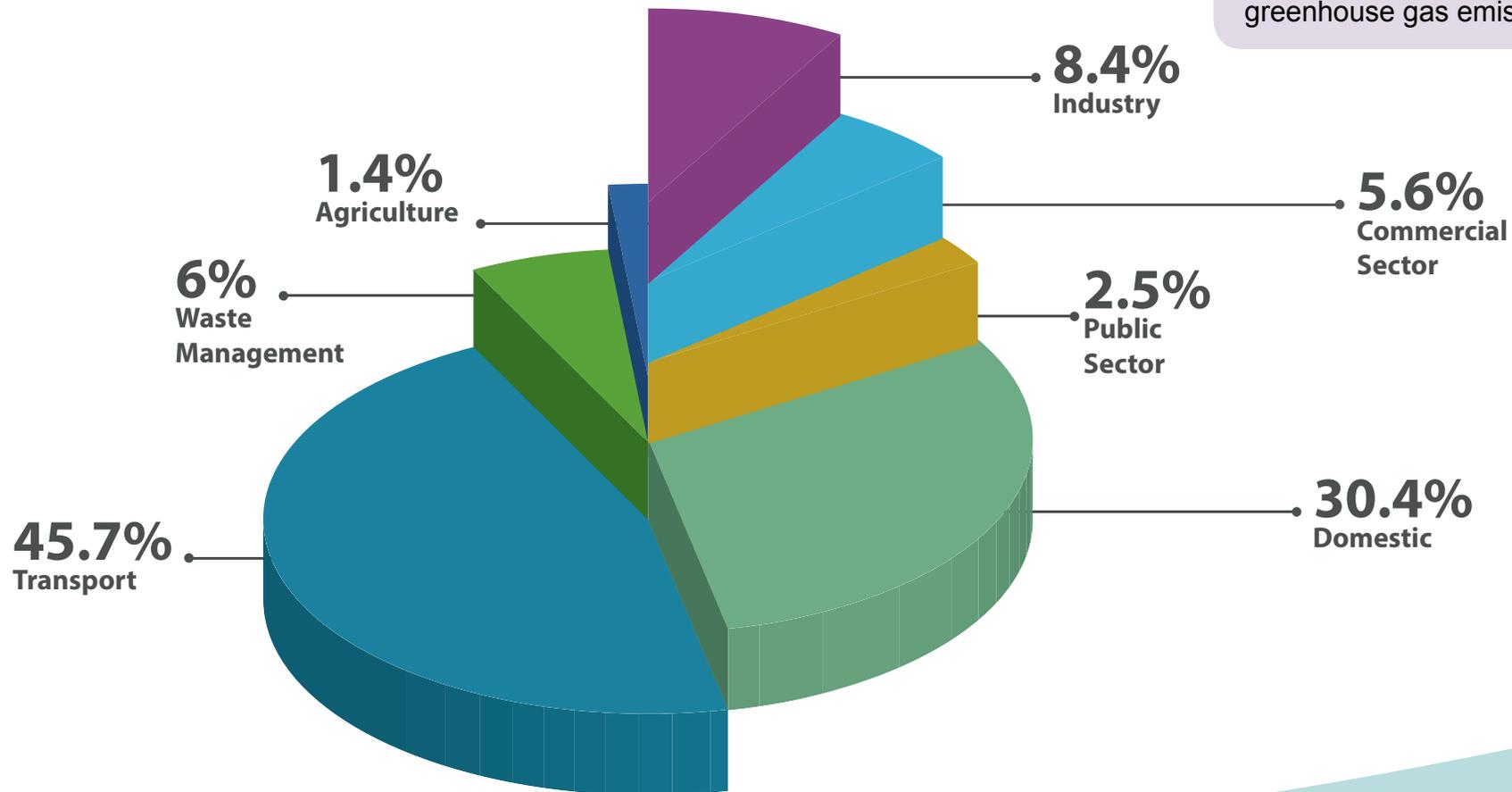
**117 residents surveyed in July/August 2022



Borough-wide emissions

UK Government greenhouse gas emissions data (for 2018) under the influence of Brentwood BC equate to 433,000tCO₂e[^]

tCO₂e refers to tonnes of carbon dioxide equivalents, a unit that summarises all greenhouse gas emissions as one figure.



[^]Excludes large industrial sites, railways, motorways and land-use

Global & local impacts of climate change



What are the impacts of Climate Change?

Global impacts: Some of the possible impacts of Climate Change include:

***Rising sea levels** - Rising temperatures cause glaciers and ice sheets to melt, increasing runoff resulting in global sea level rise. Seas and oceans absorb 90% of the extra heat from global warming: warmer water expands taking up more space.

***Flooding of coastal regions** - Coastal towns and cities are at greater risk from flooding as sea levels continue to rise.

***Extreme weather events** - Climate changes causes extreme weather events to become more intense and frequent, such as heatwaves, droughts and floods

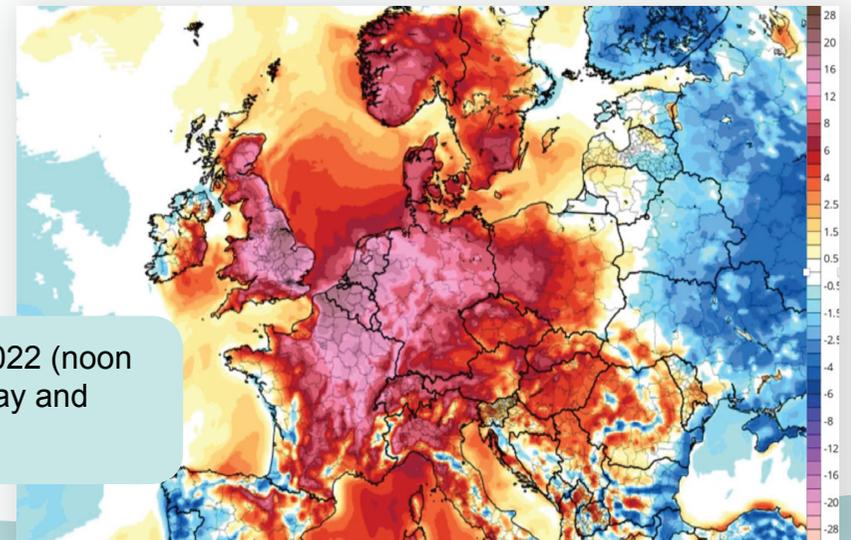
***Food insecurity** - High temperatures, extreme weather events, flooding and droughts damage soils and reduce biodiversity affecting crop yields year on year

***Damage to marine ecosystems** - Rising ocean temperatures, ocean acidification and ocean anoxia (lack of oxygen) are damaging to marine life such as fish and coral reefs.

***Ocean acidification** - occurs when the ocean absorbs carbon dioxide and becomes more acidic, a damaging side effect from more carbon in the atmosphere.

***Conflict and climate migrants** - Climate Change is a stress multiplier - it can take existing problems, such as lack of food or shelter and make them worse. This can cause people to compete or fight over scarce resources (food, water, and shelter), or to migrate.

Model-analyzed temperatures at 12Z Tuesday, July 19, 2022 (noon GMT) were transcending average values for the time of day and season by 12 to 24 degrees Celsius



Local impacts of climate change



TRANSPORT NETWORKS

Disruption to transport networks from extreme weather events, (flood and heat) impacting on local economy, health & wellbeing

Flood risk to transport infrastructure

Heavy rain/high winds leading to more accidents, treefalls, road closures and delays

Risk of slope/embankment failures

Overheating/failure of signalling & comms

Risk of rails buckling, cables sagging and roads softening in heat

Discomfort on public transport



THE BUILT ENVIRONMENT

Overheating risks in housing, offices, schools, hospitals and social care settings

Damage to buildings and infrastructure from extreme weather events

Need to retrofit buildings to build resilience

New design standards needed for drainage, insulation and building fabric etc Increased flood risk

Increased water stress

Disruption to power and communication networks



BUSINESS & INDUSTRY

Costs to reduce emissions and adapt infrastructure to Climate Change

Disruption to transport, energy and communications

Risks to supply chains both local, national and global

Increased prices for raw materials, goods, and other imported commodities

Reduced comfort in buildings impacting on productivity

Changes to markets and demand



THE NATURAL ENVIRONMENT & AGRICULTURE

Risk to vulnerable species and habitats

Impacts on 'eco-system services' enjoyed by people

Impacts of increased drought

Damage to natural habitats from water stress

Pests and disease risk of invasive/non-native species colonising

Changes to growing seasons

Heat stress on livestock

Damage to crops & landscapes from flooding



WATER (FLOOD RISK & DROUGHT)

Increase risk of coastal, pluvial and fluvial flooding

Increased flash flood risk from extreme weather events

Further stress on already under pressure water resources

Increased competition for water between agriculture, industry, households and the needs of the natural environment

Drought impacts on water quality and supply



HEALTH & WELLBEING

Increase in heat-related illness and death

Risk to the elderly and very young with heart and respiratory disease

Disrupted access to services and facilities from extreme weather events

Flooding impacts on health, wellbeing and livelihoods

Air quality impacts exacerbated

The Brentwood Surface Water Management Plan is within the administrative area of Brentwood Borough Council and is ranked third within the county in terms of properties at risk of surface water flooding**



**<https://www.essexdesignguide.co.uk/suds/surface-water-management-plans/brentwood/>

Transport & air quality



Transportation is the largest carbon emitter within the Borough. This is largely due to the A127 and A12 and due to our proximity to the M25, as well as our rail links to London. Technology is constantly evolving, with biofuels, electric and hydrogen powered vehicles expected to become the norm in the future.

45% of total emissions under the influence of Brentwood are from transport in 2018

CO2 198,500 tonnes of CO2e emitted in 2018*



Car club launched in 2021

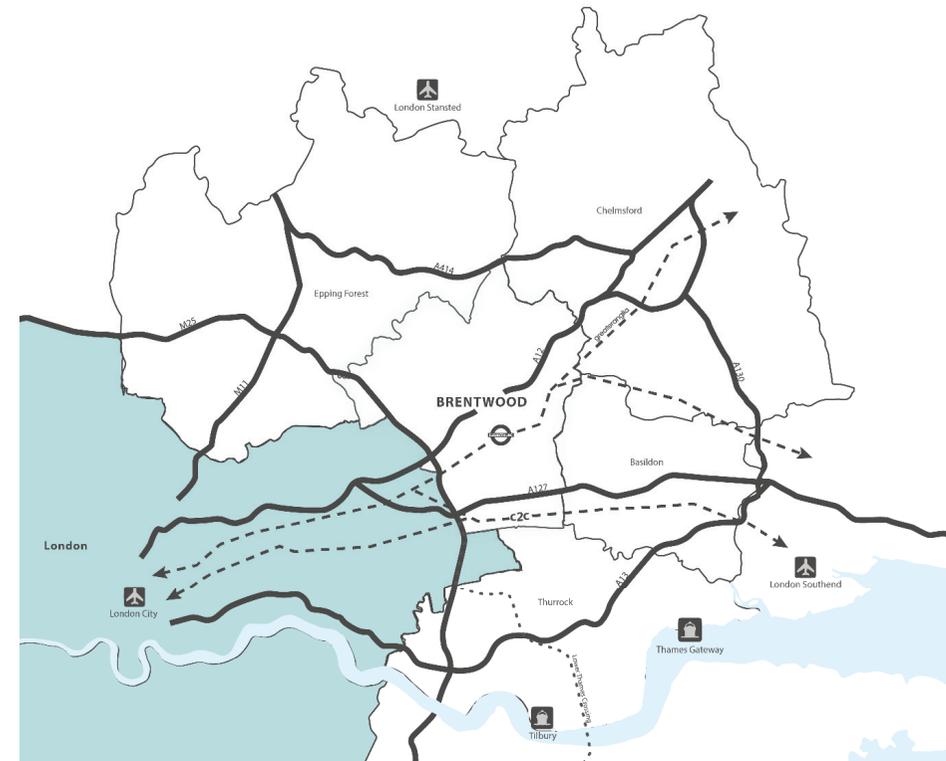


EV pilot successfully deployed 2021



Three phases of EV installation

*Excludes motorway/rail/flights



Aims

In order to support the change in transportation technologies and reduce emissions from transport in the Borough, the council aims to:

- To invest in zero and low-carbon vehicles across the Council fleet.
- To encourage modal shift in transport away from car use across the Borough.
- To improve the public Electric Vehicle charging infrastructure across the Borough.
- To reduce the carbon footprint of main arterial highways across Borough (A127 & A12).

Built environment



The built environment is crucial for society to grow; however buildings require energy to build and run, and as such have a high carbon footprint.

Housing stock of
2,500



Planning approved for

61 Passivhaus social houses

£749k

funding secured to improve energy efficiency of social housing, private landlords & low income households

30.4%

Domestic emissions from 34,800 households account for 30.4% of CO2 in Brentwood 132,000tCO2.

Aims

In order to reduce the carbon footprint of current and future buildings within the Borough, the council aims to:

- To improve the energy efficiency of all domestic properties in the Borough to EPC rated C or better
- To ensure that new homes built in the Borough meet current the net zero emissions standard –
- That all Council owned, and managed buildings are net zero by 2040

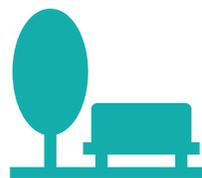
Natural environment



Natural Green Infrastructure will help carbon absorption, locking more carbon into nature. It will create more space for nature. It will also create resilience and help nature survive.



2 Sites of Special Scientific Interest



16 Parks and open spaces in Brentwood Borough

Urban greening reduces air pollution, addresses urban flooding, improves water quality and reserves, and improves the mental and physical health and wellbeing of residents



Plans to plant **16,000** trees in Hutton Country Park 2022/23

Assist with the planting of **250,000** trees as part of the Thames Gateway Project

Aims

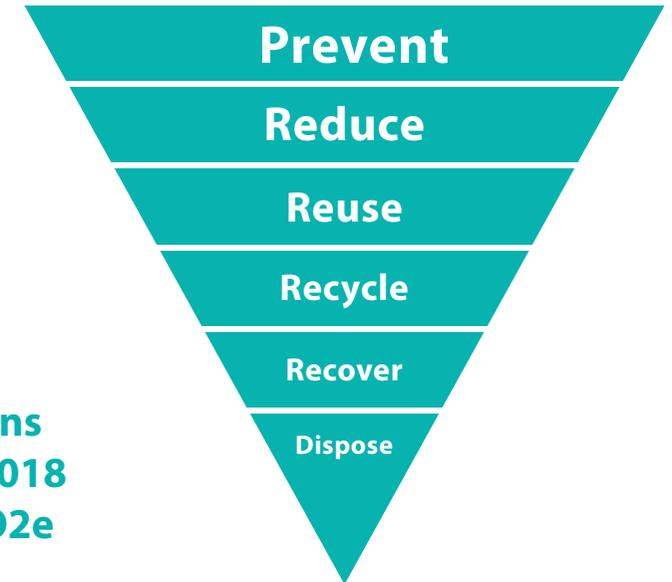
To support this, the council aims to:

- To increase biodiversity and ecosystem functioning across the Borough
- To restore biodiversity to prevent decline in local flagship species
- To minimise residents at risk of flooding and overheating through green infrastructure solutions
- To continue to increase tree cover across the Borough

Waste



With a population of 76,550, Brentwood produces waste from a range of sources. All waste management involves energy, and so often releases carbon emissions, contributing to climate change. Brentwood Borough Council is a waste collection authority, and so only has direct control over the collection of waste. It is Essex County Council who is the Waste Planning Authority.



5.5 million kerbside waste and recycling collections per year



Carbon emissions from waste in 2018 were 30,416tCO2e

New recycling scheme separating waste introduced August 2020



Reduced the amount of contamination in waste collected

Aims

Reducing waste at source is key to tackling the challenges we face:

- To reduce non-recyclable waste levels and to increase recycling rates to 70%
- The Council to consider whole lifecycle of materials purchased and when procuring services to minimize waste
- To support elimination of waste and the over exploitation of our natural resources.

Energy



Currently, the majority of energy consumed is generated from non-renewable sources including fossil fuels. The combustion of fossil fuels emits carbon dioxide into the atmosphere, increasing the greenhouse gas effect and causing climate change. New technologies are making renewable energy sources readily available, which either do not emit carbon, or are considered carbon neutral.



All electricity for council buildings is on a green tariff and considered carbon neutral, saving 262tCO₂e per year



Senior Leadership Team training in carbon literacy in February 2022

4.2 Brentwood has 4.2MW of solar and wind generating capacity in the Borough capable of supplying power to around 950 households

Aims

In order to reduce energy consumption and help increase renewable energy infrastructure, the council aims to:

- To support industrial and commercial organisations to achieve non-domestic gas reduction and efficient use of electricity
- To maximise opportunities for renewable energy generation in the Borough.
- That Council staff are carbon literate and understand how their service area can support net zero.

Partnership Working



The council only has direct control over 2-5% of emissions from the Borough, but has the capability to influence up to a third of the population.

91% of businesses surveyed are actively seeking to reduce their environmental impact

52% of businesses surveyed would like to learn more about sustainability

812 In Brentwood it is estimated that 812 low carbon and renewable energy jobs will be required by 2030 and by 2050 1,309*



50 local businesses signed up to BEBA in January 2022

Aims

* source LG Inform: <https://tiny.one/low-carbon>

In order to ensure that the Borough target of becoming carbon neutral by 2040 is met, the council will influence behaviour by:

- To support residents and businesses to understand and implement net zero principles
- To support and engage with local environmental and community groups to achieve net zero
- To encourage schools in the Borough to become eco-schools and similar schemes
- To create more low carbon and renewable energy jobs

Action Plan 2023-2026

Transport and air quality: Encourage more residents to cycle, walk and use public transport and if they must travel by car to support car clubs and facilitate shift to electric vehicles through improvements in EV charging infrastructure

Aims	Action by BBC	Climate (carbon) Impact	Partner Action	Desired Outcome
To improve the energy efficiency of all domestic properties in the Borough to EPC rated C or better.	Develop a Council fleet management plan seeking to replacing council vehicles with electric/hydrogen and exploring low carbon fuels such as Hydrogenated Vegetable Oil (HVO) by June 2023. Develop business case for renewable diesel by Feb 2023 with aim to roll out across fleet by 2024	Less than 1% total emissions reduction (current emissions are what?)	Energy Saving Trust	Near Net Zero vehicle fleet by 2030 net zero by 2040
To encourage modal shift in transport way from car use across the Borough.	Support and delivery the development of local cycling/walking infrastructure (LCWIP) by September 2023 - Support Active Essex active travel plans for schools - Promote the national Walk to School & work week Seek to Promote/Develop local car clubs (pay as you go car hire) Support and promote more "School Streets" schools	High – approx. 61kCO ₂ per annum on minor roads in Brentwood	ECC, Active Essex, SE Essex Health Alliance, Essex Climate Commission	10% reduction by in local vehicle traffic by 2030; 20% 2040.
To improve the public Electric Vehicle charging infrastructure across the Borough.	Lobby Highways Agency follow up on trials speed reduction that took place across UK in 2021. Evaluate trials. Investigate reducing speed limits on major (A12/A1026) & motorways M25 to reduce carbon emissions & improve air quality	Medium	Colbea, REBA, Energy Saving Trust	Oct 2022 BBC has 3 public EV charging points – double each year?
To reduce the carbon footprint of main arterial highways across Borough (A127 & A12)	Lobby Highways Agency follow up on trials speed reduction that took place across UK in 2021. Evaluate trials. Investigate reducing speed limits on major (A12/A1026) & motorways M25 to reduce carbon emissions & improve air quality	High - M25 54.2ktCO ₂ e (17% reduction possible) A roads: 136ktCO ₂ e	Highways Agency	20% reduction in carbon emissions by 2030



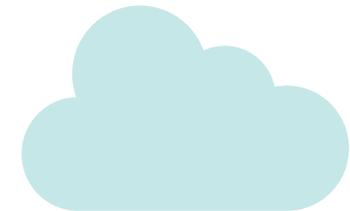
Action Plan 2023-2026

Built Environment and Energy: Improve the energy efficiency of buildings in our Borough with and aim to transition to lowcarbon heat sources and develop local renewable energy capacity

Aims	Action by BBC	Climate (carbon) Impact	Partner Action	Desired Outcome
To invest in zero and lowcarbon vehicles across the Council fleet.	Work with Energy Support Trust to promote simple EE measures and help promote grant schemes by Feb 2023. Engage with local adult education and social housing partners to develop low carbon apprenticeship opportunities by April 2025	High: gas heating = 75% of carbon emissions from homes (99ktCO ₂ e). Electricity emissions declining with decarbonisation of grid	EST, Essex Climate Commission	Near Net Zero emissions from domestic housing 2040
To support industrial and commercial organisations to achieve non-domestic gas reduction and efficient use of electricity.	Continue to support the Brentwood Environmental Business Alliance for net zero services and funding opportunities	High: non-domestic gas and electricity emissions equate to 60.8ktCO ₂ e	BEBA	10% reduction by in local vehicle traffic by 2030; 20% 2040.
To ensure that new homes built in the Borough meet current the net zero emissions standard	Seek to incorporate net zero requirement in local Plan Review (2024) Utilise existing planning powers (see also Future Homes) to align with Essex Design Guide by December 2024 (nzcbuildings.co.uk)	Low: prevent lock-in of future emissions and need to retrofit in 15-20 years.	Essex Planning Officers Association New net zero homes standard due 2023	All new housing achieves net zero status
That all Council owned, and managed buildings are net zero by 2040	Develop council procurement policy to support net zero/low energy lighting, equipment and buildings October 2023 Seek and secure funding bids for Government Decarbonisation fund to support retrofitting of Council stock	Low – accounts for less than 2% of district emissions	LGA Net Zero Energy Hub/ Salix	All council owned and managed services buildings achieve net zero by 2040 Streetlighting & communal areas in housing stock is energy efficient eg lighting
To maximise opportunities for renewable energy generation in the Borough.	Investigate suitability of bulk buy solar schemes eg KCC, with a view to registering and promoting in the Borough. Consider suitability of Heat Networks and Community energy schemes in new builds. Undertake feasibility studies for council properties for: on site renewables, by December 2023	Medium	Net Zero energy Hub	Currently 4.2MW of solar & wind. Aim to double capacity by 2030, and double again 2040.
That Council staff are carbon literate and understand how their service area can support net zero.	Roll out the SMT carbon literacy training to all staff at the council	Low	Internal comms/ staff induction	Workforce are carbon literate by 2025

Action Plan 2023-2026

Waste: Reduce waste at source move towards a circular economy				
Aims	Action by BBC	Climate (carbon) Impact	Partner Action	Desired Outcome
To reduce nonrecyclable waste levels and to increase recycling rates to 70%	To participate and support county and national recycling campaigns by September 2023. Develop Waste Collection Strategy for Borough by December 2023	medium	Community engagement	10% improvement in recycling of waste by 2030, 15% by 2040
The Council to consider whole lifecycle of materials purchased and when procuring services to minimize waste	Include waste minimisation in Council contract specifications by October 2023	Low	Suppliers	Reduction in waste disposal costs for Council Contract, 90% reduction by 2040.
To support elimination of waste and the over exploitation of our natural resources.	Support and participate in County crossborder project called 'Blueprint to a Circular Economy'	Medium	ECC	Circular economy principles embedded into the Borough



Action Plan 2023-2026

Partnership Working: supporting businesses, communities and schools to achieve net zero				
Aims	Action by BBC	Climate (carbon) Impact	Partner Action	Desired Outcome
To invest in zero and lowcarbon vehicles across the Council fleet.	To continue to provide workshops and resources for residents and local businesses on how to save energy, waste & water use	medium	BEBA	Reduction in business and domestic carbon emissions
To support industrial and commercial organisations to achieve non-domestic gas reduction and efficient use of electricity.	Continue to support the Brentwood Environmental Business Alliance for net zero services and funding opportunities	High: nondomestic gas and electricity emissions equate to 60.8ktCO2e	BEBA	10% reduction by in local vehicle traffic by 2030; 20% 2040.
To support and engage with local environmental and community groups to achieve net zero	Ensure the council is involved with and engaged in the work of local environmental and community groups	Low	Comms. Third sectorCVS	Third sector CVS working together on net zero Borough
To encourage schools in the Borough tobecome eco-schools and similar schemes.	Identify those schools keen to become eco schools encourage to take part in schools streets scheme by April 2024.	Low	ECC	All council owned and managed services buildings achieve net zero by 2040 Streetlighting & communal areas in housing stock is energy efficient eg lighting
To create more lowcarbon and renewable energy jobs.	Engage with local adult education andsocial housing partners to develop low carbon apprenticeship opportunities by April 2025.	Medium	ECC Colleges RSL's	Developing the local green workforce to deliver net zero projects



Key performance indicators

These are the key performance indicators which will be used to calculate the progress of the strategy, measured in the appropriate units.



Category	KPI
Transport	% reduction in transport CO ₂ emissions from 2018 levels
Built environment	% reduction in domestic CO ₂ emissions from 2018 levels
	% reduction in commercial and industrial CO ₂ emissions from 2018 levels
Natural environment	Number of trees planted per year
Waste	% reduction of CO ₂ e emissions from 2018 levels
	% of waste recycled, reused or composted
	Waste production per average household per year
Energy	Total electricity generated from renewable energy projects
Air quality	% reduction in nitrogen oxide levels
Behavioural changes	Number of businesses committed to reducing their environmental impact through working with BEBA



Next steps

This strategy plan will be reviewed on an annual basis.

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