

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

06/12/2021

2020/21 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 2020/21 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 2020/21 emissions sources reported are:

- Corporate property sites
- Schools
- Street lighting
- Fleet (internal, waste and highways)
- Staff business travel
- Sheltered Housing and Landlord Supplies
- Water Supplies

Explainer – Financial Control

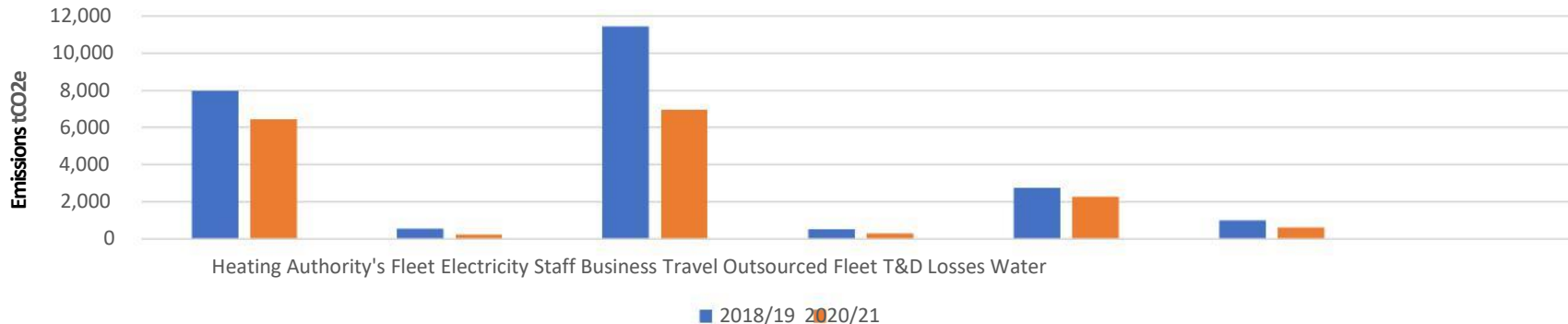
The authority reports on all sources of carbon emissions over which it has financial control. The authority has financial control over a service if it has the ability to direct the financial and operating policies of the service with a view to financially managing its activities, e.g. setting budgets,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

2020/21 Emissions

Scope	Emissions Type	Emissions (tCO2e)	Percentage of Total Emissions
Scope 1	Heating	6,423.24	39%
Scope 1	Fugitive Emissions	-	0%
Scope 1	Authority's Fleet	199.51	1%
Scope 2	Electricity	6,927.12	42%
Scope 3	Staff Business Travel	268.12	2%
Scope 3	Outsourced Fleet	2,246.12	13%
Scope 3	Transmission and Distribution Losses	595.74	4%
Scope 3	Water	6.31	0.0%
	Total Emissions	16,666.24	100%

Points of note:

- Two year gap in reporting
- This was the year of lockdown so a reduction is to be expected (maintaining these reductions will be key)
- Electricity consumption had biggest decrease – some validation of the dataset is required
- Fleet data split of vehicles to be added
- Impact of working from home on Council's Scope 3 is an emerging topic across the sector





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.

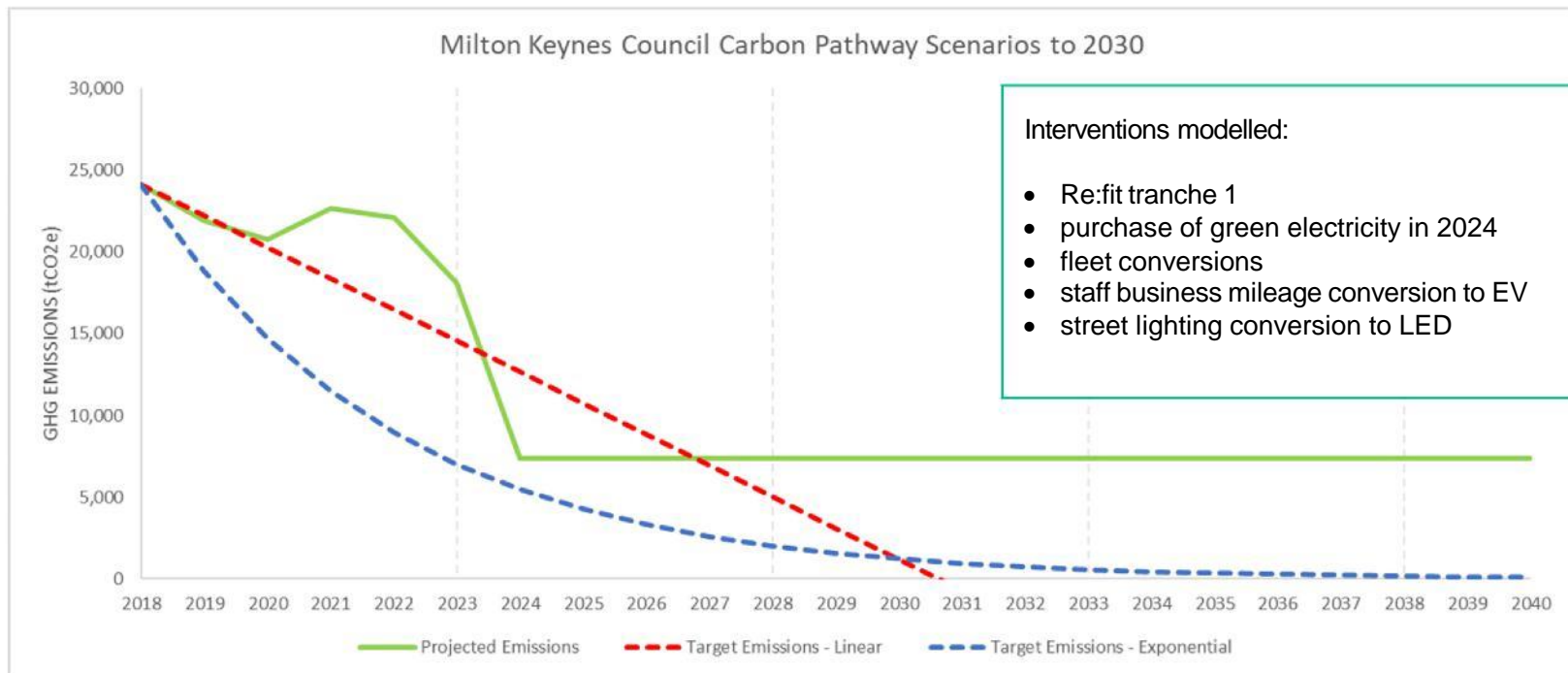
The trajectory model has been updated with the 2020/21 emissions.

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

- Re:fit Energy Performance Contract (in progress)
- Street light LED conversion (in progress)
- Fleet conversion to EV and biomethane (planned)
- Grey fleet conversion to EV (staff business mileage – not yet planned)
- Purchase of renewable energy supplies for grid supplied electricity (planned)

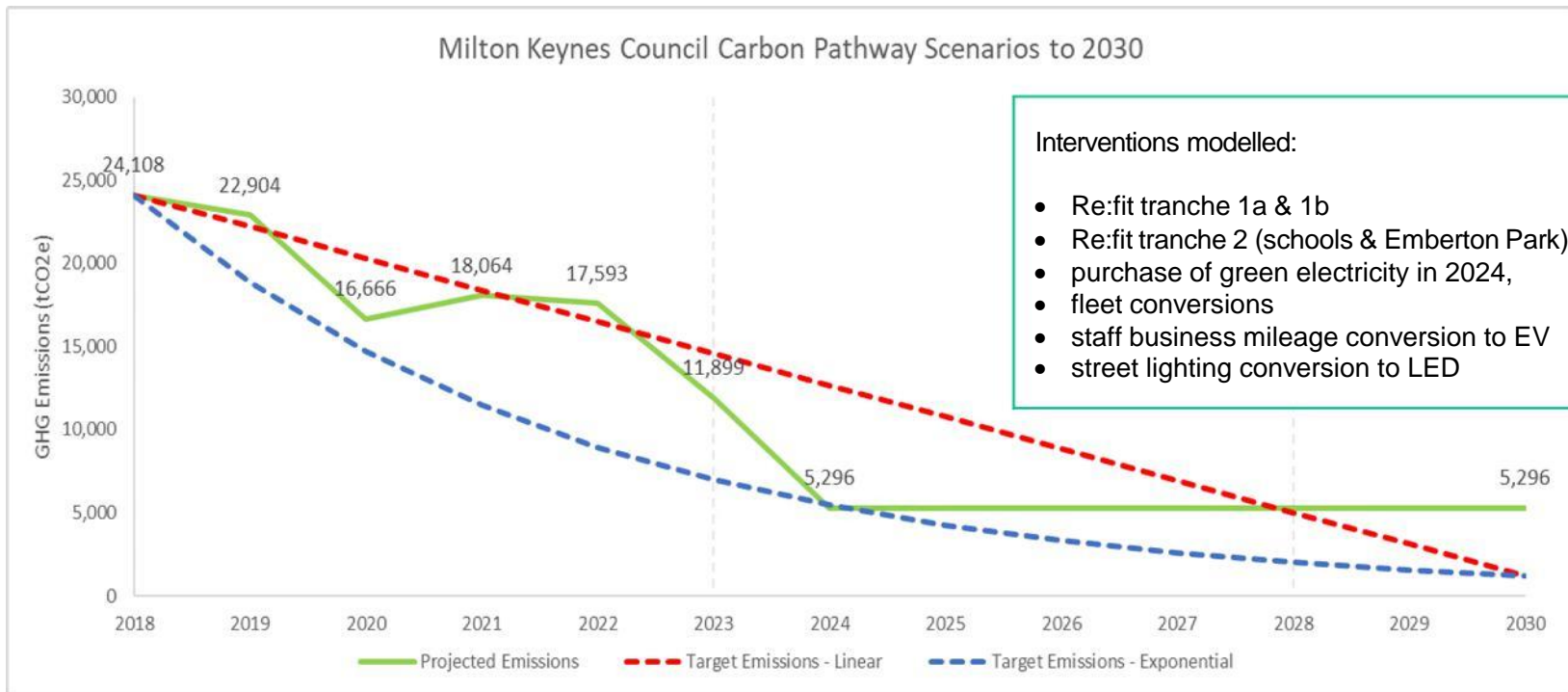
Target emissions scenarios as reported November 2020

Planned interventions completed, and switch to green tariff. Emissions in 2030 7,370 tCO₂e



Target emissions scenarios as reported November 2021

Planned interventions completed, and switch to green tariff. Emissions in 2030 5,296 tCO₂e

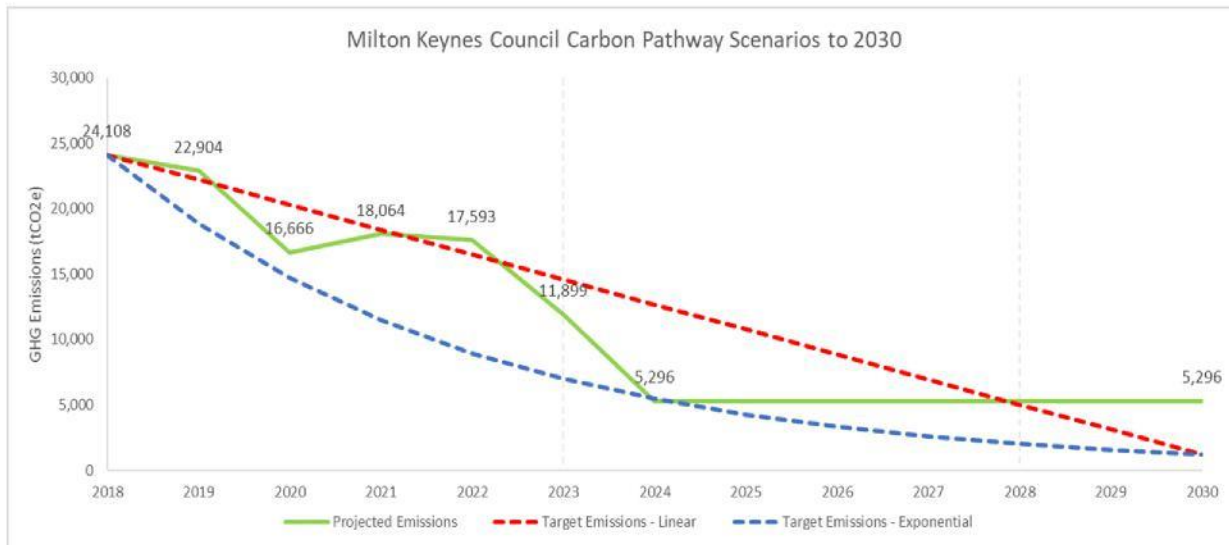


Increase in projected emissions due to BEIS forecast figures for grid decarbonisation being higher than actual.

Projected carbon budget (tCO2e)

	Projected Carbon Budget (tCO2e)								
Year	2020	2021	2022	2023	2024	2025	2026	2027	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	18,064	17,593	11,899	5,296	5,296	5,296	5,296	85,406

Carbon budget aligned to UK Government Carbon Budget





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
- Re:fit – additional tranches (e.g. dedicated schools programme, heat decarbonisation of corporate sites)
- Asset rationalisation
- Carbon sequestration from new woodland
- Offset options from delivery of large scale solar (options appraisal underway)
- Sheltered housing proposals from Mears

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