LONDON BOROUGH OF CAMDEN

Carbon Management Plan

V6.3: FINAL

January 2023

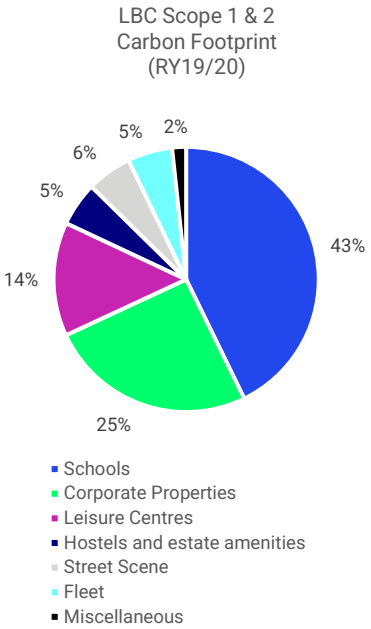
Executive Summary

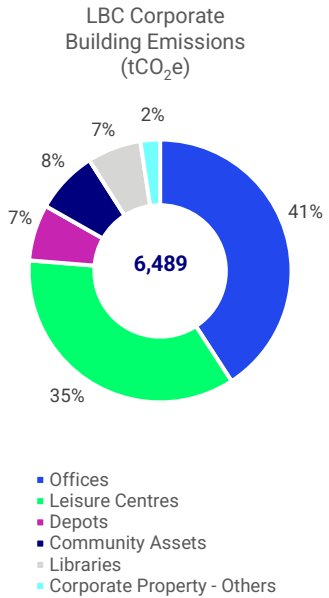
Background

- London Borough of Camden (LBC) has formally declared a climate and ecological emergency and committed to doing all that it can to make Camden Net Zero by 2030. This Carbon Management Plan (CMP) sets out how LBC will build on decarbonisation efforts and identifies the approaches that can be employed to reduce emissions from its own estate and operations between now and 2030. While focussed on decarbonisation of the corporate estate (including leisure centres), the CMP also considers the need for schools, street scene, fleet and miscellaneous emission sources to reduce in line with net zero 2030.

Carbon Footprint

- The CMP is set against a baseline of FY 2019/20. The total Scope 1 and 2 emissions in 2019/20 for LBC's estate and operations were **16,553 tCO_2e.** At approx. 39% of LBC's Scope 1 and 2 carbon footprint, decarbonisation of its corporate estate would represent a significant carbon impact for LBC. Given the level of control (financial and operational) that LBC has over its corporate estate, this is envisaged as an area where progress towards net zero 2030 can happen quickly and efficiently.
- When only the corporate estate and leisure centres are considered the overall emissions are **6,489 tCO_2e** for 2019/20.
- 78% of emissions associated with corporate buildings (incl. leisure centres) arise from just ten key buildings, with almost 85% of emissions coming from the top 15 buildings.
- The remaining 45 sites comprise only around 15% of the total corporate estate's emissions. Some of the largest energy users on this list are also due for disposal in the coming years (or have already been disposed of), which will further reduce the overall proportion of emissions from these lower energy users.





Executive Summary

Ambition & Carbon Budgets

- LBC's ambition is to decarbonise its estate and operations in line with Camden's net zero 2030 goal, as opposed to formally achieving net zero itself. This CMP is not intended to align strictly with any net zero standard, rather to provide LBC with an assessment of how far it can decarbonise its estate and operations by 2030.
- In order to align itself with Camden's net zero target, it is anticipated that an approach of gradual decarbonisation between now and 2030 will be undertaken by LBC. The current Business-As-Usual' (BAU) projection estimates a 'gap to target' of 5,216 tCO_2e in the year 2025, with this increasing to a 'gap to target' of 10,569 tCO_2e in the target year of 2030.
- This highlights the scale of the reductions required across the council's operations and built estate and also shows that increased action is required every year towards 2030 if alignment with net zero is to be achieved. Early adoption is recommended so that LBC can avoid requiring large emission reductions closer to 2030, which will likely come at greater financial cost to the council.
- While alignment with Camden's net zero 2030 target is a commendable aspiration, transparent communication of this aspiration and subsequent actions should be the primary validation of LBC's climate credentials.

Governance

- Successful implementation of this CMP and alignment with net zero 2030 will require a step-change in decarbonisation activity across LBC's estate and operations. Sustained momentum will need to be created through a strong governance structure and clear communication across the Council. In recognition of this, it is recommended that a 'CMP Programme Manager' be put in place to drive the implementation of the CMP. It is envisaged that the CMP Programme Manager would lead on engaging with stakeholders and external consultants/contractors to identify and develop CMP projects to be fed into an internal approval process.
- Stakeholder engagement during the course of CMP development highlighted that most teams and individuals working across the Council view net zero 2030 as an aspiration LBC should be working towards, however, various examples were given of how the current governance structure and approach are seen as a barrier to decarbonisation. It is crucial that LBC's management approach to decarbonisation is aligned with implementation of the CMP and net zero 2030.
- A summary of performance against the carbon budgets set out within the CMP should be incorporated into LBC's annual GHG reporting, along with commentary on the CMP projects that have contributed to this and explanations of any variance from budgeted emissions.

Executive Summary

Decarbonising Corporate Buildings

- In preparation for this plan, 14 decarbonisation surveys were completed across a sample of corporate buildings. The outputs from these surveys have been evaluated by the Carbon Trust to determine how these can be scaled and replicated across the corporate portfolio. The survey outputs vary in terms of detail, with 4 of the commissioned surveys considering both building fabric and technology upgrades, while the other 10 surveys are focussed largely on technology upgrades. This is reflected in both the savings and costs, which are both higher in the 4 more detailed surveys.
- Survey recommendations include LED lighting, Air Handling Unit (AHU) upgrades, secondary glazing, pipework insulation, heat pumps, building fabric upgrades, cavity wall insulation, Building Management System (BMS) upgrades, solar photovoltaics, thermal stores, loft insulation, and pool covers.
- There is potential for significant emission reductions to be achieved across the corporate estate in the coming years. Leisure centres are particularly significant energy users and so have been separated out as their own category to highlight the specific savings potential at these sites.

Site / Building	Annual Elec. Saving (kWh)	Annual Gas Saving (kWh)	Annual tCO_2e Saving	Capital Cost (£)[1]	Annual Bill Savings (£)[2]
Corporate Properties	79,700	2,295,100	442	23.1m - 28.9m	£217,000
Leisure Centres	- 128,066	6,602,500	1,181	12.2m - 15.3m	£664,900
Decarbonisation Survey Sites	46,300	3,697,500	696	19.5m - 24.5m	£327,700
Totals	**-2,066**	**12,595,100**	**2,320**	**54.8m - 68.7m**	**£1.2m**

- The figures in the summary table are a result of extrapolation of the decarbonisation surveys carried out across a range of building categories and archetypes. The savings estimated through the decarbonisation surveys were translated to the remaining buildings in the corporate estate. The extrapolated savings for gas and electricity were then assigned the same £/kWh saving figure that was achieved through the surveys to provide the high-level extrapolated costs outlined above.

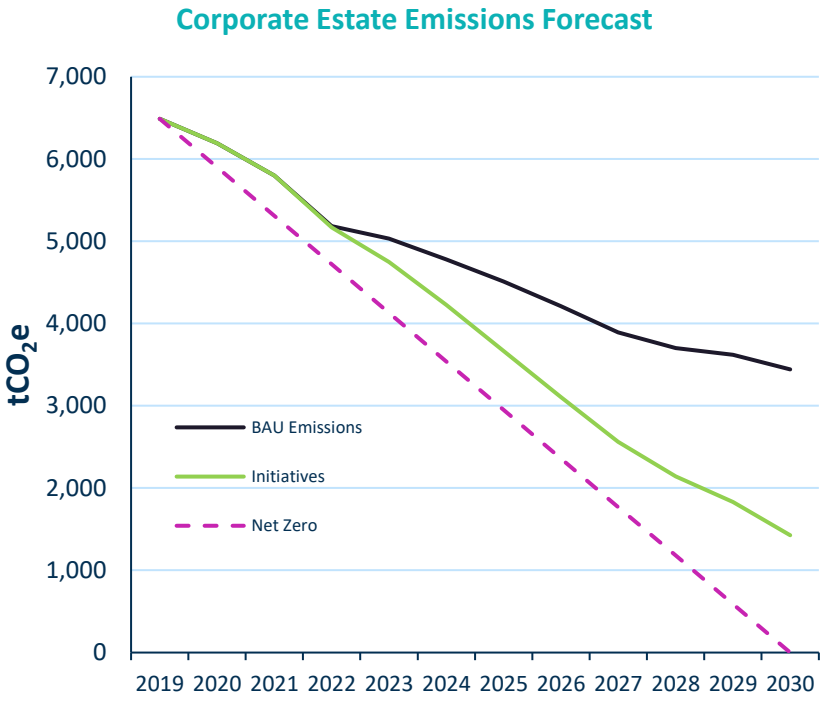
[1]It should be noted that these figures are based on an extrapolation of a small sample size. Actual capital costs and energy savings achievable will be affected by the significant variation in building use, building condition and building size, all of which affect the impact potential. These figures should therefore be treated as high-level as a result of the variations in decarbonisation surveys carried out by third parties on behalf of LBC. It is expected that once detailed site assessments are carried out on individual sites for investment-grade energy efficiency retrofit proposals, the costs outlined in this report may increase, e.g. once enabling costs such as upgrades to electrical infrastructure are considered.

[2] See Appendix E for further details

Executive Summary

Corporate Estate

- Extrapolated numbers have been applied to the corporate estate emission projections to produce an estimated emission pathway with decarbonisation measures installed, set against the business-as-usual pathway.
- The energy saving measures identified in the surveys, and their associated changes to baseline gas and electricity consumption, were then used to extrapolate the estimated savings that can be achieved if LBC were to carry out similar deep energy efficiency retrofit works across its whole corporate estate.
- Actions identified from the decarbonisation surveys have been estimated to cost £19.5 – 24.5m and save 3,698MWh of gas with an electricity saving of 46MWh. There would then be an additional 8,897MWh gas saving and a 48MWh electricity uplift– due to the replacement of gas-fired heating systems with electric heat pumps - when the measures were extrapolated to the remaining corporate estate buildings. Leisure centre decarbonisation has a significant influence on this modelled extrapolation and is discussed in more detail later in this document.
- It is estimated that £23.1 – £28.9m would be required to carry out the retrofit works across the remaining corporate estate (excl. properties with decarbonisation surveys and leisure centres). It should be noted that some of these properties are small sites with only nominal electrical loads so there is a large variation in work and cost required per individual corporate building. The decarbonisation of leisure centres is expected to cost an additional £12.2 - 15.3m.
- The projected emission pathway with the energy saving initiatives installed across the corporate estate would make significant emission reductions over the 2019 baseline, and achieve a 2,016 tCO_2e reduction over the BAU in 2030.



Executive Summary

Decarbonisation Scenarios

It is recognised that funding, resource and speed of implementation are all difficult to predict into the future. Therefore, four decarbonisation scenarios have been estimated for the operational footprint of LBC. These scenarios are outlined below:

- **Business as usual:** The BAU scenario assumes that Camden takes no further action on decarbonisation. This scenario only factors in the planned estate rationalisation and the reduction in carbon intensity of the national electricity grid.
- **Current Ambition:** The current ambition scenario assumes the BAU case plus the currently planned decarbonisation projects (approved funding and PSDS applications as of November 2022). This scenario also assumed a 25% conversion of the vehicle fleet to battery electric vehicles (BEV) and 50% of the Net Zero carbon Schools plan being met. This scenario would result in a gap-to-target of 7,780 tCO_2e in 2030.
- **Medium Ambition:** This scenario builds on the current ambition scenario by also carrying out decarbonisation projects on the remaining top 10 energy users in the corporate estate, in addition to those already targeted outside the top 10. It also assumes a 50% conversion of the vehicle fleet to BEVs and a 75% conversion of the net zero carbon schools strategy. The medium ambition scenario would have a gap-to-target of 4,820 tCO_2e in 2030.
- **High Ambition:** Decarbonisation projects are carried out across the whole of LBC's corporate estate. There is 100% conversation of the vehicle fleet to BEV and 100% of the reductions outlined in the Net Zero Carbon Schools by 2030 strategy are accomplished. This scenario would reduce LBC's Scope 1 and 2 emissions to 3,060tCO_2e in 2030.