

Enfield Council

Carbon Emissions Review 2019/20



Enfield Council's Carbon Emissions Review - 2019/20

The Climate Change Task Force is pleased to see that overall Council emissions fell by around 2,498 tCO₂e in 2019/2020 but we can do better and it is now time for us to pick up the pace with our essential action to reduce our carbon emissions.

This past year has been dominated by the construction and launch our Climate Action Plan and meticulously plotting the 100+ actions and related performance measures. Enfield Council has committed to ambitious carbon reduction targets, becoming a carbon neutral organisation by 2030 followed by a carbon neutral borough by 2040.

In terms of progress, there has been a reduction in the emissions the Council has direct control of and those we influence, as well as borough wide emissions. Whilst this is positive, there is still a lot to be done, particularly in respect of our own electricity and gas usage, so this will be a priority for the next year.

We are realistic in our assessment of progress and, given the embedding of a climate action approach across such a large organisation will take time, we recognise that this will mean our trajectory will see reductions increasing more significantly in later years. This is something that is apparent on the Climate Action Plan timeline so we will undertake more work to make sure we identify and then meet key milestones.

One thing that has become apparent is that by doing things differently as an organisation, for example by delivering services directly rather than via third parties, there is a shift in carbon emissions which we need to consider and account for as we progress.

Overall, it is also clear that we are just beginning our climate action journey but in recent months we have still made significant progress including:

- **COUNCIL** – All reports now include Environment and Climate Change Considerations. This is alongside engagement across directorates via the climate action team.
- **ENERGY** – Continued delivery of LED replacement programme. There has also been a move to 100% renewable energy for Council buildings and housing requirements, with the latter being 2 years ahead of target.
- **RETROFIT** - Starting deep retrofit of a large Council housing block and joining Waltham Forest as joint lead for a London-wide retrofit programme.
- **SCHOOLS** – Delivering school streets to support safe access, as well as starting work on a climate action handbook to help them to be more sustainable.
- **STRATEGY** – Adopting a Meridian Water Environmental Sustainability Strategy and started preparing a borough wide Blue Green Infrastructure Strategy.
- **TRANSPORT** – Commenced trials of Low Traffic Neighbourhoods and secured additional funding for electric vehicle charging points. Both with support from national and regional Govt.

Looking forward, whilst this past 12 months has been, and will continue to be a challenging year for many reasons, it will also be the first year when the Council has a framework for taking climate action, so we must push towards a more significant decrease in our emissions in 2020/2021.

Cllr Ian Barnes. Chair of the Climate Change Task Force.

2018/19 Carbon Emissions Baseline

Between September and November 2019, Enfield Council calculated a new baseline to measure the carbon footprint of our own operations. To do this a number of outputs were measured, such as electricity used, and then multiplied by the Government derived carbon factor (which is higher for activities that emit more carbon) for that particular emission to give the tonnes of carbon dioxide emitted. The calculation applied is:

Energy (kWh) x carbon factor / 1000 = tonnes of carbon dioxide equivalent (also known as tCO2e).

The baselining exercise involved looking at carbon emissions for the things the Council directly controls:

Scope 1	Carbon emissions from the council's building gas usage and vehicle fleet.
Scope 2	Carbon emissions from council's building electricity usage and street lighting.

For scopes 1 and 2, the baseline figure for 2018/19 was 21,908 tCO2e¹. This will be the carbon emissions figure against which we will measure our progress as an organisation up to 2030.

It also looked at things the Council directly influences:

Scope 3	Carbon emissions from sources the council does not own or control including travel, council homes and capital goods.
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For 2018/19 these amounted to 81,257 tCO2e.

This means that the Council's total baseline footprint was 103,165 tCO2e².

This review outlines performance for 2019/20, as compared to 2018/19, and then considers some of the areas that should be focused on in the next 12 months.

¹ In the Climate Action Plan 2020 this was reported as 21,907 tCO2e due to a rounding error.

² In the Climate Action Plan 2020 this was reported as 103,164 tCO2e due to a rounding error.

2019/20 Carbon Emissions Headlines

- Total Council emissions fell by 2,498 tCO₂e, around 2.4%.
- Scope 1 emissions increased by 7.9% - This was due to increased gas consumption as well as higher diesel and gas oil purchasing.
- Scope 2 emissions fell by 10.3% - This was helped by a small reduction in the carbon factors and further grid decarbonisation.
- Overall combined Scope 1 and 2 emissions fell by 0.9% - The trajectory needed for Enfield to reach its end of the decade carbon neutral targets is an average of between 7.9 and 9.1% per annum.
- Scope 3 emissions fell by 2.8% - Gas usage has increased, while electricity usage has fallen. There are caveats around the figure because of the availability of information (for example the number of new homes had not been confirmed by the GLA) and there could be Covid-19 related impacts.
- Borough wide emissions fell by 1.5% - The proportion split by type remained broadly similar. The tool used for the 2018/19 baseline calculation had not been updated, which means an alternative national data set has been used.

Scope 1 Emissions

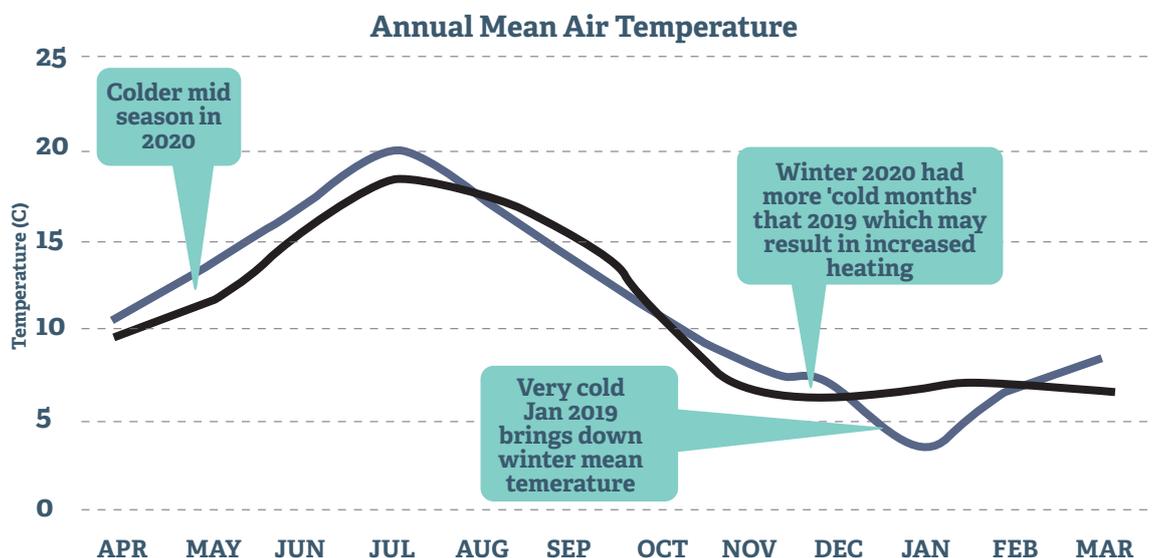
	2017/18	2018/19 (CAP Baseline Year)	2019/20
Fleet Diesel	2,522.64	2,469.85	2,604.57
Gas - Council offices and other buildings	9,440.64	2,044.69	5,388.63
Gas – Libraries and community centres	Gas figures not split by type	1,921.55	286.19
Gas - Schools		4,762.94	3,804.80
Gas Oil	35.45	0.00	2.78
Totals	11,998.73	11,199.03	12,086.97

Scope 1 emissions increased by 7.9% in 2019/20 with higher figures in all areas.

The fleet diesel increase is largely due to additional vehicles being used as more services were provided directly by the Council rather than being outsourced. This should lead to a reduction in Scope 3 emissions.

Gas oil is used by back up heating systems so the increase is most likely due to a gas fired system being out of operation for a period of time.

There was an increase in gas usage of around 300,000 kWh (around 0.6% higher than the previous year). Further investigation has shown that whilst the average temperatures in 2019/20 indicated a milder year, there were longer periods which were colder than in 2018/19 so would have contributed to heating requirements:



Scope 2 Emissions

	2017/18	2018/19 (CAP Baseline Year)	2019/20
Electric - Council offices and other buildings	11,655.43	8,230.72	4,711.23
Electric – Libraries and community centres	Figures not split by type	Figures not split by type	286.53
Electric - Schools			2,334.04
Electric - Street Lighting	3,264.25	2,478.25	2,272.91
Totals	14,919.68	10,708.97	9,604.71

Scope 2 emissions decreased by 10.3% in 2019/20. This figure was helped by changes to the carbon factors, which reduced the impact of electricity due to the increasing national use of renewable sources to provide green electricity.

The street lighting usage would also have been lower had the delivery of the LED replacement programme not been delayed due to Covid-19.

Scopes 1 and 2 Emissions

	2017/18	2018/19 (CAP Baseline Year)	2019/20
Scope 1	11,998.73	11,199.03	12,086.97
Scope 2	14,919.68	10,708.97	9,604.71
Totals	26,918.41	21,908.00	21,691.68

The combined Scopes 1 and 2 total shows a 0.9% reduction in the Council's direct emissions between 2018/19 and 2019/20. Whilst this is positive it is below the indicative average reduction (between 7.9 and 9.1% each year) needed for the Council to meet its 2030 target.

Whilst this is something that needs to be addressed, it must be recognised that it will always take time for momentum to build, particularly from a standing start, so the focus needs to be on the long-term trajectory which, as outlined in the Climate Action Plan, will see emissions reduce more significantly as delivery progresses.

Offsetting

Our primary focus will continue to be the reduction of our emissions with a proportionate level of offsetting. The Climate Action Plan forecasts that offset of around 5,850 tCO₂e would be required by 2030. Based on the current trajectory, if the Council does not take enough action to tackle direct emissions, this could increase to approximately 18,450 tCO₂e by the end of the decade.

Scope 3 Emissions

		tCO ₂ e		
		2017/18	2018/19	2019/20
Water	Water supply	47.9	47.9	47.9
T&D	Transmission and distribution (T&D) All	1,089.8	701.6	622.5
	T&D street lighting	305.2	211.3	190.0
Business travel	Car petrol (by size) Medium assumed	79.7	82.7	84.2
	Car diesel	48.9	50.7	48.8
	Car hybrid	0.9	1.1	1.3
	Plug in hybrids	1.6	3.3	4.1
	Full electric vehicle	0.6	0.9	1.3
	Motorbike (medium assumed)	0.1	0.2	0.2
	Taxi (regular)	0.0	0.0	0.2

Air Travel	Domestic	0.4	0.0	0.2
	Short Haul	4.9	0.2	0.9
Hotel stays	UK wide	1.6	0.8	0.3
	UK (London)	0.0	0.0	0.6
	Hotels total	1.6	0.8	0.9
Outsourced services	Fusion Leisure (gas)	1,630.9	1,416.3	1,441.4
	Fusion Leisure (electricity)	1,362.0	1,063.0	874.8
Totals	Excluding Homes	4,574.4	3,580.0	3,318.4

Homes	New build homes (K Goods)	-	45,440	45,440
	Enfield Council Homes	-	32,237	30,217

Scope 3 totals	To nearest whole number	-	81,257	78,975
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Between 2018/19 and 2019/20 there was an overall reduction in combined Scope 3 emissions of around 2.8% or 2,282 tCO₂e.

There are some areas where the data could be improved to enhance the estimate:

- **Business travel** – More detailed information on the type of vehicle used in respect of staff mileage.
- **Embodied carbon** - Understanding embodied carbon in goods and services is vital to identifying the sources of the Council's overall emissions.
- **Enfield Council homes** – This estimate has been refined to allow a distinction to be made between flats and houses. An asset assessment could further refine this.
- **New build homes** – GLA housing figures had not been updated. Consideration could be given to using an alternative if this occurs again.
- **Staff commuting** – A staff travel survey is required to determine what type of transport people use to commute and estimate related emissions.
- **Waste** – There needs to be an assessment of the waste produced by Council operations, in particular from buildings.
- **Water** – There needs to be more data to improve the estimate.

Scopes 1 to 3 Emissions		
	2018/19	2019/20
Scopes 1 to 3 total	103,165	100,667

There was an overall reduction in combined Scopes 1 to 3 emissions of around 2.4% or around 2,498 tCO₂e. This is more than the offset from planting 1 million trees.

Borough wide emissions

The Climate Action Plan 2018/19 baseline figure for borough wide emissions was calculated using the Setting City Area Targets and Trajectories for Emissions Reduction (SCATTER) tool, which included a specific assessment of waste related emissions. However, the underlying data has not been updated so the figures used in this review are from data generated by the Department for Business, Energy and Industrial Strategy (BEIS), which does not include a specific waste category:

KtCO₂e		
Sector	2017	2018
Domestic	418	415
Industrial and commercial	254	250
Transport	442	432
Total	1,114	1,097

The trend for borough wide emissions continues to be downward.

Should the underlying SCATTER data be updated there is an opportunity to provide a revised assessment in line with the CAP baseline figures. In addition, given that there is a significant lag in the underlying BEIS data being updated, there could be an opportunity to use proxy indicators to measure interim performance.

Analysis

Climate Action Plan

The Council's Climate Action Plan was launched in September 2020. It is an important milestone in terms of addressing the Council's carbon emission targets.

It also means that 2020/21 will be the first year where there will be coordinated climate action across the Council.

Progress with delivering the Climate Action Plan will need to be swift as Enfield are at significant risk of not meeting the overall and mid-decade carbon targets. This should therefore be a key area of focus for the next 12 months.

Covid-19

The pandemic has had a significant impact across the Council's operations. For emissions, two immediate impacts were on the accuracy of energy data, with meter readings not taking place, and delivery of projects, for example the LED lighting replacement programme, which was interrupted.

The wider impacts are likely to be noticeable in the 2020/21 baseline, when changes to service delivery and reduced use of buildings will come through. In terms of staff working patterns, the move to significant levels of home working could require an assessment of carbon transfer for the 2020/21 baseline.

Electricity and Gas Usage

The split by building type and individual buildings can be difficult to assess due to the limited descriptions of the supply for some (for example it might not highlight the particular use for the building) and multiple meters. Notwithstanding this, additional analysis of electricity and gas data has identified some Council buildings which are particularly high emitters:

2019/20 Electricity – Council Buildings Using Over 300,000 kWh			
Rank	Site Name	kWh	tCO ₂ e
1	Civic Centre	3,042,564	777.68
2	Shepcot House	792,000	202.44
3	Dugdale Centre	500,300	127.88
4	Morson Road Depot	329,506	84.22
5	Brickfield House	313,943	80.24
6	Edmonton Centre	313,211	80.06
7	Charles Babbage House	307,791	78.67

2019/20 Gas – Council Buildings Using Over 900,000 kWh			
Rank	Site Name	kWh	tCO ₂ e
1	Alma Road Flats	5,677,875	1043.88
2	Civic Centre	4,316,958	793.67
3	Bliss House & Purcell	1,968,183	361.85
4	Galva Chaddlewood Site	1,560,434	286.89
5	Brickfield House	957,402	176.02

Some schools also have high energy usage so, even though they are not directly controlled by the Council, there will be engagement with them, including getting better information about their operations, to understand what is driving this and support them to reduce their overall emissions. This work will be reported on as part of the Climate Action Plan annual review.

Areas of Focus Arising from Review

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Area	Actions
Borough wide emissions	Monitor whether the SCATTER tool is updated and consider possible proxies to gauge changes with borough wide emissions.
Business travel data	Review staff mileage policy and approach to business travel. This should include collecting finer grain information to inform future assessments.
Climate Action Plan Delivery	<p>The delivery of the Climate Action Plan needs to progress at pace including:</p> <ul style="list-style-type: none"> • Develop and implement governance structures and processes, as well as establishing a dedicated post with supporting team. • Identify the resources required to deliver the Climate Action Plan. • Focus on short term deliverables with greatest impact and on non-cost options. • Develop a pipeline of projects ready for investment should funding be available. • Embed a climate action in all policies approach across the Council. • Provide regular performance and progress updates, including the annual carbon baseline review.
Covid-19 impacts	<p>To inform the 2020/21 baseline:</p> <ul style="list-style-type: none"> • Undertake mid-year analysis of energy consumption from Council operations to assess change compared to previous years. • Consider potential emissions transfer arising from staff working at home.
Electricity and gas usage	<p>Focus on the highest emitters in terms of electricity and gas usage. Activities should include both behaviour change for users and retrofit for buildings, to improve thermal efficiency, and changing the heating supply, to reduce energy consumption.</p> <p>To understand the carbon intensity of the buildings listed, the most up to date square meterage should be identified. Where this is not readily available, this should be established.</p> <p>Undertake baseload analysis to better understand usage patterns and deliver interventions to reduce usage, particularly when buildings are being lightly used.</p> <p>Work with energy suppliers and data recording companies to improve the information held about building uses and meter readings, including through the use of additional smart meters.</p>

Embodied carbon in Council goods and services	<p>Engage with suppliers to understand their operations and emissions, focusing on the largest, and work with them to reduce emissions from goods and services.</p> <p>There needs to be a focus on securing reductions in construction emissions through existing policies and guidance, as well as preparing for the introduction of embodied carbon assessments within the Intend to Publish London Plan.</p>
Enfield Council homes emissions	<p>Look at opportunities to better assess existing emissions, including by type and size of home.</p>
New build homes data	<p>Consideration should be given to using an alternative to GLA housing figures if data is unavailable when calculating 2020/21 baseline.</p>
Staff commuting data	<p>The Climate Action Plan already commits to the Council undertaking staff travel surveys. Due to the impact Covid-19 has had on travel patterns this has been delayed. It is unclear when it will be appropriate to undertake this survey, so it will be prepared should there be stabilisation of staff working patterns.</p>
Waste from Council buildings	<p>Undertake analysis to identify the waste produced by Council operations, in particular from buildings.</p>
Water usage	<p>Engage with supplier to look at availability of improved data on usage. Alongside this start to develop programme for additional metering.</p>



CLIMATE
ACTION
ENFIELD