



JOINTLY OWNED BY



MKCC Greenhouse Gas Emissions Reporting 22/23 & Scenario Planning for Net Zero

29/01/2024



2022/23 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 2022/23 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 2022/23 emissions sources reported are:

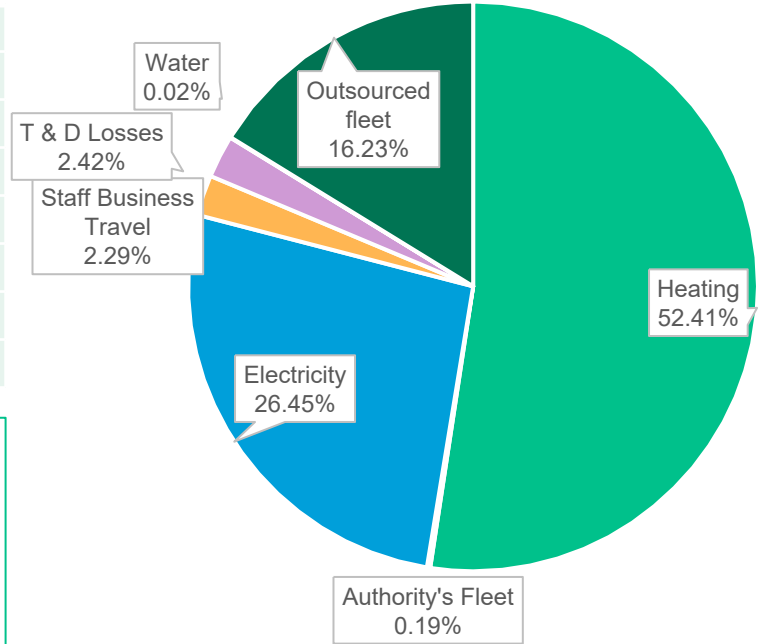
- Corporate property sites
- Schools (excluding academies)
- Street lighting
- Fleet (internal, waste and highways)
- Staff business travel
- Sheltered Housing and Landlord Supplies
- Water Supplies

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.

2022/23 Emissions

Scope	Emissions Type	Emissions (tCO2e)	Percentage of Total Emissions
Scope 1	Heating	8,177.60	52.4%
	Authority's Fleet	29.56	0.2%
Scope 2	Electricity	4,127.52	26.5%
Scope 3	Staff Business Travel	356.84	2.3%
	Outsourced Fleet	2,532.40	16.2%
	Transmission & Distribution Losses	377.58	2.4%
	Water	2.97	0.02%
Total Emissions		15,604	



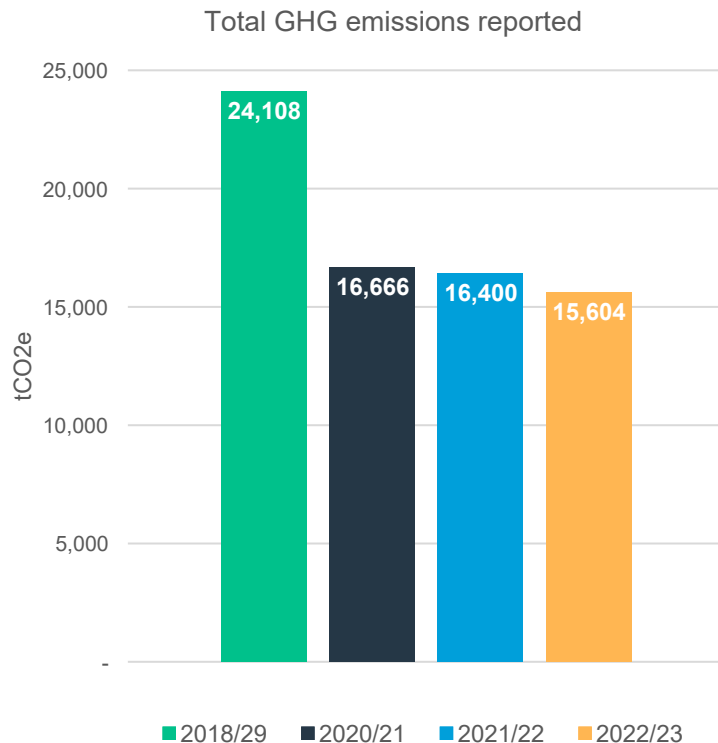
Points to note:

- Cleansing of schools' data – academies not included
- Outsourced fleet reported – Serco & Ringway data. Other data available for future years
- Data collection methodology changed for this reporting year, small proportion of gas supplies require further revalidation

History of emissions reporting

Scope	Emissions Type	2018/19	2020/21	2021/22	2022/23
Scope 1	Heating	7,949	6,423	6,962	8,178
	Authority's Fleet	515	200	51	30
Scope 2	Electricity	11,433	6,927	5,950	4,128
Scope 3	Staff Business Travel	501	268	330	357
	T & D Losses	975	596	527	378
	Water	9	6	2	3
	Outsourced fleet	2,726	2,246	2,579	2,532
Total Emissions		24,108	16,666	16,400	15,604
Total reduction			7,441	267	795

- Biggest reduction in electricity:
 - Building use = 5,043
 - Streetlighting = 2,263
- Increase in heating (gas) emissions: change in methodology for collection of gas consumption, sites prioritised for data validation (to be part of the re-baselining activity)





Scenario Planning for Net Zero

To explore the range of scenarios for reaching net zero by 2030 for the Council's own operations, interventions and activity that will result in emissions reductions have been 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 the exponential pathway, and a scenario using planned interventions and assumptions about additional scenarios to identify the "gap" that needs to be addressed by additional carbon reduction programmes and investment.

The scenario model has been updated with the 2022/23 emissions.

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

- Deep retrofit to fully decarbonise a selection of assets (not yet planned)
- 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 but scheme under discussion)

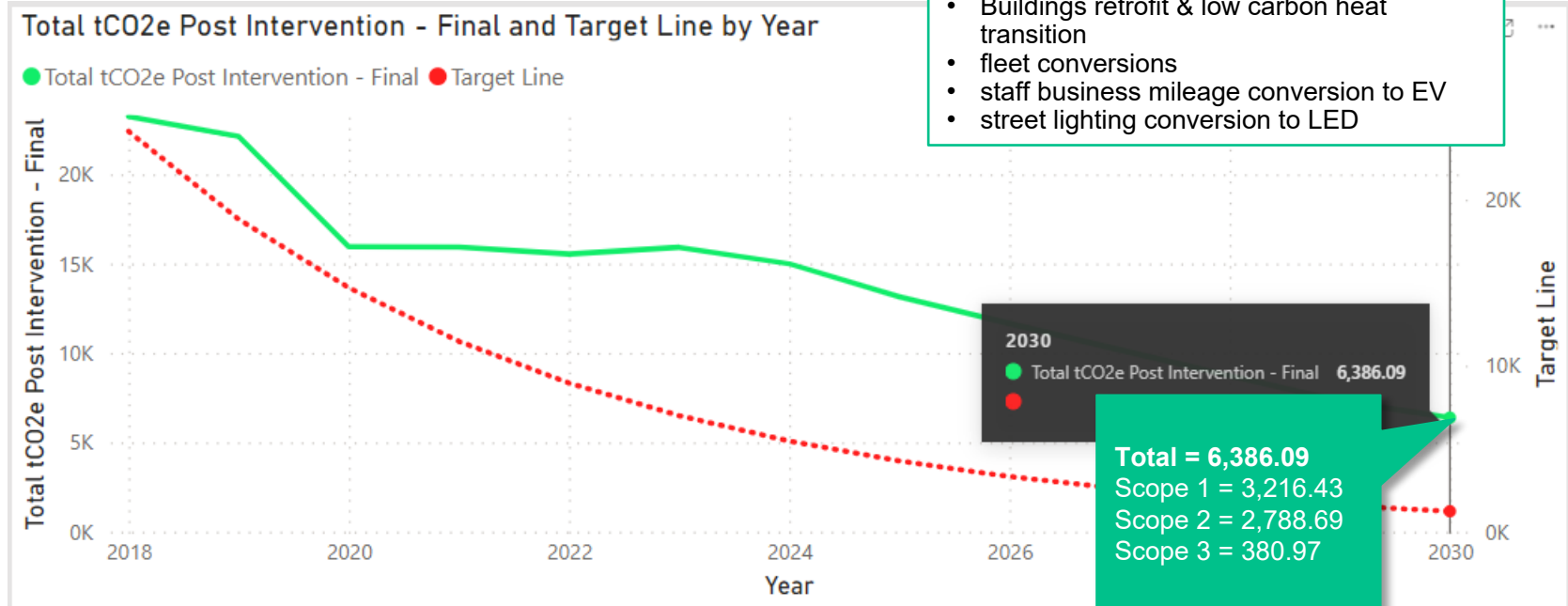
Achieving the carbon reductions modelled will be dependent on sufficient investment in capital projects and ensuring that interventions are programmed to prioritise the biggest decarbonisation opportunities and reduce overall emissions.

Scenario Plan for Net Zero

Updated intervention assumptions November 2023

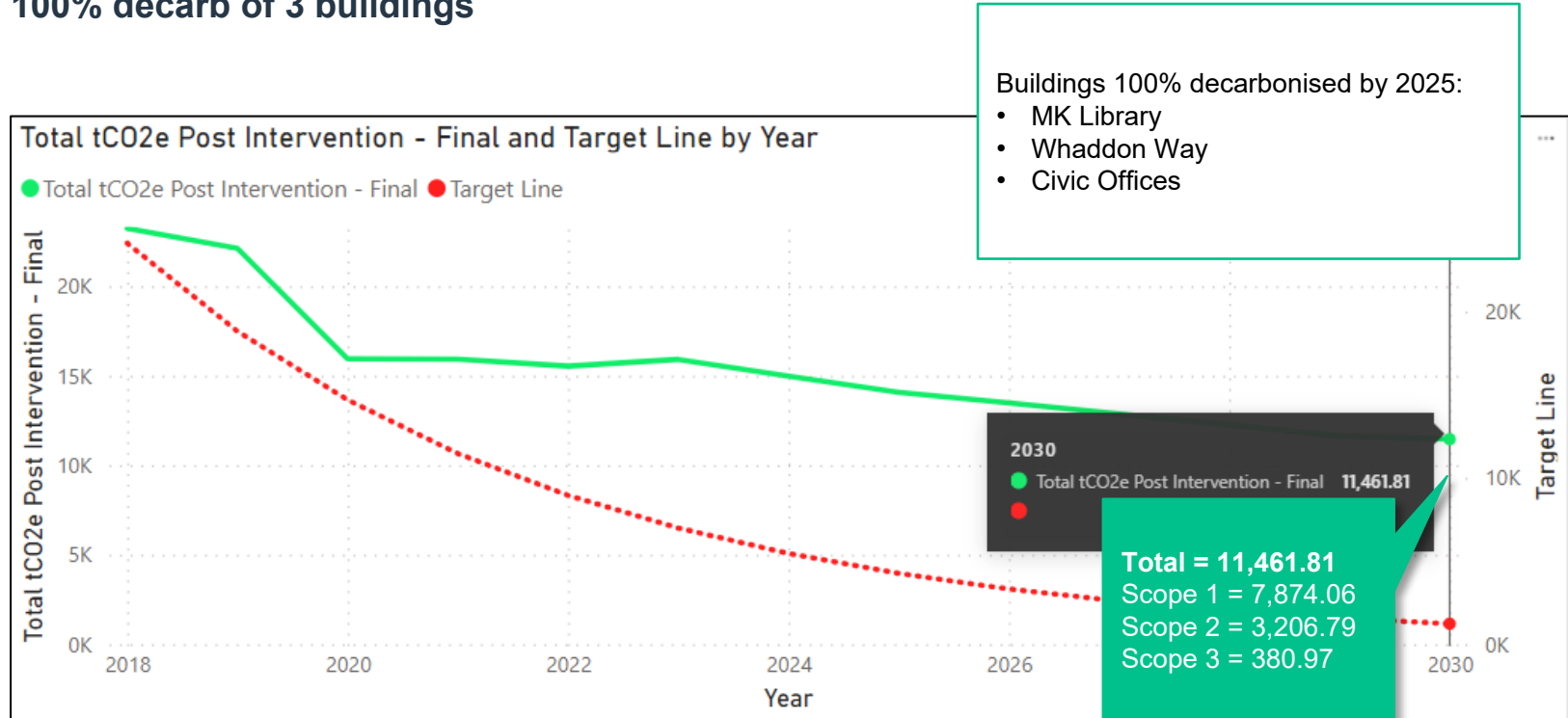
Interventions modelled:

- Grid decarbonisation
- Buildings retrofit & low carbon heat transition
- fleet conversions
- staff business mileage conversion to EV
- street lighting conversion to LED



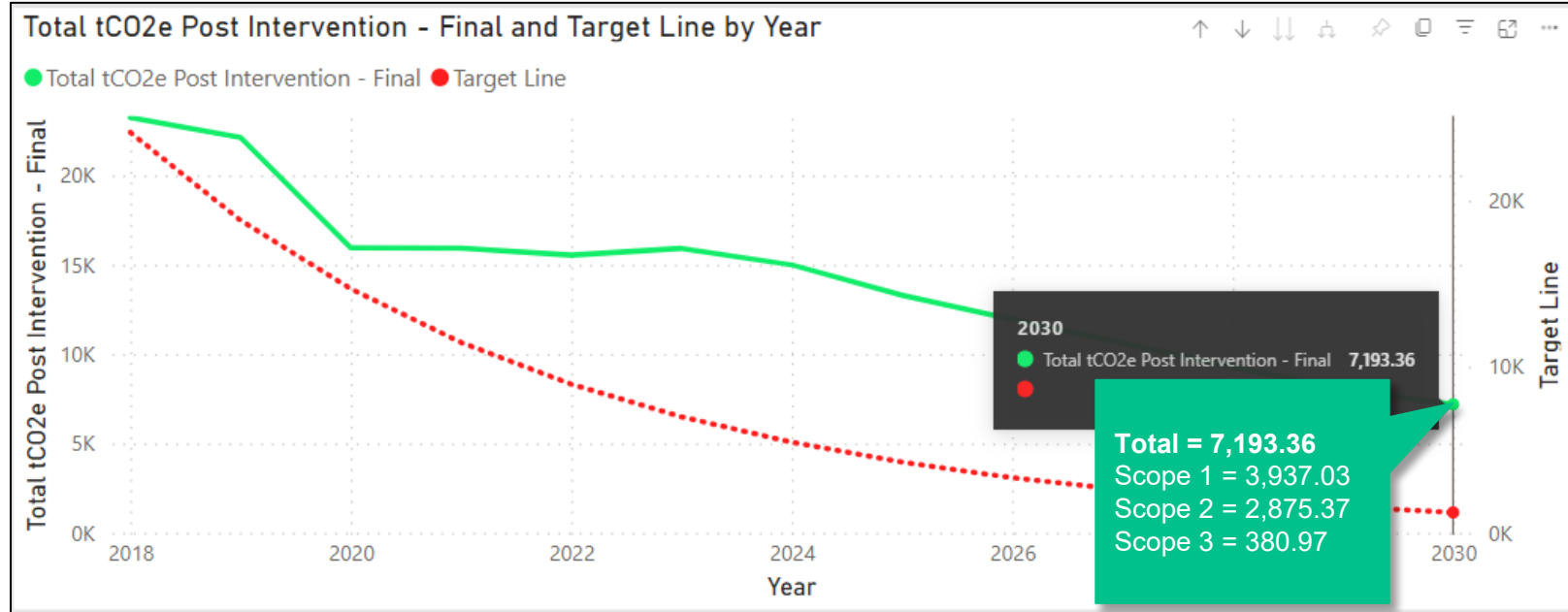
Scenario Plan for Net Zero – Buildings scenarios

100% decarb of 3 buildings



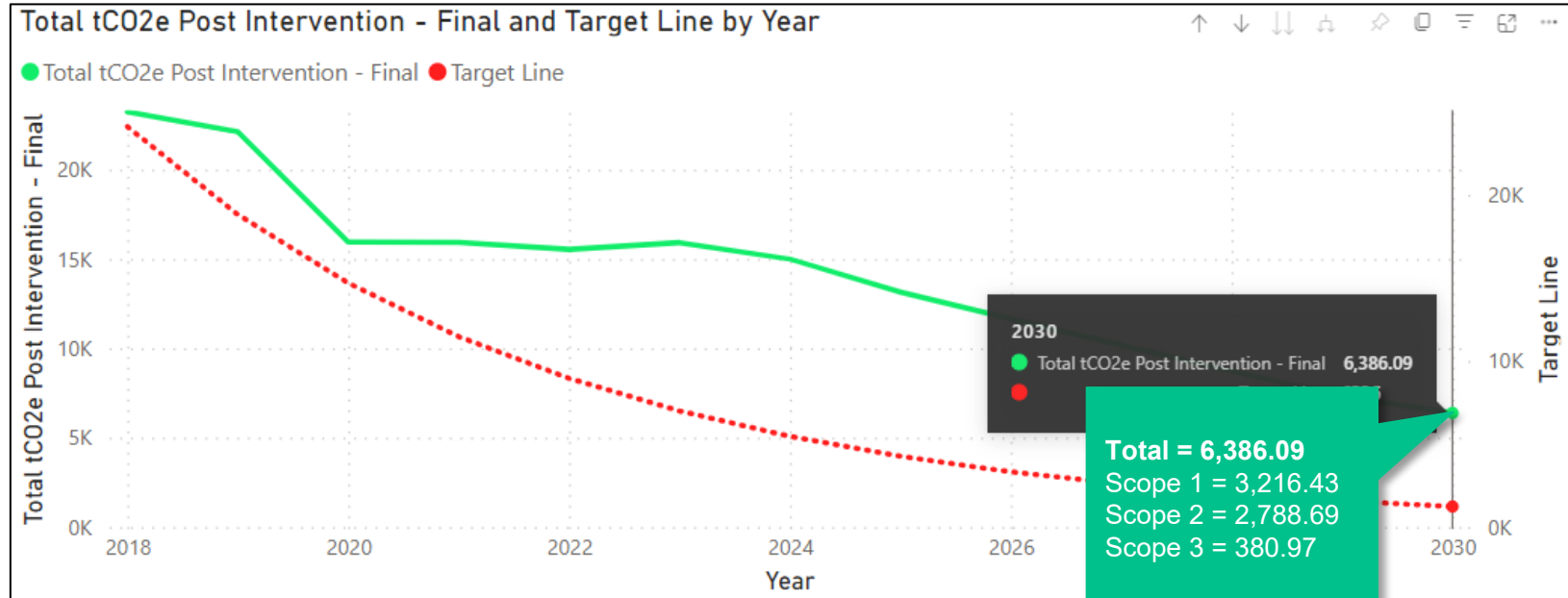
Scenario Plan for Net Zero – Buildings scenarios

100% decarb of 3 buildings + 50% decarb of rest of buildings



Scenario Plan for Net Zero – Buildings scenarios

100% decarb of 3 buildings + 50% decarb of rest of buildings + removal of schools in 2030



Scenario Planning for Net Zero

Updated intervention assumptions November 2023

- 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.
- The delay in delivery of retrofit across the corporate and schools' estate results in a higher emissions forecast in later years. The corporate estate is currently under review, and any investment in decarbonisation of Council buildings must ensure that this is focussed on the appropriate sites and maximise value for money.
- 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.
- Opportunities arising from self-supply of electricity from the Wolverton Waste Recovery Park are under review, there is good potential to reduce the Scope 2 electricity emissions via a Power Purchase Agreement for compliant generation. Scope 2 emissions at 2030 (dependent on the decarbonisation scenario modelled) are between 2700-3200 tCO₂pa (30-40% of total remaining emissions at 2030 scenario dependent).