

Manchester City Council Report for Information

Report to: Environment, Climate Change and Neighbourhoods Scrutiny Committee – 9 November 2023

Subject: Manchester's Emissions Report

Report of: Director, Manchester Climate Change Agency

Summary

This report provides a summary of Manchester's Emissions Report, which is due to be published by Manchester Climate Change Agency in November. It covers the city's direct, energy-related emissions in 2021, plus an estimate for 2022, and is based on the latest data released by the UK Government's Department for Energy Security and Net Zero (DESNZ).

The Emissions Report enables Manchester to track its progress against the carbon reduction targets, carbon budget and zero carbon date of 2038 that are set out in the city's Climate Change Framework (2020-25), and its 2022 Update.

The Report shows that, in 2021, Manchester had the second lowest per capita emissions among Greater Manchester authorities, with a figure of 3.4t CO₂ per person. This was 14% lower than the Greater Manchester average of 4.0t CO₂ per person and more than 20% below the national average of 4.5t CO₂ per person. This is driven by a mixture of urban density gains which lead to more efficient living and deprivation losses which reduce emissions in specific areas due to economic and social disparities.

However, the Report also shows that, over the five-year period from 2018 to 2022, Manchester emitted 9.54 million tonnes of CO₂ (m tCO₂), against a total carbon budget of 15m tCO₂, allocated to last until 2038 and beyond (until 2100). This means that 63% of the city's total carbon budget has been utilised in its first five years.

The Report shows that the city increased its direct emissions by 7% in 2021, compared to 2020, which can largely be attributed to an increase in activity as the country emerged from COVID-19 lockdowns; and provides an estimate of direct emissions for 2022, which predicts a decrease of 2% compared to 2021.

Despite an overall downward trajectory, with the city's emissions reducing by 44% between 2005 and 2021, urgent action at pace and scale is needed in all sectors to ensure Manchester stays within its carbon budget.

Recommendations

The Scrutiny Committee is recommended to consider and make comments on the information in the report.

Wards Affected: All

Environmental Impact Assessment - the impact of the issues addressed in this report on achieving the zero-carbon target for the city

Manchester's Climate Change Partnership (MCCP) and Manchester's Climate Change Agency (MCCA) are responsible for setting the city's high-level climate change targets – these are contained within The Manchester Climate Change Framework 2020-25, and its 2022 Update, which can be found at:

www.manchesterclimate.com/content/2022-update

MCCP and MCCA are also responsible for tracking the city's progress towards these targets (see reports going back to 2013 here: www.manchesterclimate.com/annual-emissions and a report this committee in May 2023 here: [Agenda for Environment, Climate Change and Neighbourhoods Scrutiny Committee on Thursday, 25th May, 2023, 2.00 pm \(manchester.gov.uk\)](#)).

Equality, Diversity and Inclusion - the impact of the issues addressed in this report in meeting our Public Sector Equality Duty and broader equality commitments

A core principle of the Climate Change Framework is to ensure that all of Manchester's residents are protected from the impact of climate change and that actions to help the transition to a zero carbon and climate resilient city do not have a negative impact on the most vulnerable people, ensuring the costs do not fall unevenly on those that are least able to afford them.

Manchester Strategy outcomes	Summary of how this report aligns to the OMS/Contribution to the Strategy
A thriving and sustainable city: supporting a diverse and distinctive economy that creates jobs and opportunities	<p>MCCP and MCCA are responsible for setting the city's high-level climate change objectives and targets – these are contained within The Manchester Climate Change Framework 2020-25, and its 2022 Update.</p> <p>They are aligned to the OMS outcomes, in particular the zero-carbon city priority.</p> <p>This report shows the city's progress towards its science-based target of reaching zero carbon by 2038 while staying within a fixed carbon budget.</p>
A highly skilled city: world class and home grown talent sustaining the city's economic success	
A progressive and equitable city: making a positive contribution by unlocking the potential of our communities	
A liveable and low carbon city: a destination of choice to live, visit, work	
A connected city: world class infrastructure and connectivity to drive growth	

Contact Officers:

Name: Samantha Nicholson
Position: MCCA Director
E-mail: samantha.nicholson@manchesterclimate.com

Name: Anna Bond
Position: MCCA Deputy Director
E-mail: anna.bond@manchesterclimate.com

Background documents (available for public inspection):

The following documents disclose important facts on which the report is based and have been relied upon in preparing the report. Copies of the background documents are available up to 4 years after the date of the meeting. If you would like a copy please contact one of the contact officers above.

2022 Update of the Manchester Climate Change Framework (2020-25)
<https://www.manchesterclimate.com/content/2022-update>

Previous Emissions Reports from 2013-2022
<https://www.manchesterclimate.com/progress>

1.0 Introduction

- 1.1 Manchester's Climate Change Partnership (MCCP) and Manchester's Climate Change Agency (MCCA) are responsible for setting the city's high-level climate change targets – these are contained within The Manchester Climate Change Framework 2020-25, and its 2022 Update, which can be found at: www.manchesterclimate.com/content/2022-update
- 1.2 MCCP and MCCA are also responsible for tracking the city's progress towards these targets in Emissions Reports (see reports going back to 2013 here: www.manchesterclimate.com/annual-emissions)
- 1.3 The Emissions Reports are based on the latest data released by the UK Government's Department for Energy Security and Net Zero (DESNZ). There is a time lag on this data meaning that most up-to-date information is for 2021.

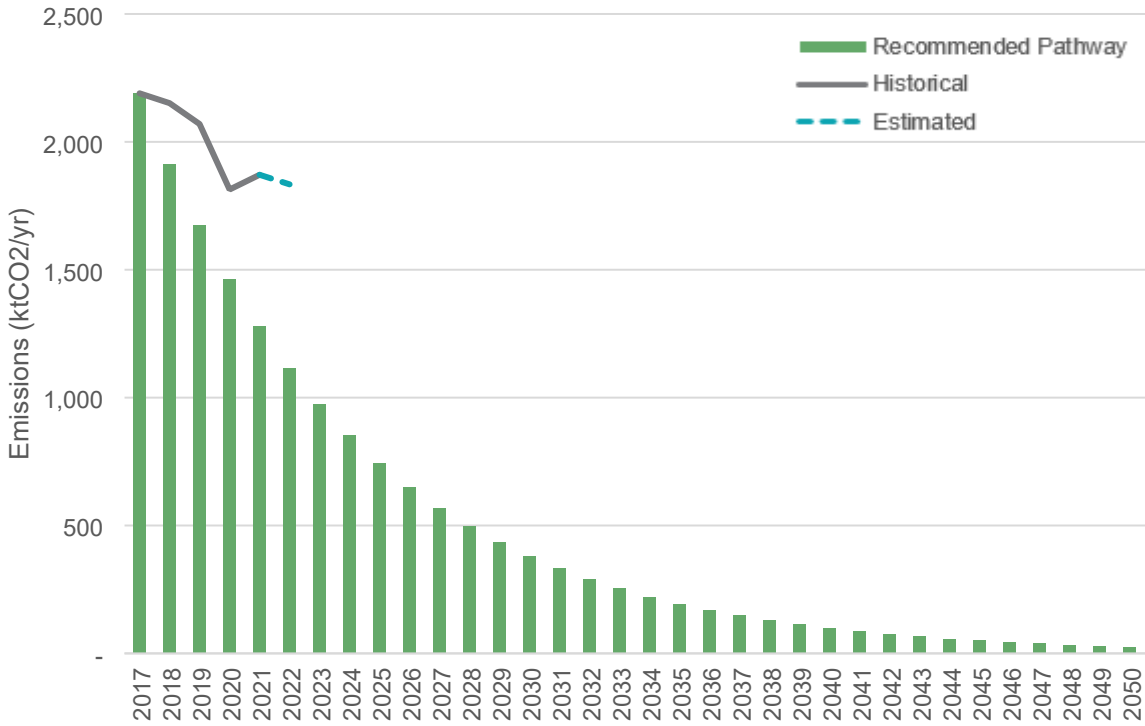
2.0 Background

- 2.1 Manchester's carbon budget covers its direct, energy-related emissions from buildings and ground transport, as defined by the Tyndall Centre for Climate Change at the University of Manchester.
- 2.2 The carbon budget is 15million tCO₂ (m tCO₂) for the period 2018-2100, with most of the budget applying to the period between 2018 and the city's zero-carbon target date of 2038 (at the latest).

3.0 Manchester's Direct Energy Related Emissions for 2021

- 3.1 Manchester's direct energy-related emissions were 1.87m tCO₂ in 2021, equivalent to a 7% increase from 2020. This increase can largely be attributed to an increase in activity, particularly travel, as the city came out of COVID-19 lockdowns.
- 3.2 The carbon budget for 2021 was to emit no more than 1.28m tCO₂, so actual emissions were 47% higher than the target, reflecting an under-achievement in-year and the slow-pace of emissions reductions since the budget was set.
- 3.3 A provisional estimate for 2022 is predicting a 2% reduction in direct emissions, which would equate to annual emissions of 1.83m tCO₂ against a target of 1.12m tCO₂.
- 3.4 Overall, therefore, from 2018 to 2022 (including the estimate for 2022), Manchester's cumulative emissions will be 9.54m tCO₂ for the five-year period.
- 3.5 The 'interim' carbon budget for 2018-2022 is 6.9m tCO₂ which means that the city has already exceeded the interim budget by 38%.
- 3.6 Against the overall carbon budget of 15m tCO₂, cumulative emissions of 9.54m tCO₂ represent 63% of the total available budget, intended to cover the period up to and beyond 2038.

- 3.7 Clearly, the city is not decarbonising fast enough and is at risk of exceeding its carbon budget this decade.
- 3.8 The graph below shows Manchester’s carbon budget and its annual CO₂ emissions from the baseline year of 2017, including the latest accurate data for 2021, and the estimated emissions for 2022.



3.9 For the city to stay within its carbon budget by 2038, urgent action is needed at scale not seen before.

4.0 Sectoral Analysis for 2021

- 4.1 The national data allows analysis by sectors, broken down as industrial, commercial, public sector, domestic, and transport. The Emissions Report provides a detailed assessment of Manchester’s sectoral emissions, including a comparison against national data.
- 4.2 Emissions from the industrial sector in Manchester (11% of the city’s total emissions) are relatively low compared to the England average (29%) due to the densely populated nature of the area, resulting in fewer industrial installations.
- 4.3 Commercial emissions stem from electricity and gas use in non-industrial businesses; in Manchester they represent approximately 11% of the city’s emissions, which is higher than the national average (7%) and is driven by the scale and make-up of the city centre.
- 4.4 Manchester’s public sector is responsible for 15% of the city’s direct emissions which is more than double the national average (6.5%) and reflects the

concentration of institutions in Manchester that support the wider city region and beyond.

- 4.5 The domestic sector was responsible for one third (33%) of the city's direct emissions. Nationally, a third of local authorities (including Manchester) saw domestic emissions being the largest single contributor to overall emissions.
- 4.6 Transport emissions in Manchester were responsible for 29% of the city's emissions, which is higher than the national average (19%) and reflects the city's role as a critical transport hub to the city region and beyond.
- 4.7 This sectoral data largely corresponds with the analysis presented in the 2022 Update to the Manchester Climate Change Framework which showed that energy use in our buildings (industrial, commercial, public/institutional, and domestic) accounted for 76% of emissions and ground transport accounted for 24%.

5.0 Comparison to Greater Manchester

- 5.1 Manchester's emissions in 2021 are the highest of the ten districts, representing 17% of the city region's total emissions. This reflects Manchester's role as the commercial, cultural and employment heart of the city region with the highest population.
- 5.2 Whilst Manchester's overall emissions are the highest within Greater Manchester, this pattern does not apply to every individual sector.
- 5.3 For the industrial sector, Manchester's emissions are only third highest, primarily due to its population density and fewer industrial sites than other parts of the city region. Trafford has the highest industrial emissions.
- 5.4 For the remaining sectors, Manchester remains the highest emitter in the city region. Commercial emissions and public sector emissions are high due to the concentration of activity in Manchester's centre; the city has the highest number of employees engaged in financial, professional, and scientific sectors, closely followed by health and social work.
- 5.5 Domestic emissions are high due to the size of the city's population; and transport emissions are high due to travel coming in and out of the city centre from the other areas.
- 5.6 Despite Manchester's overall emissions being high, in 2021 the city had the second lowest per capita emissions among the Greater Manchester authorities at 3.4t CO₂ per person; this is 14% below the Greater Manchester average of 4.0t CO₂ and 20% below the national average of 4.5t CO₂ per person.
- 5.7 Lower per capita emissions in Manchester, compared to England and Greater Manchester, are potentially driven by dense population distribution, wide-spread and well-connected public transportation infrastructure, the presence of lower-emission industries and improved place-making to accommodate the

growth ambitions and investment in the city. Socio-economic disparities and the unequal distribution of economic benefits within the city region and the entire country may play a role. Further research is necessary to gain a comprehensive understanding of the factors influencing this statistical trend.

6.0 Recommendations

- 6.1 The Scrutiny Committee is recommended to consider and make comments on the information in the report.