

Sustainable Development Select Committee	
Report Title	Lewisham Climate Emergency update
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1. Summary

- 1.1 This report provides the Committee with an update on the work following the Council's declaration of a climate emergency in 2019. The primary focus of this update is research commissioned by officers intended to create an evidenced-based approach to delivering on the proposed target for the borough to be carbon neutral by 2030.
- 1.2 The research findings summarised below include:
- Definitions and the scope of the modelling work to assess the route to achieving a target for the borough to be carbon neutral by 2030;
 - Calculation of a baseline of the borough's carbon emissions;
 - The development of scenarios and actions to quantify and cost the work needed to achieve the target;
 - Identification of other sources of emissions outside the scope but still of relevance in terms of the Council's response.
- 1.3 The report also presents the emerging themes underpinning the Council's approach and the work to deliver the action plan proposed in the Council's declaration of a climate emergency. These include:
- The scale and potential impact of the climate crisis requires us to be ambitious;
 - Action on climate change at a local level is, first and foremost, action for social justice since a changing climate will impact most significantly on the vulnerable and those with lowest income;
 - Taking action on climate change creates opportunities to deliver wider benefits for health, wellbeing and the local economy;
 - We commit to an evidenced-based approach, but the scope of our ambition should also extend beyond what is easily measured locally, because many of these factors, such as aviation and food, have a significant impact on climate change;
 - Delivery of a target to be carbon neutral by 2030 cannot be achieved by the Council working alone and we will lobby central government and others to secure the action and investment needed at a national level;
 - Achieving a carbon neutral future is as much about culture change as it is about infrastructure. Communication and engagement with partners and with residents

will be of fundamental importance. To do this in a credible way the Council must demonstrate leadership in terms of its own estate and operations.

- 1.4 Lewisham Council's funding from government has been cut by over 58% since 2013/14, while at the same time, the Council has faced increased costs through population growth, changes to government policy and other pressures. There is no extra funding available to local authorities that declare a climate emergency and we will need to find creative ways to find the resources needed to support this work. In particular we should press the government for additional support in line with their commitment to deliver a low carbon economy and clean growth.
- 1.5 Delivering on the declaration of a climate emergency is a 10 year programme. The scenarios and actions described in the trajectory modelling have been developed to demonstrate the scale of action needed to achieve a target to be carbon neutral by 2030. It should be noted that this report makes no commitment to those actions within the scenarios which have a range of financial, legal and logistical implications that would need to be resolved. Further detail on this will be set out in the Climate Emergency Action Plan scheduled for Mayor and Cabinet in March.

2. Recommendations

- 2.1 The Committee is invited to note the contents of this report, and in particular the fundamentally challenging nature of a target for the borough to be carbon neutral by 2030. The Committee is invited to comment on the findings of the trajectory research and the emerging themes of our approach to responding to the declaration of the climate emergency.

3. Policy Context

- 3.1 In 2016, the UK Government ratified the Paris Agreement, part of the United Nations Framework Convention on Climate Change. The Agreement commits countries to take action to prevent the global average temperature increasing 2°C above pre-industrial levels. In 2017 the Government published its Clean Growth Strategy setting out its approach to delivering on its greenhouse gas emission targets and in 2019 the Government approved legislation committing the UK to a legally binding target of net zero emissions by 2050.
- 3.2 Lewisham's Corporate Plan 2018-22 includes commitments to maximise opportunities for energy efficiency and to provide support on energy bills for vulnerable residents.
- 3.3 In February 2019 Lewisham Council declared a Climate Emergency and proposed a target to make the borough carbon neutral by 2030.

4. Background

- 4.1 In February 2019 Lewisham Council agreed a motion to declare a 'Climate Emergency' and asked Mayor and Cabinet to agree a new climate change action plan by the end of 2019/20 with the aims of making the borough carbon neutral by 2030.
- 4.2 26 London boroughs have now declared a climate emergency, setting a variety of targets. 14 London boroughs have set a similar target to Lewisham's.
- 4.3 An officer-based working group has been established under Executive Director Kevin Sheehan tasked with ensuring a coordinated approach across housing, the corporate estate, transport, regeneration, planning and other services.
- 4.4 In August 2019 officers appointed Aether consultants to provide additional evidence to underpin the Council's action plan. The 'Route to Neutral' research was designed to make recommendations in relation to:
- defining and measuring the carbon neutral target;
 - establish a baseline for Lewisham;
 - identifying and costing the range of actions required to reach the target.

5. 'Route to Neutral' research

Definitions

- 5.1 There are three commonly used terms in relation to carbon reduction:
- Zero Carbon: this means the reduction of CO₂ (and possible CO₂e) emissions to zero, without considering removals or offsetting;
 - Net Zero Carbon: the balancing of carbon emissions against carbon removals or offsetting with the net result being zero;
 - Carbon neutral: this is effectively the same as net zero carbon.
- 5.2 The research recommends that in the context of Lewisham's declaration of a climate emergency the term "carbon neutral" follows the definition used by the Committee on Climate Change (CCC)¹. This is considered to mean that a net-zero (i.e. carbon neutral) target requires "deep reductions in emissions, with any remaining sources offset by removals of CO₂ from the atmosphere". This removal requires either the purchase of carbon offsets, or direct carbon removal through additional carbon removal and storage activity on an organisation's estate.
- 5.3 "Carbon neutral" is also taken to include all greenhouse gases covered under the UN Framework Convention on Climate Change's Kyoto protocol², measured in terms of their carbon dioxide equivalence (CO₂e).

¹ <https://www.theccc.org.uk/>

² https://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29_1.pdf

5.4 A key consideration for the research was the extent to which the definition includes all ‘scopes’ and how the boundary is set. Table 1, below, shows the definitions of scopes used within the international Greenhouse Gas Protocol for emissions. Upstream and downstream emissions (scope 3) are likely to outweigh scope 1 and 2 emissions but will also be the most challenging to both quantify and address.

Table 1: Scope definitions

Scope	Definition
Scope 1	GHG emissions from sources located within the borough boundary
Scope 2	GHG emissions occurring as a consequence of the use of grid-supplied electricity, heat, steam and/or cooling within the borough boundary
Scope 3	All other GHG emissions that occur outside the borough boundary as a result of activities taking place within the borough boundary

5.5 The research adopted the following criteria in relation to the baseline and analysis:

- The geographical boundary is the area covered by the Lewisham Borough Council administrative area;
- The baseline for data is the 2017/18 financial year. The 2017 calendar year will be used where financial year data is not available;
- The target year is financial year 2030/31;
- The target will be assessed and calculated on the basis of CO₂e;
- The baseline and trajectory is based on scope 1 and 2 emissions that are measurable at a borough level.

Carbon offsetting

5.6 Carbon offsetting enables individuals and organisations to compensate for any emissions they cannot avoid or reduce, by paying for an equivalent amount of emissions to be reduced or removed elsewhere. These emissions savings can be achieved through a wide variety of projects such as planting trees³ or investing in renewable energy.

5.7 The Committee on Climate Change warns that offsetting is not a panacea and that to reach net zero, “most sectors will need to reduce emissions close to zero without offsetting”. The variety of different approaches that claim to involve carbon offsetting has created justified scepticism. Any credible offset strategy needs to be based on the highest standards of verification and ensure that any carbon offset is additional, avoids leakage, is not double-counted and meets other recognised quality criteria for carbon offsetting.

³ There are a wide range of benefits associated with tree planting including drainage, biodiversity, adaptation to high temperatures, and visual and psychological benefits. There are also challenges and therefore costs involved in large-scale planting of trees in an urban setting. An offsetting strategy based on trees alone would require a high land take and would need to remain undisturbed for the long term. One hectare of trees is estimated to contain around 430 tonnes of carbon. The CO₂e baseline calculated in this study based on scope 1 and 2 emissions is 804,961.

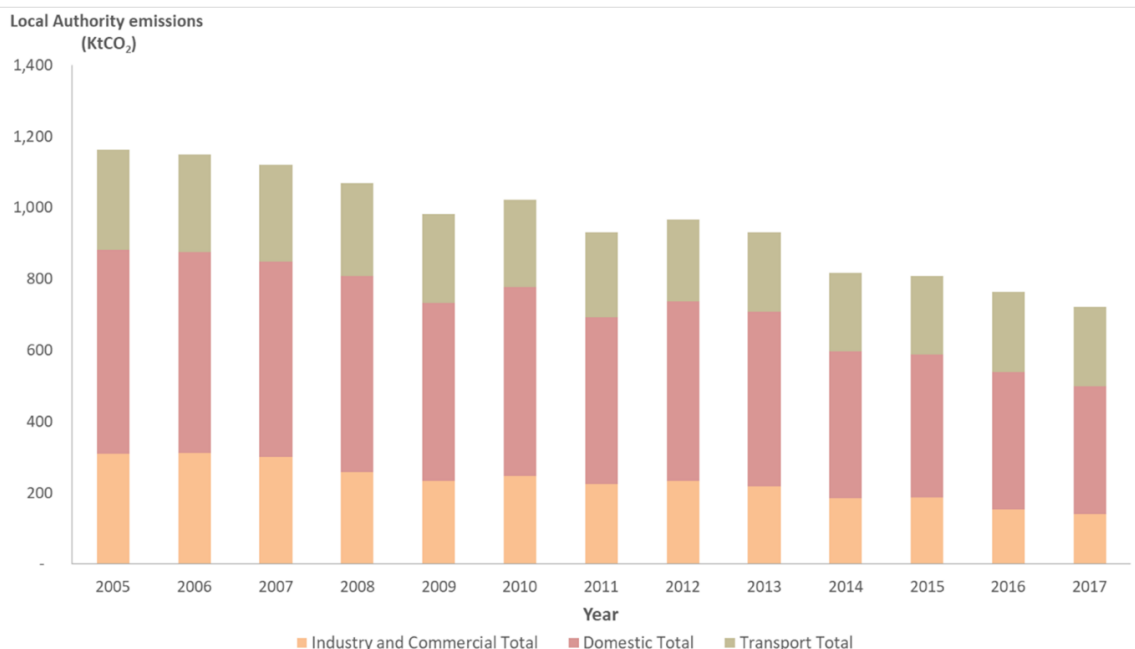
5.8 The option of offsetting is used as the means to demonstrate how a target for the borough to be carbon neutral could be achieved. The Council makes no commitment to carbon offsetting. Any offsetting at a local level in the context of the target would be from 2030/31 onwards.

Baseline

5.9 The research uses government statistics on domestic and non-domestic energy consumption, transport, waste and agriculture as the primary data sources to compile the baseline for Lewisham⁴.

5.10 The data set spans the years 2005 to 2017. Over that period emissions from homes and from business & industry have decreased, mainly driven by the decarbonisation of electricity generation, while transport emissions have remained relatively constant.

Figure 1: Carbon emissions in Lewisham, 2005-2017⁵



5.11 In Lewisham, the 2005-17 data set identifies a 38% reduction between 2005 and 2017, slightly above the level achieved for London as a whole (37%). The data set also indicates that residents in urban areas have a lower carbon footprint, and Lewisham has the second lowest per capita emissions in the country.

⁴ Sources: Sub-national weather uncorrected gas sales and numbers of customers, 2017; Sub-national electricity sales and numbers of customers, 2017; Sub-national estimates of non-gas, non-electricity and non-road transport fuels in 2016; Road transport energy consumption at regional and local authority level, 2017 Waste Data Flow for Lewisham Council; 2005-17 UK local and regional CO₂ emissions tables; [All BEIS]

⁵ <https://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics>.

5.12 The research estimates total emissions in Lewisham in the baseline year 2017/18 at 804,961 tonnes CO₂e. Emissions by sector are presented in Figure 2 and Table 2.

Figure 2 Estimated CO₂e emissions for Lewisham Borough in 2017/18

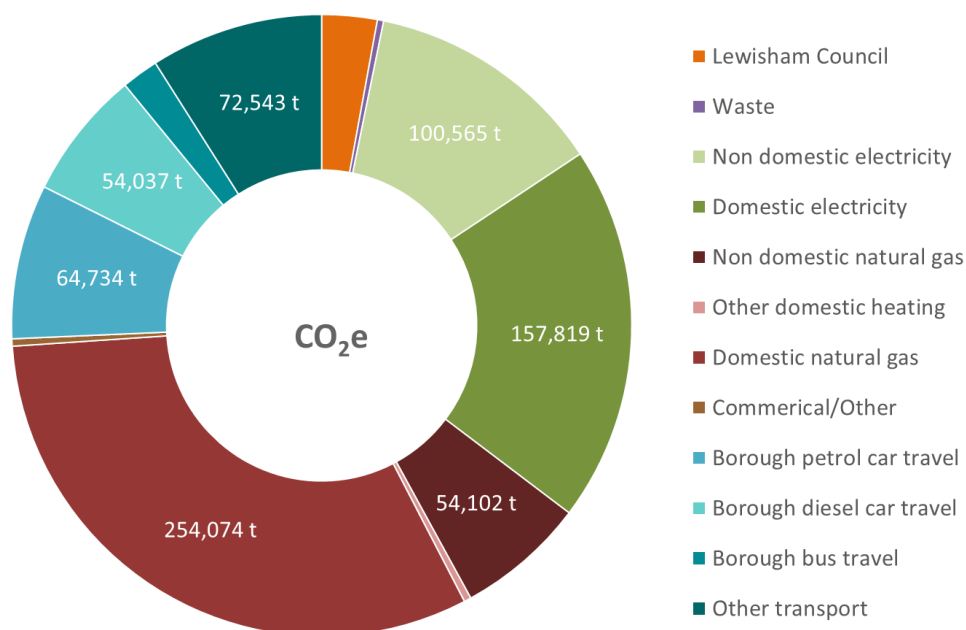


Table 2 Estimated CO₂e emissions for Lewisham Borough in 2017/18

Sector	2017/18 (t CO ₂ e)	% of total emissions
Lewisham Council	23,203	2.9
Waste	2,635	0.3
Non-domestic electricity	100,565	12.5
Domestic electricity	157,819	19.6
Non-domestic natural gas	54,102	6.7
Domestic natural gas	254,074	31.6
Other domestic heating	2,959	0.4
Commercial/Other	3,049	0.4
Borough petrol car travel	64,734	8.0
Borough diesel car travel	54,037	6.7
Borough bus travel	15,508	1.9
Other transport	72,275	9.0
Total	804,961	

Notes: **Commercial/ other** comprises consumption of fuels other than gas and electricity, as estimated by BEIS. **Other transport** comprises HGVs, LGVs, motorcycles and rail travel. **Waste** emissions account for emissions from the incineration of waste at SELCHP

Building the trajectory

- 5.13 The baseline was modelled to 2030/31 using expected reductions in carbon delivered through decarbonisation of the grid balanced against increases expected through population growth. The research developed the trajectory model by identifying potential actions across the categories shown below in table 3.

Table 3 Categories used for scoping potential actions

Category	Scope
Housing	Actions to reduce emissions from social and private (owner occupied and private rental) housing
Road transport	Actions to reduce emissions from all road transport, including the council fleet
Lewisham Council's own estate	Actions to reduce emissions from council buildings (inc. LA schools) and operations, excluding council fleet
Other public buildings	Actions to reduce emissions from other public buildings inc. non-LA schools and hospitals
Commercial	Actions to reduce emissions from buildings and processes in commerce and industry
Energy generation	Low carbon / renewable energy development opportunities
Waste	Actions to reduce emissions from waste
Green space and other land use	Opportunities to develop green and blue infrastructure
Other	Any other actions to reduce emissions

- 5.14 Three scenarios were developed and each action in the model assigned to one of the scenarios. These scenarios were conceptualised as phases of implementation rather than alternative options. Assigning actions to the different scenarios was a judgement, based on an assessment of:
- The extent to which the action was agreed or committed to, e.g. backed by a specific policy commitment and/or with a committed timescale for delivery.
 - The extent to which the action was funded.
 - The extent to which the action was within the influence of Lewisham Council.
 - The cost of the action.
 - The level of ambition of the action.
 - The extent to which the action was novel or speculative in terms of technology or scale of implementation, i.e. whether it had already been implemented elsewhere.
- 5.15 Interdependencies between actions were recognised as far as possible, and efforts made to eliminate double counting. For this reason behaviour change, communication and engagement campaigns have not been modelled as individual actions. However, it is acknowledged that these are key drivers behind many of the actions in the modelling study, most significantly for transport and domestic measures where individual choices have a large bearing on the effectiveness of a measure.

5.16 The scenarios developed were defined as follows:

- **Core Actions** - This scenario includes actions deemed broadly within the current scope of the council and other stakeholders over a 10 year horizon. This is in the context of a local authority already committed to action on reducing emissions. The actions include some that are currently planned as well as those that have not received full clearance or budget allocation. The name Core Action is used to reflect the analysis of the Committee on Climate Change regarding action needed to reach net zero emissions. It should be noted however that delivery of 'Core Actions' cannot be taken for granted and requires resource and prioritisation to deliver. Implementing the full scenario will present significant challenges.
- **Radical Stretch** - This scenario contains actions which extend significantly the actions under the Core Actions scenario or assume wholesale action on individual sectors, such as the full electrification of the taxi fleet. This scenario includes the projects which are currently not well formed and would be considered ambitious due to costs, technological readiness or other barriers to public uptake. They all require significant investment but the rewards, in terms of lower energy costs and additional co-benefits, will also be higher. This scenario covers actions needed by a wide range of other agencies locally including the rest of the public sector, local business and residents. The Council's role to inform, encourage and inspire action will be an important part of the action needed to support this work.
- **Systemic Change** - This scenario includes actions that are currently much more ambitious in terms of technology change and developing new infrastructure and/or scaling up of technology as well as legislative changes and fiscal policies. It will therefore require significant investments elsewhere before the actions can be realised. These actions are assumed to be delivered late in the timeframe and very much dependent on other factors.

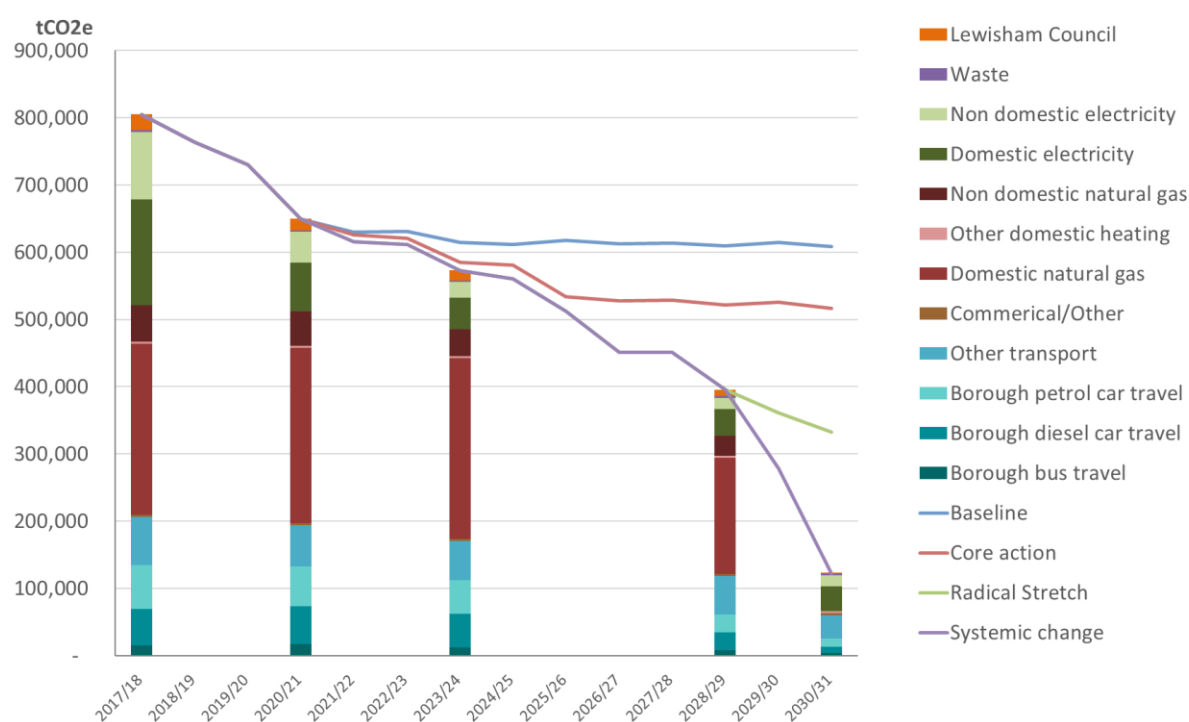
5.17 The list of projects by scenario are set out in an annex to this report. Table 4 summarises the results of the trajectory modelling in terms of the reductions achieved through each scenario and an estimate of the cost of offsetting residual carbon. Figure 3 below presents the pathways each of the scenarios delivers in relation to carbon reduction.

Table 4: Estimates of emission reductions delivered by scenario with estimated offsetting cost by 2030/31

Scenario	Emission reduction from Baseline 2030/31		Borough wide		Lewisham Council	
	tCO2	% reduction	Remaining emissions (tCO2)	Cost of carbon offset (£M)	Remaining emissions (tCO2)	Cost of carbon offset (£M)
Core Actions	92,505	15%	505,365	34.6	11,054	0.76
Radical Stretch	276,663	45%	324,578	22.2	7,683	0.53
Systemic Change	486,665	80%	122,129	8.4	129	0.01

Note: Reductions for each scenario are calculated against the baseline figures of 608,924 tCO2

Figure 3 Summary of the emission reduction scenarios



5.18 Table 5 presents the estimated costs of each scenario attributed to different sectors.

Table 5: Estimates of the costs of actions and their related revenue savings

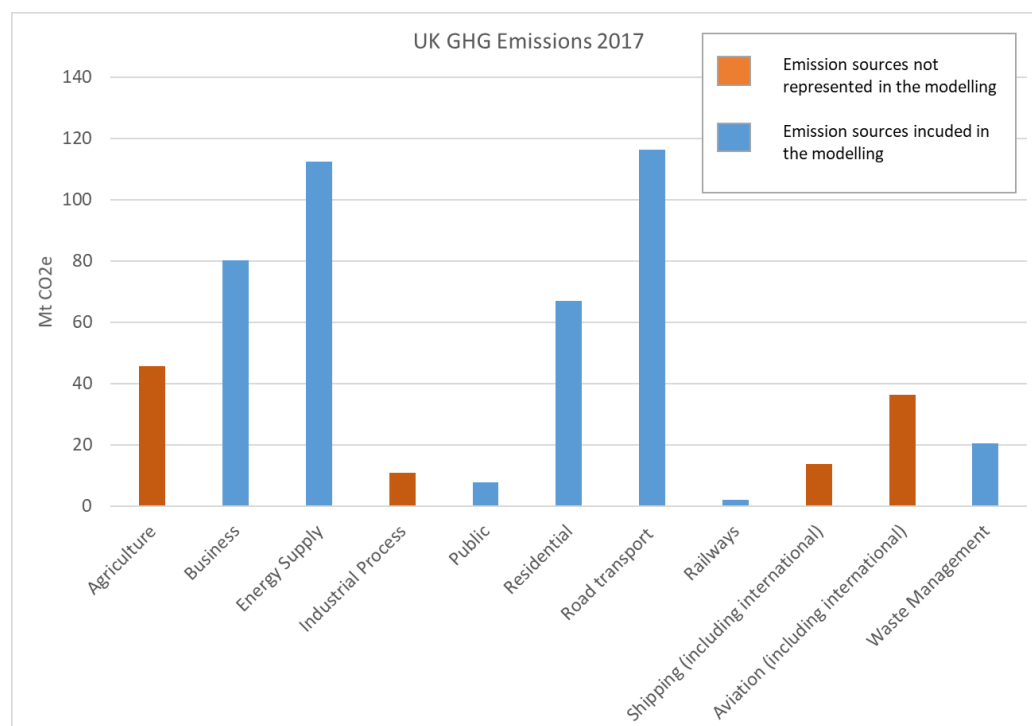
Scenario / Sector	Capital Cost (£M)	Revenue Savings (£M) 2030/31
Core action	226	59
Lewisham Council	2.4	0.4
Lewisham homes	77	7.6
Other social housing	53	5.2
Schools	28	1.0
Other Public sector	2.6	1.2
Transport	42	29
Commercial	13	8.8
Energy Generation	7.2	5.8
Radical Stretch	803	76
Lewisham Council	10	0.6
Lewisham homes	119	3.2
Other social housing	82	2.2
Schools	32	0.5
Other Public sector	2.6	1.2
Private housing	484	30
Transport	47	28
Commercial	13	8.8
Energy Generation	12	1.4

Systemic change	591	61
Lewisham Council	50	0.6
Lewisham homes	37	2.1
Other social housing	25	1.5
Schools	117	1.0
Private housing	359	35
Transport	NO DATA	14
Commercial	NO DATA	4.0
Energy Generation	3.2	2.5
Grand Total	1619	196

Other emission sources

- 5.19 One of the difficulties in using modelling to support policy development is that there are some emissions sources or types of action which do not lend themselves to quantification. Modelling is limited by the availability of useful data, but the production of final output results can mask the fact that not all sources or actions can be considered. This is very much the case in carbon accounting, especially when accounting for complex systems, such as in a city borough.
- 5.20 The modelling described in this report has been limited to activities which generate emissions directly within the Borough of Lewisham plus emissions associated with the generation of electricity used within Lewisham. This therefore excludes emissions produced during the production and transport of goods (food and other products) and services purchased and used in Lewisham. It also excludes travelling outside Lewisham such as flights.
- 5.21 However, the emissions from these excluded sources are important and still need to be considered in plans to reduce emissions in Lewisham. The relative importance of the emissions can be indicated by considering their sectoral contribution to UK total greenhouse gas inventory. Figure 10 below shows UK total emissions for sectors which have not been included in the modelling, in orange, alongside those sectors that are in some way included. The total of the emission sources not represented in the modelling is 21% of the UK emissions.

Figure 4: UK Total Greenhouse Gas Emissions (excluding land use change) showing sources that are represented and those not included in the Lewisham modelling



Analysis

- 5.22 The aim of achieving a carbon neutral borough by 2030 is ambitious and extremely challenging, but the analysis within the trajectory research shows that, with concerted efforts by all sectors, it is feasible.
- 5.23 The scenarios have been developed as way to articulate the scale and range of actions needed to deliver on the target. While the scenario 'Core Actions' is intended to represent actions within the scope of current activity the financial pressures the Council faces now and over the coming years means even implementing this scenario will present significant challenge.
- 5.24 The Council's emissions represent 2.9% of the baseline. The major sources responsible for emissions in the borough are outside the Council's control and will require significant investment by private businesses and residents who will need strong incentives to achieve this. It will also require a greatly accelerated rate of decarbonisation in the generation of electricity nationally and road transport at a London-wide level.
- 5.25 Housing represents half the borough emissions in the baseline year 2017/18 and transport a quarter. These sectors will need to be a priority in each of the scenarios but responsibility for action is complex. Assuming the Radical Stretch scenario is delivered the most significant remaining challenges are residual emissions arising from domestic gas and road transport. Resolving this means wholesale replacement of gas heating in almost all domestic properties, with conventional electric heating or air source heat pumps and significantly accelerating decarbonisation of road

vehicles. This will require fundamental changes to infrastructure and social-economic factors requiring significant action at a national level. The Council's role working with other organisations to push for this action remains an important part of the approach needed but it is recognised that actions in this scenario are highly uncertain.

- 5.26 Estimating costs across the different actions in the scenarios is challenging. The consultants sought to use external sources wherever possible but judgement was needed to fill gaps, with the exception of some actions in the Systemic Change scenario for which no estimates could be made. The estimates of capital costs, cost savings and carbon impacts should be considered as indicative.
- 5.27 A capital cost of more than £1,600 million has been estimated for the implementation of all actions up to and including the Systemic Change scenario. This is likely to be a significant underestimate. Of these costs £63 million are estimated to fall directly to the Council, £177 million for work across the schools' estate, £233 million to Lewisham Homes and an additional £160 million to other social housing providers. There also needs to be significant and sustained action by a range of other stakeholders, such as private homeowners and small businesses in the borough, particularly in the Systemic Change scenario, which is why the costs of this scenario fall predominantly outside the Council. Lobbying and partnership work by the Council and local authorities in London and nationally will be essential in securing the action needed to deliver on climate emergency ambitions.
- 5.28 Under the Systemic Change scenario, it is estimated that emissions in the borough would be reduced to 122kt CO₂e, a reduction of 80% from the baseline scenario. While this still is somewhat short of net zero, it would represent a considerable achievement and a very great acceleration in the process of decarbonising the UK economy. Such a reduction requires extensive national, regional and local investment but also brings with it significant co-benefits, including revenue cost reduction. Offsetting the remaining emissions in the Systemic action scenario in 2030/31 has been estimated to cost £8.4 million in 2030/31.

6. Lewisham Climate Emergency Strategic Action Plan

- 6.1 Officers are developing the Lewisham Climate Emergency Action Plan as required by the Council's declaration, with a report currently scheduled for the Mayor and Cabinet meeting on the 11 March.
- 6.2 This Action Plan needs to cover a 10 year programme of work and, given the financial pressures on the public sector, and the range of uncertainties that exist over that timeframe, it will not be a fully costed set of commitments for every area of potential action. It is instead intended as the framework establishing the route map for a carbon neutral Lewisham and for bringing together the resources needed to achieve that outcome.

- 6.3 Key themes that have emerged in the context of the Council's work to date include:
- The scale and potential impact of the climate crisis requires us to be ambitious;
 - Action on climate change at a local level is, first and foremost, action for social justice since a changing climate will impact most significantly on the vulnerable and those with lowest income;
 - Taking action on climate change creates opportunities to deliver wider benefits for health, wellbeing and the local economy;
 - We commit to an evidenced-based approach, but the scope of our ambition should also extend beyond what is easily measured locally, because many of these factors, such as aviation and food, have a significant impact on climate change;
 - Delivery of a target to be carbon neutral by 2030 cannot be achieved by the Council working alone and we will lobby central government and others to secure the action and investment needed at a national level;
 - Achieving a carbon neutral future is as much about culture change as it is about infrastructure. Communication and engagement with partners and with residents will be of fundamental importance. To do this in a credible way the Council must demonstrate leadership in terms of its own estate and operations.
- 6.4 The trajectory research underlines the significance of housing and transport in relation to the borough's emissions but also shows the importance of a concerted effort across all sectors and the need to integrate consideration of climate change and carbon in all aspects of the borough. In seeking to do this the action plan will include the following strands:
- The wider social, economic and environmental benefits of taking action on climate change;
 - Our approach to demonstrating leadership and delivery of a carbon neutral corporate estate;
 - Our ambitions for affordable sustainable housing now and for the future;
 - Making Lewisham a place where the low carbon choice of travel is the easy choice;
 - Community energy and support for vulnerable residents at risk of fuel poverty;
 - A greener, adaptive borough that uses and enhances our natural resources to respond to the climate crisis;
 - Galvanising the power of the borough's combined resources and beyond by inspiring, informing, engaging and lobbying for change.

7. Financial implications

- 7.1 There are no financial implications arising directly from this report but delivery of an ambitious programme to cut emissions across the Council's corporate estate and the borough as a whole has potentially significant cost implications. The trajectory research calculates a total cost of £1,600 million over 10 years and acknowledges that this is likely to be an underestimate. Of the above costs estimated, £63 million are estimated to fall directly to the Council, £177 million for work across the schools' estate and £233 million to Lewisham Homes.

- 7.2 Lewisham Council's funding from government has been cut by over 58% since 2013/14, while at the same time, the Council has faced increased costs through population growth, changes to government policy and other pressures. There are no extra resources available to local authorities that declare a climate emergency and we will need to find creative ways to find the resources needed to support this work.
- 7.3 Agreement of funding for specific actions identified in this report will be subject to the Council's existing delegations and decision-making processes.

8. Legal implications

- 8.1 There are no legal implications arising directly from this report. The main strategic statutory requirement on local authorities in relation to energy and carbon emissions is the Home Energy Conservation Act (1995), which was updated by Government in July 2012 to require all English local authorities with responsibility for housing to publish a report that outlines measures the local authority 'considered practical, cost-effective, and likely to significantly improve the energy efficiency of residential accommodation in its area'.
- 8.2 The Climate Change Act (2008) commits the UK government by law to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050.

9. Equalities implications

- 9.1 There are no equalities implications arising directly from this report. The impact of a changing climate is already having an effect globally and locally this falls most heavily on the most vulnerable in society. These impacts include rising prices of basic commodities, including food and energy, and the impact of extreme weather events such as high temperatures as well as storms and flooding. In addition the measures being considered nationally and locally to respond to the threat of climate change will also have a distributional effect that unless carefully understood could have a disproportionately negative impact on low income and vulnerable residents. This needs further assessment and officers are engaging with the corporate equalities board to assess and address these issues.

10. Climate change and environmental implications

- 10.1 This information is set out in the body of this report.

11. Crime and disorder implications

- 11.2 There are no specific crime and disorder implications arising directly from this report.

12. Health and wellbeing implications

- 12.2 There are no specific health and wellbeing implications arising directly from this report however the points raised above in relation to equalities apply to residents with long-term health conditions. The consequences of living in a cold or damp

home in terms of health outcomes are well established. Action on fuel poverty is a key local priority that needs to be aligned with the Council's climate emergency work

13. Background papers

Council declaration of a climate emergency (February 2019)

<http://councilmeetings.lewisham.gov.uk/documents/s62942/Motion%20%20proposed%20Cllr%20Anwar%20seconded%20Cllr%20Krupski.pdf>

Annex: Actions included in the modelling and associated carbon savings and estimated costs

Sector	Action Description	Ref	First year savings	Owner of action	Carbon savings ktCO2e	Yearly Cost Saving (£M)	Capital Cost (£M)
Core action scenario							
Lewisham homes	Insulation package - social homes	H4	2025/26	Lewisham Homes	17	4.7	50
Commercial	Enhance energy efficiency in the commercial & industrial sector Phase 1	C1	2023/24	private sector companies	13	8.8	13
Transport	Cleaning the bus fleet	T6	2021/22	TFL	12	23	35
Other social housing	Insulation package - social homes	H4	2025/26	Social housing providers	12	3.3	34
Lewisham homes	Heating systems upgrade package - social homes	H2.1	2025/26	Lewisham Homes	6.2	2.0	22
Transport	Improve walking and cycling infrastructure	T4	2022/23	TFL / LBL	4.8	4.9	1.5
Transport	Expansion of the ULEZ	T9	2025/26	TFL	4.6	2.7	No data
Other social housing	Heating systems upgrade package - social homes	H2.1	2025/26	Social housing providers	4.2	1.4	15
Transport	Package of workplace travel measures	T1	2025/26	LBL/TFL and companies	4.1	-2.4	4.0
Energy Generation	Convoys Wharf and Neptune Wharf Heat network	EG2	2028/29	LBL / private sector companies	3.2	5.8	7.1
Other Public sector	Enhance energy efficiency of non-council public buildings Phase 1	PS1	2023/24	various public sector orgs	2.6	1.2	2.6
Lewisham homes	Lower cost measures package - social homes	H1.1	2023/24	Lewisham Homes	2.2	0.8	5.2
Other social housing	Lower cost measures package - social homes	H1.1	2023/24	Social housing providers	1.5	0.5	3.6
Transport	All electric council fleet (not including waste fleet)	T13	2026/27	LBL	1.1	0.4	1.2
Schools	Retrofit building management systems (Schools)	CE3s	2025/26	Schools/ LBL	0.7	0.3	2.0
Schools	School travel plans	T11	2022/23	Schools/ LBL	0.7	0.4	0.1
Schools	Insulation and heating upgrades in council schools	CE5s	2027/28	Schools/ LBL	0.6	0.1	25
Lewisham Council	Retrofit building management systems (Corporate estate)	CE3c	2025/26	LBL	0.5	0.2	1.3
Lewisham Council	Insulation and heating upgrades in council buildings (not schools)	CE5c	2027/28	LBL	0.4	0.1	0.6
Transport	Rationalise suppliers of goods & services to the council	T12	2025/26	LBL	0.2	0.1	0.1

Sector	Action Description	Ref	First year savings	Owner of action	Carbon savings ktCO2e	Yearly Cost Saving (£M)	Capital Cost (£M)
Transport	Low carbon council fleet	T2	2021/22	LBL	0.1	0.1	0
Schools	Replace old building lights with LEDs	CE2	2023/24	Schools/ LBL	0.1	0.1	0.6
Energy Generation	Lewisham Gateway Gas CHP Heat Network	EG4	2024/25	LBL / private sector companies	0.1	0.02	0.1
Lewisham Council	Replace old building lights with LEDs	CE2	2023/24	LBL	0.05	0.1	0.4
Schools	Energy saving awareness raising among council staff	CE8	2023/24	Schools/ LBL	0.02	0.04	0.04
Lewisham Council	Energy saving awareness raising among council staff	CE8	2023/24	LBL	0.02	0.02	0.02
Schools	Installation of renewable heat generation on council buildings	CE7	2026/27	Schools/ LBL	0.01	0.002	0.1
Lewisham Council	Installation of renewable heat generation on council buildings	CE7	2026/27	LBL	0.01	0.002	0.04
Schools	Installation of renewable electricity generation on council buildings	CE6	2026/27	Schools/ LBL	0.002	0.004	0.03
Lewisham Council	Installation of renewable electricity generation on council buildings	CE6	2026/27	LBL	0.002	0.002	0.02
Radical Stretch Scenario							
Private housing	Insulation package - private homes	H4	2026/27	private owners/landlords	40	10.8	113
Transport	Maximise cycling potential	T14	2028/29	TFL	35	20.5	14
Private housing	Heating systems upgrade package -private homes	H2.1	2026/27	private owners/landlords	14	4.6	51
Commercial	Enhance energy efficiency in the commercial & industrial sector Phase 2	C2	2028/29	private sector companies	13	8.8	13
Transport	Improve electric vehicle infrastructure	T3	2021/22	TFL / LBL	10	4.7	0.1
Private housing	Lower cost measures package - private homes	H1.1	2024/25	private owners/landlords	9.9	3.6	24
Private housing	Lower cost measures package (additional) - private homes	H1.1+	2029/30	private owners/landlords	9.9	3.6	24
Energy Generation	Catford/Lewisham Hospital district heating schemes	EG3.2	2030/31	LBL / private sector companies	7.0	0.7	8.4

Sector	Action Description	Ref	First year savings	Owner of action	Carbon savings ktCO2e	Yearly Cost Saving (£M)	Capital Cost (£M)
Private housing	Heating systems upgrade 'stretch' package - private homes	H3.1	2029/30	private owners/landlords	6.6	1.8	82
Transport	100% electric taxis through taxi licensing	T10	2029/30	TFL	6.5	2.7	32
Lewisham homes	Heating systems upgrade 'stretch' package - social homes	H3.1	2029/30	Lewisham Homes	5.9	1.7	55
Private housing	Insulation 'stretch' package - private homes	H5	2030/31	private owners/landlords	5.6	1.5	64
Other social housing	Heating systems upgrade 'stretch' package - social homes	H3.1	2029/30	Social housing providers	4.1	1.2	38
Private housing	Solar hot water - private	H6.2	2029/30	private owners/landlords	3.2	0.9	40
Other Public sector	Enhance energy efficiency of non-council public buildings Phase 2	PS2	2029/30	various public sector orgs	2.6	1.2	2.6
Private housing	Solar PV - private	H6.1	2029/30	private owners/landlords	1.5	3.1	87
Energy Generation	Lewisham Homes blocks district heating	EG5	2023/24	LBL	1.2	0.2	1.5
Lewisham homes	Solar hot water - social housing	H6.2	2029/30	Lewisham Homes	1.1	0.3	14
Transport	Electric waste fleet	T13.1	2026/27	LBL	1.0	0.4	1.1
Energy Generation	Deptford / New Cross district heating	EG6	2026/27	LBL / private sector companies	0.9	0.1	1.1
Other social housing	Solar hot water - social housing	H6.2	2029/30	Social housing providers	0.8	0.2	9.7
Schools	Further installation of renewable heat generation on council buildings	CE10	2029/30	Schools/ LBL	0.6	0.1	3.5
Lewisham homes	Solar PV - social housing	H6.1	2029/30	Lewisham Homes	0.5	1.1	30
Schools	Schools REFIT funded further insulation and heating upgrades	CE11	2029/30	Schools/ LBL	0.5	0.1	27
Lewisham Council	Further installation of renewable heat generation on council buildings	CE10	2029/30	Schools/ LBL	0.4	0.1	2.3
Other social housing	Solar PV - social housing	H6.1	2029/30	Social housing providers	0.4	0.7	21
Lewisham Council	Corporate estate further Insulation and heating upgrades	CE13	2029/30	LBL	0.3	0.1	0.5

Sector	Action Description	Ref	First year savings	Owner of action	Carbon savings ktCO2e	Yearly Cost Saving (£M)	Capital Cost (£M)
Energy Generation	Hither Green district heating scheme	EG3.1	2030/31	LBL / private sector companies	0.3	0.05	0.3
Lewisham homes	Insulation 'stretch' package - social homes	H5	2029/30	Lewisham Homes	0.3	0.1	19
Other social housing	Insulation 'stretch' package - social homes	H5	2029/30	Social housing providers	0.2	0.05	13
Lewisham Council	Replace old street lights with LEDs	CE1	2021/22	LBL	0.2	0.3	6.1
Schools	Further installation of renewable electricity generation on council buildings	CE9	2029/30	Schools/ LBL	0.2	0.2	1.8
Lewisham Council	Further installation of renewable electricity generation on council buildings	CE9	2029/30	LBL	0.1	0.2	1.2
Energy Generation	Bond House / Goodwood Road district heating	EG7	2030/31	LBL / private sector companies	0.1	0.2	0.2
Energy Generation	Community energy developments	EG1	2025/26	LBL / private sector companies	0.1	0.1	1.0

Sector	Action Description	Ref	First year savings	Owner of action	Carbon savings ktCO2e	Yearly Cost Saving (£M)	Capital Cost (£M)
Systemic Change Scenario							
Private housing	Other methods to reduce domestic gas use e.g. biogas, hydrogen, replacement with heat pumps	H7	2030/31	private owners/landlords	55	15.0	No data
Transport	Other methods to reduce road transport emissions, including further electrification of private vehicles and significant investment in public transport infrastructure.	T15	2030/31	LBL / private individuals & companies	45	13.7	No data
Private housing	Insulation additional 'stretch' package - private homes	H5 +	2029/30	private owners/landlords	35	9.6	138
Private housing	Heating systems upgrade additional 'stretch' package - private homes	H3.1 +	2029/30	private owners/landlords	34	10.7	221
Commercial	Other methods to reduce non-domestic gas use e.g. biogas, hydrogen, replacement with heat pumps	C3	2030/31	private sector companies	19	4.0	No data
Schools	Full school retrofit across the entire schools' estate	CE12	2030/31	Schools/ LBL	4.6	1.0	117
Lewisham homes	Insulation additional 'stretch' package - social homes	H5 +	2029/30	Lewisham Homes	4.4	1.2	17
Lewisham Council	Catford regeneration resulting in Carbon neutral council office space	CE14	2030/31	LBL	3.0	0.6	50
Other social housing	Insulation additional 'stretch' package - social homes	H5 +	2029/30	Social housing providers	3.0	0.8	12
Lewisham homes	Heating systems upgrade additional 'stretch' package - social homes	H3.1 +	2029/30	Lewisham Homes	3.0	0.9	19
Other social housing	Heating systems upgrade additional 'stretch' package - social homes	H3.1 +	2029/30	Social housing providers	2.1	0.6	13
Energy Generation	Arklow Rd, Marine/Cannon/Deptford Wharves & Yeoman Str district heating	EG9	2030/31	LBL / private sector companies	1.3	2.5	3.0
Energy Generation	Grinling Gibbons and Deptford Green schools district heating	EG8	2030/31	LBL / private sector companies	0.1	0.01	0.2

