

MKC Greenhouse Gas Baseline 2020/21 & pathway to net zero by 2030

31/01/23

2021/22 Emissions update

Reporting boundary

Previously reported annual emissions have used the data reported for the Carbon Reduction Commitment (CRC), which had a very specific reporting boundary.

The baseline data has been recalculated for 2018/19, and it is from this baseline data that we will develop our trajectory to net zero by 2030 (for the Council's own operations). **This summary presents the updated emissions for 2021/22 and progress towards the 2030 target.**

The reporting boundary has been set as Financial Control, meaning that the emissions reported are those that the Council has financial management over.

The 2021/22 emissions sources reported are:

- Corporate property sites
- Schools (those on LASER contract, including some academies)
- Street lighting
- Fleet (internal, waste and highways)
- Staff business travel
- Sheltered Housing and Landlord Supplies
- Water Supplies

Explainer – Financial Control

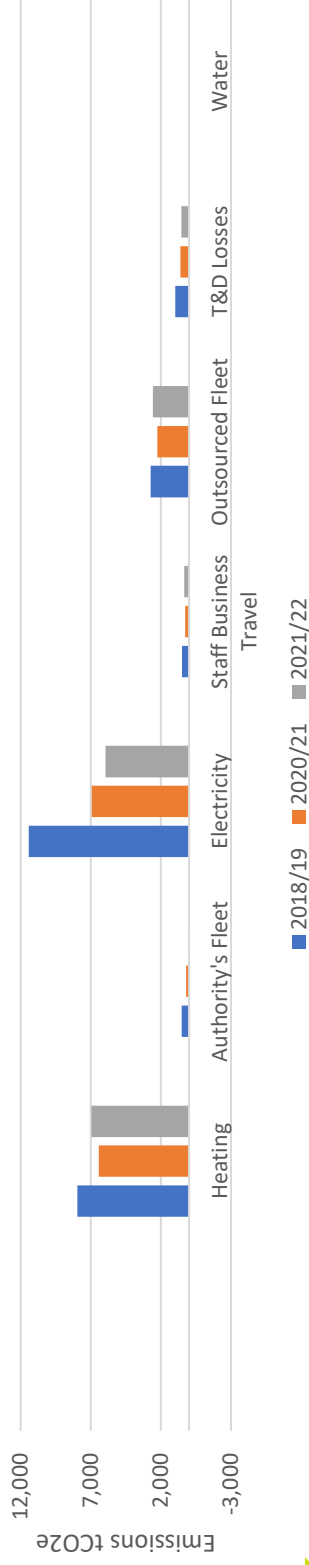
The authority reports on all sources of carbon emissions over which it has financial control. The authority has financial control over a service if it has the ability to direct the financial and operating policies of the service with a view to financially managing its activities, e.g. setting budgets, managing expenditure, and/or obtaining an "income", such it might be the case in leisure centres, entertainment halls, community centres, etc.

2021/22 Emissions

Scope	Emissions Type	Emissions (tCO2e)	Percentage of Total Emissions
Scope 1	Heating	6,961.60	42.4%
	Fugitive Emissions		
	Authority's Fleet	50.62	36.3%
Scope 2	Electricity	5,949.55	36.3%
	Staff Business Travel	330.43	2.0%
Scope 3	Outsourced Fleet	2,578.91	15.7%
	Transmission & Distribution Losses	526.50	3.2%
	Water	2.07	0.0%
Total Emissions		16,399.68	100%

Points of note:

- Post lockdown expected increases in emissions from heating, staff business travel and authority's fleet
- Electricity consumption had biggest decrease
- Impact of working from home on Council's Scope 3 is an emerging topic across the sector, this has not yet been reported for MKCC



Setting a pathway to 2030

To become net zero by 2030 for the Council's own operations a trajectory for emissions reductions should be mapped to assist with setting carbon budgets and identify opportunities for emissions reduction.

There are two basic approaches available for building a GHG emissions budget trajectory (or target emissions). These are as follows:

- a) Linear - A simple linear regression with a fixed reduction year on year
- b) Exponential - An approach based more on exponential decay. This approach recognises that there are measures which we can take today at scale and pace which are cost effective and represent good practice. This approach works hardest in the early years, recognising that some of the latter reductions are likely to be harder to achieve and takes a more realistic view that around 5% of emissions will be too difficult to reduce and will need treating in other ways.

The pathway to 2030 for the Council's own operations has been modelled to show a linear and exponential pathway, and a scenario using planned interventions and assumptions about additional scenarios to identify "gap" that needs to be addressed by additional carbon reduction programmes and investment.

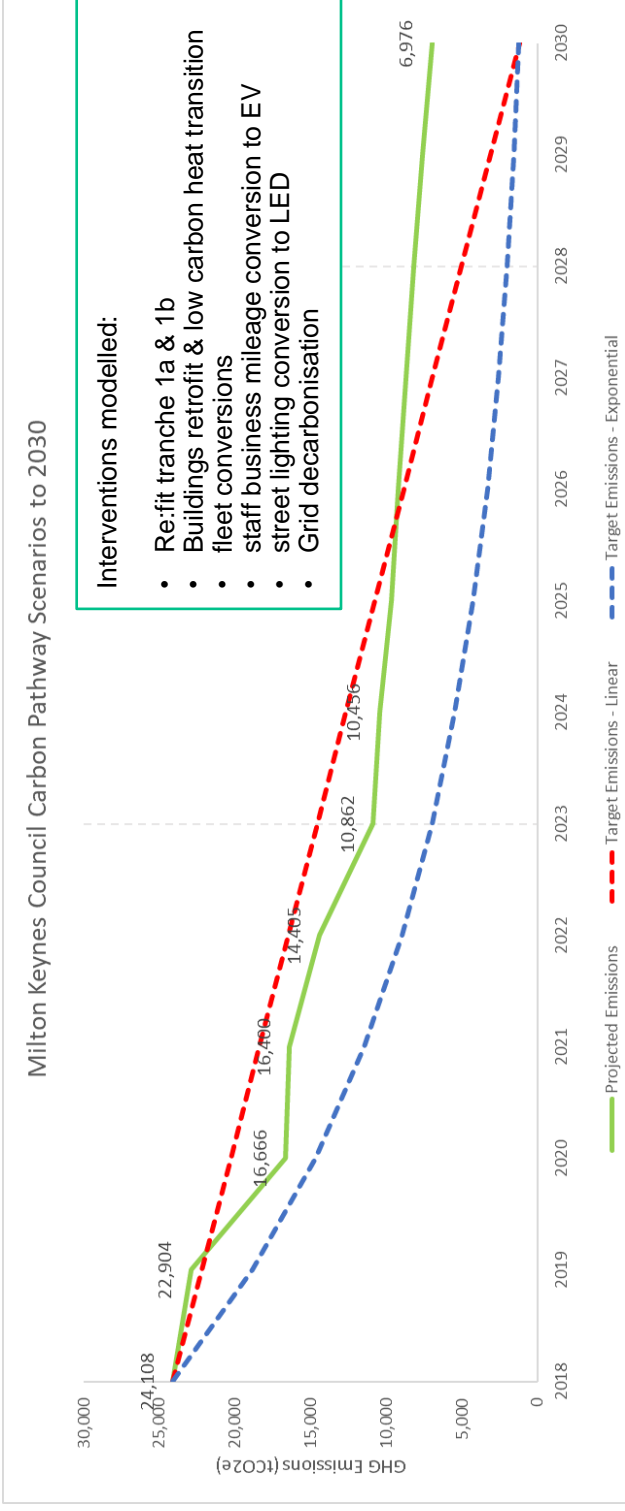
The trajectory model has been updated with the 2021/22 emissions.

The assumptions modelled are delivery of a programme of interventions, including

- Re:fit Energy Performance Contract (in progress)
- Street light LED conversion (in progress – near to completion)
- Fleet conversion to EV and biomethane (planned)
- Grey fleet conversion to EV (staff business mileage – not yet planned)

Pathway emissions to 2030

Updated intervention assumptions November 2022



Pathway emissions to 2030

Updated intervention assumptions November 2022

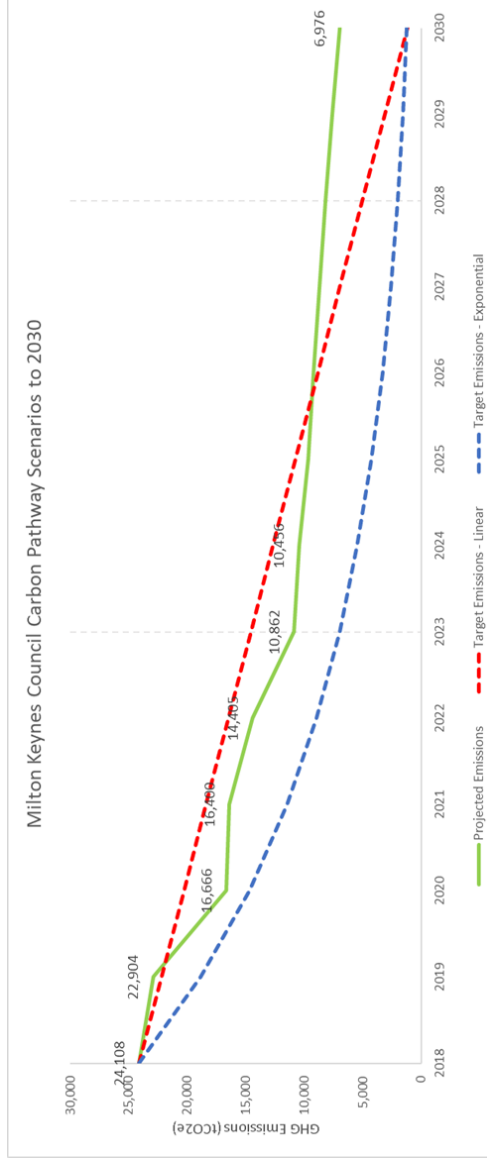
- The interventions modelled in the pathway and the assumptions behind them have been updated for this year's reporting
- Street lighting – actual savings are now included in the pathway for 2020/21 and 2021/22 which are lower than previously modelled. This is likely due to overall asset growth of the streetlighting asset
- Re:fit – the Phase II intervention scenario based on a high level appraisal has been replaced with a longer running buildings retrofit scenario, assuming a 60% reduction in gas consumption for a transition to low carbon heat (electrification) and a 5% reduction in electricity consumption. This is to align with the assumptions in the Renewable Energy Options Report and sizing of solar PV requirements
- There is a forthcoming Investment Grade Proposal, the impact of this proposal will be added to the pathway analysis when it has been received
- The delay in delivery of retrofit across the corporate and schools estate results in a higher emissions forecast in later years
- The overall trajectory is showing a positive trend – addressing a transition to low carbon heat in Council buildings needs to accelerate to ensure net zero is achieved



Projected carbon budget (tCO2e)

Projected Carbon Budget (tCO2e)										
Year	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Cumulative	
Linear Budget	20,292	18,384	16,476	14,568	12,660	10,752	8,844	6,937	108,914	
Exponential Budget	14,694	11,472	8,956	6,992	5,459	4,262	3,327	2,598	57,758	
Projected Emissions	16,666	16,400	14,405	10,862	10,456	9,680	9,210	8,712	96,391	

Carbon budget aligned to UK Government Carbon Budget



2024/25 Emissions
 Scope 1 5529 tCO2e
 Scope 2 4213 tCO2e
 Scope 3 712 tCO2e



Interventions not yet included in pathway, to address the emissions gap

- Streetlighting – carbon savings from remainder of programme 19,400 lanterns to be upgrade post 21/22 – business case in development
- Re:fit – additional tranches (e.g. dedicated schools programme, full heat decarbonisation of corporate sites)
- Asset rationalisation
- Carbon sequestration from new woodland (awaiting data from Nick Hannon when available)
- Offset options from delivery of large scale solar (options appraisal underway)
- Sheltered housing proposals

Decarbonisation of heat will increase electricity consumption, placing additional importance on large scale renewable delivery/investment

