Brentwood Borough Electric Vehicle ChargePoint Strategy 2024-30

December 2024

Executive Summary

The largest proportion of the boroughs carbon footprint is from transport emissions at 46% or 198,500tCO2e per annum[1]. The main approach to reducing those emissions, in light of the Climate Emergency declared by BBC in June 2023, is through the publics take up of electric vehicles and supporting electric vehicle charging infrastructure. There are currently 53 EV charge points in the Brentwood borough[6] of which 28 have been installed by the council in public/private partnership models.

By the end of 2026 there will be at least a further 50 charge points stations (ECC LEVI Phase 1 funding 1-2 sockets per charge point) bringing the total number of publicly accessible changepoints to at least 100. This is on track with the government modelling of requirements for Brentwood in the short term (up to 2025) but will need to quadruple by 2030 to around 400 charge points. The focus of the strategy will be to support residents with limited access to off-street parking and in areas where reliance on car travel is high.

The council will keep a “watching brief” on the “home charge sharing” model in which residents rent out the use of their chargers to the local community. At the end of June 2024, the UK had 930,000 chargers according to ChargeUK, a lobby group, but the majority of these have been installed in homes and business premises, with only about 65,000 public chargers available[2]. Companies such as “Co-Charger", “JustCharge” and “Zap Map” offer digital platforms for residents to take advantage of more competitive local charging infrastructure as well as mapping demand.

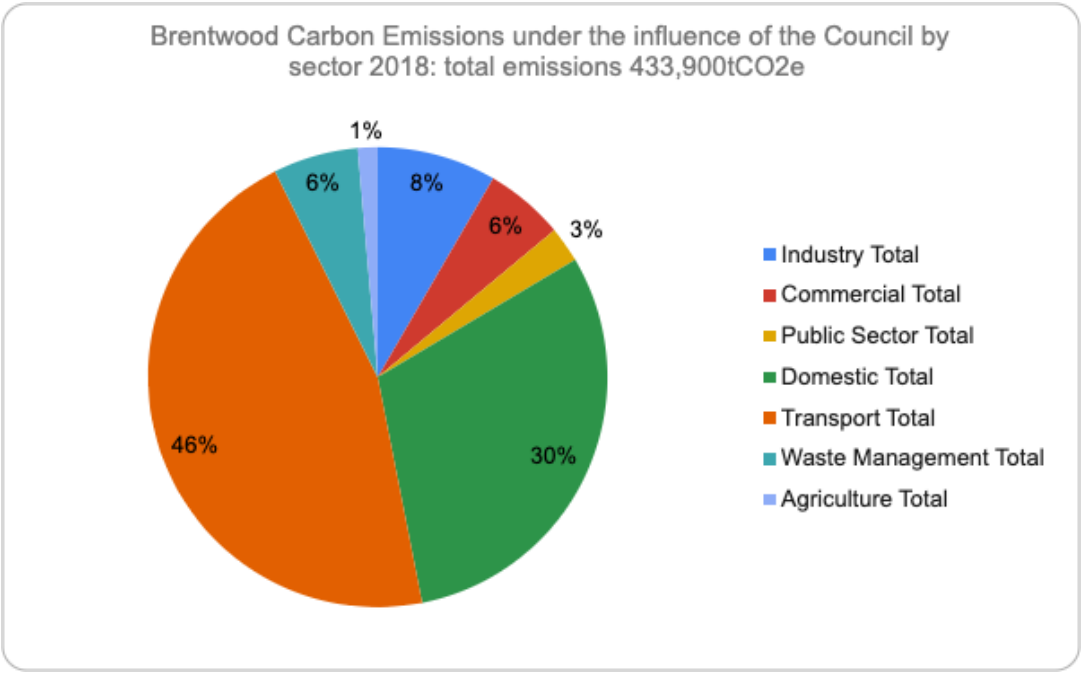
[1] 2018/19 baseline figures

[2] https://www.theguardian.com/business/article/2024/jul/15/electric-vehicle-ev-chargers-uk-installations#:~:text=There%20were%20930%2C000%20UK%20chargers,about%2065%2C000%20public%20chargers%20available.

1.0 Context & Targets

1.1 A net zero emissions target for 2050 is now UK law and the government recently announced an ambition to cut carbon emissions by 78% compared to 1990 levels by 2035. Net Zero means balancing out any greenhouse gas emissions produced by industry, transport or other sources by removing an equivalent amount from the atmosphere. The council has responded to this by setting a net zero carbon emissions strategy for its own and managed operations by 2030 and district wide by 2040.

1.2 In 2018, 46% of carbon emissions (198,500tCO2e) in the district were from transport. Reducing carbon emissions arising from use of petrol and diesel vehicles will therefore have positive local effects as well as contributing to UK and global targets. Supporting the use of electric vehicles (EV) within Brentwood will help to reduce carbon emissions from vehicle use within the borough. It will also have the benefit of improving local air quality, particularly along the main road corridors and town centres.



1.3 EV vehicles have no tail pipe emissions and the current government aims to decarbonise the electricity grid by 2030[3]. In 2023, renewables made up 43% of the UK's electricity supply, with wind power contributing 29.4%, biomass 5%, solar 4.9%, and hydropower 1.8%. This was the lowest share of fossil fuels in the UK's electricity supply ever, at 33%. The UK's electricity generation had the lowest carbon intensity ever, averaging 162 grams of carbon dioxide per kilowatt hour (gCO2/kWh)[4]

1.4 Electric cars are much cleaner than internal combustion engine cars over their lifetime.[3] A typical electric car today produces just half of the greenhouse gas emissions of an average European passenger car. Furthermore, an electric car using average European electricity is almost 30% cleaner over its life cycle compared to even the most efficient internal combustion engine vehicle on the market today

1.5 Battery manufacturing life-cycle emissions debt is quickly paid off. An electric vehicle's higher emissions during the manufacturing stage are paid off after only 2 years compared to driving an average conventional vehicle, a time frame that drops to about one and a half years if the car is charged using renewable energy.

2.0 Strategic Principles

2.1 BBC, with respect to its EV charge point strategy, are at the start of this journey and our Vision is aligned with Essex County Councils (ECC) to deliver "the Right Charger in the Right Place" by applying the following strategic objectives:

- To deliver an equitable electric vehicle charging network that promotes social justice through inclusive design, fair pricing and is accessible to all residents.
- To deliver a healthy environment for all by helping decarbonise the transport system, reducing emissions from transport and improving air quality.
- To guide and promote a resilient and safe charging network with infrastructure that is reliable, accessible, safe, compatible, easy to use and represents good value for money at installation and during its life.
- To integrate EVs with sustainable transport and future mobility solutions to support a reduction in overall car use.
- Better connecting residents, organisations, and visitors throughout Essex, where car travel is necessary, to support the uptake of electric vehicles.

[3] https://windeurope.org/newsroom/news/new-uk-government-plans-big-push-on-wind/#:~:text=The%20new%20UK%20Government%20is,from%2015%20to%2060%20GW.
[4] https://www.nationalgrid.com/stories/energy-explained/how-much-uks-energy-renewable

- To create better places using inclusively designed infrastructure that is sensitively placed in the right locations, complements our public spaces, and minimises the impact on communities.

2.2 The strategy focuses on how we can deliver EV charging infrastructure in the district and what we can enable others to deliver up to 2030. These measures will help pave the way for our longer-term ambitions for charging in the county.

2.3 We will look to deliver and help enable the following through engagement with residents and organisations:

- The Council will share an extensive list of sites with ECC's LEVI supplier
- Encouraging more businesses in the district to invest in (or allow private investment in) EV charging like the Halfway House did with the Osprey hub on the A127

Osprey new charging hub at Half Way House in Brentwood.

- Formal engagement with our housing association tenants on EV charging in those areas.

- Cross pavement channels: potentially developing a policy for allowing on the bits of public footway that the council own and engaging with ECC to push for a county-wide policy.
- On-street charge points for residential users where car travel is necessary.
- Charge points at key destinations that do not encourage increased car use (ie no new carparks that are dedicated soley to EV cars)
- Integration of EV charging with sustainable transport, shared and future mobility options.
- Electrification of our own council fleet to lead by example.
- A joined-up approach to wider network and cross boundary integration with neighbouring authorities, Transport East and National Highways.
- Policy, guidance and standards to make sure others are delivering the right infrastructure
- Keep a watching brief on the growth of the "home charging sharing mode" to determine need for EV charge point infrastructure in locations that lack off street parking.

3.0 Policy Framework

3.1 The current Brentwood Borough Council Local Plan 2022: Policy BE11: Electric and low emission vehicles states:

3.2 'All development proposals should wherever possible maximise the opportunity of occupiers and visitors to use electric and low emission vehicles and maximise the provision of electric vehicle charging / plug-in points and/or the space and infrastructure required to provide them in the future'.

3.3 Building Regulations: Permitted Development Rights allow, in most case (some exception apply due to highway safety), to have EV charging point installed without requiring planning permission

3.4 Building Regulations require EV charging points to be secured for new residential buildings, mixed use and non-residential buildings, dwellings resulting from a change of use, and other building projects including major renovations. The Building Regulations 2010 Infrastructure for the Charging of Electric Vehicles Approved Document S sets out the regulations that must be met.

3.5 The Council does not act as 'Approved Inspectors' (proposed to become Registered Building Control Approvers under a current Government consultation) for all development projects. But for the development projects where the

Councils are acting as the Approved Inspectors, EV charging points will be installed in line with the Approved Document

3.6 In regard to using Community Infrastructure Levy (CIL) funding for EV related infrastructure, this is something that could be considered by the managing committee once enough funding has been collected. The Council is currently in the process of setting up a governance arrangement and establishing a committee which will include both officers and members. Once this has been established, requests for CIL fees can be put forward for the committee to consider provided it meets the requirements set out within the CIL Regulations. It is likely that the Council will not have enough in the 'CIL Pot' for about 5 years and it will not fit in with the time scales of this report.

3.7 Moving forward it is proposed that (within the timeframes of planning guidance being updated) supplementary planning guidance is produced to support the update of the Brentwood 2022 Local Plan, that aligns with The Essex Design Guide[5] :

- For housing developments with garages and/or dedicated off-street parking, each new dwelling should be fitted with a standard (3-7kW) charge point.
- For housing developments with no off-street parking, 10% of the unallocated parking bays should have an active (i.e., wired and ready to use) charge point. A further 10% should have the necessary underlying infrastructure (i.e., cabling and ducting) to enable quick, simple installation later when there is sufficient demand.

4.0 Current Market and Growth Forecasts

[5] https://www.essexdesignguide.co.uk/design-details/layout-details/electric-vehicles/#:~:text=For%20housing%20developments%20with%20garages,and%20ready%20to%20use)%20chargepoint.

4.1 The EV market is rapidly evolving, and our Phase 1 Strategy intentionally focuses on what can be done in the next 5-6 years (up to 2030) to enable publicly accessible EV charge points in locations where:

- Alternative and more sustainable modes of travel are limited, and car travel is necessary
- There is little opportunity for private off-street charging.
- There are opportunities to integrate with sustainable travel.
- It is commercially unattractive to the private sector

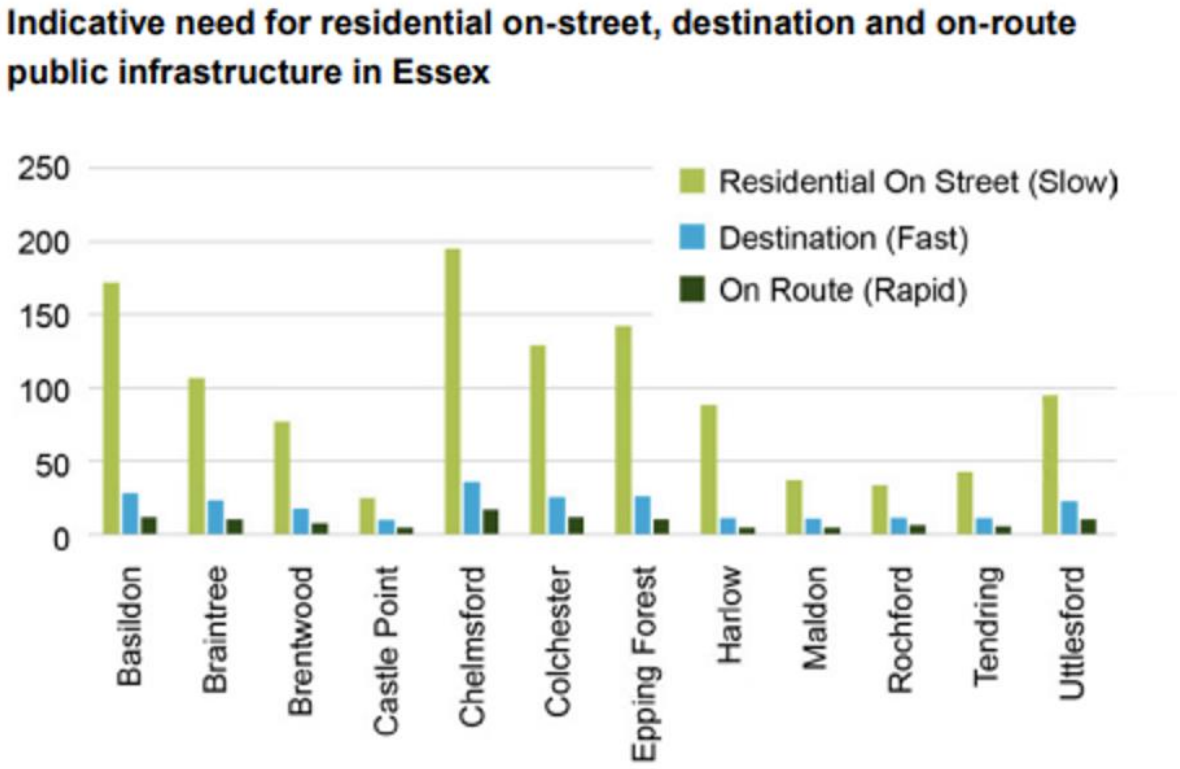


Figure 1 Indicative need for residential on-street, destination, and on-route public EV infrastructure by 2025[6]

4.2 The modelling baseline of currently 300 chargers (600 charge points cross Essex at time of report see current number of charge – points below) predicts 1,500 will be required by 2025 (table above) rising to 6,000 by 2030 (4x increase). Thus, for Brentwood around 75 residential (slow), 25 destination (fast) and 10 on route (rapid) chargers are needed by 2025 with. The focus of the strategy will be to support residents with limited access to off-street parking, and reliance on car travel is high.

5.0 Curent EV Charge Point Infrastructure Provision

5.1 In Brentwood borough there are currently 53 EV charge points in Brentwood borough[6] of which 28 have been installed by the council. At the production of this report utilisation is not known. Locations and devices are shown in the table below:

5.2 Newly added electric vehicle charging stations are located at two key sites: Chatham Way Car Park and King George's Playing Fields. The council has introduced 22 additional charge points.

Newly installed EV ChargePoint Infrastructure by Brentwood Council

Location	Postcode	Devices	Charge Cost	Installed by Council (public/private initiative)	Contractor
King Georges Car Park 1-3 Hartswood Close	CM13 2AH	2 fast (11kW) devices – 4 connectors	58p/kWh	Y	Believ
		3 rapid (>50kW) devices - 6 connectors	69p/kWh	Y	
Kings Georges Car Park Ingrave Rd	CM13 2AH	2 fast (11kW) devices – 4 connectors	58p/kWh	Y	Believ
Brentwood Town Hall Ingrave Rd	CM15 8AY	3 fast devices (16kW) - 3 connectors	79p/k/Wh	Y	Osprey
		1 rapid device (>50kW) 3 connectors	79p/k/Wh	Y	
Chatham Way Carpark, 1 Ropers Yard	CM14 4BG	4 fast devices (11kW) – 8 connectors	69p/kWh	Y	Believ
Basildon Service Station (Esso)	CM13 3EN	2 fast devices (22kW) – 2 connectors	36p/kWh	N	ChargePoint
Ingrave SF Connect (BP Pulse), 130 Brentwood Rd	CM13 3NY	1 ultra rapid device (up to 150kW) - 2 connectors	Pay as you go 83p/kWh Subscribe 69p/kWh	N	BP Pulse
The Halfway House Hub, West Horndon	CM13 3LL	6 rapid devices (up to 50kW) – 7 connectors	79p/kWh	N	Osprey
		6 ultra rapid devices (upto 300kW) – 6 connectors	79p/kWh	N	

Holiday Inn Brentwood, Brook Street	CM14 5NF	6 slow devices (7.4kW) - 6 connectors	61p/kWh	N	Fuuse
MFG Warley Service Station, A127	CM13 3ES	1 rapid device (22kW) -2 connectors	36p/kWh	N	MFG EV Power

5.2 The locations of council installed, and commercial EV charge points are shown below, as well as residential charge points shown by the “house icons”. These are residential properties that have EV charge points installed and Zap Map subscribers can book, charge and pay residents through the app.

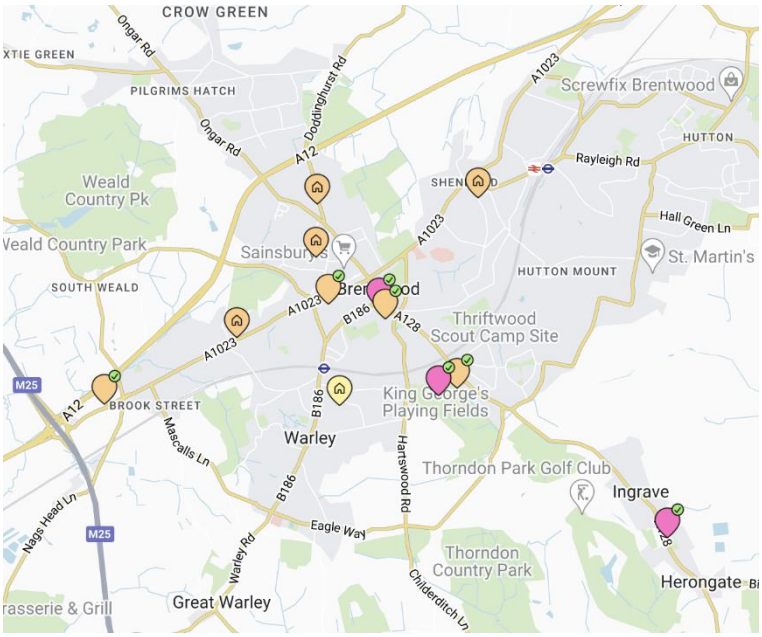


Figure 3 Zap Map for Brentwood Chargers;

Key: Pink Icons: Ultra Rapid Devices >300KW Yellow Icons Rapid >22kW , House Icons Shared domestic devices

5.3 This innovation to allow residents with EC charge point infrastructure enables residents to share the use of their home chargers, increasing local charge point availability as well as providing an income to residents. The Council communications team will work to support take up and raise the profile of this type of charging option.

5.4 Public EV Charge point Infrastructure Essex wide – October 2024

District	EV charge points
Harlow	130
Epping	88
Tendring	61
Chelmsford	54
Brentwood	**53**
Basildon,	52
Colchester	51
Southend on Sea	46
Thurrock	36
Maldon	36
Rochford	35
Braintree	35
Uttlesford	22
Castle Point	3
Total	**702**

6.0 Funding for New EV ChargePoint Infrastructure

6.1 BBC will continue to monitor current utilisation of its five sites with changepoints and be looking to introduce new changepoints based on the strategic principles outlined above and current utilisation.

6.2 We have applied to ECC to take advantage of The Local Electric Vehicle Infrastructure (LEVI) funding which is fundamental to the delivery of these charging points.

ECC LEVI Phase 1 funded Charge Points

6.3. ECC are supporting our EV ChargePoint ambitions with **Phase 1 LEVI support expected to deliver at least 50 charge points (1-2 sockets per charge point) in residential areas that lack off street parking as well as carparks, installation is expected to start in 2025 and completed by the end of 2030.** This will be delivered in consultation with the Housing team to match demand from residents.

6.4 The Council will work with ECC to ensure there is adequate EVCP provision in appropriate locations which supports residents who do not have access to off-street parking and wider sustainable travel objectives.

6.5 There are two main grant schemes available to us, the On-Street Residential Charging Grant, and the Workplace Charging Grant. These cover 75% and 50% of the installation costs of charging points. There is no provision in the grant for future maintenance.

6.6 We are cautious in investing our limited capital funds in an innovative and evolving technology. We lack the resources internally to stay on the cutting edge of developments and see the market as the main holders of this knowledge and expertise. Therefore, our preferred option for **delivery and ongoing management, operation and maintenance is the use of third party supplier**. Other than drawing down on Government Grants for electric vehicle charging, we do not intend to use any other Council funds to deliver this scheme.

6.7 **Moving forward.**

- Collate a long list of sites for consideration for delivery by our delivery partner.
- Continue to work with market-based partner to work with us to provide the charging point network.
- Develop a 5-year rolling delivery programme for charging points across the district. This delivery programme will aim to achieve the installation of 400 charging points across the borough by 2030 in line with the ECC study on projected EV infrastructure requirements. The focus of the strategy will be to support residents with limited access to off-street parking and in areas where reliance on car travel is high.