



Neighbourhoods and Environment Scrutiny Committee

Date: Wednesday, 4 March 2020

Time: 2.00 pm

Venue: Council Antechamber, Level 2, Town Hall Extension

This is a **Supplementary Agenda** containing additional information about the business of the meeting that was not available when the agenda was published

Access to the Council Chamber

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Membership of the Neighbourhoods and Environment Scrutiny Committee

Councillors - Igbon (Chair), Azra Ali, Appleby, Butt, Flanagan, Hassan, Hughes, Jeavons, Kilpatrick, Lynch, Lyons, Razaq, Sadler, Strong, Whiston, White and Wright

Supplementary Agenda

5. **Manchester Climate Change Framework 2020-25** 3 - 76
Report of the Deputy Chief Executive and City Treasurer

This report provides the Committee and Executive with the final version of the Manchester Climate Change Framework 2020-25 which has been developed by the Manchester Climate Change Agency on behalf of the Manchester Climate Change Partnership.

6. **Manchester City Council Climate Change Action Plan 2020-25** 77 - 134
Report of the Deputy Chief Executive and City Treasurer

Manchester City Council's Climate Change Action Plan 2020-25 sets out the actions that need to be delivered to ensure that the Council plays its full part in delivering the city's zero carbon ambition. The Plan includes the actions which will achieve a 50% reduction in the Council's direct CO₂ emissions between 2020 and 2025, as well as the enabling and influencing actions which will support the city's zero carbon ambitions.

Further Information

For help, advice and information about this meeting please contact the Committee Officer:

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This supplementary agenda was issued on **Friday 28 February 2020** by the Governance and Scrutiny Support Unit, Manchester City Council, Level 3, Town Hall Extension , Manchester M60 2LA

**Manchester City Council
Report for Resolution**

Report to: Neighbourhoods and Environment Scrutiny Committee – 4
March 2020
Executive - 11 March 2020

Subject: Manchester Climate Change Framework 2020-25

Report of: Deputy Chief Executive and City Treasurer

Summary

In November 2018, the Council's Executive agreed to establish a science-based carbon reduction target for Manchester, which required the city as a whole to adopt a carbon budget of 15 million tonnes of CO₂ between 2018 and 2100. This would require a year-on-year reduction of at least 13%, emissions to be halved within five years, and lead to the city becoming zero carbon by 2038 at the latest.

In March 2019 the Council's Executive endorsed the Manchester Zero Carbon Framework 2020-38, as the city's outline approach to meeting its targets, as proposed by the Manchester Climate Change Partnership.

In February 2020 the Climate Change Partnership published a final version of the Framework, the Manchester Climate Change Framework 2020-25. The Partnership has invited the Council to consider three proposals in relation to the document, as set out in the recommendations section of this report.

Recommendations

It is recommended that the Neighbourhoods and Environment Committee:

1. Note and comment on the content of the Manchester Climate Change Framework 2020-25.

It is recommended that Executive:

1. Formally adopt the Manchester Climate Change Framework's aim, vision, objectives and targets as the definition of what Manchester needs to achieve in order to 'play its full part in limiting the impacts of climate change';
 2. On behalf of the city, endorse the Manchester Climate Change Framework as Manchester's high-level strategy for achieving the aim, vision, objectives and targets; and
 3. Deliver the Manchester City Council Climate Change Action Plan for the period 2020-25 in order to contribute towards the successful implementation of the citywide Framework.
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Wards Affected: All

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

Developing a citywide climate change framework is fundamental to ensuring that everyone in the city plays their full part in addressing climate change. The Council is one of the key stakeholders who have committed to producing an action plan by March 2020 which sets out the Council's role in tackling our own emissions and influencing and supporting a reduction across the whole city. Delivering the 5 year plan will require a significant level of new revenue and capital investment to build on the existing resources which are already committed to improving the city's environment.

Manchester Strategy outcomes	Summary of how this report aligns to the OMS
A thriving and sustainable city: supporting a diverse and distinctive economy that creates jobs and opportunities	The transition to a zero carbon city will help the city's economy become more sustainable and will generate jobs within the low carbon energy and goods sector. This will support the implementation of the Our Manchester Industrial Strategy.
A highly skilled city: world class and home grown talent sustaining the city's economic success	Manchester is one a small number of UK cities that have agreed a science based target and is leading the way in transitioning to a zero carbon city. It is envisaged that this may give the city opportunities in the green technology and services sector.
A progressive and equitable city: making a positive contribution by unlocking the potential of our communities	Transitioning to a zero carbon city can help to tackle fuel poverty by reducing energy bills. Health outcomes will also be improved through the promotion of more sustainable modes of transport and improved air quality.
A liveable and low carbon city: a destination of choice to live, visit, work	Becoming a zero carbon city can help to make the city a more attractive place for people to live, work, visit and study.
A connected city: world class infrastructure and connectivity to drive growth	A zero carbon transport system would create a world class business environment to drive sustainable economic growth.

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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.

Playing Our Full Part: How Manchester's Residents and Businesses can benefit from Ambitious Action on Climate Change 2018

Manchester Climate Change Strategy 2017-50

Manchester Climate Change Strategy Implementation Plan 2017-22

Manchester: A Certain Future Annual Report 2018

Manchester City Council Climate Change Action Plan 2016-20

Manchester Zero Carbon 2038, Manchester City Council's Commitment, March 2019

1.0 Introduction

- 1.1 This report provides the Committee and Executive with the final version of the Manchester Climate Change Framework 2020-25 which has been developed by the Manchester Climate Change Agency on behalf of the Manchester Climate Change Partnership.
- 1.2 The document has been informed by the additional analysis undertaken by the Tyndall Centre for Climate Change Research. The draft findings of this work were presented and discussed at 23 January Climate Change Sub Group, 5 February 2020 Neighbourhoods and Environment Scrutiny Committee and 12 February 2020 Executive. The final version of the Tyndall Centre research has been published on the Manchester Climate Change website at the following address: <http://www.manchesterclimate.com/targets-2020>

The reports are Appendix 1 of the Manchester Climate Change Framework 2020-25.

2.0 Background

- 2.1 In November 2018, following analysis by the Tyndall Centre for Climate Change Research, the Council adopted a science-based carbon budget of 15 million tonnes of CO₂ between 2018 and 2100, and committed the city to becoming zero carbon by 2038 at the latest.
- 2.2 In March 2019, the Council endorsed the draft Manchester Zero Carbon Framework as the city's overarching approach to meeting science-based targets on tackling climate change, as part of the wider Our Manchester Strategy. This report included draft action plans from a range of organisations who are members of the Manchester Climate Change Partnership and are collectively responsible for approximately 20% of the city's emissions.
- 2.3 In July 2019, Manchester City Council declared a climate emergency. This declaration recognised the need for the Council, and the city as a whole, to do more to reduce its carbon emissions and mitigate the negative impacts of climate change. It also demonstrated the Council's commitment to be at the forefront of the global response to climate change and to lead by example.

3.0 Tyndall Centre Research

- 3.1 The carbon budget for the city outlined in the Framework is based on recommendations from the Tyndall Centre for Climate Research at the University of Manchester. In order to ensure that Manchester plays its full part in helping to meet the objectives set out in the Paris Agreement the city has committed to limiting its direct CO₂ emissions within a specific carbon budget.
- 3.2 There are three sources of CO₂ emissions that Manchester is responsible for and have influence over. These are:

- Direct emissions from homes, workplaces and ground transport within the city;
- Aviation emissions from flights taken by Manchester residents and organizations, from Manchester to other UK airports; and
- Indirect / consumption based emissions from things that we buy and dispose of for example food, clothes and electrical equipment.

3.3 The budget for Manchester's direct CO₂ emissions from 2018 to 2100 is 15 million tonnes CO₂. At our current rate of carbon consumption (2.1 million tonnes per year in 2017) we will run out of budget in 2025. In order to remain within our budget we will need to reduce our direct emissions by at least 50% between 2020 and 2025. In line with this budget Manchester will need to emit:

- A maximum of 6.9 million tonnes during 2018 to 2022; and
- A maximum of 3.6 million tonnes between 2023 and 2027.

4.0 Manchester Climate Change Framework 2020-25 and Partnership Action Plans

4.1 The Manchester Climate Change Framework focuses on the period 2020-2025 but is set within the context of a limited carbon budget for 2018-2100.

4.2 During the production of the framework, the Manchester Climate Change Partnership and Agency have chosen to alter their approach from one single action and implementation plan to produce a suite of bespoke commitments and plans for every household, community, school and organisation. They believe that this is the most effective way to build a citywide movement of climate action. As such, the Framework is accompanied by a summary of the action plans from members of the Partnership.

4.3 The Partnership is the city's main mechanism for engaging and inspiring organisations and residents to act. The Partnership currently has 60 members, across 10 sectors, with responsibility for over 20% of Manchester's direct CO₂ emissions. Its members also have 'reach' into the remaining 80% through their staff, students, customers, tenants, football fans, theatre-goers, worshippers, and others. By working with their supply chain members they are also starting to reduce the city's consumption-based CO₂ emissions. Partnership members have developed their own bespoke action plans, setting out how they will contribute towards the successful delivery of the Framework. A summary of the Partnership members' action plans is provided as Appendix 2 to the Framework.

4.4 The Framework also takes on board comments from CDP¹ and their recommendation to include a new adaptation and resilience objective in order for the city to be in line with international best practice

¹ CDP work with investors, companies and cities to help them take action to build a truly sustainable economy by measuring and understanding their environmental impact; www.cdp.net

4.5 The Framework is intended to provide the overarching structure for organisations to ‘plug-in’ their own bespoke plans, guided by the 15 actions listed below:

1. Commit to zero carbon and taking urgent action now
2. Measure and report your CO₂
3. Climate change education and Carbon Literacy
4. Existing buildings
5. New developments and construction
6. Renewable energy
7. Transport
8. Flying
9. Reduce, reuse and recycle our stuff
10. Food
11. Green space and gardens
12. Water conservation
13. Where you put your money
14. Spread the word
15. Ask politicians and decision-makers for help

4.6 The delivery of organisations’ plans is to be supported and enabled by incentives, standards and infrastructure provided by the Manchester Climate Change Agency, Manchester City Council, Manchester’s strategic partners, the Greater Manchester Combined Authority, UK Government and their agencies.

4.7 To realise the zero carbon vision for the city the Framework commits to achieve four headline objectives. These are:

- Staying within the carbon budget for the city;
- Climate adaptation and resilience;
- Health and wellbeing; and
- Inclusive, zero carbon and climate resilient economy.

4.8 In addition to the four headline objectives, the Framework at sets out seven key areas where urgent action is required. These are:

1. Buildings (new and existing);
2. Renewable energy;
3. Transport and flying
4. Food
5. The things we buy and throw away;
6. Green infrastructure and nature-based solution; and
7. Supporting and enabling residents and organisations to act.

5.0 Recommendations

5.1 The recommendations are summarised at the beginning of this report.

MANCHESTER CLIMATE CHANGE FRAMEWORK 2020-25

Our strategy towards making Manchester a thriving, zero carbon, climate resilient city.

Version 1.0
February 2020

CONTENTS

EXECUTIVE SUMMARY

1. INTRODUCTION FROM THE MANCHESTER CLIMATE CHANGE PARTNERSHIP

2. APPROACH TO DEVELOPING THIS FRAMEWORK

3. OUR AIM

4. OUR VISION FOR 2025

5. OUR OBJECTIVES AND TARGETS:

- 5.1 Staying within our carbon budgets
- 5.2 Climate adaptation and resilience
- 5.3 Health and wellbeing
- 5.4 Inclusive, zero carbon and climate resilient economy

6. URGENT ACTIONS TO MEET OUR OBJECTIVES:

- 6.1 Headline areas for urgent action
- 6.2 Urgent actions for every resident, school and organisation
- 6.3 Supporting and enabling: urgent actions for Manchester City Council, Manchester's Strategic Partners, Greater Manchester Combined Authority, UK Government and their agencies

7. GOVERNANCE AND OUR PARTNERSHIP-BASED APPROACH

8. MEASURING AND REPORTING PROGRESS

9. KEEPING OUR TARGETS AND FRAMEWORK UP TO DATE

10. WORKING WITH OTHER CITIES

11. FURTHER INFORMATION AND GET INVOLVED

12. THANK YOU

APPENDICES:

1. Review of Manchester's Climate Change Objectives and Targets by the Tyndall Centre for Climate Change Research
 - a) Direct CO₂ emissions
 - b) Aviation CO₂ emissions
 - c) Indirect / consumption-based CO₂ emissions
 - d) Target setting for Manchester organisations
2. Manchester Climate Change Partnership Members' Action Plans: summary.

EXECUTIVE SUMMARY

Our aim:

“Manchester will play its full part in limiting the impacts of climate change and create a healthy, green, socially just city where everyone can thrive.”

To help us get there, we have four objectives we need to meet by 2025.

Objective 1 – Staying within our carbon budgets

This involves taking action in three areas:

- Direct CO₂ emissions: staying within our 15 million tonne carbon budget for 2018-2100, including reducing the CO₂ emitted from our homes, workplaces and ground transport by at least 50% during 2020-25
- Aviation CO₂ emissions: working with UK Government to ensure that all flights from Manchester Airport are in line with the Paris Agreement and a limited carbon budget for UK aviation emissions
- Indirect CO₂ emissions: understanding and taking action on the things that we consume and which generate greenhouse gases through their production, transportation and disposal.

Objective 2 – Climate adaptation and resilience

Adapting the city's buildings, infrastructure and natural environment to the changing climate and increasing the climate resilience of our residents and organisations.

Objective 3 – Health and wellbeing

Improving the health and wellbeing of everyone in Manchester through actions that also contribute to our objectives for CO₂ reduction and adaptation and resilience, with particular focus on those most in need.

Objective 4 – Inclusive, zero carbon and climate resilient economy

Ensuring that Manchester establishes an inclusive, zero carbon and climate resilient economy where everyone can benefit from playing an active role in decarbonising and adapting the city to the changing climate.

Six priority areas for action

To meet our objectives we need everyone in the city to take action on our six priority areas:

1. Buildings (existing and new)
2. Renewable energy
3. Transport and flying
4. Food
5. The things we buy and throw away
6. Green infrastructure and nature-based solutions

To enable this to happen we have established a devolved, partnership-based approach to climate action. It is built on two key components:

- Engaging and empowering Manchester residents and organisations to take action, using the Manchester Climate Change Partnership and its networks as our key engagement mechanism, and
- Joint working between Manchester City Council, Manchester's strategic partners, Greater Manchester Combined Authority, UK Government, and their agencies to provide the support, incentives, standards and infrastructure Manchester's residents and organisations need

Manchester Climate Change Partnership is made up of 60 members, across ten sectors, with responsibility for 20% of Manchester's direct CO₂ emissions. Its members also have reach into the remaining 80% through their staff, students, customers, tenants, football fans, theatre-goers, worshippers, and others.

Manchester City Council is a member of the Partnership. This enables the Council to understand the areas where it can use its existing powers and funding to provide the support, incentives, standards and infrastructure that are needed to enable action. Where these powers or funding don't exist at the local level, the City Council will work with the Greater Manchester Combined Authority and Government to secure them, extending our partnership-based approach beyond the city's boundaries.

To ensure we are on-track to meet our objectives we will establish independent groups to monitor progress and will publish our performance in our annual report.

This Framework is our high-level strategy for meeting our commitment to 'play our full part' on climate change. It will need to develop over the next five years, in line with changes in policy, climate science, our rate of progress and other factors. We will do this in collaboration with other cities, to ensure that we can replicate tried-and-tested solutions here, at the same time as sharing our experience from working to become one of the first zero carbon, climate resilient cities in the world.

1. INTRODUCTION FROM THE MANCHESTER CLIMATE CHANGE PARTNERSHIP

A green city with walkable neighbourhoods, clean air, good jobs in successful businesses, warm homes and affordable energy, safe cycling routes and a public transport system that works for everyone. This is the city we are working to create. As a Partnership, we've been part of this work since 2018. As a city we've been doing it for well over 10 years. Working together to create the green and healthy city that we all want.

Our work is partly about ensuring Manchester plays its full part in limiting the impacts of climate change, ensuring that we help to keep global heating to well below 2°C. But it's also about ensuring our communities can thrive, our businesses can prosper, and we continue to draw people and businesses to the city to share in our success.

Since 2018 the members of the Manchester Climate Change Partnership have been forging ahead to make this vision a reality. Our work builds on the progress the city has been making since the launch of Manchester's first ever climate change strategy, in 2009. At the time Manchester committed to contributing towards the UK Climate Change Act, by reducing our CO₂ emissions by 41% by 2020. We're on track to achieve that goal. However, the goalposts have shifted significantly over the last decade.

We know that a traditional approach to growth and development won't create the city – or the world – we all want. We know that success in the 21st century won't be defined by our traditional economic metrics alone. We know that we need to urgently wean ourselves off our reliance on fossil fuels and our unsustainable consumption habits. We need to help tackle the global climate and ecological emergency.

As we look forward to this new decade we know that we need to part of something bigger, more exciting and more challenging than anything we've achieved globally for many years, if ever. We need to be part of a journey to an environmentally, socially and economically sustainable future. A future that is defined by the United Nations and their 17 Sustainable Development Goals.

So, what is Manchester's role on this journey? What role for the city where carbon-fuelled growth and development was born? A city that still contributes 2.1 million tonnes of CO₂ to the global mix every year, 5,700 tonnes every day, 4 tonnes since you started reading this.

In some ways we are about to take on a radically different role to our current one. However, in many ways it is also a role we have been playing for many decades – a role focused on continually improving the city for the benefit of our residents and businesses, built on solutions that we will share with cities around the world.

As with our past transformations, our zero carbon journey will be powered by the passion and ingenuity of Manchester people and organisations. It will lead us to an exciting future where our politicians, universities, businesses, communities and citizens create solutions that work for us here and which can be adopted by cities across the UK and around the globe. It's a future where Manchester and our commitment to create a better world means that we will break the mould and set the standard for other cities to follow.

How do we know that? We know that because it's already happening.

Manchester was one of the first cities in the world to set climate change targets in line with the Paris Agreement, in November 2018. We are now working to influence the biggest climate change network of cities in the world, the Covenant of Mayors, to roll out this approach globally, through the Manchester-led Zero Carbon Cities project.

Our universities are undertaking pioneering research to create batteries from Graphene, to enable renewable energy to be stored and used on demand.

We are delivering the GrowGreen and IGNITION projects to find new ways to increase urban green infrastructure by 10% by 2038, innovation projects funded by the EU so that solutions we find here can be shared across Europe.

We are moving in the right direction. But not yet fast enough to meet the commitments we've set. Getting on track will require us to begin with the solutions we already know work: helping our residents, schools and organisations to install solar panels, to travel sustainably, to buy less and buy better, to improve diets, all at the same time as saving money over the long run, improving health and wellbeing, and creating good jobs.

However, to get on track we also need to bring about fundamental changes in the way that our economy and society work. Working as part of a global economic system means that we are currently pulling in two directions, one towards emitting less carbon, the other towards emitting more. Manchester is not alone, we are, after-all, playing by the same economic, consumption-based rules that, in all cities, are driving climate change. However, we need to have the bravery to be honest about this and to work with other cities, businesses, international organisations, Greater Manchester Combined Authority and UK Government to address the systemic and structural barriers that are currently holding back Manchester's and the world's journey to zero carbon. Otherwise, we will not meet our targets.

The long-term context for this work is to 2100, ensuring that Manchester plays its full part in limiting the global temperature rise to well below 2°C and pursuing efforts to limit the temperature increase even further to 1.5°C. To do this we know we need to focus on urgent action in the next five years. The science tells us this the period where we need to see the most profound changes: deep and unprecedented carbon reduction during 2020-25, at the same time as planning for further cuts from 2026, down to zero CO₂ emissions by 2038, at the latest.

This document sets out our approach to making it happen, ensuring that in every household, every community, every classroom, every boardroom, every town hall meeting room we are all playing our full part to take urgent action on climate change. Our challenge is great, but so is the opportunity, to make Manchester one of the first zero carbon, climate resilient cities in the world.

***Manchester Climate Change Partnership
February 2020***

2. APPROACH TO DEVELOPING THIS FRAMEWORK

This Framework is Manchester's high-level strategy for meeting the commitment in the Our Manchester Strategy 2016-25¹ to *'play our full part in limiting the impacts of climate change'*.

For readers familiar with the EU Covenant of Mayors², this is also our *'Sustainable Energy and Climate Action Plan'*.

Manchester Climate Change Partnership and Agency

This Framework has been produced by the Manchester Climate Change Agency (the Agency), on behalf of the Manchester Climate Change Partnership (the Partnership). The Partnership and Agency have been working together since February 2018 to champion climate change action in the city.

In Manchester we achieve more by working together. By bringing together our public, private, community, faith and education partners, the city has built itself a reputation as the place that makes things happen, that raises the bar, and that others want to follow. The Partnership has been established in this same mould.

The Partnership is currently made up of 60 organisations from across 10 sectors, with shared responsibility for 20% of Manchester's direct CO₂ emissions. It is a forum where our partners constructively challenge and support each other, built on the principle that our collective impact is more than the sum of our parts.

Our partners all have something positive to bring to the table: past successes for others to replicate, new ideas and opportunities, and a passion for making Manchester the city we all want it to be. The Partnership and the Agency have helped Manchester partners to secure over £10m for the city and the city-region, to make things happen on the ground and to bring even more people and organisations into the city's climate journey.

As well as challenging and supporting each other, the Partnership is also able to challenge and support the city to do even more. Thanks to the Partnership, our wider partners, and Manchester City Council's open, devolved approach to policy-making, Manchester agreed some of the most ambitious climate change targets in the world, in 2018. This Framework includes an even more challenging set still, well-beyond those being made in most other cities.

At the time of writing the Partnership is two years old. In this time, we have been able to help the city to achieve things that otherwise may not have been possible. It's an approach that works for Manchester and which we believe can work for other cities who are also committed to ambitious climate action (see Section 10 for more information on our work with other cities).

We have made a good start since 2018 but we know the real work starts now. It's a challenge we're passionate about, a passion we see right across the city, to make Manchester one of the most exciting places in the world for action on climate change.

Building on the Draft Manchester Zero Carbon Framework 2020-38

This Framework builds on the *Draft Manchester Zero Carbon Framework 2020-38*³, which was published in February 2019 and Manchester City Council's declaration of a climate emergency in July 2019⁴. The document has been shaped by experts in climate change to ensure it is in line with the latest science and the Paris Agreement (including a review of targets in late 2019/early-2020; see Section 5.1). It has also been informed by Greater Manchester and national commitments, to ensure that Manchester contributes to and can benefit from working as part of wider city-region and national programmes.

It's important to note that this document sets out what the science tells us we need to achieve to make our full contribution to the Paris Agreement and our high-level strategy for getting there. There are many areas where further details and support from Government are required. However, we've chosen not to wait until we have all the details or the support we need to get started. Rather we want to use this Framework as an urgent call for action based on what we already know we need to do, with further details to follow in a future version.

¹ www.manchester.gov.uk/mcrstrategy

² www.covenantofmayors.eu

³ <http://www.manchesterclimate.com/framework-2020-2038>

⁴ https://secure.manchester.gov.uk/news/article/8194/manchester_city_council_debate_climate_emergency_motion

A key difference between this final version of the Framework and the earlier draft is the shift from 2020-38 to a focus on 2020-25, but still set within the context of limited carbon budgets for 2018-2100. The Partnership and Agency have made this change in response to evidence from the scientific community, including the recommendations from the Tyndall Centre for Climate Change Research, which has set out the need for immediate and deep cuts in emissions, beyond those being achieved on our current trajectory.

This version also differs from the earlier draft in terms of the action plans that accompany it. At the time of publishing the draft Framework it was envisaged that a single citywide action plan for 2020-22 would sit alongside the final Framework. The Partnership and Agency have chosen to alter this approach and instead believe that a suite of bespoke commitments and plans for every household, community, school and organisation will be the most effective way to build a citywide movement of climate action. As part of this approach, the Framework is accompanied by action plans from members of the Partnership (*Appendix 2*).

Finally, this document also takes on board comments from CDP⁵ and their recommendation to include a new adaptation and resilience objective, to be in line with international best practice (see Section 5.2).

Why a framework?

This document is Manchester's high-level strategy for meeting our climate change commitments.

It is different to the approach that most other cities have adopted, typically in the form of a Council-led strategy and a single implementation plan.

We have established a devolved, partnership-based approach to climate change action in Manchester, one which requires every single resident, school and organisation to be actively involved – the 'Our Manchester approach'.

It has been designed to enable more and more people and organisations to join our efforts on climate change, with a view to ultimately having everyone with us on this exciting journey.

On that basis the Framework is intended to provide the overarching structure for everyone to 'plug-in' their own bespoke plans, guided by the 15 actions in Section 6.2. And for the delivery of those plans to be enabled by support, incentives, standards and infrastructure provided by Manchester City Council, Manchester's strategic partners, the Greater Manchester Combined Authority, UK Government and their agencies. The governance structure for making this approach work is set out in Section 7.

Key Principles

This Framework is built on eight key principles. You will see them embedded throughout this document.

1. Setting our objectives and targets in line with the latest science and the Paris Agreement
2. Contributing to Manchester's social, environmental and economic goals
3. Ensuring that social justice is at the heart of our approach
4. The need for urgent action by everyone who lives, works and studies in Manchester, from our young people to our older people
5. Everyone who lives, works and studies in Manchester enabled to act through support, incentives, standards and infrastructure provided by Manchester City Council, Manchester's strategic partners, Greater Manchester Combined Authority, UK Government and their agencies
6. Advice, guidance and progress monitoring from independent experts
7. Contributing to Greater Manchester, UK and international commitments
8. The need for Manchester's growth and development to be zero carbon and resilient to the changing climate

⁵ CDP work with investors, companies and cities to help them take action to build a truly sustainable economy by measuring and understanding their environmental impact; www.cdp.net

3. OUR AIM

“Manchester will play its full part in limiting the impacts of climate change and create a healthy, green, socially just city where everyone can thrive.”

4. OUR VISION FOR 2025

By 2025 Manchester will be playing its full part in limiting the impacts of climate change, with everyone who lives, works and studies here benefiting from the health, wellbeing and economic benefits that will come as a result.

By 2025 Manchester will be on track to stay within our 15 million tonne carbon budget for 2018-2100, for the emissions from our homes, workplaces and ground transport. During 2020-25 we will reduce our direct CO₂ emissions by at least 50%.

By 2025 Manchester will be working with Government to ensure that all flights from Manchester Airport are part of a UK aviation strategy that is fully aligned with the Paris Agreement.

By 2025 Manchester will have a good understanding of our indirect CO₂ emissions and be taking action to reduce them.

By 2025 we will be adapting the city to the changing climate and increasing the climate resilience of our residents and businesses to cope with increases in extreme weather events such as floods and heat waves. We will have increased the quality and quantity of our existing green spaces, on track to achieve a 10% increase in urban green space by 2038, from 2018 levels.

By 2025 Manchester residents will have cleaner air, be walking and cycling more, be living in more energy efficient homes, have access to high quality green spaces in their neighbourhoods, and be securing good, well-paid jobs in socially and environmentally responsible Manchester businesses.

By 2025 Manchester will be a key player in the global zero carbon economy, recognised as one of the best places in the world to innovate, invest and roll-out new solutions to climate change. Manchester businesses will be rewarded for their commitment to climate action by saving money, attracting talented workers and exporting their products and expertise across the UK and internationally.

By 2025 Manchester will be a carbon literate city, with our schools, colleges, universities and organisations embedding learning on climate change throughout their teaching and training, equipping all our students and workers with the skills and knowledge they need to drive positive change.

Using COP26 in November 2020 as our springboard, by 2025 Manchester will be working in even closer partnership with Greater Manchester, UK Government and other UK cities to establish the UK as a leading nation for our action on climate change.

By 2025 the Manchester Climate Change Partnership will have helped the city to achieve the objectives in this Framework. We will have grown our membership to reach an even greater proportion of the city's CO₂ emissions and be taking action to reduce them to zero. And we'll be standing on the international stage, telling the story of how the world's first industrial city is now playing a leading role in the new zero carbon revolution.

5. OUR OBJECTIVES

To realise our vision we have committed to achieve four headline objectives. We recognise that they are interlinked but we've separated them here to make it clear what we're aiming to achieve and to enable clear reporting on our progress.

- Staying within our carbon budgets
- Climate adaptation and resilience
- Health and wellbeing
- Inclusive, zero carbon and climate resilient economy

Each objective is set out on the following pages.

5.1 Staying Within Our Carbon Budgets

Our carbon budgets objective and its sub-objectives are based on recommendations by the Tyndall Centre for Climate Change Research at the University of Manchester, developed with support from the Manchester Zero Carbon Advisory Group⁶. The Tyndall Centre's full analysis and recommendations are available in *Appendix 1*.

Headline objective:

To ensure that Manchester plays its full part in helping to meet the Paris Agreement objectives by keeping our direct CO₂ emissions within a limited carbon budget, taking commensurate action on aviation CO₂ emissions and addressing our indirect / consumption-based carbon emissions.

Why is this important?

In order to meet the Paris Agreement objective to keep global temperature increases to well below 2°C, pursuing efforts for 1.5°C, there is a limited amount of CO₂ we can emit globally. Climate change scientists refer to this as the global 'carbon budget'.

A carbon budget can be thought of like a financial budget, it tells us how much we're allowed to 'spend'. For example, the budget for Manchester's direct CO₂ emissions during 2018-2100 is 15 million tonnes CO₂. Given we currently 'spend' approximately 2.1 million tonnes every year, we are projected to run out in 2025, rather than making our budget last until 2100.

This carbon budget-based approach to setting targets is the one recommended by the Tyndall Centre for Climate Change Research and we believe is the right one to ensure we set clear commitments in line with the Paris Agreement.

⁶ <http://www.manchesterclimate.com/zero-carbon-advisory-group>

Where do our emissions come from?

There are three main sources of CO₂ emissions that Manchester is responsible for or which we have influence over:

- **Direct (energy-related)⁷ CO₂ emissions:** from homes, workplaces and ground transport activities inside the city.
- **Aviation CO₂ emissions:** from flights taken by Manchester residents and organisations, from Manchester and other UK airports. Also recognising that we have a responsibility to work with UK Government, UK airports and others to ensure that emissions from all flights from Manchester Airport are in line with the Paris Agreement.

- **Indirect / consumption-based CO₂ emissions:** from the things that we buy and ultimately dispose of, for example, food, clothes, phones, electrical equipment, furniture, construction materials, many of which are produced outside of the city.

The following graph and table provide a high-level summary of the annual emissions from each of these three areas, plus the emissions from flights from Manchester Airport that are taken by non-Manchester residents and organisations. It's important to note that the figures are calculated in different ways for each emissions source so can't be directly compared.

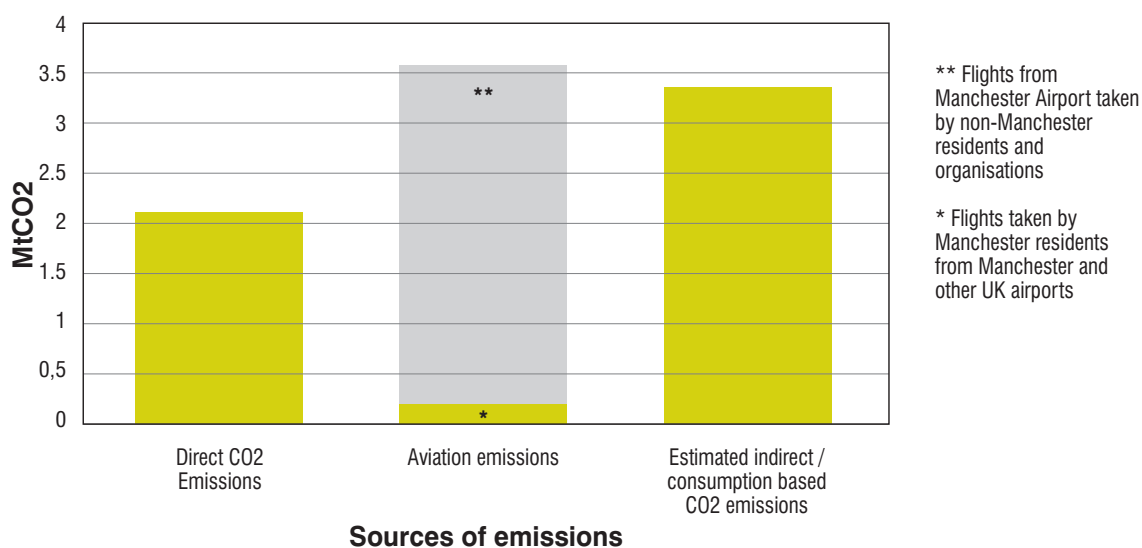


Figure 1: Manchester CO₂ emissions in 2017

Source of Emissions		Emissions in 2017 (Mt CO ₂)
Direct CO ₂ ⁸		2.1
Aviation CO ₂ ⁹	Flights taken by Manchester residents from Manchester and other UK airports	0.2
	Flights from Manchester Airport by non-Manchester residents and organisations	3.4
Estimated CO ₂ on a consumption basis ¹⁰		3.4

Table 1: Manchester CO₂ emissions in 2017

Sub-objectives for each of these areas are set out on the following pages.

7 Direct energy related emissions in this framework refer to fuel use CO₂ emissions on a direct (Scope 1) basis and electricity use CO₂ on a consumption (Scope 2) basis.
 8 UK Government; <https://data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/emissions-of-carbon-dioxide-for-local-authority-areas>
 9 Aviation Sector Emissions and the Manchester Climate Change Framework, Tyndall Centre, February 2020; www.manchesterclimate.com/targets-2020
 10 Consumption-based Emissions Accounting for Manchester, Tyndall Centre, February 2020; www.manchesterclimate.com/targets-2020

Direct CO₂ emissions sub-objective:

To emit a maximum of 15 million tonnes CO₂ from our homes, workplaces and ground transport from 2018. We will reduce our direct CO₂ emissions by at least 50% between 2020-25. In line with this budget we will emit:

- *A maximum of 6.9 million tonnes during 2018-22, and*
- *A maximum of 3.6 million tonnes during 2023-27¹¹.*

Manchester's direct CO₂ emissions come from our homes, workplaces and ground transport. In 2017 our direct emissions were 2.1 million tonnes¹².

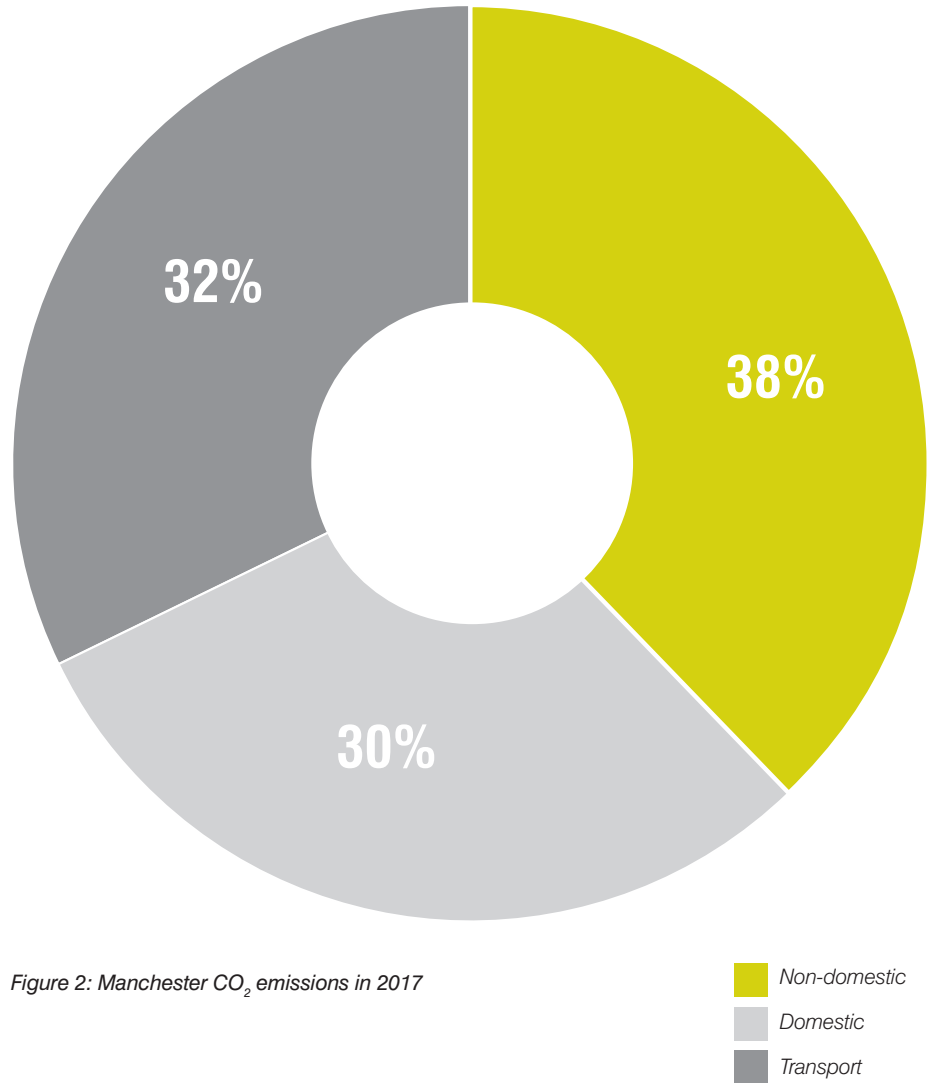


Figure 2: Manchester CO₂ emissions in 2017

¹¹ The periods 2018-22 and 2023-27 are aligned with the UK carbon budget periods, as set by UK Government.

¹² Manchester's direct CO₂ data is provided by UK Government two years in arrears. Data for 2018 and 2019 will be available in June 2020 and June 2021 respectively. It will be included in the Manchester Climate Change Annual Reports for 2020 and 2021.

The following graph sets out our CO₂ emissions trajectory from 2018 to stay within our 15 million tonne carbon budget, including year-on-year reductions of 13% per annum.

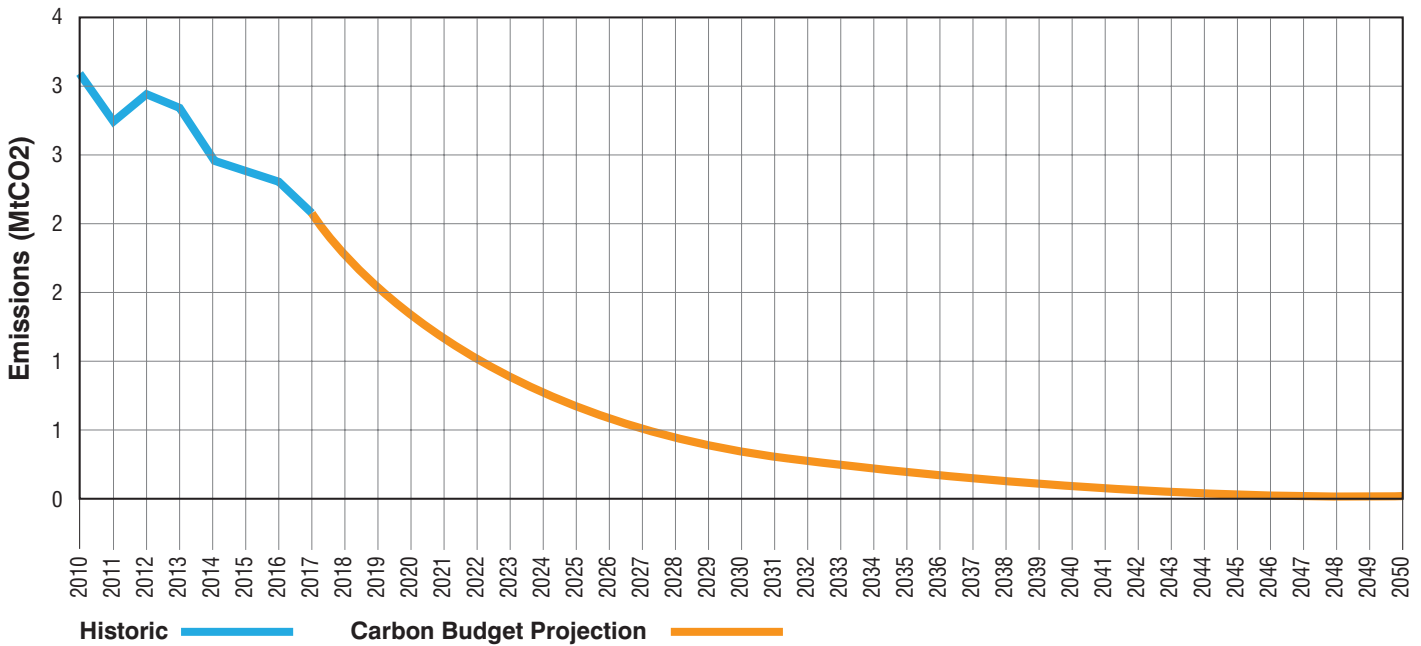


Figure 3: Carbon emissions projection 2018 to 2050 based on the 15 MtCO₂ Manchester carbon budget

The following graph and table set out the breakdown of the city’s 15 million tonne carbon budget into five-year budgets to 2047, and the remaining budget for 2048-2100.

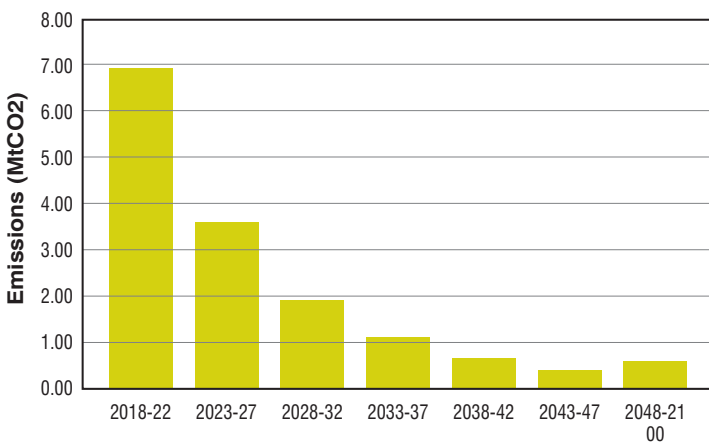


Figure 4: Emissions projections consistent with the 15 MtCO₂ budget – starting from common year (2017)

Time Period	CO ₂ budget (MtCO ₂)
2018-22	6.93
2023-27	3.59
2028-32	1.95
2033-37	1.10
2038-42	0.64
2043-47	0.38
2048-2100	0.59
Total	15.17

Table 2: Manchester’s 15 MtCO₂ budget by time period

What happens if we don't achieve this objective during 2020-25?

The key parameter is that the city stays within a 15 million tonne carbon budget from 2018. This total budget is broken down into five-year budgets to help ensure we are on track over the short, medium and long-term.

If we overspend our budget at any point, that means we will have less CO₂ remaining for future years. In order to address this we would need deeper cuts than the 13% year-on-year reductions that are currently required (50% during 2020-25).

The below graph shows the impact of continuing our average rate of carbon reduction (7% during 2010-17), the resulting overspending of our budget, and the deeper reductions that would be needed to ensure we get back on track to stay within our 15 million tonne carbon budget:

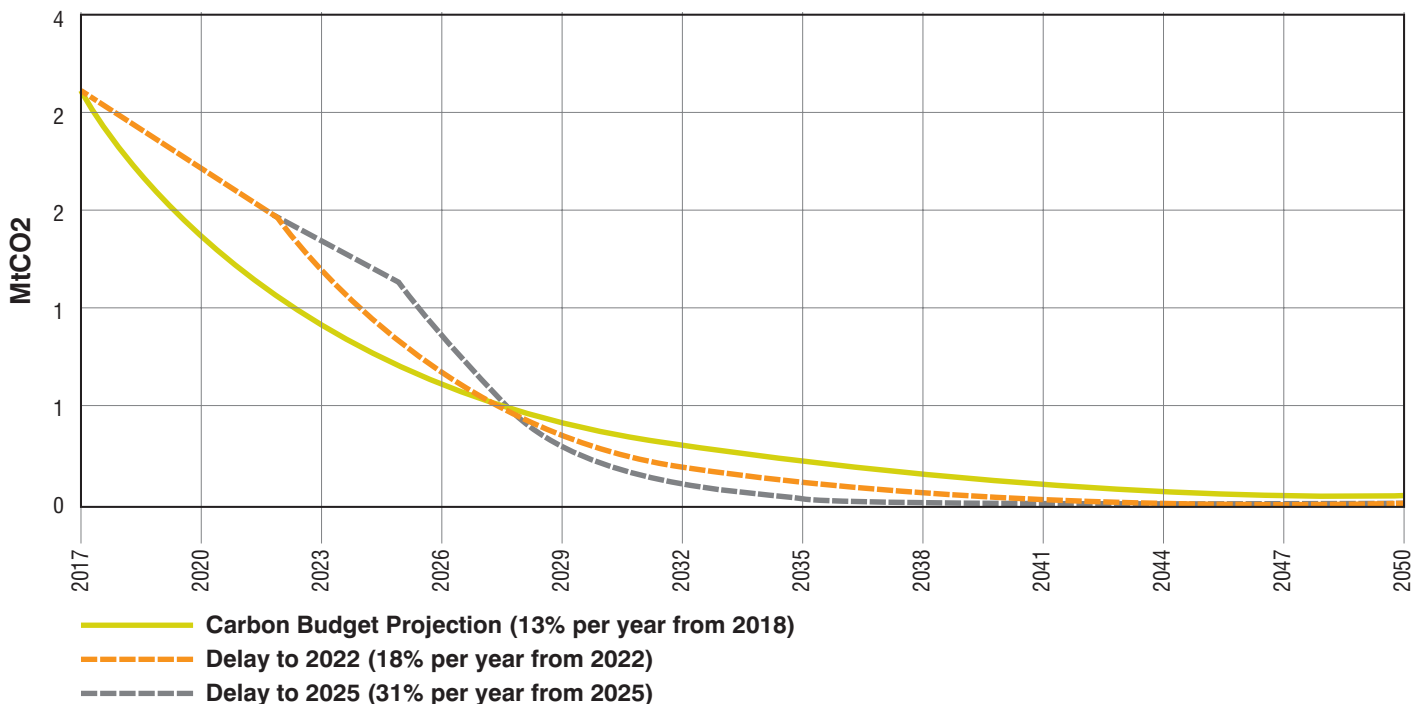


Figure 5: Emissions projections consistent with the 15 MtCO₂ budget – starting from common year (2017)

Action delayed until 2022: 18% year-on-year reductions required to stay within the 15 million tonne carbon budget.

Action delayed until 2025: 31% year-on-year reductions required to stay within the 15 million tonne carbon budget.

Aviation sub-objective:

We want the emissions from all flights from Manchester Airport to be fully aligned with the Paris Agreement. We believe this means operating within a limited carbon budget for UK aviation, as part of a wider international budget.

We recognise the UK aviation budget that has been proposed by the Tyndall Centre for Climate Change Research, 1,200 million tonnes CO₂ for the period 2020 to 2100, calculated in line with the methodology for establishing Manchester's carbon budget for our direct emissions. We recognise the interrelationship between these two budgets; if one is exceeded, the other has to reduce to compensate for it.

We also recognise that the Tyndall Centre's proposed UK aviation budget is 37% of the total UK carbon budget, a much larger allocation than for other sectors of the economy.

With no global city yet having reconciled its climate change responsibilities with having a major international airport within its boundaries, we believe we have the opportunity to establish Manchester Airport and the city as a national and international leader in sustainable aviation.

As part of playing our full part on climate change we recognise now is the time to tackle this fundamental challenge, whilst also taking into account the significant employment, business, cultural and tourism benefits Manchester Airport provides to the city. To do this we need:

- Manchester Airport Group and Manchester City Council to work UK Government to help develop a UK aviation strategy which is in line with the Paris Agreement and the approach used by the Tyndall Centre for calculating carbon budgets
- Manchester Airport Group and Manchester City Council to work with UK Government and other UK airports to ensure that any proposed development at Manchester Airport is consistent with a Paris Agreement-aligned UK aviation carbon budget, taking into account the 1,200 million tonne carbon budget proposed by the Tyndall Centre, and the city's 15 million tonne carbon budget for direct emissions
- Social justice to be at the heart of Manchester's work with Government on a national aviation strategy, to ensure that everyone in the city has the potential to enjoy their fair share of the benefits of having an international airport in the city
- To establish ways to empower Manchester residents to make informed choices about their travel behaviours, including an understanding of the climate impacts of flying and the options they have to minimise or avoid them entirely. This should take into account the fact that data on the impact of Manchester residents' flights is already available: 0.2 million tonnes CO₂ emitted per year (2017 levels), from all UK airports. And that if the city chose to develop a carbon budget-based approach to help manage these emissions, following the Tyndall Centre's methodology, it would give Manchester residents a carbon budget of 6.6 million tonnes from 2020.
- To establish ways to empower Manchester organisations to make informed choices about their travel behaviours, including an understanding of the climate impacts of flying and the options they have to minimise or avoid them entirely. This should take into account the fact that data on the impact of Manchester organisations' flights is not currently available. And that, if such data was gathered, the city could choose to develop a carbon budget-based approach to help manage these emissions.

Indirect / consumption-based CO₂ emissions sub-objective:

To better understand the broader climate change impact of the city's consumption of goods and services and take action to develop more sustainable consumption practices for the city's residents and organisations.

Greenhouse gas emissions from goods and services consumed in Manchester from the rest of the country and worldwide also contribute to the city's overall climate impact.

Based on the average for C40 cities (a network of ambitious global cities)¹³, Manchester's emissions on a consumption basis may be 60% greater than they are for our direct CO₂ emissions.

Consumption based emissions are more difficult to assess accurately than our direct CO₂ emissions, particularly at a city scale. This means that target-setting and monitoring is not yet possible in the same way as for the direct emissions carbon budget. A consumption-based account of Manchester's greenhouse gas emissions can however provide an indicative picture of the city's wider contribution to climate change. This in turn can be used to direct action on sustainable consumption practices.

We will develop a more detailed understanding of our consumption-based emissions to enable us to target action and monitor progress. In parallel we will also start to take action based on known key contributors to the city's consumption-based impacts.

Key Points

1. How Manchester's carbon budgets are calculated:

The Tyndall Centre have calculated a carbon budget for the UK that is aligned with the Paris Agreement¹⁴. This UK budget is then broken down into separate budgets for the UK's three main sources of emissions:

UK direct/ energy only	UK Aviation	UK Shipping
(55%)	(37%)	(8%)

Manchester's direct carbon budget: the UK direct / energy only budget is apportioned to Manchester to give us a figure of 15 million tonnes of CO₂¹⁵.

2. The relationship between the different types of emissions:

If one sector emits more than its budget this needs to be compensated for through reductions in the other sectors. For example, if UK aviation emits more than its 37% of the UK budget, this will need to be compensated for with reductions in the direct and/or shipping sectors.

This is why the Framework covers both direct and aviation emissions.

3. Data quality:

It should be noted that the data for Manchester's CO₂ emissions are more robust in some areas (direct CO₂ emissions), estimated in some (indirect CO₂ emissions), and require additional data to give a complete picture in others (data on the flights taken by Manchester residents are currently available but not for organisations' flights).

There is also some overlap between the three types of emissions so it is not possible to add together the three figures to give an accurate figure for Manchester's total CO₂ emissions. However, the data in this section gives us a good sense of the scale of our responsibilities in order to focus our efforts over the next five years.

4. Playing our full part – our ambitious scope:

Manchester has chosen to take responsibility for a much wider scope of CO₂ emissions than the majority of other cities. Currently, most cities typically take responsibility and commit to action on their direct CO₂ emissions only. However, in line with our commitment to 'play our full part in limiting the impacts of climate change', we believe it is important to be as ambitious and transparent about our responsibilities as the global climate emergency demands is necessary, including where we need to work with UK Government, and others.

¹⁴ https://www.research.manchester.ac.uk/portal/files/83000155/Tyndall_Quantifying_Paris_for_Manchester_Report_FINAL_PUBLISHED_rev1.pdf

¹⁵ Appendix 2 at <http://www.manchesterclimate.com/targets-2018>

5.2 Climate Adaptation and Resilience Objective

This objective has been developed in-part based on the recommendations of CDP¹⁶ who identified this theme as an area missing from the previous draft of this Framework. It has been developed with support from climate change adaptation and resilience experts at the University of Manchester.

Headline objective:

To adapt the city's buildings, infrastructure and natural environment to the changing climate and to increase the climate resilience of our residents and organisations.

Why is this important?

Manchester's climate is changing¹⁷. Responses to adapt and build resilience to changing patterns of extreme weather events are required, focusing particularly on hazards such as floods which the evidence shows are a particular threat to Manchester.

Event	1945-1969 Events	1970 – 1993 Events	1994 – 2017 Events
Flood (all forms)	36 (44%)	24 (36%)	109 (52%)
Storm	18 (22%)	24 (36%)	44 (21%)
Cold	17 (21%)	11 (16%)	27 (13%)
Fog	8 (10%)	2 (3%)	15 (7%)
Heat	2 (2%)	4 (6%)	10 (5%)
Drought (water shortages)	1 (1%)	2 (3%)	5 (2%)
TOTAL EVENTS	82	67	210

Table 3: Past occurrence of extreme weather and climate change hazard events across Greater Manchester.

Climate change projections point towards Manchester experiencing warmer and wetter winters, hotter and drier summers, and more periods of extreme heat and heavy rainfall. Winter rainfall could increase by around 30% across Greater Manchester (GM) by 2050, and the warmest summer day could rise by 6°C by this point¹⁸.

These changes will have a major effect on Manchester's people, environments, buildings and infrastructure. Recent research has identified climate change risks to GM's critical infrastructure, which is central to people's livelihoods and quality of life. Floods and storms account for the highest risks¹⁹, and these events stand out as priorities for adaptation and resilience planning and action.

¹⁶ <https://www.cdp.net/en/responses>

¹⁷ Carter, J.G., Connelly, A., Handley, J and Ellis, M. 2018. Climate Change Risk Assessment of Greater Manchester's Critical Infrastructure. RESIN Project. Available at: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf

¹⁸ Cavan, G. 2011. Climate Change Projections for Greater Manchester. EcoCities Project, University of Manchester.

¹⁹ Carter, J.G., Connelly, A., Handley, J and Ellis, M. 2018. Climate Change Risk Assessment of Greater Manchester's Critical Infrastructure. RESIN Project. Available at: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf.

During 2020-25:

Further work is needed to better understand the level of risk and vulnerability faced by our residents and businesses so that we can more effectively focus our efforts on the key risks and locations most in need. However, alongside this ongoing research and planning work, there is also much we can do to support and undertake practical action.

Action:

- 1) Act on the existing evidence and research on climate change impacts and risks to target available adaptation and resilience effort and resources. This means focusing on infrastructure, communities and businesses at risk from flooding in particular.
- 2) Increase the amount of urban green infrastructure cover, aiming for a 10% increase by 2038 from 2018 levels, in line with the Greater Manchester aim²⁰.

Educate and prepare:

- 3) Educate and prepare our residents, our businesses, and our public sector to encourage changes in their behaviours, operations and services that can support adaptation and resilience to climate change.

Research and planning:

- 4) Continue to develop a clear and up-to-date understanding of how the climate is projected to change and the associated risks that we could experience over the short, medium and long-term. To include a developing understanding of our heat stress risks, as well as those for flooding.
- 5) Respond to these risks by incorporating adaptation and resilience within our plans and strategies, and acting to make necessary changes to our buildings, infrastructure and our natural environment.
- 6) Utilise the European Climate Risk Typology²¹ to identify and then learn from cities and urban areas that have a similar climate risk profile as Manchester.

²⁰ This target comes from the IGNITION project, which is creating a green infrastructure baseline that we will use to support activity in Manchester - <https://www.greatermanchester-ca.gov.uk/what-we-do/environment/ignition/>

²¹ <http://european-crt.org/index.html>

5.3 Health and Wellbeing

This objective has been developed jointly with representatives from the Manchester Health and Wellbeing Board to help ensure that the city's climate action also contributes to the successful delivery of the *Manchester Population Health Plan 2018-27*²².

Headline objective:

To improve the health and wellbeing of everyone in Manchester through actions that also contribute to our objectives for CO₂ reduction and adaption and resilience, with particular focus on those most in need.

Why is this important?

The actions we need to take to reduce CO₂ and adapt the city also have the potential to simultaneously improve our residents' health and wellbeing. Walking and cycling to get residents moving, aiming for 75% to be active or fairly active as part of the Greater Manchester-wide GM Moving programme²³. Shifting away from petrol and diesel vehicles to help address our air quality crisis, which currently contributes to Manchester having the highest rate of emergency hospital admissions for asthma in the country and is linked to 181 deaths per year in Manchester²⁴.

Increased rainfall and flooding, increased heat waves and increased incidences of extreme weather all have the potential to negatively affect the physical and mental wellbeing of Manchester's residents. This is why we need to adapt the city's built and natural environment and prepare our residents to become more resilient to these changes. Increasing the amount and quality of green space to enable residents to benefit from the improved physical and mental health that will come as a result²⁵.

Improving the energy efficiency of the city's homes and providing access to affordable, secure supplies of renewable energy are essential help get 38,000 Manchester households out of fuel poverty.

During 2020-25:

As well as Manchester residents taking action for themselves over the next five years, we will also need new strategic initiatives to help accelerate what people are already doing, and to address any barriers that are preventing or limiting further action.

When these initiatives are developed we need to focus them on the people and communities where climate action has the most potential to improve health and wellbeing, those that are expected to be most impacted by the changing climate, and those who would most benefit from additional support. Often these people will also have made less of a contribution to changing the climate than residents in other parts of the city.

As well as ensuring that climate action has positive health and wellbeing outcomes, this approach will also ensure that our commitment to social justice remains at the heart of what we do.

More information on the approach to developing new strategic initiatives is provided in Section 6.3.

²² https://secure.manchester.gov.uk/downloads/download/6898/manchester_population_health_plan_2018-2027

²³ <https://www.greatersport.co.uk/media/2679/gm-moving-v2-july-2018.pdf>

²⁴ <https://cleanairgm.com/air-pollution#your-health>

²⁵ <http://documents.manchester.ac.uk/display.aspx?DocID=33167>

5.4 Inclusive, Zero Carbon and Climate Resilient Economy

This objective has been developed jointly with representatives from the Manchester Work and Skills Board to help ensure that the city's climate action also contributes to achieving Manchester's aim to establish a more inclusive economy, as set out in the Our Manchester Industrial Strategy²⁶.

Headline objective:

To ensure that Manchester establishes an inclusive, zero carbon and climate resilient economy where everyone can benefit from playing an active role in decarbonising and adapting the city to the changing climate.

Why is this important?

Greater Manchester companies in the low carbon and environmental goods and services sector currently employ over 45,000 people. Based on performance in recent years, these numbers are set to continue to grow, including graduates from our local universities²⁷. The Office for National Statistics found that the average gross annual pay for graduates with environmental degrees working in the sector is the 4th highest compared to every other subject, amounting to £38,012, and that the employment rate for graduates in the sector is 87%²⁸.

The city's businesses in non-environmental sectors also have an important part to play in our zero carbon transition. Many are already engaged and benefiting from reduced energy bills, improved reputation, increased competitiveness, the ability to attract skilled workers looking for meaningful work with a socially responsible employer, and readiness for new carbon reduction policies and legislation in the coming years.

During 2020-25:

Our list of strategic actions will develop as we continue to grow our understanding of the city's needs. Section 6.3 sets out our approach to developing and delivering these actions. The following list is a starting point, based on work during 2019-20 with organisations and groups involved in education and training in the city, including Manchester's Work and Skills Board and the Manchester Careers, Education, Information, Advice and Guidance Group.

- 1) Ensure that climate change remains one of the key objectives in the implementation of the Our Manchester Industrial Strategy, with a view to expanding the strategy's aim from the current 'develop a more inclusive economy' to 'develop a more inclusive, zero carbon and climate resilient economy'.
- 2) Embed climate change throughout the city's education and training system to help Manchester become a Carbon Literate city.
- 3) As we invest in infrastructure to become a zero carbon city, we need a proportionate investment in the skills sector to ensure that our education and training providers can respond. In particular, we need to develop the 'green skills' the city needs to deliver the projects and programmes planned for 2020-25 and to prepare for further initiatives from 2026.
- 4) Support existing and new businesses in the low carbon and environmental goods and services sector to provide the expertise and products the city needs to act on climate change.
- 5) Support 'non-environmental' organisations to act on climate change, including those currently in fossil fuel-heavy industries where major changes to business activities will be needed and where workers may need support to transition into new jobs where they can deploy their skills.

²⁶ https://www.manchester.gov.uk/downloads/download/7156/our_manchester_industrial_strategy

²⁷ https://www.businessgrowthhub.com/media/1063153/gm_lowcarbon_sector_report_new.pdf

²⁸ <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/graduatesintheuklabourmarket/2017>

6. URGENT ACTIONS TO MEET OUR COMMITMENTS

6.1 Headline Areas for Urgent Action

At a city-level we need to take action in seven key areas to meet our carbon reduction and climate adaptation and resilience objectives:

1. Buildings (existing and new)
2. Renewable energy
3. Transport and flying
4. Food
5. The things we buy and throw away
6. Green infrastructure and nature-based solutions
7. Supporting and enabling residents and organisations to act – see Section 6.3

At this stage we have a good high-level understanding of what needs to be achieved, however, we don't have full details for every area of activity. For example, we know we need 100% of our energy to be from renewable sources as soon as possible, but we don't know what percentage we should reach by 2025.

To start to develop our detailed understanding we have taken some of the headlines from the Greater Manchester Environment Plan for 2019-24 and applied them to Manchester. We will develop further details as part of a future refresh of this Framework.

However, we don't need to wait for further research and planning work before we start our next phase of urgent citywide action. We already have a good enough understanding of what we need to do. The priority over the next five years is to focus our efforts on urgently reducing CO₂ emissions and adapting the city, and planning for further progress from 2026.

1) Buildings

Existing buildings

An estimated 80% of the buildings that will exist in the UK in 2050 have already been built. They were built at a time when climate change and energy considerations were much less of a priority than today, including the 226,640 homes we already have in Manchester. The current levels of energy performance of our homes, schools and workplaces are much lower than we need in order to meet our targets.

There are currently extremely low levels of domestic and non-domestic retrofitting taking place in the city, the exceptions being registered housing providers and a handful of proactive private homeowners. This is a result of lack of knowledge and demand for retrofitting, very low access to funding (including low-cost loans), lack of skills and local supply chain, and a lack of financial incentives and business models to make investment in retrofit stack up for homeowners, public and private landlords.

Addressing this requires significant new interventions. This challenge is faced by all UK local authorities and lends itself particularly to a national programme where Manchester could work in partnership with UK Government. The aim being to get our existing buildings as close to zero carbon as possible by significantly increasing their energy efficiency and generating renewable energy on-site.

Based on the *GM Environment Plan 2019-24*: over 11,500 of Manchester's 226,640 homes retrofitted per year.^{29/30}

New buildings

We need to ensure that new developments in the city don't eat into our limited carbon budgets and add to the already significant retrofit challenge. This means that we need them to be built and operated to zero carbon standards as soon as possible.

The ideal way to do this is through UK Government establishing a national zero carbon definition and methodology for its implementation, and for Manchester City Council to implement this standard as quickly as possible through the local planning system.

This should include applying zero carbon standards to all developments where the Council has additional influence, for example as a client / end-user, landowner or development partner, with a view to all new development needing to be zero carbon from 2023 at the latest, when the new Manchester Local Plan is expected to become operational.³¹

²⁹ 18.9% of the 61,000 that need to be retrofitted across Greater Manchester; Manchester homes make up 226,640 (18.9%) of the 1.2 million homes in Greater Manchester

³⁰ https://secure.manchester.gov.uk/info/200088/statistics_and_intelligence/2024/housing

³¹ www.manchester.gov.uk/localplan

2) Renewable Energy

100% Renewable Electricity

We need a combination of two, possibly three, sources of renewable electricity:

- Our own renewable energy generated inside the city: this includes significant increases in the amount generated from solar photovoltaic (PV) panels. In 2019, only 1% of Manchester's electricity demand was met by local renewable generation.
- Decarbonised National Grid: driven by UK Government, the National Grid has been decarbonising in recent years; we need this to continue but at an accelerated rate, with a view to being fully decarbonised as soon as possible.
- Our own renewable energy generated outside the city: this could include through 'power purchase agreements' with renewable energy generators, and/or investing in our own renewable energy generation through, for example, wind farms, solar farms, and others. This option is particularly important if the National Grid doesn't decarbonise at the rate we need it to.

We will also become more compatible with intermittent generation by developing smart grids and dynamic demand within Manchester.

Based on the *GM Environment Plan 2019-24*: at least 50% of all homes should have the equivalent of 16m² of solar PV panels by 2024.

Gas

The UK has two main options for natural gas use in the UK: stop using it (except in a small number of instances where viable alternatives don't exist, such as in some industrial processes) and move to electric heating, heat pumps and zero carbon district heating instead, or; replace it with biogas and/or hydrogen.

At the time of writing UK Government are in the early stages of developing a national strategy. However, we can't wait for this to emerge before we start to take action. There are four things we need to do:

- Improve the energy efficiency of our buildings as far as possible to reduce our demand for gas (as in the above 'buildings' section).
- Replace our natural gas-based heating systems with renewable energy-based heating technologies as soon as possible.
- Work with Government to ensure that moving to electricity-based heating systems is affordable and doesn't push even more people into fuel poverty (electricity is currently more expensive than natural gas).
- Work with Greater Manchester Combined Authority and Government to help establish a clear UK strategy for gas (the Netherlands, for example, have committed to be natural gas-free by 2030).

Based on the *GM Environment Plan 2019-24*: over 13,600 (6%) of Manchester's 226,640 homes connected to a low carbon heating source every year.

3) Transport and flying

Many of these actions will need to be taken as part of wider Greater Manchester programmes, including work with Transport for Greater Manchester and Manchester Airport.

There are five headline actions we need to take:

Increase walking and cycling: through a combination of significantly more safe, well-designed routes and changes in travel behaviours

Increase public transport use: again, this is partly about changes in behaviours, but will only work if enabled by significant improvements in the capacity, frequency, reliability, affordability and accessibility of our buses, trams and trains. Our current system falls well short of these essential characteristics.

Based on the *GM Environment Plan 2019-24*: significant increases in sustainable modes of transport.

Private vehicles: where travel by private vehicle is necessary, we need these to be electric vehicles, supported by easily accessible charging points, and with the right incentives to accelerate their uptake. Simple 13 amp outdoor plugs will meet most drivers' needs, with more expensive super-fast chargers only required for a minority of vehicle-users. However, we need to keep in mind that the shift to electric vehicles won't address our problems with congestion. The manufacturing of vehicles (in cities outside of Manchester) also generates significant CO₂ emissions, contributing to our consumption-based CO₂ emissions.

Based on the *GM Environment Plan 2019-24*: 100% of Manchester's cars and buses need to be zero emissions (tailpipe) by 2035.

Rail connections to other cities within the UK and Europe (and beyond): we need to shift our travel to other cities away from the use of private cars and planes and onto trains, as far as possible. Doing this will require reliable, affordable and efficient connections to the rest of the UK and Europe, to enable a shift in the behaviours of our residents and workers.

Flying: work with UK Government to ensure that flights from Manchester Airport and all UK airports are fully in line with the Paris Agreement. Manchester residents and organisations to look at their own travel behaviours and minimise the number and length of flights through taking holidays closer to home, taking trains, and replacing meetings with video and teleconferencing.

4) Food

Manchester is part of a complex global system whose climate and environmental impacts are vast. Consider both the direct production of crops and livestock, and the associated land clearing. Fossil fuels power the machinery, fishing vessels, transport, packaging and processing of our food. Chemical fertilisers and over 60 billion land animals contribute significantly to the emission of greenhouse gases.

However, the capacity exists for the food system to transform from a carbon source into a sink; capturing carbon as a means to increase fertility, soil health, water availability and ultimately, food security. Changes to agricultural production, food preparation, consumption and waste are needed at a global level, combined with positive action at an individual, family, community and city-level. We need to grow, buy/sell, cook and eat in a way that supports our local economy, in a healthy and environmentally sustainable way.

This includes:

- Waste less food, both individually and commercially
- Buy seasonal, local produce; ideally organic, from more sustainable farms, or at least buy British supporting UK agriculture.
- Support local, independent food outlets.
- Avoid processed food, buying fresh or minimally processed food.
- Adopt a plant-rich diet and reduce overall meat consumption
- If choosing meat or other animal products, buy better quality. Organic, free range, Freedom or pasture-reared are all signs that your animal products are coming from a more sustainable source, and will be higher quality and healthier.
- If choosing fish, buy it from more sustainable sources i.e. not on the 'fish to avoid' list³².
- Grow your own, use an allotment, help at a community growing project or get growing at our workplace.
- Buy only what we need and plan our meals.
- Buy Fairtrade coffee and tea.
- Drink tap water, avoid bottled water.
- Buy/sell food which has minimal packaging which avoids single-use plastics.
- Ask your shop/supplier about where your food has come from.

5) The things we buy and throw away

Whilst they might be produced and disposed of outside of Manchester's boundary, we have a responsibility for the carbon footprint of the things that we buy and throw away. Research by the C40³³ estimates that these emissions, also known as 'consumption-based' or 'indirect' emissions can be as much as 60% higher than a city's direct CO₂ emissions. For Manchester that would mean an estimated 3.4 million tonnes CO₂ per year for our consumption-based emissions, compared to 2.1 million tonnes for our direct emissions.

There are five headline actions we need to take:

- **Buy less:** before we buy things, as citizens and as organisations, we need to ask ourselves 'do I really need this?'
- **Buy better:** where a new product, material or service is needed, we need to select those that have the lowest carbon footprint and other positive environmental and social attributes. This may mean reusing or repurposing previously used goods or hiring rather than buying what we need.
- **Local businesses:** as well as growing the demand for greener products, we also need to grow the supply. This means supporting the growth of local businesses that can offer reusable, reused, repurposed and for-hire products and materials.
- **Repair:** extending the life of products and supporting repair cafes and upcycling workshops.
- **Recycle:** when a product or material finally reaches the end of its current life we need to ensure it is recycled.

6) Green infrastructure and nature-based solutions

Our parks, gardens, woodlands, street trees and other elements of the city's green infrastructure have an essential role to play in helping Manchester to meet its climate change objectives. This is in terms of both adapting Manchester to the changing climate (by helping to manage flood risk and heat stress) and helping to reduce our CO₂ emissions (to stay within our carbon budget we need our land to become a net remover of carbon). And at the same time also delivering myriad other benefits such as improved health, increased biodiversity, supporting jobs, creating attractive neighbourhoods, and many others.

A term increasingly being used to describe the use of green infrastructure that can address climate (and other) challenges is 'nature-based solutions'. At the time of writing Manchester is delivering an EU-funded project in West Gorton to demonstrate how we can integrate nature-based solutions into the city's communities to manage flood risk, increase biodiversity and improve health and wellbeing. This project provides us with an exciting model to replicate in other parts of the city. And in doing so building on many years of action on the city's natural environment, driven by strategies for green and blue infrastructure, trees and biodiversity.

The Manchester Green and Blue Infrastructure to 2025³⁴ is being refreshed during 2020. Rather than duplicate the details here, our headline action is to ensure that the city's climate change objectives are fully embedded in the development and implementation of the refreshed strategy.

Based on the *GM IGNITION project*: increase urban green infrastructure by 10% by 2038, from 2018 levels³⁵.

³³ <https://www.c40.org/consumption>

³⁴ https://secure.manchester.gov.uk/info/500002/council_policies_and_strategies/7061/green_and_blue_infrastructure

³⁵ <https://www.greatermanchester-ca.gov.uk/what-we-do/environment/ignition/>

6.2 Urgent Actions for Every Resident, School and Organisation

To realise our potential to become a leading city for action on climate change we need every resident, school and organisation in the city to take urgent and sustained action.

Right now, thousands of people and organisations across Manchester are already on board.

Our residents and communities

From our young people to the city's older generation, and everyone in between, more residents by the day are joining our citywide movement of committed climate actors.

The Fallowfield Secret Gardens Residents Group was established by local residents to help people learn how to grow their own food and live more sustainably. The group is helping Fallowfield residents to become more self-sufficient and reduce their emissions by relying less on imported produce.

The Barlow Road Community Orchard has been created by Levenshulme residents to plant more trees in their neighbourhood. With support from a Manchester City Council grant to purchase apple, cobnut and plum trees, a piece of land previously used by fly-tippers is now on its way to becoming a flourishing area for the local community.

Our schools

Parrs Wood High School are a leading school when it comes to solar energy – they have one of the largest solar energy systems at any school in the UK with almost 1,000 solar panels on its main roof, generating more than 200,000 kWh of renewable power per year. This project makes a saving of 119 tonnes CO₂ annually, whilst also being a huge educational benefit to the pupils of the school.

Pupils at MEA Central have been planting trees, eliminating single use plastic water bottles from their school and running Meat Free Mondays – putting them on track to move from their current bronze Eco-Schools badge up to silver.

Our organisations

Organisations are also playing their part. **The University of Manchester** has completed three LED lighting projects across their campus buildings, saving 116 tonnes of CO₂ per year, on track for lifetime savings of 2,300 tonnes CO₂.

Manchester City Football Club have completed a similar project – switching to LED lightings across the stadium has reduced consumption by just over 1 million kWh.

For those in the early stages of their zero carbon journey, inspiration isn't far away. The Manchester Climate website has a growing number of examples of the actions the city's residents, schools and organisations are taking³⁶.

15 Actions

To help residents, schools and organisations to play their part we are promoting 15 actions. This list is likely to develop over the next five years so we haven't included the full details here. For a copy of the most up-to-date list visit:

WWW.
manchesterclimate.
com/15-actions

GETTING STARTED

1. Commit to zero carbon and taking urgent action now
2. Measure and report your CO₂
3. Climate change education and Carbon Literacy

TAKING ACTION

4. Existing buildings
5. New developments and construction
6. Renewable energy
7. Transport
8. Flying
9. Reduce, reuse, recycle our stuff
10. Food
11. Green space and gardens
12. Water conservation

INSPIRING AND INFLUENCING OTHERS

13. Where you put your money
14. Spread the word

ASK FOR HELP

15. Ask politicians and decision-makers for help

Manchester Climate Change Partnership

The Partnership is the city's main mechanism for engaging and inspiring organisations and residents to act. The Partnership currently has 60 members, across 10 sectors, with responsibility for over 20% of Manchester's direct CO₂ emissions. Its members also have reach into the remaining 80% through their staff, students, customers, tenants, football fans, theatre-goers, worshippers, and others. By working with their supply chains members are also starting to take a chunk out of the city's consumption-based CO₂ emissions.

Partnership members have developed their own bespoke action plans, setting out how they will contribute towards the successful delivery of this Framework. A summary of their action plans is available in *Appendix 2*.

A methodology is currently in development to support organisations and sectors to set carbon reduction targets, in line with the city-level targets in this document. The Tyndall Centre have developed recommendations to support the development of this methodology. See *Appendix 1* for further information.

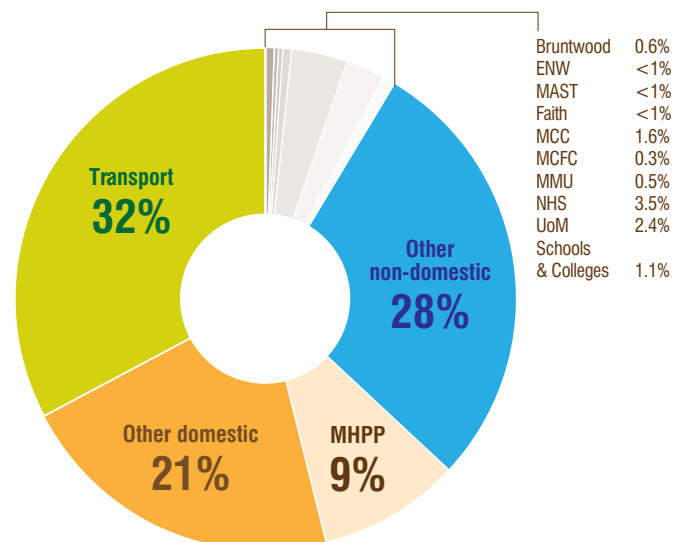


Figure 6: Direct CO₂ emissions from MCCP members' buildings

The Partnership will continue to grow throughout the life of this Framework and beyond, aiming to ultimately engage and inspire every community and organisation in the city to get involved in the city's collective action. Further information on the Partnership is available from: www.manchesterclimate.com/MCCP

6.3 Supporting and enabling residents and organisations to act: urgent actions for Manchester City Council, Manchester's Strategic Partners, Greater Manchester Combined Authority, UK Government and their agencies.

At the time of publishing this Framework, we know that Manchester is not currently on track to meet its climate change objectives, despite the many actions being delivered across the city.

To address this, in combination with the engagement work of the Manchester Climate Change Partnership, we need our public authorities and strategic partners to provide the necessary support, incentives, standards and infrastructure.

We know from survey work undertaken in 2019 that 75% of Manchester residents are worried about climate change (15% extremely worried, 21% very worried, 39% somewhat worried).

Large numbers of Manchester residents are already taking some level of action (minimising food waste and reusing plastic bags) but stated that they would be willing to do even more (retrofitting their home, switching to an electric vehicle or eating more seasonal food) if they had more information.

There is a clear need for further information to be provided: respondents believe the Council and partners could increase awareness of climate change (44% of respondents) and help residents to understand how to reduce the impact of it (42%).

The most common activity identified as a priority for Manchester City Council and partners was for better public transport (47%). Financial incentives were also identified as having a role to play in helping residents to take action (26% of respondents).

There are examples from other UK and international cities where local, regional and national government have worked together, often with the involvement of local partners, to address a city's climate change needs. These precedents provide us with valuable inspiration and learning so that we can replicate the solutions that we know already work.

Doing so will require our public authorities and strategic partners to deploy the powers and resources they have available to them. Some of which we already have at the local level, some of which we will need to secure through working in partnership with the Greater Manchester Combined Authority and UK Government.

Research by the Coalition for Urban Transitions³⁷ estimates that for cities around the world to realise their climate ambitions the powers and responsibilities for action are:

- 14% with the city
- 67% with the national government
- 19% through working together

when decarbonisation of the electricity supply is included.

- 28% with the city
- 35% with the national government
- 37% through working together

when decarbonisation of the electricity supply is not included.

This makes it clear that we need our partnership-based approach to extend beyond the city's boundaries, to build a strong collaboration between Manchester City Council, the city's strategic partners, Greater Manchester Combined Authority, UK Government and their agencies. Further information on each of these organisations and their existing commitments to support residents and organisations are provided here.

³⁷ <https://urbantransitions.global/en/publication/climate-emergency-urban-opportunity/>

Manchester City Council

Manchester City Council (MCC) is a member of the Manchester Climate Change Partnership. The Council is expected to publish its own climate change action plan for the period 2020-25³⁸ in March 2020. As well as setting out how the Council will reduce its own operational emissions, the plan will commit the Council to supporting and enabling the city's residents and organisations to reduce their CO₂ and adapt to the changing climate.

The Council has good examples to build on from the last 10 years:

Supporting and enabling residents and communities

- **Metrolink Expansion** - MCC has worked with Transport for Greater Manchester and has supported the recent Greater Manchester five-year plan to expand the Metrolink tram network, connecting more people across the city-region.
- **Cycling Infrastructure** - MCC has worked with partners to improve the city's cycling infrastructure including the Oxford Road and Wilmslow Road 'Dutch Style' cycling lanes. Most of the route between Didsbury and Manchester City Centre provides cyclists with a dedicated cycle lane, separated from the traffic by special new kerbs. Passing through Withington, Fallowfield, Rusholme, and the university district, there are special lanes to navigate cyclists round bus stops and parked cars. Traffic signals are also timed to give cyclists a head start from junctions too.
- **GrowGreen** - is a project looking at how implementing Nature Based Solutions (NBS) in cities can help them adapt to climate change. It is addressing issues of flooding and rising temperatures via solutions including tree planting, green roofs, green walls, permeable paving and sustainable urban drainage systems. In West Gorton, MCC are building a community park that demonstrates how solutions can manage water and flood risk – 'a park that drinks water'.
- **The Nature of Hulme** - In 2017 MCC's Central Neighbourhood Team commissioned the Westcountry Rivers Trust (WRT) to undertake a community-based environmental appraisal and visioning exercise in the Ward of Hulme in Manchester. The 'Nature of Hulme' Project was designed to include a comprehensive, local

and collaborative 'natural capital' benefits assessment and needs/opportunity mapping exercise for the ward. This approach incorporated refined and improved Green Infrastructure and Sustainable Drainage Systems (SuDS) opportunity mapping methods.

Supporting and enabling schools

- **Protecting Playgrounds** - Funded by MCC and Transport for Greater Manchester, and working with Groundwork and Lancaster University, a new pilot scheme 'Protecting Playgrounds' is underway. The aim is to boost air quality in school playgrounds located next to major roads (Abbott Community Primary (Collyhurst) - Rochdale Road, Manchester Communication Academy Primary (Harpurhey) - Rochdale Road, Saint Ambrose RC Primary (Chorlton) - Princess Parkway, and Medlock Primary (Ardwick)- A6). It involves greening to provide natural filters to absorb pollution from passing traffic, as well as training pupils to monitor air pollution and devise cleaner routes.
- **Youth Climate Summits in July 2019 and January 2020** - The summit in January 2020 provided young people with a platform to express their concerns about climate change, question politicians and other agencies about what they are doing to address this issue and influence action for change. The summit was attended by 49 schools and youth groups including, 14 secondary schools, 33 primary schools and two youth groups (250 young people and 50 staff attended the event).

Supporting and enabling businesses and organisations

- **Civic Quarter Heat Network (CQHN)** - MCC are working in partnership with Vital Energi to create the Manchester Civic Quarter Heat Network. The network will provide a highly efficient heat and power solution for some of Manchester's most iconic buildings (Including the Town Hall, Central Library, The Midland Hotel and Manchester Central), making significant carbon reductions.
- **C-Change** - Funding has been secured by MCC to deliver a project working in collaboration with Manchester Arts and Sustainability Team (MAST) to enable the group to develop a zero carbon roadmap aligned to Manchester's zero carbon priorities, to further engage with residents and secure funding for key measures to support leadership capacity both within MAST and across the broader culture sector in the city.

Manchester's Strategic Partners

The Our Manchester Forum structure is made-up of a range of key strategic partners and groups. These include the Manchester Health and Wellbeing Board, the Manchester Work and Skills Board, the Age Friendly Manchester Older People's Board, Manchester Youth Council, and others.

Each of them will have their own unique potential, powers and resources they can contribute to the city's climate change commitments. For example, ensuring that we respond to the health and wellbeing risks and opportunities associated with climate change. Ensuring that the city's education organisations are helping our residents to develop the green skills they need to secure jobs in the city's zero carbon economy. And ensuring that we tap into the passion, energy and experience of Manchester's older people and younger residents.

Each of these strategic partners and groups will need to develop their own bespoke plans, alongside those developed by members of the Manchester Climate Change Partnership.

Greater Manchester Combined Authority

The Greater Manchester Environment Plan for 2019-24³⁹ sets out the Combined Authority's commitments to climate change. Many of the actions in this Framework will be best delivered by working in partnership with GMCA and the other nine Greater Manchester districts.

As with Manchester City Council, we have examples of where the Combined Authority is already responding positively to the needs of residents and organisations, to enable them to shift to lower carbon lifestyles and operations.

UK Government

Government also has its own plans⁴⁰, to realise the commitment in the 2019 manifesto for the UK to 'Reach Net Zero by 2050 with investment in clean energy solutions and green infrastructure to reduce carbon emissions and pollution⁴¹.

Manchester and Greater Manchester need to build a strong partnership with Government to enable us to help meet the city, the city-region, and the UK's commitments. COP26 in November 2020 provides a vital opportunity for us to this.

39 www.greatermanchester-ca.gov.uk/what-we-do/environment/

40 www.gov.uk/environment/climate-change-energy

41 <https://vote.conservatives.com/our-plan>

New actions

The above plans will get us some way towards providing the support, incentives, standards and infrastructure that Manchester's residents and organisations need. However, it is likely that there will be gaps. To fill them we need two things to work in tandem:

- Proactive joint-action by Manchester City Council, Manchester's strategic partners, Greater Manchester Combined Authority and UK Government to deploy the powers and funding they have available, including instances where devolving Government powers and funding to the local level will enable us to move even quicker, and
- Proactive residents and organisations setting out the help they need and the action they'll be able to take as a result.

It's in Manchester's DNA for our residents and organisations to develop their own ideas to help make the city the best place it can be. Here are some points that might be useful when developing your ideas:

- Can you include examples of where your idea has been successfully delivered in other cities?
- Can you set out the potential health, wellbeing, employment, and other benefits to the city?
- Can you describe what you'll be able to do differently if the proposal is implemented. 'Dear politician, if you do X, I'll be able to do Y...' can help create a powerful argument for our politicians to act.

Manchester City Council, Greater Manchester and UK Government politicians can be contacted at:

www.writetothem.com/

7. GOVERNANCE AND OUR PARTNERSHIP-BASED APPROACH

We have established a devolved, partnership-based approach to meet our climate change commitments. It is built on two key components:

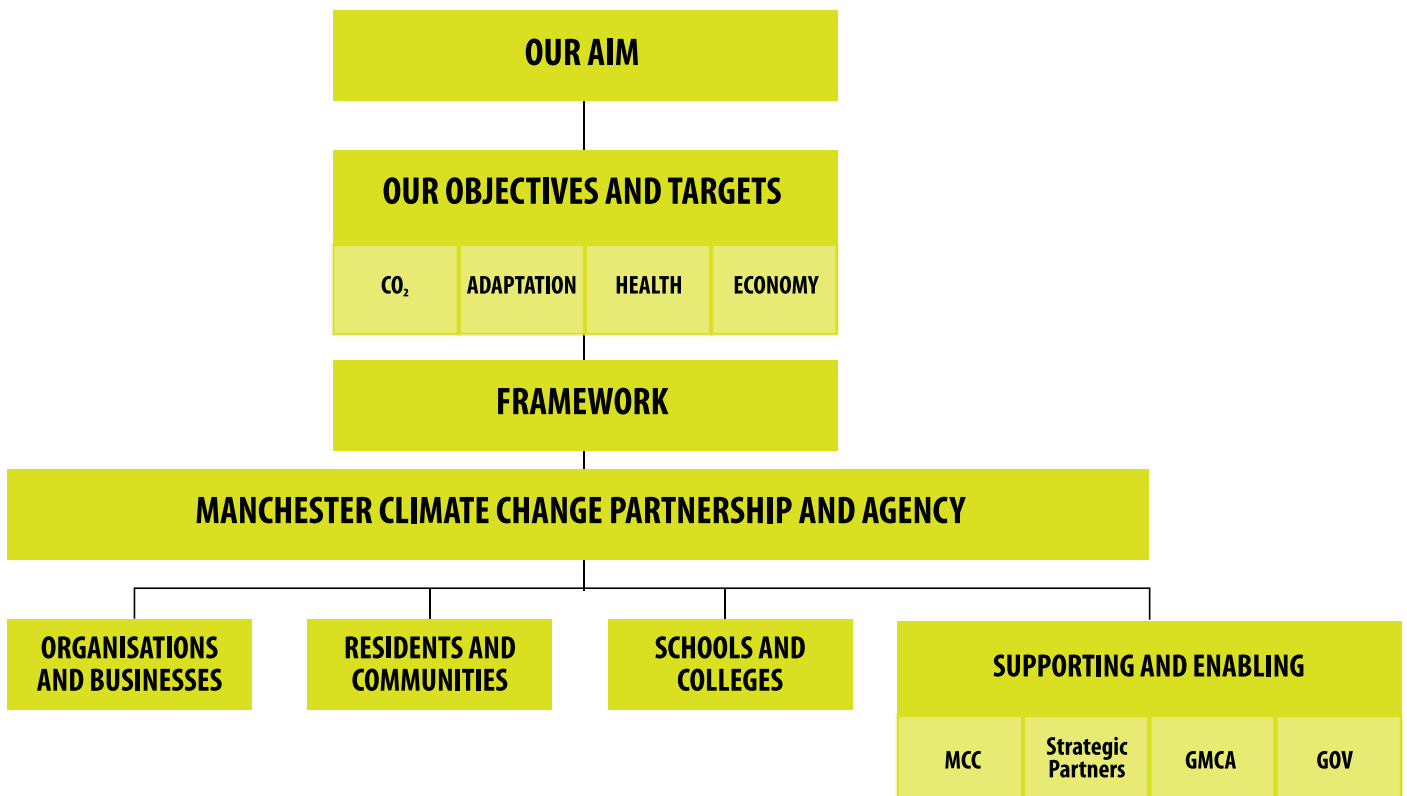
- Engaging and empowering Manchester residents and organisations to take action, using the Manchester Climate Change Partnership and its networks as our key engagement mechanism, and
- Joint working between Manchester City Council, Manchester’s strategic partners, Greater Manchester Combined Authority, UK Government, and their agencies to provide the support, incentives, standards and infrastructure residents and organisations need

This structure forms part of the city’s wider partnership-based structure of key groups and strategic partners.

Our Manchester Forum and Manchester’s Strategic Partners

The Our Manchester Forum sits at the heart of the city’s partnership-based governance structure. It has responsibility for overseeing and championing the delivery of the Our Manchester Strategy. The Forum’s membership includes representatives from the Manchester Health and Wellbeing Board, the Manchester Work and Skills Board, the Strategic Education Partnership Board, the Age Friendly Manchester Older People’s Board, Manchester Youth Council, and others.

The Chair of the Manchester Climate Change Partnership is a member of the Forum. This enables the Partnership and Agency to work with strategic partners to help embed climate change as part of their core activities.



Manchester Climate Change Partnership and Agency

The Partnership and Agency are responsible for championing, coordinating and facilitating the implementation of this Framework. Their activities are focused on working with partners on the following headline objectives:

- 1) Helping our city to set the right objectives and targets, in line with the Paris Agreement and the latest science
- 2) Helping our city to establish the strategy, governance and partnerships needed to meet the targets
- 3) Helping our city to take action
- 4) Helping our city to understand its progress

The Partnership and Agency will develop their own action plan to set out further details on how they will deliver their objectives during 2020-25. It is envisaged this will be published in time for the Manchester Climate Change Annual Conference 2020 in July 2020.

Further information on the Partnership and Agency is available from:

**WWW.
manchesterclimate.
com/involved.**

Working with Manchester City Council

Manchester City Council is a member of the Manchester Climate Change Partnership. This enables the other Partnership members to set out the barriers that are preventing them and their wider networks from fully delivering their climate change commitments. Where Manchester City Council has the powers and/or the resources to respond to these barriers, they will work collaboratively with the rest of the Partnership to deliver on them. Where they don't they, will work to secure the necessary support from the relevant body, including Greater Manchester Combined Authority and/or Government.

Working with Greater Manchester Combined Authority

Many of the projects and programmes and the work we need to do with Government will be best delivered in partnership with Greater Manchester. The relationship between Manchester City Council, the Greater Manchester Combined Authority and the other nine local authorities will be key to enable this to happen.

Working with UK Government

There will be activities which require additional powers and/or funding from Government to enable them to be delivered. For example, changes in Government legislation to enable the Mayor of Greater Manchester to re-regulate the buses and deliver the planned improvements to bus services.

In these instances we need to build on the existing relationship between the Greater Manchester Combined Authority and Government.

The preparations for COP 26 provide us with a vital opportunity to cement an ambitious programme and partnership between Manchester, Greater Manchester and Government, ready to showcase to the world in November 2020.

8. MEASURING AND REPORTING PROGRESS

We will produce an annual report setting out the city's progress at:

**www.
manchesterclimate.
com/progress**

These reports will describe progress against the city's four climate change objectives, supported by monitoring and analysis by four independent advisory groups:

- **Staying within our carbon budgets objective:** supported by the Manchester Zero Carbon Advisory Group⁴²
- **Adaptation and resilience objective:** supported by the Manchester Adaptation and Resilience Advisory Group, to be set up in 2020
- **Health and wellbeing objective:** group to be set up, in partnership with Manchester Health and Wellbeing Board
- **Inclusive and zero carbon economy:** group to be set up, in partnership with the Manchester Work and Skills Board

We will also report progress as part of Manchester's membership of the Global Covenant of Mayors, through the CDP-ICLEI Unified Reporting System. Copies of our reports will be available from www.cdp.net/en/responses, including our first submission from 2019.

Ongoing news stories will be available from: www.manchesterclimate.com/news.

We will establish a system to enable Manchester organisations and sectors to measure and report their performance according to a consistent methodology.

⁴² <http://www.manchesterclimate.com/zero-carbon-advisory-group>

9. KEEPING OUR TARGETS AND FRAMEWORK UP TO DATE

Action on climate change is a fast-moving agenda. It is likely there will be developments over the life of this Framework that will require it to be updated.

Developments could include a new scientific report, in particular from the Intergovernmental Panel on Climate Change, such as their Special Report on 1.5°C in 2018, which led to our review of targets in late 2019/early 2020 (see Section 5.1).

They could include recommendations from the independent advisory groups that we are setting up to monitor progress against the city's objectives (see Section 8). CDP, who support cities around the world, will also continue to provide important input, building on their recommendation for us to add a new adaptation and resilience objective to this document (see Section 5.2).

Significant changes in local, national or international policy will likely require us to update our approach. Including those resulting in projects such as High Speed 2, Northern Powerhouse Rail, which will have a significant impact on the city.

The UK's departure from the European Union will also likely have an impact on the content and implementation of this Framework, including changes in the accessibility of EU funding to UK organisations.

As set out in Section 5, we know this Framework would benefit from further details on what needs to be achieved and by when. It is intended these details will be developed as part of a refreshed version of this Framework. The timescales for this refresh are to be determined but are currently envisioned to be by 2023, balanced with the need to focus our limited resources on ensuring practical action happens as quickly and widely as possible.

Learning and best practice from other cities will also inform the development of this Framework. This will include through participating in the networks and projects referenced in Section 10.

10. WORKING WITH OTHER CITIES

We want Manchester to be a leading city for action on climate change. Part of that leadership will come from testing and proving new solutions here that can be rolled out to other cities. However, it will also mean taking tried-and-tested solutions from elsewhere and using them to accelerate our rate of progress.

Will we continue to compete with other cities? Absolutely. But built on a principle that has served Manchester so well in our previous endeavours: local solutions that we'll share to help address this most urgent of global challenges.

Greater Manchester

As set out above, working with the other nine districts and Greater Manchester Combined Authority is key to delivering programmes at the rate and scale we need, including where we need to secure support from Government.

UK Cities and the Core Cities Network

In the UK, the Core Cities network⁴³ provides a group of key peers for Manchester to share with and learn from. It also provides a critically important vehicle for developing proposals to Government, including the October 2019 climate emergency declaration⁴⁴.

European and International Cities and Networks

Manchester will continue to benefit from the opportunities that we've already realised from participating in European and international networks and projects. These include the EU Covenant of Mayors⁴⁵, Global Covenant of Mayors⁴⁶, Eurocities⁴⁷ and the many EU-funded projects that have enabled the city to accelerate its action on climate change, at the same time as sharing with others to support them.

We will continue this work during 2020-25, include through the GrowGreen project to use nature-based solutions to help Manchester and our five partner cities adapt to the changing climate⁴⁸. The C-Change project to support the arts and culture sectors in Manchester and five other cities to act⁴⁹. We will build on the platform established by the Triangulum project and look to establish the Corridor as a zero carbon innovation district⁵⁰.

The Zero Carbon Cities project will support the development of a refreshed version of this Framework and help our six partners cities to develop Paris Agreement-aligned targets and plans, and the governance needed to deliver them⁵¹. We will also work with the University of Manchester and five EU cities to share and support the further development of Manchester's partnership-based approach to climate action⁵².

43 www.corecities.com

44 www.corecities.com/cities/agenda/environment/core-cities-uk-climate-emergency-declaration

45 www.covenantofmayors.eu/en/

46 www.globalcovenantofmayors.org/

47 www.eurocities.eu

48 <http://growgreenproject.eu/>

49 <https://urbact.eu/c-change>

50 <https://www.triangulum-project.eu/>

51 <https://urbact.eu/zero-carbon-cities>

52 'Polycentric pioneers? Explaining variations in governance models and their impacts on local climate change policy'; <https://www.research.manchester.ac.uk/portal/paul.tobin.html>

11. FURTHER INFORMATION AND GET INVOLVED

Further Information

For further information you can contact the Manchester Climate Change Agency at:

info@manchesterclimate.com
[@McrClimate](https://www.instagram.com/McrClimate)
www.manchesterclimate.com

Get Involved

Get involved right now! Visit our list of 15 Actions to get started or to add a new action to your existing commitments:

www.manchesterclimate.com/15-actions

12. THANK YOU

This Framework is built on the need for collective, citywide action by everyone in Manchester. This isn't a new thing for the city, we've been doing it for over 10 years now.

So, to all of those who have been on this journey, whether for 10 years, or for 10 days, thank you.

To the youth strikers and the campaigners, thank you; keep up your passionate proposals to help make Manchester the city we all want it to be.

Thank you to Manchester City Council for the opportunity to develop this Framework. Through opening up the policy-making process we believe this creates the platform for the structural and systemic changes we all need, through both local policy and working with Government on the national policies and funding we need.

Thank you to those who have taken time to support the development of this Framework, including the Tyndall Centre for Climate Research at the University of Manchester, CDP, the University of Manchester, Anthesis and other partners. We look forward to continuing our work with you.

And finally, if this document has inspired you to get involved in climate change action for the first time, thank you for joining us!

Manchester Climate Change Partnership

February 2020

Published by Manchester Climate Change Partnership and Agency
February 2020

MANCHESTER
CLIMATE CHANGE PARTNERSHIP

MANCHESTER
CLIMATE CHANGE AGENCY

Manchester Climate Change Framework 2020-25

Appendix 2:
Manchester Climate Change Partnership
Members' Action Plans – summary

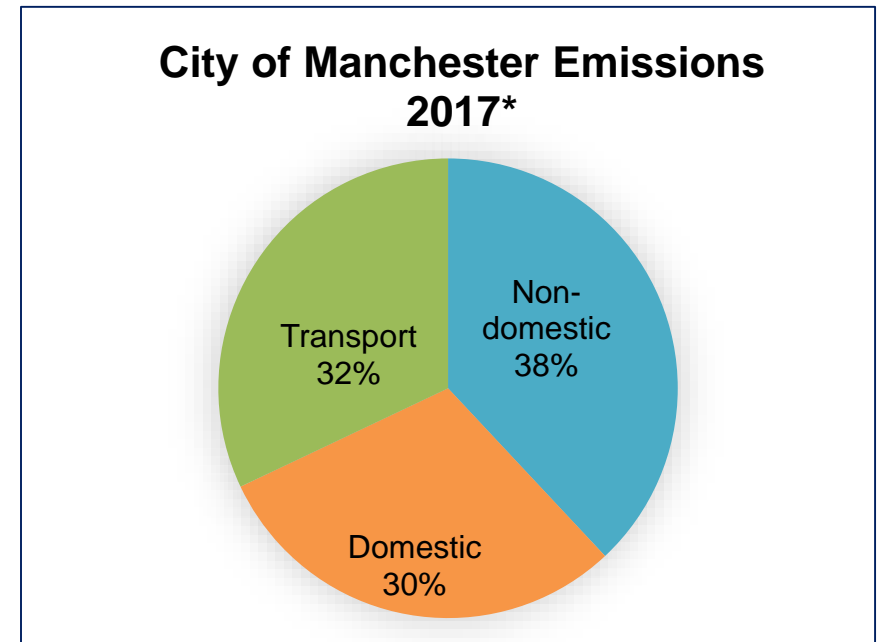
Introduction

This document is a summary of the actions planned to be taken by the Manchester Climate Change Partnership (MCCP) members during 2020-25. Each member's profile includes their latest buildings and transport CO₂ emissions. The members' buildings emissions are shown in the pie chart as a percentage of the city's total emissions. A breakdown of transport emissions is displayed in a table. This was done as we are confident that buildings emissions are within the Manchester boundary whereas for transport, the boundary is harder to establish (i.e. journeys may start outside Manchester). In some cases estimations have been made which are explained in the footnotes. In cases where primary data is not available estimates have been provided, to be used as the basis of improvements in future reports.

Some organisations have reported their emissions in CO₂e (which includes non-CO₂ greenhouse gases) while others have reported just CO₂ emissions. However, given non-CO₂ greenhouse gases make up a very small percentage of the city's total emissions it does not make a significant difference to the figures in this document.

Page 5

Sector/organisation	Page Number
1. Bruntwood	3
2. Electricity North West (ENW)	5
3. MAST (Manchester Arts Sustainability Team)	7
4. Manchester City Council (MCC)	10
5. Manchester City Football Club (MCFC)	12
6. Manchester Housing Providers Partnership (MHPP)	14
7. Manchester Metropolitan University (MMU)	16
8. NHS Manchester	18
9. Our Faith, Our Plant (faith network)	21
10. University of Manchester (UoM)	22



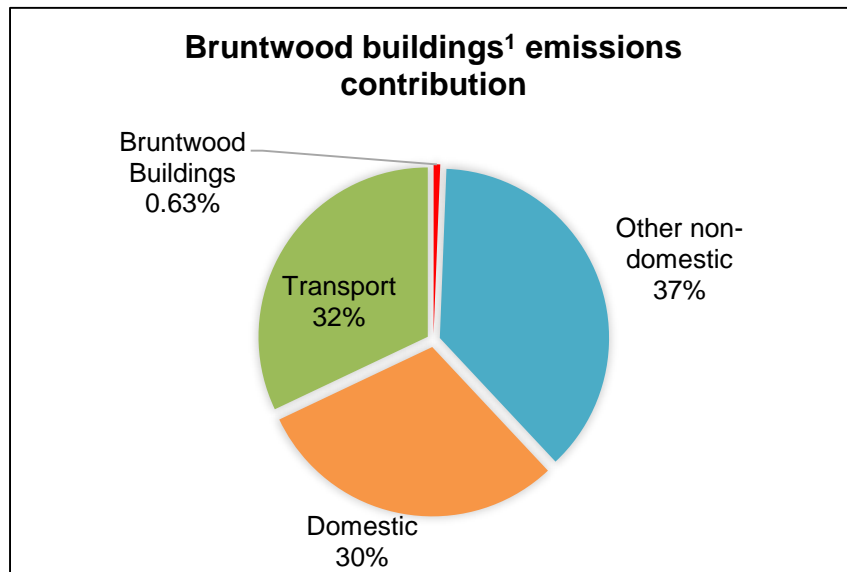
*BEIS city level emissions dataset for 2017 (Published in June 2019)

1. Bruntwood

Profile:

- Bruntwood own, let and manage buildings, workspace, and science facilities.
- They work with over 3,000 businesses and own over 100 landmark properties (nationally).
- Bruntwood were the first UK commercial property company to sign the World Green Building Council's Advancing Net Zero commitment
- Two parts of the business are relevant to Manchester:
 1. Sci-Tech (property portfolio dedicated to driving the growth of the science and technology sector)
 2. Works (office space leasing to other businesses).

Page 53



Buildings (Including customer energy consumption)²	13,076 tCO ₂
Buildings (Directly owned & controlled)³	5,385 tCO ₂

Transport	tCO ₂
Business travel ⁴	80
Staff commuting	-
Visitor travel	-



¹The 0.63% figure includes emissions from Bruntwood's offices and communal spaces as well as customer energy consumption.

²Customer/tenant energy consumption calculated based on estimates of where they get their energy supply from

³Emissions from Bruntwood offices and areas where Bruntwood has operational control.

⁴ Manchester only travel figure estimated to be 1/3rd of Bruntwood's total business travel.

The following is a summary of Bruntwood’s Zero Carbon Action Plan 2020-2025.

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- 1. Invested in a solar deployment strategy across a number of our buildings.
- 2. Utilising sensor technology – we introduced a number of sensors in our MCR city centre and Trafford offices to monitor CO₂, humidity and temperature. Using the data from these sensors, we have introduced green infrastructure to reduce CO₂ levels and manage temperatures.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- 1. The solar strategy mentioned above will directly impact our customers / stakeholders.
- 2. Stakeholder engagement programme – including colleagues, customers and communities.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

Reduce carbon intensity (kgCO₂e/m²) by 100% by 2030 compared to a 2017/18 baseline.

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- 1. Develop Science Based Targets for Scope 3 emissions
- 2. Procure 100% renewable electricity for all of our estate
- 3. Consumption from onsite renewables
- 4. Reduce energy intensity (kWh/m²)

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

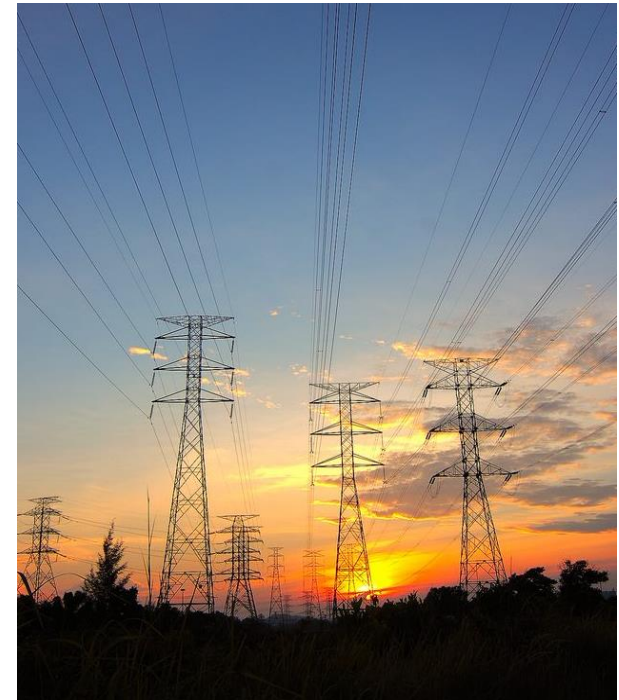
- 1. Work with our customers to educate on how best to use the spaces they occupy in the most efficient.
- 2. Work together with MCC, GMCA, MCCP in support of their zero carbon plans
- 3. Encourage other property businesses to create their own sustainability strategies with targets for CO₂ emissions

2. Electricity North West (ENW)



Profile

- Electricity North West is the electricity distribution network operator ('DNO'), responsible for the administration and maintenance of the network, that distributes electricity throughout the North West of England.
- ENW launched their *Leading the North West to Zero Carbon* plan in 2019



ENW's total emissions for FY2019 were 20,416.71 tCO₂e. An estimate by population (Manchester is 7% of the North West population) can be made to establish a Manchester proportion of the total emissions (0.02%). This is a broad estimate to get an idea of ENW's contribution to the city's emissions. In the absence of accurate "Manchester only" emissions data, it is useful to mention that when it comes to reporting, ensuring that a company's emissions are being measured, reported and used to drive CO₂ reduction actions is a priority and as long as tangible actions are being taken, the absence of Manchester only data is less problematic.

2. Electricity North West (ENW)



The following is a summary of ENW's Zero Carbon Action Plan 2020-2025. The full plan can be found: <https://www.enwl.co.uk/globalassets/zero-carbon/documents/leading-the-north-west-to-zero--carbon.pdf>

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

We launched our Leading the North West to Zero Carbon Plan, which will see us spending £63.5m to decarbonise our own operations and help businesses, colleagues and customers to do the same in the next three years.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

We commissioned research with the Tyndall Centre into what the top five things that SMEs should do now to decarbonise. We're now feeding that information into SMEs. We increased our business to business engagement to help business users and local authorities.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

10% reductions year on year for our own operations, two carbon neutral depots, roll out our Smart Street technology, which optimises the voltage on the electricity network, making domestic appliances run more efficiently and potentially saving customers up to £60 per a year on their electricity bill.

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

Help to increase the amount of renewable generation connected to the network and invest to ensure that there's capacity required to support the mass adoption of low carbon technologies.

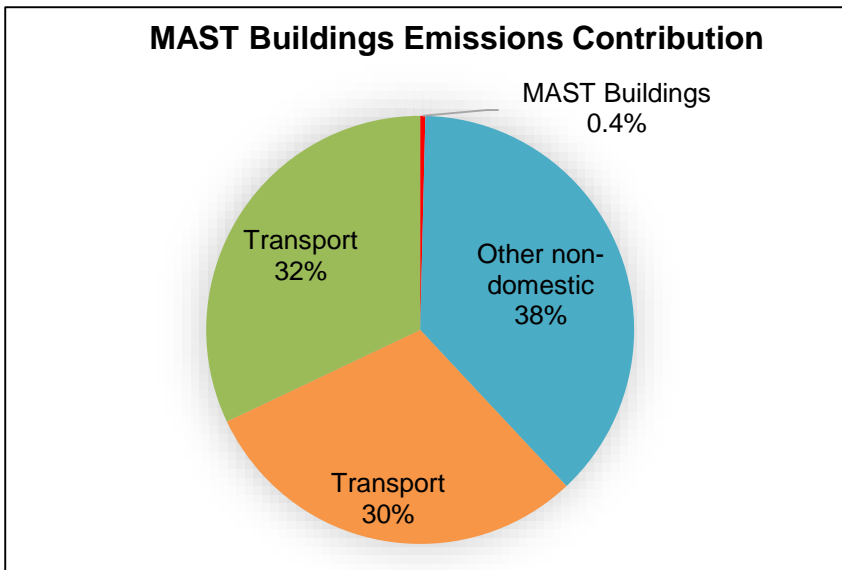
5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

Provide trusted impartial advice and support to stakeholders to enable them to make least regrets investment decisions in low carbon technologies.

3. Manchester Arts Sustainability Team (MAST)

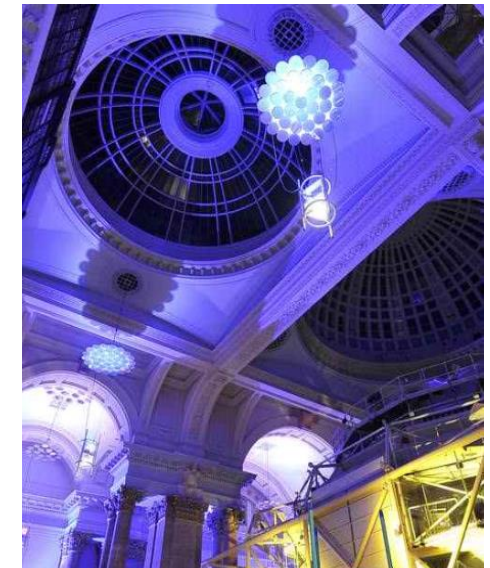
Profile:

- The Manchester Arts Sustainability Team (MAST) is a cross-sector network of cultural and arts organisations committed to working together to reduce their environmental impacts
- MAST has over 30 members¹: 7 arts centres, 2 theatres, 3 museums, 3 galleries, 2 festivals, 2 broadcasters¹, 1 music venue, 1 concert hall, 1 production company, 1 digital innovation company, 1 recycling company, 1 university¹, 1 college, 1 city council¹.
- Key opportunity to influence member and attendee behaviours in addition to their own buildings and transport.



Buildings (Directly² Owned & Controlled)	8,124 tCO ₂ e
----------------------------------------------------------------	--------------------------

Transport	tCO ₂ e
Business travel	-
Staff commuting	-
Visitor travel	-



¹The City Council and University of Manchester (UoM) are reported separately. Broadcasters (BBC & ITV) and the Lowry are outside of the City boundary, however, will be represented in the action plans. Note that data is based on the 2011-2016 report: “5 years of cultural collaboration for a more sustainable Manchester” (which uses data reported via Julie’s Bicycle). Since the publishing of this report, some organisations are no longer a part of MAST and new organisations have joined. However in the absence of a formal report or listing of those organisations and their emissions data, the 2011-2016 report has been used until more recent information becomes available.

²The buildings emissions figure represents 22 organisations, 13 of which reported in the 2011-2016 report and estimates were made for the remaining 9, using an average of 13 that did (12 excluding the Lowry due to it being out of boundary in Salford).

3. Manchester Arts Sustainability Team (MAST)

The following is a summary of MAST's Draft Zero Carbon Action Plan 2020-2025 on behalf of the culture sector. The full plan is in consultation and will be published in April 2020

1. **Headline achievements 2019/2020 - Your emissions:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

During 2019-20 two specific funded projects have been active to help us imagine a zero carbon culture sector in our city and region. C-Change is an URBACT transfer network being led by MCC and MAST and sees us share our collaborative model with five other EU cities. For MAST and Manchester this has been focused on creating better pathways between the sector and the municipality, looking at areas for policy development, formalising a relationship between MAST and the city's cultural leaders as well as expanding the network and its reach into the Combined Authority.

MAST has also been part of Arts Council England – Accelerator Programme exploring our roadmap to zero carbon where we have explored ambition and challenge. Three MAST member organisations are participating in ACE's Spotlight Programme focusing on science-based targets and zero carbon pathways for buildings.

2. **Headline achievements 2019/2020 - Your stakeholders:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

We have as part of C-Change matched the funding to create climate change themed cultural activities acknowledging that our sector has great opportunity around engaging with citizens. MAST has also continued working closely with the GM Business Growth Hub to explore sustainable procurement and what our zero carbon sector may look like and the journey to get there. MAST is evolving a new vision and mission to better support and motivate the sector to deliver the city's zero carbon target.

3. **Headline targets achieved by 2025:** What specific CO₂ reduction targets do you aim to have achieved by 2025?

To reduce our carbon footprint by 50% from 18-19 levels based on energy as well as working to achieve quantifiable reductions in our impacts relating to water, waste and business travel.

Position - MAST will help the sector to better report its carbon in line with the developing methodology for the city. We will also work to ensure that this is compatible with other reporting that the funded part of the sector currently submits. Areas which need focus included business travel including aviation and a better understanding of our staff and the impact of audience travel.

Place - Cultural spaces both permanent and temporary must have less impact going forward. We must focus on energy efficiency, water conservation, green procurement, reduction in waste and single use materials. We acknowledge that we must support biodiversity wherever possible. In line with ACE capital policy future investment in cultural places should prioritise refurbishment to help achieve less impact and using what we already have, over new build and new construction.

Practice - Our city and region are culturally rich with much creativity and innovation. The way we make our work, present and move it must evolve as must our collaboration and sharing of resource. Key areas for improvement include reducing the impact of materials we use through circular economy models and reduction of carbon through our investments such as banking, pensions and sponsorship we receive.

3. Manchester Arts Sustainability Team (MAST)

People - We recognise our sector’s strength with advocacy and that we can help engage residents and communities in taking climate actions. We commit to making and delivering creative output to help promote greater understanding. We will help reduce the impact of consumption when we bring people together. We enjoy a large creative community and will continue to skill and educate in low carbon best practice. We will continue to openly share our sector specific version of Carbon Literacy and other learning. We commit to seeking deeper collaboration and collective action within our sector regionally, nationally and internationally and to share our practice and learn from others.

Policy - In order to advocate for change we will lobby to empower and enable our sector to deliver our targets. We will recommend that individual organisations share policy and targets with each other and the communities we serve. We will focus particularly on funding to enable our places to reduce their impact as well as improving access to culture by low and zero carbon means. We will lobby for all cultural funding to recognise the impact of climate change and enable positive action through funding to enable retrofit to remove reliance on fossil fuels.

Planning - We commit to continuing to plan for our collective future and recognise that some of our ambition may not be possible within the next 5 years and more likely to be achieved in a subsequent period. We will use this to prioritise the most effective methods of carbon reduction that can be achieved during this action plan. We acknowledge that MAST must now evolve and change to better support the sector and will seek partners to enable this.

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

We will develop specific projects to enable urgent action in the following areas:

- Energy management, efficiency and green procurement.
- Business, staff and audience travel.
- Joint action with our landlords and tenants.
- The recognition that sustainability is a priority within cultural organisations and must be appropriately resourced in future business planning.

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

We commit to:

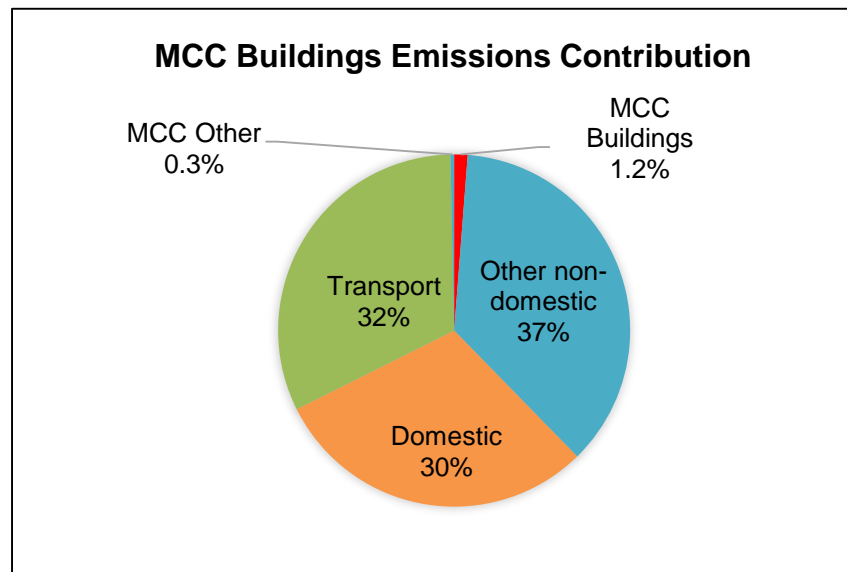
- Consistently present climate related cultural work that will engage with citizens.
- Mobilise the creative community through education and support.
- Deeper collaboration, knowledge and resource sharing at all levels.
- Evolve our network to better deliver support to our sector.
- Invest and explore more effective climate leadership for our sector.

4. Manchester City Council (MCC)

Profile:

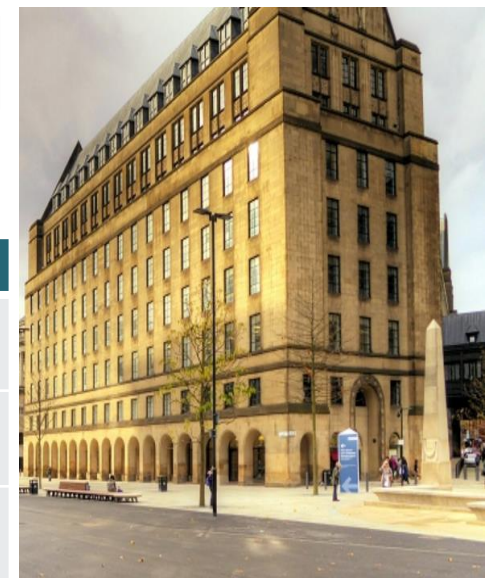
- Manchester City Council’s (MCC) direct emissions 2018/19 were split into Buildings and Other.
- “Other” includes traffic signaling¹ and streetlights.
- Business Travel includes MCC Fleet, MCC Grey Fleet, MCC Taxis, MCC Train, MCC Air Travel, MCC Car Club, Waste Collection Fleet

Page 60



Buildings (Directly Owned & Controlled) 25,789 tCO₂

Transport	tCO ₂
Business travel	4,621
Staff commuting	-
Visitor travel	-



¹In the following years traffic signals are expected be accounted for at a Greater Manchester level and will therefore not be included in MCC emissions

4. Manchester City Council (MCC)



The following is a summary of Manchester City Council's Climate Change Action Plan 2020-2025. The full plan can be found:

www.manchester.gov.uk/zerocarbon

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- Established a Zero Carbon Coordination Group and associated programme management to embed zero carbon into all Council decision making.
- Civic Quarter Heat Network construction at a cost of £26 million which will save 1,600 tonnes of CO₂ per annum.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- Held two Youth Climate Summits in July 2019 and January 2020 to engage young people and schools in support of the climate emergency.
- Trialled an additional 10% environmental social value weighting on tenders to increase the total social value weighting to 30%.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

At least a 50% reduction in the Councils direct CO₂ emissions by 2025.

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- Roll out a programme of energy efficiency and energy generation investment across Council operated buildings.
- Agree a business case and funding to replacement half of the Biffa Waste Lorry fleet with Electric Vehicles.
- Develop a feasibility study and business case for a large scale energy generation site.
- Roll out the Our Climate, Our City Carbon Literacy training across the organisation.

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

- Embed the additional 10% social value weighting for the environment into all tenders.
- Arrange events with the city's schools to support them to improve energy efficiency and develop energy generation across their buildings.
- Deliver a citywide communications campaign to support behaviour change in residents, workers and businesses.
- Deliver bespoke information sessions to businesses and organisations in the city.
- Develop a new Local Plan (citywide planning document) by 2023.

5. Manchester City Football Club (MCFC)

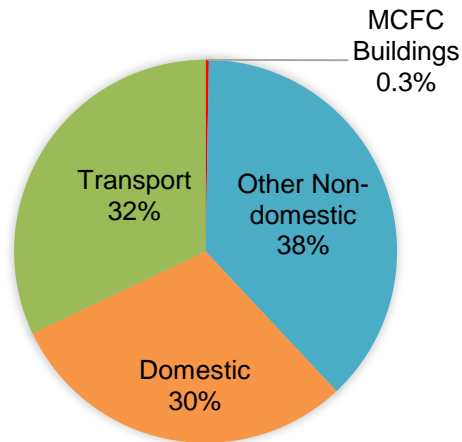


Profile:

- Over 30 football¹ & concert events held by Manchester City Football Club over the year.
- Each event attended by c.50,000 people per event.
- Estate comprises of the main Etihad stadium plus a number of offices and training buildings and facilities.

Page 62

MCFC Buildings Emissions Contribution



Buildings (Directly Owned & Controlled) 5,756 tCO₂

Transport	tCO ₂
Business travel	5,630
Staff commuting	2,664
Visitor travel	1,990



¹ All competitions

5. Manchester City Football Club (MCFC)



The following is a summary of Manchester City's Zero Carbon Action Plan 2020-2025. The full plan will be available from March 2020

1. **Headline achievements 2019/2020 - Your emissions:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- Completed the change of light fittings (Stadium) to LED, reducing consumption by just over 1million kw/h
- Begun an active programme of energy use behaviours to reduce consumption and energy waste across the organisation – going well

2. **Headline achievements 2019/2020 - Your stakeholders:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- We are working with partners and stakeholders across the Etihad Campus to share information and benefits – resulting in Campus framework
- Reduced packaging (inward and outward) and with partners/stakeholders removed all single-use plastic from match/event days and have on trial an anaerobic digester for both food and grass waste where source reduction isn't possible

3. **Headline targets achieved by 2025:** What specific CO₂ reduction targets do you aim to have achieved by 2025?

- Significant change in energy consumption behaviours - 1,000,000 Kw/h of energy via change to LED
- Removal of all consumable plastics, packaging across the business - 88,000 single use plastic cups per match/concert (x23) = reduction of 2.2million/annum
- A practical and credible travel and transport plan that is working and in place – with emphasis on active travel – for fans, staff, visitors - Authorised travel reduction of 5% and fan travel by 2.3% (estimated)
- The further development of our biodiversity and ecology – with year-on-year growth in habitat, wildlife and active engagement
- The development of estate and property in line with the UN Sustainable Development Goals
- Realisation of triple bottom line across the business demonstrating the protection of the business and its growth with authentic results in social value and environmental impact (reduction)
- A fully engaged, knowledgeable and innovative workforce and supported base that champions best practice and challenges actions and impact.

4. **Urgent Actions for 2020-2025 - Your emissions:** What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- Transport and travel - we have put in place a new travel plan and authorisation for staff/authorised travel that seeks both financial and CO₂ calculations to ensure reduction and awareness of both – the aim is to achieve a reduction in travel of circa 10% annum and uplifted use of desk-desk conference calling
- Energy consumption – managing heat/cooling loss; reduction by 1.5% in heating and cooling temps – review of BMS and PIR holding times

5. **Urgent Actions for 2020-2025 - Your stakeholders:** What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

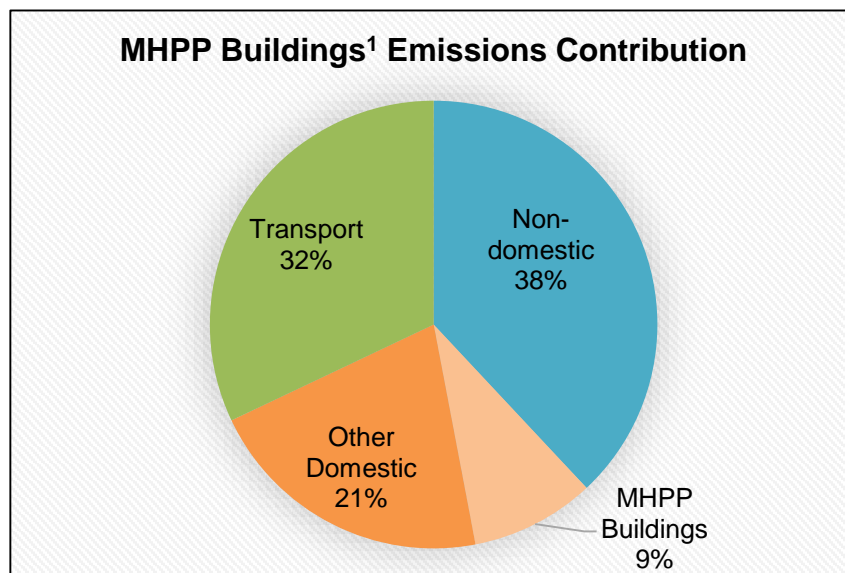
- Transport - working with stakeholders and partners to promote best use of walking routes, cycling and public transport over the five years, existing action plan that will aim to see a move to sustainable and/or active travel of up to 30%
- Energy - sharing aims and information about consumption behaviours and changes in a range of actions that include stand-by; materials/fabric first; and promoting best practice and opportunities by way of profile, best practice sharing, incentives
- Waste, packaging, plastics - working with suppliers, contractors, partners etc to ensure that inward and outward packaging is reduced/eradicated; that materials used are sustainably sourced and that there is inclusive action to identify credible options to plastic

6. Manchester Housing Providers Partnership (MHPP)

Profile:

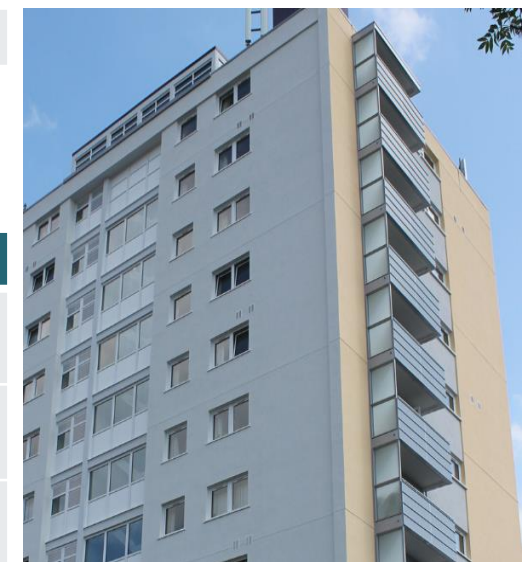
- The Manchester Housing Providers Partnership (MHPP) brings together Manchester's registered housing providers.
- There are 17 registered housing providers that are all members with stock holdings across Manchester.

Page 64



Buildings	187,800 tCO ₂
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Transport	tCO ₂ e
Business travel	-
Staff commuting	-
Visitor travel	-



¹2017 BEIS local emissions data (domestic total) apportioned based on the Manchester proportion of social housing (30%, Manchester Housing Strategy 2016 - 2025).

6. Manchester Housing Providers Partnership (MHPP)

The following is a summary of Manchester Housing Provider Partnership Zero Carbon Action Plan 2020-2025. The full plan can be found: <https://www.mhpp.info>

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- Agreed to develop investment plans to quantify the cost of making all assets zero carbon by 2025.
- Agreed to move to fully electrified fleet by 2025.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- Agreed to become a fully Carbon Literate by 2025.
- Agreed to develop a communications strategy to be delivered through all available channels and action plan for targeted engagement.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

- Targets to be developed

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- All business decisions must demonstrate carbon reduction has been a key consideration through an environmental impact assessment.
- Assess current infrastructure and lease arrangements and move to a fully electrified fleet.
- Ensure all electrical energy procurement is through suppliers of renewable electricity.
- Consider renewable heating for all developments projects before gas boilers.

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

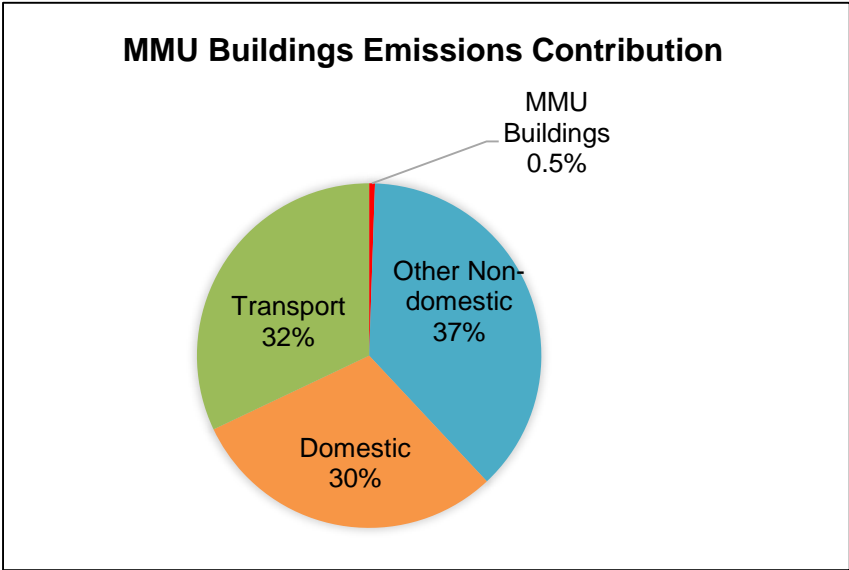
- Develop procurement policy to ensure all contractors are assessed based on their own environmental policies.
- Develop a communications strategy to be delivered through all available channels and action plan for targeted engagement.

7. Manchester Metropolitan University (MMU)

Profile

- Manchester Metropolitan University is the sixth-largest university in the United Kingdom by enrollment (33,010 total students)
- Manchester Metropolitan University is the UK's second greenest university according to the People and Planet League 2019.

Page 66



Buildings (Directly Owned & Controlled)	11,342 tCO ₂ e
----------------------------------------------------	---------------------------

Transport	tCO₂e
Business travel	1,621
Staff commuting	2,085
Visitor travel (student commuting)	11,030



7. Manchester Metropolitan University (MMU)



The following is a summary of Manchester Metropolitan University's Zero Carbon Plans. The University's full 2030 plan will be available in January 2021. The current 2020/21 plan is available at the following link <https://view.publitas.com/p222-7553/manchester-metropolitan-university-environmental-sustainability-strategy-2014-2020/page/1>

1. **Headline achievements 2019/2020 - Your emissions:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- Completed an Estate Infrastructure Masterplan (2020-2030) which will establish three energy centres on campus. This has provided a pathway for the development of the Manchester Met Zero Carbon Management Plan, completed by July 2020. This will be re drafted every 6 years, to ensure the University is on a pathway to zero carbon by 2038 (Scope 1 and 2 emissions). The University has also reduced scope 1 and 2 carbon emissions by 48.2% (up to July 2019) from a 2005-06 baseline.
- Developed a new leadership and governance structure to steer the environment/climate agenda, chaired by the University's Provost and Deputy Vice-Chancellor.

2. **Headline achievements 2019/2020 - Your stakeholders:** What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- Achieved level four (five is the highest) in the Sustainable Procurement Flexible Framework to ensure sustainability (including carbon reduction) is embedded into the University's tendering process.
- The University's Waste to Resource Innovation Network based within the Faculty of Science and Engineering secured £9.6m of European Regional Development funding to be part of new project called TRANSFORM-CE. In collaboration with 36 other Universities, government bodies and businesses across four countries, the project will aim to turn plastic waste into new products through additive manufacturing (3D printing) and injection moulding and supporting business to adopt circular economy models.
- Continued to deliver our Carbon Literacy training programme to our students with 320 students achieving certification in 2018/19.

3. **Headline targets achieved by 2025:** What specific CO₂ reduction targets do you aim to have achieved by 2025?

- Development and delivery of the Manchester Met's 2026 Carbon Management Plan developing a pathway to zero carbon by 2038, by July 2020.
- Development and delivery of a new Manchester Met 2030 Environmental Sustainability Strategy. This will include a number of objectives and targets that will work towards reducing scope 1, 2 and 3 emissions. It will include educating our staff and students, developing environmentally aware future leaders and conducting impactful world leading research to address climate change. Full Plan will be published in ~ January 2021

4. **Urgent Actions for 2020-2025 - Your emissions:** What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- Development and delivery of the Manchester Met 2026 Carbon Management Plan developing a pathway to zero carbon by 2038.
- Delivery of a student led Carbon Literacy programme to the University's Leadership Forum (~ 100 leaders across the University).

5. **Urgent Actions for 2020-2025 - Your stakeholders:** What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

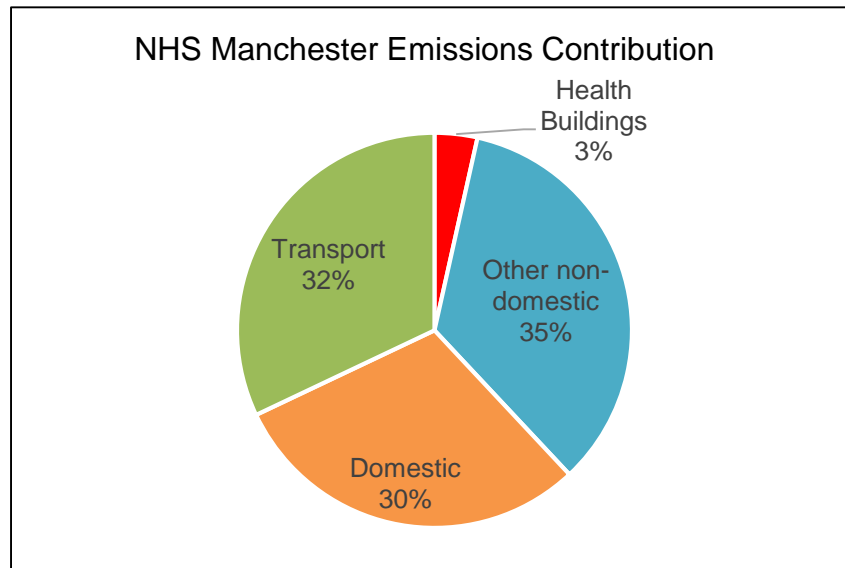
- Development and delivery of a new 2030 Manchester Met Environmental Sustainability Strategy. This will include a number of objectives that will work towards reducing carbon scope 1, 2, and 3 emissions. It will include educating staff and students, developing environmentally aware future leaders and conducting impactful world leading research to address climate change.

8. NHS Manchester

Profile:

- There are numerous healthcare facilities across the city, in addition to NHS-owned and controlled fleet and transport emissions associated with patients, visitors and supply chains.
- In Manchester there are 9 hospitals plus GP surgeries, walk-in clinics and community healthcare facilities.
- The Sustainable Development Unit (SDU) collate and report NHS emission data.
- The current low-carbon investment strategy is looking at CHP, LED lighting, BMS optimisation and renewables.
- The NHS's footprint is directly impacted by other city sectors such as transport (air quality) and housing (social care/fuel poverty)

Page 68



Buildings (Directly Owned & Controlled)	73,248 tCO ₂
----------------------------------------------------	-------------------------

Transport	tCO₂
Business travel	568
Staff commuting	8,100
Visitor travel	12,643



*The buildings and transport data was scaled up from Manchester Foundation Trust's (MFT) 2017/18 data which shows MFT to be 82% of the NHS Manchester footprint. These numbers therefore provide an estimate that will be refined when more representative primary data becomes available.

8. NHS Manchester



The following is a summary of Manchester University’s NHS Foundation Trust’s Sustainable Development Management Plan 2018-2023. Zero Carbon Action Plan 2020-2025. The full plan can be found: https://mft.nhs.uk/app/uploads/2020/01/SDMP_Refresh2020_FINAL.pdf

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

We have continued with a programme of building energy upgrades. For example over 9,000 LED light fittings have been installed, saving 1,300,000kWh of electricity this year. Other schemes have included building management system upgrades and replacement of heating infrastructure.

Anaesthesia accounts for 4% of our carbon footprint. Anaesthetists are leading on a programme to implement measures to reduce this, including the elimination of the use of desflurane (unless medically indicated) across most hospitals and the removal of nitrous oxide back up cylinders.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

Throughout 2019/20 we have been working closely with the Integrated Care System (ICS) – the Greater Manchester Health and Social Care Partnership to collaborate with other GM healthcare organisations on a regional sustainability work programme. In November 2019, MFT publicly declared a climate emergency, committing to deliver the GM net zero carbon by 2038 target and fast tracking the delivery of our SDMP. This was widely communicated across our stakeholders and we will be building on this in 2020/21, by targeting areas of significant carbon hotspots. The National Greener NHS Campaign was launched in January 2020, and we contributed one of 3 NHS case studies for the launch materials, sharing our work on sustainable and active travel.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

We set targets in line with our SDMP, the current version of which runs until 2023. Our headline goal on carbon reduction is to reduce our core carbon emissions by 33% by 2023/24 against the 2017/18 baseline, working within our carbon budget for the period of this plan, and influence reductions in carbon emissions from our supply chain and community. Our publicly available plan shows the annual carbon budgets and trajectory, and we report on progress in our annual sustainability report.

8. NHS Manchester

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

Our SDMP contains details of all our objectives that we will take to reduce the CO₂ emissions directly under our control. Some examples include;

- Adopt the GMCA zero carbon buildings by 2028 target for all new Trust developments. This includes the redevelopment of two major hospital campuses.
- Monitor utility consumption across the Estates and deliver a programme of targeted energy and water efficiency schemes to manage and drive down use.
- Increase on-site energy generation capacity from renewable sources
- Pilot the redesign of selected care pathways to drive out any unnecessary stages

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

Our SDMP contains details of all our objectives that will influence or support stakeholders to reduce their CO₂ emissions. Some examples include;

- Include travel and transport sustainability criteria within key contracts
- Embrace new and existing digital technologies to reduce the environmental impact of care, prevent ill health and management long-term health conditions
- Adopt a whole life cycle approach to purchasing
- Weight social value outcomes when procuring new services in the design and building of a new space, for example, use of local suppliers and SMEs.

9. Our Faith, Our Planet (faith network)

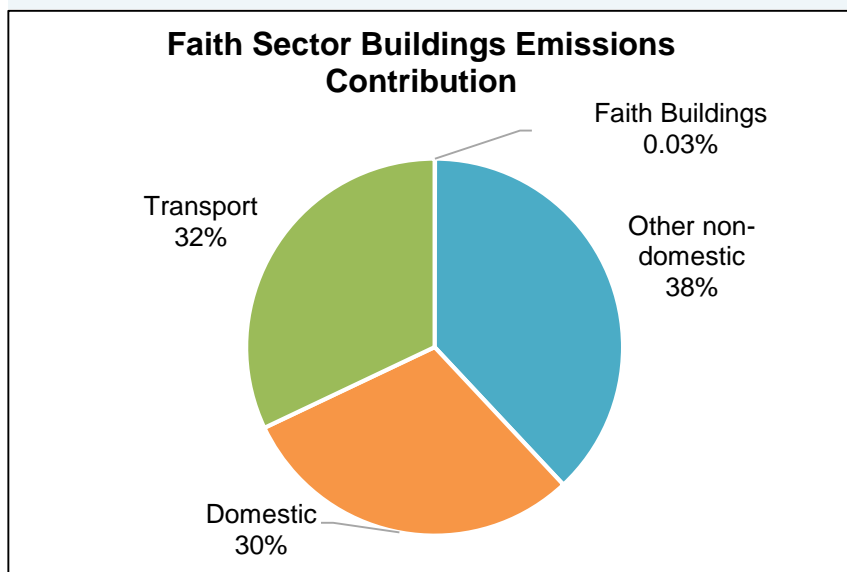


Faith Network 4 Manchester
GREATER MANCHESTER
FAITH COMMUNITY LEADERS

Profile:

- The 'Our Faith Our Planet' group was established in 2017 to enable Manchester's faith sector to develop its response to climate change
- The Our Faith, Our Planet Group works with the Greater Manchester Faith Leaders group the the Faith Network 4 Manchester (interfaith) group
- The Our Faith, Our Planet group is currently made up of 10 faiths including Christian (Anglican, Catholic & Methodist), Buddhist, Hindu ,Sikh, Jewish, Jain, Bahá'í and Sufi Muslim.
- The faith sector is one of the most complex of all sectors represented in the Manchester Climate Change Partnership
- Action plan to be developed once resources have been secured.

Page 71



Buildings (Directly Owned & Controlled)	687 tCO ₂
----------------------------------------------------	----------------------

Transport	tCO ₂
Business travel	-
Staff commuting	-
Visitor travel	-



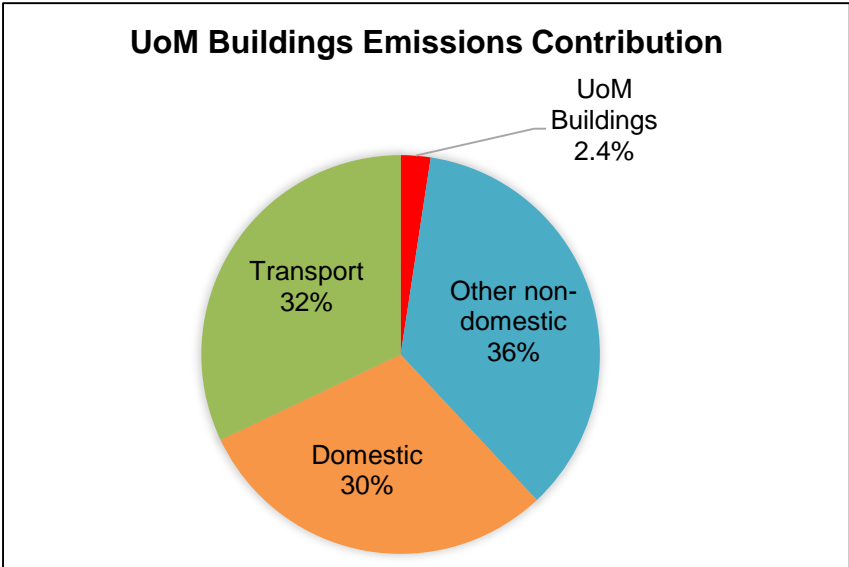
- Data based on registered places of worship in Manchester (420). ([2015 Places of Worship, HM Passport Office](#))
- Assuming an average square meterage based on capacity of building (c250m²).
- Applying an average CO₂ per m² (0.023482 tCO₂/m²) to the total floorspace estimated.
- Average CO₂ based on Bruntwood's 2017 CO₂e per m² (acknowledging this will be a significant underestimate for the faith sector due to lower efficiency/less frequent use etc).

10. University of Manchester (UoM)

Profile

- University of Manchester is the second-largest university in the United Kingdom by enrollment (40,490 total students).
- The University of Manchester is the largest single-site university in the UK.

Page 72



Buildings (Directly Owned & Controlled)	50,535 tCO ₂
----------------------------------------------------	-------------------------

Transport	tCO ₂
Business travel	15,197
Staff commuting	7,445
Visitor travel (student travel)	3,371



Appendix 2, Item 5

10. University of Manchester (UoM)

The following is a summary of The University of Manchester Zero Carbon Action Plan 2020-2025. The full plan will be published in December 2020.

1. Headline achievements 2019/2020 - Your emissions: What are the two key actions that your organization/sector took between April 2019 to March 2020 to reduce the CO₂ emissions directly under its control?

- Revolving Green Fund - 3 LED lighting projects were completed in AV Hill, Williamson and Schuster, annual CO₂ savings are 116 tCO₂ and lifetime CO₂ savings are 2,300 tCO₂.
- Opened 2 BREEAM Excellent buildings, the Unsworth Park residences and the Henry Royce Institute. Completed a zero carbon study on the Royce building to provide design options for zero carbon research buildings.

2. Headline achievements 2019/2020 - Your stakeholders: What are the two key actions that your organization/sector took between April 2019 to March 2020 to influence or support its stakeholders to reduce their CO₂ emissions?

- Developed the [University vision and strategic plan](#) that adopts the city's zero carbon target, with a KPI for an average 13% year on year carbon reduction for Scope 1 and 2.
- Engagement programmes with staff and students :-
- Zero carbon workshop with senior managers across the estate, including key members of staff responsible for construction and operations.
- Launched Team Actions and LEAF, engaged over 450 staff in Green Impact, engaged with a network of 381 staff champions, actively working alongside 196 staff to implement changes including undertaking resilience and influencing training.
- Face-to-face and online Carbon Literacy training sessions (22 people certified).
- Launched a UCIL module on the Sustainable Development Goals; the course brings together more than 80 contributors from policy, practice, academia and the public. This includes experts from the Tyndall Centre for Climate Change Research, the Manchester Urban Institute, Industry 4.0, the Global Development Institute, the Humanitarian and Conflict Response Institute, and graduates of our Equity and Merit scholarship programme.
- 4,676 first year students completed half a day's action-based learning on sustainability as part of the University's Ethical Grand Challenges.

3. Headline targets achieved by 2025: What specific CO₂ reduction targets do you aim to have achieved by 2025?

- Carbon reduction pathway to zero carbon by 2038, which involves an average 13% annual reduction from a baseline 53,836 tCO₂ (2017/18) to 17,669 tCO₂ by 2025.
- Eliminating avoidable single use plastic from catering, stationery and laboratories by 2022.
- Business air travel reduction by 12% (based on km travelled) from 2014/15 baseline by 2022.

4. Urgent Actions for 2020-2025 - Your emissions: What are some urgent actions your organization/sector will take in the next five years to reduce the CO₂ emissions directly under its control?

- Publish our Zero Carbon Pathway document outlining steps necessary to achieve zero carbon, including:
 - Design and cost all ongoing works for zero carbon. Where funding is not available, have plans in place for retrofit in the future.
 - Start a programme of building retrofit for energy conservation.
 - Explore options for on-site and off-site renewables.
 - Research conversion of newer buildings to zero carbon operations.
 - Establish procedures to ensure new equipment purchases include lifecycle carbon impact.
 - Implement a behaviour change programme.
- Vacate buildings on the North Campus and occupy the new Manchester Engineering Campus Development reducing emissions by up to 46%.
- Action plan to reduce University related air travel.

10. University of Manchester (UoM)

5. Urgent Actions for 2020-2025 - Your stakeholders: What are some urgent actions your organization/sector will take in the next five years to influence or support its stakeholders to reduce their CO₂ emissions?

- Publish our Environmental Sustainability Framework for the University.
- Embed zero carbon and climate resilience within our Campus Masterplan and Estates Strategy.
- Launch an engagement platform for students to take action on sustainability and continue delivering Ethical Grand Challenges.
- Share the impact of the University’s most significant research on environmental sustainability and climate change.
- Develop strategic partnerships to engage staff, students, alumni and other communities in responsible schemes to support proven natural solutions to capture carbon, restore the natural world and enhance environmental sustainability.
- Roll out Carbon Literacy training to staff, students and lab users.
- Deliver a programme of sustainability seminars to raise awareness and educate staff and students on developments in zero carbon opportunities.
- Continue to work alongside our supply chain to deliver carbon savings.
- Investigate devolved energy and carbon budgets.

Published by Manchester Climate Change Partnership and Agency
February 2020

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**Manchester City Council
Report for Resolution**

Report to: Neighbourhoods and Environment Scrutiny Committee – 4
March 2020
Executive - 11 March 2020

Subject: Manchester City Council Climate Change Action Plan 2020-25

Report of: Deputy Chief Executive and City Treasurer

Summary

Manchester City Council's Climate Change Action Plan 2020-25 sets out the actions that need to be delivered to ensure that the Council plays its full part in delivering the city's zero carbon ambition. The Plan includes the actions which will achieve a 50% reduction in the Council's direct CO₂ emissions between 2020 and 2025, as well as the enabling and influencing actions which will support the city's zero carbon ambitions.

Recommendations

It is recommended that the Neighbourhoods and Environment Scrutiny Committee:

1. Note and comment on the content of the Manchester City Council Climate Change Action Plan 2020-25.

It is recommended that Executive:

1. Adopt the Manchester City Council Climate Change Action Plan 2020-25.
 2. Delegate authority to the Deputy Chief Executive and City Treasurer, in consultation with the Executive Member for Environment, Planning and Transport, to update and amend the action plan as necessary. Future editions of the action plan to be reported to the Neighbourhoods and Environment Scrutiny Committee and published on the Council's website at: www.manchester.gov.uk/zerocarbon
-

Wards Affected: All

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

Developing a citywide climate change framework is fundamental to ensuring that everyone in the city plays their full part in addressing climate change. The Council is one of the key stakeholders who have committed to producing an action plan by March 2020 which sets out the Council's role in tackling our own emissions and influencing

and supporting a reduction across the whole city. Delivering the 5 year plan will require a significant level of new revenue and capital investment to build on the existing resources which are already committed to improving the city's environment.

Manchester Strategy outcomes	Summary of how this report aligns to the OMS
A thriving and sustainable city: supporting a diverse and distinctive economy that creates jobs and opportunities	The transition to a zero carbon city will help the city's economy become more sustainable and will generate jobs within the low carbon energy and goods sector. This will support the implementation of the Our Manchester Industrial Strategy.
A highly skilled city: world class and home grown talent sustaining the city's economic success	Manchester is one of a small number of UK cities that have agreed a science based target and is leading the way in transitioning to a zero carbon city. It is envisaged that this may give the city opportunities in the green technology and services sector.
A progressive and equitable city: making a positive contribution by unlocking the potential of our communities	Transitioning to a zero carbon city can help to tackle fuel poverty by reducing energy bills. Health outcomes will also be improved through the promotion of more sustainable modes of transport and improved air quality.
A liveable and low carbon city: a destination of choice to live, visit, work	Becoming a zero carbon city can help to make the city a more attractive place for people to live, work, visit and study.
A connected city: world class infrastructure and connectivity to drive growth	A zero carbon transport system would create a world class business environment to drive sustainable economic growth.

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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.

Playing Our Full Part: How Manchester's Residents and Businesses can benefit from Ambitious Action on Climate Change 2018

Manchester Climate Change Strategy 2017-50

Manchester Climate Change Strategy Implementation Plan 2017-22

Manchester: A Certain Future Annual Report 2018

Manchester City Council Climate Change Action Plan 2016-20

Manchester Zero Carbon 2038, Manchester City Council's Commitment, March 2019

1.0 Introduction

- 1.1 This report provides a brief introduction to the Council's Climate Change Action Plan 2020-25 which is appended to this report in full. The action plan comprises a narrative document with a summary of historical emissions, future targets, an indication of how these targets will be achieved and how they will be monitored. The detailed actions are included in appendix 1 alongside a summary of the climate change research and insight (appendix 2), a summary of the January 2020 Youth Climate Action Summit (appendix 3) and a summary of the asks the Council we be making of Greater Manchester and UK Government (appendix 4).
- 1.2 Following the discussion at Neighbourhoods and Environment Scrutiny Committee on 5 February 2020, tonnes of CO₂ have been included in the Plan wherever possible, a commitment to quarterly reporting and monitoring has been included and a number of amendments to the detailed action plan have been made.

2.0 Background

- 2.1 The Council has been working with partners to take action on climate change for over 10 years and has developed a series of action plans with associated targets, the most recent of which covered the 2016-20 period. The Council's previous CO₂ target was to reduce its direct emissions from buildings, energy and transport by 41% by 2020 from a 2009/10 baseline. The latest available data from 2018/19 revealed that a 48.1% reduction had been achieved (see table 1 below). This reduction has been delivered through efficiencies in buildings, rationalisation of the corporate estate, reductions in emissions from streetlighting and applying national emissions factors which have delivered significant reductions in electricity emissions due to the decarbonisation of the National Grid.

Table 1: Manchester City Council CO₂ Emissions in Tonnes by Activity 2009/10 to 2018/19

Activity	Baseline 2009/10 tCO ₂	2018/19 tCO ₂	% change from baseline
MCC Buildings	47,764	25,789	-46.0
Traffic Signalling	1,894	392	-79.3
Streetlights	15,726	6,616	-57.9
MCC Fleet	2,863	844	-70.5
MCC Grey Fleet	1,001	540	-46.1
MCC Taxis	136	56	-58.5
MCC Train	110	17	-84.7
MCC Air travel	79	67	-14.5
MCC Carclub	5	8	40.4
Waste Collection Fleet	2,496	3,089	23.7
Total	72,075	37,418	-48.1

2.2 The Council's Plan is one of a number of plans which support the delivery of the Manchester Climate Change Framework 2020-25 which is also being considered by the Committee and Executive.

3.0 Commitments and delivery

3.1 The Plan makes a number of specific commitments which are as follows:

- Deliver at least a 50% reduction in carbon emissions from the Council's buildings, energy and transport by 2025 (from circa 30-32,000 tonnes in 2019/20 to circa 15-16,000 tonnes in 2024/25) via a 13% year on year reduction.
- Report quarterly on progress against the actions in the plan and provide quantitative reports on data in tonnes of CO₂.
- Become zero carbon by 2038 at the latest (based on the Tyndall Centre for Climate Research definition of zero which is at least a 95% reduction i.e. a reduction of 35,547 tonnes CO₂ from the 2018/19 total which would mean that the Council's direct emissions in 2037/38 would be less than 1,871 tonnes CO₂).

3.2 A summary of the estimated savings which will need to be achieved over the next 5 years are summarised in table 2 below.

Table 2: Direct Emissions Actions and Associated Carbon Savings (estimate of 15-16,000 tCO₂ required)

Direct Emissions Action 2020-25	Annual Carbon Saving (tonnes CO₂)
Completion of Phase 1 Buildings Carbon Reduction Programme	1,400
Completion of Phase 1 (a) Buildings Carbon Reduction Programme - ERDF Supported	400
Phase 2 of Carbon Reduction Programme	3,000
Large scale energy generation scheme	7,000
Completion of the final year of the street lighting LED replacement programme	220
Estimated carbon emissions saving benefit from the decarbonisation of the National Grid	800
Completion of the Civic Quarter Heat Network and connection to the Town Hall, Town Hall Extension, Art Gallery and Central Library	1,600
Replacement of half of waste fleet vehicles with Electric Vehicles	900
Reductions to the Council's Fleet through increase in number of Electric Vehicles	400
Reduction in staff travel via car, taxi, air, train	100
Total Estimated Savings	15,820

3.3 The Plan also sets out the different roles the Council has including enabling and influencing, reducing direct emissions and reducing indirect emissions. The detailed actions contained in appendix 1 are divided up into the following sections:

- Buildings and energy;
- Transport and travel;
- Reducing consumption based emissions and influencing suppliers;
- Climate adaptation, carbon storage and carbon sequestration;
- Influencing behaviour and being a catalyst for change.

3.4 As noted in the 5th February 2020 report to Neighbourhoods and Environment Committee, additional revenue and capital funding has been identified to respond to the 10 July 2019 Climate Emergency Declaration and to deliver the Plan. Appendix 1 contains a column titled 'Project Cost or funding in place' and this will be continually updated as further detailed funding for specific projects or programmes is agreed. The Council's Zero Carbon Coordination Group and associated workstreams will be responsible for overseeing the implementation of the Plan and identifying additional sources of internal and external funding.

4.0 Recommendations

4.1 The recommendations are set out at the beginning of this report.

Manchester City Council Climate Change Action Plan 2020-2025

1. What is the purpose of this plan?

This document sets out Manchester City Council's commitments to tackling climate change over the next 5 years and builds on previous action plans over the last decade. The Council, alongside a number of other strategic partners in the city, have produced this plan to support the delivery of the citywide Manchester Climate Change Framework 2020-25 which has been produced by the Manchester Climate Change Partnership and Agency (<http://www.manchesterclimate.com/plan>). It summarises the specific actions which are required to ensure that the Council reduces its direct emissions by at least 50% by 2025 whilst also playing our full part in supporting and influencing the city to do the same. It also covers the Council's plans for adapting to the expected impacts of climate change and supporting and influencing others, including through the implementation of the Manchester Green and Blue Infrastructure Strategy 2015-25.

Climate change is something which effects everyone in Manchester and should not be viewed as an issue which is defined by geography, class or age. Our ambition is to ensure that all of Manchester's residents are protected from the impact of climate change, but that equality impact assessments are undertaken on specific projects to ensure that any changes that are made do not have a negative impact on the city's most vulnerable people. The transition to zero carbon must also be a just one which ensures that the social impacts of changes to heating and energy are considered alongside the environmental impact.

Although there are many challenges to delivering these ambitions, we recognise the enormous opportunities of transitioning to a zero carbon, climate resilient city and the importance of Manchester being recognised as a national and global leader in this area.

2. How big is the challenge?

The challenge and crisis of climate change is unprecedented and is the single biggest challenge faced by the world today. We recognise that this challenge can only be overcome by taking urgent, radical action. This crisis is something that will effect us all, and for some the impact of climate change is already being felt. The UK is committed to playing its full part in meeting the international target to limit the global average temperature rise to well below 2°C above pre-industrial levels by the year 2100, and aiming for 1.5°C, known as the Paris Agreement within the United Nations Framework on Climate Change.

The October 2018 *Special Report by the Intergovernmental Panel on Climate Change* (IPCC) found that although meeting a 1.5°C target is still achievable, success is dependent on a much more ambitious international effort and a major upscaling of investment. Exceeding this limit would affect weather patterns, cause sea levels to rise further, create food and water shortages, and affect human security and economic growth. The special report *Global Warming of 1.5°C* (IPCC, 2018. Summary for Policymakers) IPCC shows that 420 million additional people will be exposed to extreme heat and 184–270 million additional people to water scarcity if

global temperatures rise by 2°C, compared with a 1.5°C scenario (Page 4 and page 213: Hoegh-Guldberg et al., 2018. Impacts of 1.5°C global warming on natural and human systems). The world is now clearly in the midst of a climate and ecological emergency and there is now a unanimous consensus from the scientific community on the need for rapid action.

At a more local level residents and businesses are seeing more frequent flash flooding, travel disruption, health impacts from poor air quality and extreme heat episodes in the summer. Councils are well placed to play a key role at local level in responding to the growing public concerns about the environment and issues such as climate change. Councils can help to convene partners and stakeholders to deliver leadership and direction on the specific environmental issues in their localities. We must harness the power of Manchester's communities and ensure that all of our residents and stakeholder are able to take individual and collective action.

But we also recognise that the Council cannot provide all of the solutions, as combating climate change needs system-wide change that involves communities, businesses, individuals and stakeholders across all sectors of the economy, across the country and the wider world. The scale and pace of change needed will require major investments, changes to the way in which we use and interact with energy and changes to how we live our lives and define success. It will also redefine how we manage and interact with our environment. Above all, it will involve a collective leadership and shared ambition to deal with this challenge head on.

The Council takes this challenge seriously and has been acting to tackle climate change for over a decade. In 2009, we played an integral role when residents, businesses and other organisations came together to produce the first ever climate change strategy for the city; Manchester: A Certain Future. In 2010 we produced the first Manchester City Council Climate Change Delivery Plan which set out how the Council would provide citywide leadership on climate change whilst embedding low-carbon thinking and behaviour in our culture, processes and the operation of all our services.

In June 2018, Manchester Climate Change Partnership and Agency commissioned the Tyndall Centre for Climate Change Research at the University of Manchester to advise on targets for the city. The resulting 'Playing Our Full Part' proposal by the Partnership and Agency led to Manchester City Council adopting science-based carbon reduction targets for and on behalf of the city. This made Manchester one of the first cities in the world to adopt targets in line with the Paris Agreement. The targets related to 'direct' CO₂ emissions, from the energy used in buildings and transport. It was also recognised that Manchester would also need to act in relation to its 'indirect' CO₂ emissions, from the products and services consumed in Manchester but originating outside of the city. And that emissions from flights from Manchester Airport would also need to be addressed, as part of a UK and international strategy.

In July 2019, Manchester City Council declared a climate emergency (Manchester City Council Climate Emergency Declaration Text). This declaration recognises the need for the Council and the city as a whole to do more to reduce its carbon emissions and mitigate the negative impacts of climate change and demonstrated the

Council's commitment to be at the forefront of the global response to climate change and to lead by example.

Discussions with the Tyndall Centre for Climate Change Research began in August 2019 and in November 2019 the Agency formally commissioned them to review the city's commitments across four areas of activity:

- Direct / energy-only CO₂ emissions
- Indirect / consumption-based CO₂ emissions
- CO₂ emissions from flights from Manchester Airport
- Target-setting and reporting methodology for organisations and sectors

The recommended targets and objectives are set out in the Manchester Climate Change Framework 2020-25 but the headline recommendations are referenced below:

- To ensure that Manchester plays its full part in helping to meet the Paris Agreement objectives by keeping our direct CO₂ emissions within a limited carbon budget, taking commensurate action on aviation CO₂ emissions and addressing our indirect / consumption-based carbon emissions.
- To adapt the city's buildings, infrastructure and natural environment to the changing climate and to increase the climate resilience of our residents and organisations.
- To improve the health and wellbeing of everyone in Manchester through actions that also contribute to our objectives for CO₂ reduction and adaptation and resilience, with particular focus on those most in need.
- To ensure that Manchester establishes an inclusive, zero carbon and climate resilient economy where everyone can benefit from playing an active role in decarbonising and adapting the city to the changing climate.

Now we need to ensure that our public commitments are backed up with ambitious and real action. This action plan builds on a decade of experience in environmental action and aims to make a vital local contribution to meeting the challenges faced by the climate emergency. It sits alongside action plans from other members of the Manchester Climate Change Board who are collectively responsible for over 20% of the city's emissions and have also committed to become zero carbon by 2038 at the latest.

We recognise that limiting CO₂ emissions is not enough. Depending on how successful the world is at reducing emissions, global temperatures by 2100 are likely to rise by between 1.5°C and 4°C above pre-industrial levels. As such, we need to accept that some level of change is inevitable. Climate change is happening now and we need to assess the risks to our communities in order to reduce their vulnerability to these changes. Adopting appropriate mitigation measures will be essential if we are to create resilient communities of the future in Manchester.

The UK Climate Change Risk Assessment (CCRA) is a five-yearly assessment of the major risks and opportunities from climate change to the UK. The most recent evidence report was published by the CCC in 2016. It outlined risks to the UK in six key areas:

- Flooding and coastal change risks to communities, businesses and infrastructure;
- Risks to health, well-being and productivity from higher temperatures;
- Risks of water deficits in public water supply, and for agriculture, energy generation and industry, with impacts on freshwater ecology;
- Risks to natural capital, including soils, coastal, marine and freshwater ecosystems, and biodiversity;
- Risks from climate-related impacts on domestic and international food production and trade;
- New and emerging pests and diseases, and non-native species, affecting people, plants and animals.

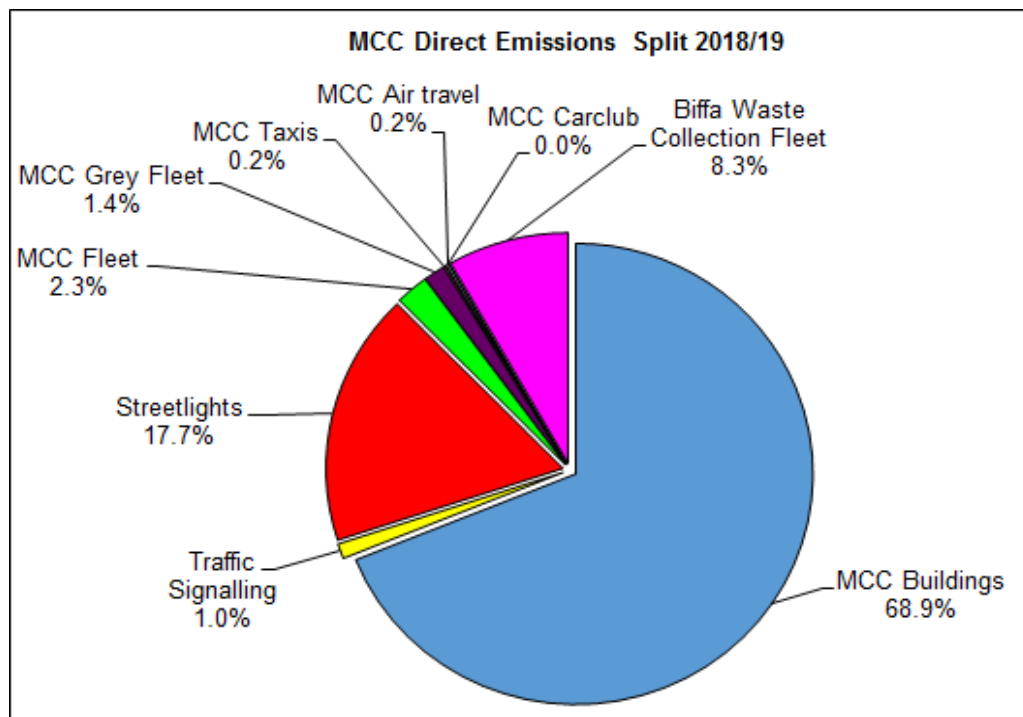
3. How large are the Council's emissions and what have we already achieved?

3.1 What is included?

The Council is able to influence behaviour and action across the city through a range of different policy levers and funding powers. This influence is far greater than the Council's actual direct emissions from its operation as an organisation, however, it is critically important to measure and report on our direct emissions and to set ambitious reduction targets.

Direct emissions are those which we can directly control or have financial responsibility for. We have been measuring our direct carbon emissions since 2009/10 and include a range of activities within the scope of our calculations. These activities are:

- Approximately 350 operational buildings, including leisure facilities but excluding schools and Council housing;
- Street lighting;
- Biffa waste collection fleet;
- Our fleet vehicles; and
- Staff travel including staff using their personal cars to carry out council business (grey fleet), rail travel, air travel, taxis and travel by car club.

Figure 1: MCC Direct Carbon Emissions by Activity 2018/19

(N.B. Between 2009/10 and 2019/20 traffic signalling fell within our direct emissions. In 2018/19 traffic signalling accounted for 1% of our total direct emissions. Traffic signalling across Greater Manchester is managed by Transport for Greater Manchester and included in their emissions accounting. As such Manchester City Council will no longer include traffic signalling on our direct emissions from 2020 onwards.)

3.2. What reductions have we already achieved?

Since 2009/10 we have achieved a 48.1% (34,657 tonnes CO₂) reduction in our carbon emissions and exceeded our original target to reduce our emissions by 41% by 2020 as demonstrated in table 1 below.

Table 1: Manchester City Council CO₂ Emissions in Tonnes by Activity 2009/10 to 2018/19

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MCC Grey Fleet	1,001	540	-46.1

MCC Taxis	136	56	-58.5
MCC Train	110	17	-84.7
MCC Air travel	79	67	-14.5
MCC Carclub	5	8	40.4
Waste Collection Fleet	2,496	3,089	23.7
Total	72,075	37,418	-48.1

A range of activities and programmes have enabled us to do this and these are:

- Delivering a street lighting replacement programme to replace all of our 57,000 street lights with energy efficient LEDs. The project (£32.8m) involves procurement and installation of state-of-the-art, low energy, light emitting diode (LED) street lighting technology and complete in 2020. The Council has worked with Salix Finance to fund this scheme, who provide loans to the public sector to improve energy efficiency, reduce carbon emissions and lower energy bills. When completed, this will reduce carbon emissions by around 8,400 tonnes per year and save the Council £2 million.
- The buildings in the Council's operational estate represented 68.9% of the Council's direct carbon dioxide emissions in 2018/19. The Carbon Reduction Programme (£10.2m) will invest in schemes such as combined heat and power, solar photovoltaic panels, and the use of LED lighting within the Council's estate. The first phase of delivery is due to complete by the end of Quarter 2 2020/21. This will involve around £2.6 million invested in energy conservation measures and around £4.3 million invested in energy generation technology at 13 buildings in the Council's operational estate. The investment will generate financial savings of around £716,000 per annum and reduce carbon emissions by circa 1,600 tonnes per annum. The remaining funding has been earmarked to support energy conservation or production measures at buildings where wider refurbishments are being designed. Further stages of investments and improvements are planned.
- Committing to the installation of a Civic Quarter Heat Network which will connect the Town Hall, Town Hall Extension, Art Gallery and Central Library, Manchester Central Convention Centre, The Bridgewater Hall and Heron House. The project is expected to reduce the Council's direct carbon emissions by approximately 1,600 tonnes of CO₂ from 2020/21. The network has been designed to enable future expansion, with efficiency and carbon savings increasing as more buildings join.
- Capital projects delivered by the Council are expected to include measures which contribute towards carbon reduction. During 2019/20 examples of spend on areas that will impact energy and carbon performance (typically mechanical and electrical upgrades inc heating, ventilation and lighting, plus insulation, window and roof works, as well as PV) include £7.5m across Hulme District Office, Moss Side Leisure Centre, Alexandra House and within the

Council's Asset Management Programme. There are a number of schemes in development for next financial year that will contribute to carbon reduction activity including: Abraham Moss Leisure Centre and Library rebuild (to be EPC Grade A); Gorton Hub (BREEAM Excellent) and Hammerstone Road (Large PV array and fabric improvements).

- The Council's fleet currently includes one electric car and 14 small electric vans. Plans are being considered to support the roll out of electric vehicles and charging infrastructure across the estate where viable and as required. Other activities to reduce emissions from the fleet include information for drivers on fuel efficient driving techniques, reducing fuel consumption and reducing the impact on the environment. A number of electric and hybrid vehicles have been introduced to the fleet, as well as initiating a programme to exchange all vehicles Euro 5 or below, with Euro 6 engined ones.
- As part of the waste and street cleaning contract, a loan will continue to be available to the contractor to upgrade vehicles (£3.8), including to make them clean air compliant, on a spend to save basis. Investment is also being made to reduce the level of waste going into landfill with £1.2m planned spend on waste reduction measures in 2020/21, initially seeking to increase recycling rates in apartment blocks across the City.
- A pipeline of £75.9 million of active travel projects have been identified for consideration via the Greater Manchester Mayor's Challenge Fund which meet the funding criteria. In 2020/21 £2.8m is already committed to providing a high-quality network of dedicated cycle routes across Manchester, encouraging people to make short journeys in a healthy and inexpensive way and reduce the environmental impact of private car use.
- Neighbourhood Teams are engaging with residents to develop climate change action in ward plans, deliver events, build capacity and listen to residents. At a neighbourhood level, the Neighbourhood Investment Fund (NIF) is available to support local priorities including environmental projects in wards and also improvements to green and blue infrastructure.

Over 1,000 Council staff have now received Carbon Literacy training which aims to increase their awareness of the carbon dioxide costs and impacts of everyday activities, and the ability and motivation to reduce emissions, on an individual, community and organisational basis. Large scale training sessions are now underway for the top 300 managers in the organisation along with targeted sessions focusing on specific services such as Neighbourhoods and Compliance, and Revenues and Benefits.

We have also played a key role in supporting others in the city to tackle climate change and improve the city's environment. Key actions include:

- Securing investment in the city for environmental projects including tree and hedge planting and community orchards with the planting of an estimated 100,000 trees on known schemes across the city, including 8.75 km of

hedgerow and 108 community orchards over the last 10 years (Source: internal MCC Monitoring).

- Supporting the establishment of the Manchester Climate Change Agency and supporting the Agency through the secondment of two members of staff
- Working with Transport for Greater Manchester on the expansion of the Metrolink tram network
- Improving the city's cycling infrastructure including the Oxford Road and Wilmslow Road 'Dutch Style' cycling lanes

3.3 What have we done since declaring a climate emergency?

Since the Council declared a climate emergency on 10 July 2019, additional resources have been put in place alongside a number of changes to the way in which the Council operates. These include:

- Strengthened capacity within the Council to carry out this work and working with the Climate Change Agency to do the same.
- Through the work of the Zero Carbon Coordination Group, this agenda has been embedded into decision making, policies and practice across the Council, for example the updated Capital Strategy, evaluation within procurement decisions and new staff travel policy.
- Leadership across the city through the work of the Manchester Climate Change Agency and the action plans being developed by partners across the city. External engagement includes with Greater Manchester Combined Authority, Transport for Greater Manchester, development of the Our Manchester Industrial Strategy, consultation on the Manchester Local Plan, and with partners on specific projects such as Triangulum, with the University of Manchester, Manchester Metropolitan University and Siemens UK.
- Clearly embedding Climate Change into the next Capital Strategy for the city so that investment decisions are additionally considered in terms of their contribution to reducing carbon reductions. The Council has already committed significant investments totalling £69 million including the Carbon Reduction Plan for the Council's operational estate, the Civic Quarter Heat Network, and the Street Lighting replacement programme.
- Engagement and awareness raising, including carbon literacy training for Council staff and key partners, sessions at the Council's Leadership Summit which 400 senior officers attended, and the rolling programme of Listening in Action events for staff.
- Commissioned insight among Manchester residents to understand the views of residents from across the city in relation to climate change (see summary in Appendix 2).
- Youth Climate Summit in January 2020 as a follow up to the event in July 2019 (see summary in Appendix 3).
- Written to the Greater Manchester Pension Fund to request that they divest from investing in fossil fuels.
- Provided a formal response to the Government's Future Homes Standards consultation and supplemented this with a letter to the Ministry of Housing

Communities and Local Government from the Executive Member for Environment, Planning and Transport calling for the ability to set higher local standards on Part L of Building Regulations

- Called for Transport for Greater Manchester to develop a decarbonisation plan for transport which was discussed at the Greater Manchester Transport Committee in January 2020.
- Events in wards have identified ways to engage communities and have identified Climate Change priorities to be considered for refreshed Ward Plans from April / May 2020.

4. What are we committing to?

4.1 Direct emissions

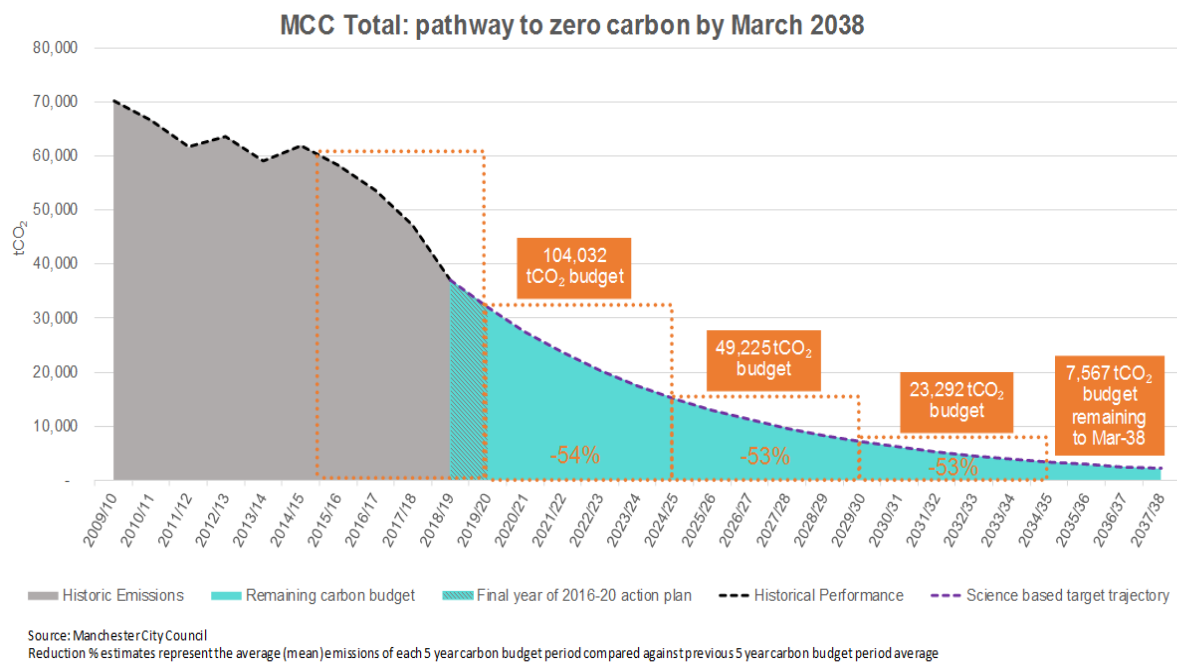
The Council is committed to playing its full part in helping the city transition to zero carbon and by helping to deliver the Manchester Climate Change Framework 2020-25 (<http://www.manchesterclimate.com/plan>). This document contains a summary of the actions the city needs to take to stay within our carbon budget and is informed by analysis from the Tyndall Centre for Climate Change Research, including a definition of carbon neutral.

Although our plan includes investment in green and blue infrastructure to increase carbon storage and sequestration, reaching zero carbon will not include offsetting our emissions. Our ambition has been informed by the SCATTER project (Setting City and Area Targets and Trajectories for Emissions Reductions) which is a model that helps cities set zero carbon targets from our buildings, energy and transport which are consistent with delivering the Paris Agreement.

The specific commitments we are making as a Council are:

- Deliver at least a 50% reduction in carbon emissions from our buildings, energy and transport by 2025 (from circa 30-32,000 tonnes in 2019/20 to circa 15-16,000 tonnes in 2024/25) via a 13% year on year reduction.
- Report quarterly on progress against the actions in the plan and provide quantitative reports on data in tonnes of CO₂
- Become zero carbon by 2038 at the latest (based on the Tyndall Centre for Climate Research definition of zero which is at least a 95% reduction i.e. a reduction of 35,547 tonnes CO₂ from the 2018/19 total which would mean that the Council's direct emissions in 2037/38 would be less than 1,871 tonnes CO₂)

The draft analysis below sets out how this pathway might be achieved but will need to be updated once the final 2019/20 annual data is available.

Figure 3: Manchester City Council pathway to zero carbon (draft analysis)

Nb: This chart is a draft and will be updated following the publication of the final Manchester Climate Change Framework 2020-25 and the Council's 2019/20 annual emissions data.

Appendix 1 details the actions that we will undertake to reduce our direct emissions, however, a summary of the actions that will deliver the required 50% reduction in tonnes CO₂ can be found below:

Table 2: Direct Emissions Actions and Associated Carbon Savings (estimate of 15-16,000 tCO₂ required)

Direct Emissions Action 2020-25	Annual Carbon Saving (tonnes CO ₂)
Completion of Phase 1 Buildings Carbon Reduction Programme	1,400
Completion of Phase 1 (a) Buildings Carbon Reduction Programme - ERDF Supported	400
Phase 2 of Carbon Reduction Programme	3,000
Large scale energy generation scheme	7,000
Completion of the final year of the street lighting LED replacement programme	220
Estimated carbon emissions saving benefit from the decarbonisation of the National Grid	800
Completion of the Civic Quarter Heat Network and	1,600

connection to the Town Hall, Town Hall Extension, Art Gallery and Central Library	
Replacement of half of waste fleet vehicles with Electric Vehicles	900
Reductions to the Council's Fleet through increase in number of Electric Vehicles	400
Reduction in staff travel via car, taxi, air, train	100
Total Estimated Savings	15,820

4.2 Indirect or consumption based emissions

The Council also recognises that the products and services that we purchase directly or that our supply chain procure have a major impact on the environment. The action plan commits us to reducing the impact of carbon emissions from our indirect activity. The Council has developed formal evaluation questions for suppliers that will be used in future procurements. An additional 10% climate change weighting will be applied to the scoring framework in addition to the 20% already used for scoring contributions to social value. These questions will ask suppliers how far they will reduce their carbon emissions, and how this will be monitored and reported. Alongside this will be new guidance for suppliers across the city – including other procuring organisations on the Partnership – that signposts them to sources of advice, guidance and support for reducing their carbon emissions.

4.3 Adaptation to climate change

Despite the increased international efforts to tackle climate change, we recognise that the world's climate is already changing and that adaptation is required to protect the city's people. We are committed to ensuring that climate change adaptation, including green and blue infrastructure, is included in new developments and across Council owned buildings and land.

Further work needs to be done at a local level through ward plans and neighbourhoods to adapt to make communities more resilient to climate change. This will form part of the Council's work through Neighbourhoods Teams, Highways and also through the development of improved communication information and guidance.

4.4 Citywide emissions

The Council also recognises the importance of supporting and influencing our residents and organisations to take action to reduce their direct and indirect CO₂ emissions and to adapt to the changing climate. We are committed to developing the right communications and key information to them, supporting them via funding and projects where appropriate and to ensure that as an organisation we lead by example.

5. What roles does the Council have?

As outlined in section 1, the Council has a variety of different roles to fulfil to ensure that we play our full part in reducing both our direct emissions and supporting and influencing the required reduction in citywide emissions.

5.1 Enabling and Influencing Actions

The Council has a wide range of policy-making and regulatory functions. Many of these already help to incentivise and encourage low carbon behaviours and activities. In order for the Council and the city to meet the targets that have been set we will need to ensure that all key decisions the Council makes and policies and procedures we implement support this ambition. This will include grant, funding and investment decisions, procurement and commissioning, our capital and revenue gateway process, new build and refurbishment standards, design standards, leases or developments on Council owned land, the Manchester Local Plan and staff and member travel policy. These also provide the opportunity to influence how other large and small organisations in the city and beyond operate and to encourage them to work towards the zero carbon target.

Manchester City Council only has direct control over a small percentage of emissions in the city (our direct emissions). It is therefore important that the Council works with and influence others to also play their full part in responding to the climate emergency. This will be vital in the wider city achieving its zero carbon ambitions. We will work with and exert our influence on as many organisations and individuals as possible in the way services are designed, delivered and communicated and create opportunities to encourage and support partners and residents to play a key role in achieving the city's climate change objectives. Different measures can support and influence different groups of stakeholders – residents and customers, visitors to the city, businesses in the supply chain, partner organisations in whose operations the Council has an interest, neighbouring authorities in Greater Manchester and beyond, the Government and international interests.

5.2 Direct Emissions (Scope 1 and 2)

The Council's direct emissions make up approximately 2% of the citywide emissions. Despite this, the Council is one of the largest emitters in the city. Reducing our direct emissions to zero will entail undertaking major programmes of work to our buildings and changing energy supply. Our waste fleets and other ways in which we travel whilst delivering services across the city also needs to change. We will need to focus our limited resources on those activities which produce the greatest CO₂ emissions. In addition to the investment and activity required in-house, we also recognise that we will be able to benefit from national policy via the continued decarbonisation of the National Grid and the continued reduction in the electricity emission factor, alongside other new developments including changes to the way in which domestic and commercial buildings are heated.

5.3 Indirect Emissions (Scope 3)

Indirect emissions are those which we do not have direct control over and are a consequence of our activities. This can include waste, water, food, procurement of goods and services and staff commuting, amongst other activities.

6. What is included in the 2020-25 Action Plan?

We recognise that in order to achieve our ambitions, rapid and unprecedented changes to Council services and operations will need to take place. This action plan details the activity that we will undertake over the next five years but also includes activities that will need to be developed and investigated further in order to ensure that we are on the right path to being zero carbon by 2038. The actions include activities to deliver a reduction in emissions from energy, transport and consumption (mitigation) but also adaptation and promoting investment in nature based solutions and green infrastructure

This action plan will evolve over time and be flexible enough to adapt to opportunities and challenges outside of our control such as national government policy and funding, world energy markets and technological innovations. This will provide us with the option to incorporate new actions to the plan as opportunities become available. Conversely, we may also determine that current actions will no longer deliver us the required saving and as such can be removed. Where changes in the Greater Manchester Combined Authority or government policy are needed to help us meet our objectives and targets we will proactively ask for them, seeking to work as a key partner with the government in helping to meet the UK's zero carbon commitments (see summary in appendix 4).

The plan is a key part of the *Our Manchester Strategy* 10 year vision for the city and should therefore be viewed alongside the city's collective ambitions for a thriving and sustainable city, a highly skilled city, a more progressive and equitable city, a more connected city and a more liveable city. The focus therefore, will be ensuring that the transition to zero carbon is one that is as just and fair as possible for the city's residents, businesses and workers and that the costs do not fall unevenly on those that are least able to afford them.

The action plan is appended below but is divided up into the following sections:

- Buildings and energy;
- Transport and travel;
- Reducing consumption based emissions and influencing suppliers;
- Climate adaptation, carbon storage and carbon sequestration;
- Influencing behaviour and being a catalyst for change.

Not all actions will generate quantifiable CO₂ savings but where data is available for the Council's direct emissions it has been included.

7. How will we measure and report on progress?

The implementation of this action plan will be overseen by a number of different groups:

- Quarterly Monitoring and Update report to Neighbourhoods and Environment Scrutiny Committee including progress against the actions and the latest available Council direct carbon emissions data (This is an elected member led Committee which is open to the public).
- Climate Change Sub-Group (This is an elected member led sub-group of Neighbourhoods and Environment Scrutiny Committee which is open to the public).
- Zero Carbon Coordination Group (This is a group of senior Council officers, chaired by the Deputy Chief Executive and City Treasurer which was established in September 2019).

We will use the Council's website, other communications and Committee reports to provide updates on the implementation of this action plan. The Council's web pages (www.manchester.gov.uk/zerocarbon) will be expanded to include:

- Information on the action plan and progress against delivery
- Overall number of Council staff and members who are carbon literate (no names)
- Information about the Zero Carbon Coordination Group and workstreams including relevant information which can be publicly shared
- Links to relevant Committee reports where climate change is a key focus
- Case studies on projects including street lighting LED upgrade, Civic Quarter Heat Network, specific buildings improvements.
- Quantitative data on the Council's direct emissions.

8. How will we fund the delivery of the plan?

The Council already spends a significant amount of money on improving the environment of the city through physical projects and also in terms of staff time across a range of services. Climate Change considerations will be embedded into decisions about how all resources are used across the Council as well as additional direct resource requirements.

We recognise that transitioning to zero carbon by 2038 and halving the Council's carbon emissions over the next 5 years will require significant additional capital and revenue funding but that delivering this ambition is essential and the cost of not doing so would be far greater. There are also significant opportunities to benefit from becoming a zero carbon city and these are set out in the *Delivering a More Inclusive Economy, Our Manchester Industrial Strategy* and the Mission Based Approach within the *Greater Manchester Local Industrial Strategy*.

Further detailed analysis of the cost of delivering the action plan will be undertaken by the Zero Carbon Coordination Group workstreams. Funding sources will include internal revenue and capital funding, new sources of investment and external funding. A high level summary of some of the key elements are listed below:

Revenue

During 2019/20 funding has already been identified to fund:

- Two additional posts within City Policy
- A full time post to deliver carbon literacy training
- Funding

A further £300k is including in the 2020/21 Revenue Budget which includes:

- Funding for the Climate Change Agency and new Chief Executive position
- Additional programme management resources in City Policy
- Additional external expertise as required
- Tree Opportunity Mapping
- Development of a supplier toolkit for the city to inform procurement and commissioning activity

In order to deliver the commitments within the Carbon Reduction Action Plan further funding will be required. It is recommended that further revenue funding of £1m is made available via the Capital Fund. The use of the funding will be subject to the development of detailed proposals to be agreed with the Executive Members for Environment, Planning and Transport and for Finance and Human Resources and reported back to Executive. This will be to:

- Establish a dedicated team and meet the associated costs to deliver the below:
 - Identify and deliver large scale remote Renewable Energy eg Solar PV generation projects. A small number of large generation projects are essential to remain within our carbon budget whilst the organisation mobilises to deliver the wider change required.
 - Procure a Solar PV partner to deliver a rolling programme of behind the meter generation feasibility studies, business case development and installation, focussing on the Authorities to 50 carbon emitting buildings.
 - Deliver a Zero Carbon whole building retrofit pilot.
 - Develop the next/ongoing pipeline of investments through a series of building audits focussing on the deployment of proven energy efficiency measures.
 - Develop an accelerated boiler replacement programme and commission expert consultancy to validate existing views about the pathway to zero carbon heat, inform business case development and procurement specifications.
 - Agree the Manchester Build Standard / Standards to be used going forward and embed within decision making processes which include consideration of Net Present Value and Asset Management Plan; Whole Life Costing, Internal Carbon Costing, and Energy Intensity Measures.
- Support awareness raising and behaviour change across residents, partners and council staff.

- Provide additional capacity within the Strategic Housing Team to support the work outlined in the Action Plan including to develop the segmentation approach to considering carbon reduction across the domestic house estate which is outlined in the appended action plan.

Additional capacity will also be provided to support the development and funding of neighbourhood schemes and priorities as the schemes are developed.

Capital

Reducing carbon emissions is included within the Capital Strategy as one of the key priorities for future capital spend. The development of all capital schemes and associated investment must consider the effect on carbon and work is taking place to understand how investment can be classified in terms of carbon impact as well as financial.

The costs of new build programmes to higher environmental standards and meeting the needs of the Local Plan and planning requirements will also be considered, running alongside investment in green spaces and places including trees and green walls which will require revenue resources for ongoing maintenance. As schemes are developed the higher cost to meet environmental standards will be included.

As the majority of the Council's carbon emissions are from its existing corporate estate and the Council has a responsibility to reduce emissions across the Northwards and partner managed housing stock, significant investment will be required to bring these buildings up to carbon efficient standards. This represents a major opportunity to both establish Manchester as a centre for green technology and services, and to work with local skills providers to ensure that the city's residents are given the best possible opportunities to access these new careers.

- Retrofit of the Council's operational estate. Energy generation and charging infrastructure including Solar PVs on suitable buildings and sites, Batteries, EV Charging Infrastructure and Heat Pumps. Phase 2 of the Carbon Reduction Plan will require an additional £15m investment. The fund will be further developed through the capture of the associated revenue savings and work to identify external funding. The March 2020 Capital Update report will include a request to establish the budget with its use subject to the approval of the business case.
- Funding for a large scale energy generation scheme dependent on the outcome of the feasibility study. Funding for the feasibility study is included within the revenue funding requirements above.
- Northwards managed Council housing stock retrofit and energy generation. Specific schemes will be developed with Northwards through the capital funding available in the Housing Revenue Account capital programme. Funds are required to maintain the Decent Homes Standard within Manchester's housing stock and, in addition, will support innovative climate change investment; essential health and safety works including the installation of sprinklers in multi storey blocks; and public realm

environmental works. There is limited funding within the HRA to cover all of these priorities and further work will be carried out to identify options to deliver more extensive carbon reduction measures given the constraints in place.

- Purchase of electric vehicles for the Waste and Recycling Fleet, and Council Fleet. A business case for the further electrification of the waste fleet will be included in the March 2020 Capital Update report. Further proposals for the Council's fleet will be considered for funding in future Capital Update reports.
- Investment in planting of beacon trees, mature trees, street trees and hedgerows informed by the Tree Opportunity Mapping exercise. No specific funding has been earmarked for this yet and it is proposed to establish the budget for an initial investment fund of £1m for trees and carbon capture with its use subject to the production of the detailed business case.

Work will also continue to deliver the carbon reduction priorities within:

- Delivery of Northern and Eastern Gateway projects
- Changes to the way Highways projects are designed and delivered
- Investment in public transport and active travel infrastructure such as cycling and walking. This will include progressing the pipeline of schemes for funding via the Greater Manchester Mayor's Challenge Fund.
- Work with the Department for Education on how carbon efficient schools can be delivered given the constraints with the current levels of Department for Education funding and unit cost.

9. How will the whole organisation play its full part?

The Council's Corporate Plan has been amended to include Climate Change as one of the eight priorities. We recognise that delivering the Council and citywide ambition to reduce emissions by at least 50% over the next 5 years will require collective action by all Council departments.

We will ensure that all staff are provided with training and are empowered to 'own' this agenda and embed changes into the delivery of their service. A key objective of the plan is to engage residents and neighbourhoods in a process of cultural change that embeds zero carbon thinking into the lifestyles and operations of the city. Manchester is made up of a diverse range of neighbourhoods, with a wide variety of cultures and interests. The residents and communities that make up the city are critical to our success. Much of the change required will come from residents themselves, but the Council has a key role to play, particularly in those parts of the city where there are significant numbers of people dependent upon our support.

To find out more and view the Council's progress please go to:
www.manchester.gov.uk/zerocarbon

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Appendix 1: Manchester City Council Actions 2020-25

1. Buildings and energy

Introduction				
<p>The energy used within buildings made up 69% of the Council's direct CO₂ emissions in 2018/19 and approximately 72% of the citywide CO₂ emissions. The use of fossil fuels (particularly coal) within the National Grid has fallen significantly in recent years as the grid has become decarbonised. Renewable energy such as wind, solar and hydro only represented 2.3% of the UK power supply in 1990 but now contributes 26.5%. Further decarbonisation of the National Grid will deliver significant reductions to the Council's and the city's carbon emissions but local action is needed to reduce the use of energy via the retrofitting and refurbishment of buildings, and generating energy through a variety of renewable sources.</p>				
Commitment				
<p>Reduce the CO₂ emissions from the Council's operational estate and streetlighting by at least 50% by 2025 and put in place plans for a further 50% reduction between 2025 and 2030. Support building retrofit and energy generation across the city's buildings and ensure all future development across the city is as close to zero carbon as possible.</p>				
Council				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO ₂)
1.1	<p>Deliver.....Complete Phase 1 and Phase 1 (a) of the Carbon Reduction Plan and secure funding and delivery mechanism for future phases which will run from 2020-25. The 'reduce, produce, connect' approach will be utilised including the following activities: Phase 3 retrofit programme; a Zero-Carbon Building retrofit (pilot project); a Building Management System programme; Solar PV generation programme on buildings; Boiler replacement programme / gas phase out (heat pumps)</p>	Corporate Estate and Facilities		

	<p>To achieve.....</p> <p>Completion of Phase 1 Buildings Carbon Reduction Programme Completion of Phase 1 (a) Buildings Carbon Reduction Programme (ERDF Supported) Establish Phase 2 of Carbon Reduction Programme 2020-25</p> <p>By.....There will be a sequenced approach to delivery across the operational estate, completed in line with the agreed carbon budget. March 2020-2025 and March 2025-2030.</p>		<p>£7.6m (in place) £2.6m (in place) £15m (priority in Capital Strategy pending final approvals)</p>	<p>1,400 400 3,000</p>
1.2	<p>Deliver.....A Manchester Build Standard / Standards to be used going forward for new buildings, extensions and refurbishments and embed within decision making processes.</p> <p>To achieve.....Lower carbon construction and more energy efficient end use in buildings.</p> <p>By.....End of 2020</p>	Capital Programmes	Funding from additional Capital Fund budget.	TBC
1.3	<p>Deliver.....A Buildings and Energy Strategy for the Council.</p> <p>To achieve.....An agreed strategy setting out the response to the climate emergency across the Council's operational estate including continued procurement of green energy, infrastructure to support the roll out of electric vehicles, generation and storage.</p>	Corporate Estate and Facilities; and Energy Management Unit	Funding place via existing staff resource.	No

	By..... April 2020			
1.4	<p>Deliver.....A feasibility and business case for a large scale energy generation scheme from large scale Solar PV and Onshore and Offshore Wind on Council land and buildings, or sites in third party ownership. This will include an assessment of the different business models available in terms of capital cost, commercial risk and speed of deliverability.</p> <p>To achieve.....An understanding of the benefits, viability, costs and risks of investing in large scale energy generation to generate zero carbon energy.</p> <p>By.....December 2020</p>	Corporate Estates and Neighbourhoods	Funding from additional Capital Fund budget	7,000
1.5	<p>Deliver.....Complete roll out of Street lighting LED replacement and investigate ways to further reduce consumption and improve efficiency.</p> <p>To achieve.....8,400 tonnes of CO₂ per annum when completed, 220 tonnes for 2020/21.</p> <p>By.....End of 2020</p>	Neighbourhoods	£32.8 million funding in place	220
1.6	<p>Deliver.....Complete the Civic Quarter Heat Network (CQHN) and connect to all buildings including the Town Hall in 2023/24.</p> <p>To achieve.....1,600 tonnes CO₂ per annum from 2020/21 and at least 6,400 tonnes CO₂ between 2020-25.</p> <p>By.....First year of operation will be 2021. Town Hall to connect in 2023/24.</p>	CQHN Board	£26 million funding in place	1,600
City				

Ref	Action	Owner		
1.7	<p>Deliver.....Undertake a stock condition survey across the Private Rented Sector and develop a segmentation approach to domestic properties including social housing, owner occupier and private rented sector. Work with Manchester Housing Providers Partnership and their Zero Carbon Working Group to ensure all social housing properties are on a path to zero carbon.</p> <p>To achieve.....A better understanding of the energy efficiency requirements and interventions required across the city's housing stock. To provide intelligence to develop funding proposals for retrofit, energy generation and future heating solutions.</p> <p>By.....Stock condition survey completed 2021.</p>	Housing and Residential Growth	Funding from additional Capital Fund budget	No
1.8	<p>Deliver.....A comprehensive investment programme to deliver energy efficiency, retrofit and energy generation from solar panels and heat pumps across all of the Council owned properties managed by Northwards Housing and other contractors.</p> <p>To achieve.....A reduction in emissions and energy bills for residents.</p> <p>By.....TBC</p>	Housing and Residential Growth	Housing Revenue Account account plus additional funding sources to be identified	TBC
1.9	<p>Deliver.....Funding programmes in partnership with the Greater Manchester Combined Authority and Government to support retrofit and energy generation across commercial and non-residential buildings.</p> <p>To achieve.....A reduction in emissions and energy bills for businesses and organisations.</p>	Housing and Residential Growth, Finance	Not yet identified	TBC

	By..... Ongoing			
1.10	<p>Deliver.....A Local Energy Plan for Manchester via the Greater Manchester Local Energy Market project.</p> <p>To achieve.....The Plan will identify areas suitable for Solar PV deployment (domestic and non-domestic), battery storage, low carbon heating solutions, electric vehicle deployment.</p> <p>By.....Project starts April 2020</p>	Corporate Estates and Facilities	In place via UK Research & Innovation	No
1.11	<p>Deliver.....Zero carbon commitments are taken into account when any Council owned buildings or land is disposed of or leased to a third party.</p> <p>To achieve.....Better support for third parties to improve the energy efficiency and condition of the building or the end use of the land.</p> <p>By.....April 2020 onwards</p>	Strategic Development	Additional funding may be required.	No
1.12	<p>Deliver.....A new Manchester Local Plan which will set out how the city should meet the needs of a growing, diverse population over the next 15 years, outlining where new development should happen, how green spaces and other environmental facilities should be protected or enhanced, and how transport and other infrastructure will be improved. Utilisation of existing Planning levers and Strategic Regeneration Frameworks to support the city's zero carbon commitments.</p> <p>To achieve.....Use the Council's policy levers and influence to ensure that future development reflects the city's zero carbon commitments and promotes a reduction in carbon emissions, improved green and blue infrastructure, and other associated issues such as the management of grey water.</p>	Strategic Development; Planning and City Policy	Funding to develop the plan in place.	No

	By..... Manchester Local Plan completed by 2023. Existing Planning levers and Strategic Regeneration Frameworks immediately.			
1.13	<p>Deliver.....Partnership work with local and national experts including the UK Green Building Council and property developers.</p> <p>To achieve.....Learning from best practice in building design to ensure that we are able to achieve the best possible standards in new design with respect to carbon performance.</p> <p>By.....Ongoing</p>	Capital Programmes	No	No

2. Transport and travel

Introduction
<p>Transport is a major contributor to the city's CO₂ emissions with just under 30% of total emissions and also impacts on the cleanliness of the city's air. It is also the sector which has seen the least progress in achieving reductions in carbon emissions over recent years. The Council's direct emissions include the waste and recycling fleet (8.3%) and Manchester City Council fleet (2.3%) and staff travel (1.8%). There is an urgent need to shift to sustainable and active travel for Council staff and the city's residents, workers and visitors to reduce CO₂ emissions, improve air quality and improve the city's liveability.</p>
Commitment
<p>Reduce the emissions from the Council's fleet including waste and recycling by approximately 35-45% between 2020 and 2025 by rolling out electric vehicles and charging infrastructure. Support shift to sustainable and active travel through the Council's role in transport planning and work with Transport for Greater Manchester, Greater Manchester Combined Authority and national government to deliver strategic transport infrastructure projects.</p>

Council				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO ₂)
2.1	<p>Deliver.....Develop business case and funding to replace half the Biffa waste and recycling fleet with Electric Vehicles alongside associated charging infrastructure.</p> <p>To achieve....Significant reduction in emissions from the diesel waste and recycling refuse vehicles and improved air quality. Ethical procurement of Electric Vehicle batteries to include consideration of environmental and social impact of lithium batteries.</p> <p>By.....Business case for waste fleet early 2020 and funding in 2020/21.</p>	Neighbourhoods	Business case submitted and funding to be identified	900
2.2	<p>Deliver.....Rolling replacement of the Council's Operational Fleet with Electric Vehicle alternatives.</p> <p>To achieve....Significant reduction in emissions from diesel and petrol internal combustion engine fleet vehicles and improved air quality. Ethical procurement of Electric Vehicle batteries to include consideration of environmental and social impact of lithium batteries.</p> <p>By.....Ongoing rolling replacement of lease vehicles.</p>	Neighbourhoods	Business case for replacement	400
2.3	<p>Deliver.....A new Business Travel Policy for Council officers and elected members.</p>	Human Resources Organisational	N/A	100

	<p>To achieve.....Influence over travel choices and promoting sustainable and active travel where possible. Clear communication of Council policy and approval process for travel by taxi and air travel. Domestic air travel and flights to Paris or Brussels to only be approved in exceptional circumstances.</p> <p>By.....April 2020</p>	Development (HROD)		
City				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO₂)
2.4	<p>Deliver.....Additional investment which prioritises improvements to the network for cycling and walking, with the development of a number of schemes approved through the GM Mayor's Challenge Fund.</p> <p>To achieve.....These works will supplement other proposals which seek to promote sustainable forms of transport across the city and will support the decarbonisation of transport across the city.</p> <p>By.....Rolling programme of investment.</p>	Highways, Capital Programmes	Funding to be identified through the Capital Strategy and GM Mayor's Challenge Fund with £2.8m already committed.	No
2.5	<p>Deliver.....Work with Greater Manchester Combined Authority, Transport for Greater Manchester and Government to implement the Greater Manchester Transport Strategy 2040 and deliver improvements to the city's Strategic Transport Infrastructure.</p>	City Policy; Highways	Funding for schemes will be identified at the appropriate	TBC

	<p>To achieve.....Strategic projects include: preparations for High Speed 2; delivery mechanism and funding for High Speed North; Metrolink expansion including Tram-Train options; Bus Reform including developing a business case to shift to an entirely electric fleet; and implemented an effective Clean Air Zone.</p> <p>By.....Ongoing</p>		stage.	
2.6	<p>Deliver.....A revised City Centre Transport Strategy with Transport for Greater Manchester and Salford City Council.</p> <p>To achieve..... Improvements to sustainable and active travel and prioritisation of pedestrians and cyclists.</p> <p>By.....2020</p>	City Policy; City Centre Regeneration	Funding in place	No
2.7	<p>Deliver.....Review and act on the findings of the Tyndall Centre for Climate Research to assess how emissions from Manchester Airport can be managed in line with the Paris Agreement. Work with Manchester Airport Group and other local authorities with airports within their boundaries to lobby government to accelerate the decarbonisation of air travel.</p> <p>To achieve.....A reduction in aviation emissions from Manchester Airport which is in line with the Paris Agreement and the findings of the Tyndall Centre for Climate Research.</p> <p>By.....Ongoing</p>	City Policy; Manchester Climate Change Agency	N/A	TBC
2.8	<p>Deliver.....Incentives and support for Council staff to commute to work more sustainably including salary sacrifice schemes for bus, rail and tram; cycle to work scheme; provision of cycling facilities.</p>	Human Resources Organisational	Funding in place.	No

	<p>To achieve.....Increase in the number of Council officers travelling to work by sustainable modes of transport.</p> <p>By.....Ongoing</p>	Development (HROD)		
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3. Reducing consumption based emissions and influencing suppliers

Introduction				
The Council and the city need to reduce consumption of goods and products which have the highest carbon footprint. This requires behaviour change and a shift in what we buy or procure and where it comes from.				
Commitment				
Reduce the consumption on Council premises of single use plastics and other goods which are unsustainable. Influence the city through procurement and commissioning and other levers including licensing.				
Council				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO ₂)
3.1	<p>Deliver.....Roll out the additional 10% social value weighting for the environment to take the total social value to 30%. Suppliers will be scored based on:</p> <ol style="list-style-type: none"> 1. The steps that they are already taking to reduce their carbon emissions and their future plans; 	Integrated Commissioning and Procurement	N/A	No

	<p>2. How they monitor their carbon emissions and how they plan to monitor them in the future including during the contract period.</p> <p>To achieve.....Influencing supplier behaviour and reducing carbon emissions from the Council's procurement and commissioning.</p> <p>By.....April 2020</p>			
3.2	<p>Deliver.....Act on the findings of the Tyndall Centre for Climate Change Research into the city's consumption emissions and use this intelligence to inform the specification of tenders for goods and services.</p> <p>To achieve.....A reduction in indirect emissions from the Council's procurement and commissioning activity including consideration of food; water, construction materials; furniture; and ICT equipment.</p> <p>By.....December 2020</p>	Integrated Commissioning and Procurement	N/A	TBC
3.3	<p>Deliver.....Ensure the Council's operational estate and markets are Single Use Plastic Free and that procurement and commissioning reduce their use alongside other packaging.</p> <p>To achieve.....A reduction in the use of Single Use Plastics.</p> <p>By.....Single Use Plastic Free by 2024 in line with the Plastic Free Greater Manchester Pledge</p>	Corporate Estates, Facilities and Neighbourhoods	N/A	No
City				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving

				(tCO ₂)
3.4	<p>Deliver.....Fund the development of a citywide supplier toolkit focussed on tackling climate change. Also work with Greater Manchester partners to develop a city region approach where possible.</p> <p>To achieve.....A shared approach to procurement and commissioning which can be used by stakeholders in the city and the city region to provide guidance and support for suppliers.</p> <p>By.....December 2020</p>	Policy, Performance and Reform	£15k of funding in place.	No
3.5	<p>Deliver.....Use other levers available to the Council to reduce the use of Single Use Plastics through licensing and events on Council owned land. Continue to roll out the use of sustainable events guides.</p> <p>To achieve.....A reduction in consumption based emissions across the city and promotion of more sustainable events.</p> <p>By.....Ongoing</p>	Neighbourhoods (Parks, Leisure and Events).	N/A	No
3.6	<p>Deliver.....Work with Manchester Health and Care Commissioning and FoodSync to deliver the priorities of the Manchester Food Board.</p> <p>To achieve.....The establishment of a more economically, socially and environmentally sustainable food system for Manchester.</p> <p>By.....Ongoing</p>	Manchester Health and Care Commissioning	Funding in place to support the Food Board.	TBC

4. Climate adaptation, carbon storage and carbon sequestration

Introduction				
<p>Adaptation to climate change requires changes to the way in which the city’s infrastructure is developed and how we manage issues such as flooding and extreme heat. Manchester has approximately 1.2 million trees and a tree coverage of over 20% which is one of the highest in Greater Manchester. In the last three years alone over 10,500 trees have been planted as well as nearly 3,000 hedge trees and 13 community orchards (bringing the total up to 48). The Manchester i-trees eco assessment undertaken in 2018 by Treeconomics found that Manchester’s existing tree coverage stores 124,330 tonnes of carbon, sequesters 4,980 tonnes of carbon every year and removes 84 tonnes of pollution. The financial benefits of trees are worth over £3million every year. Improving the quality and quantity of trees and hedgerows will increase the volume of carbon that can be stored and ultimately sequestered whilst also improving the environment and helping to reduce flooding.</p>				
Commitment				
<p>Ensure that the city’s infrastructure is resilient to climate change and that nature based solutions are used to combat issues such as flooding. Develop an intelligence led approach to tree and hedge planting, and nature based solutions will be developed to support the delivery of the Green and Blue Infrastructure Strategy. The quality and quantity of trees and hedges both on Council owned land and across the city will be informed by a Tree Opportunity Mapping assessment which will use the i-Trees Eco Assessment work to identify appropriate locations for additional tree planting to take place. It will link tree planting opportunities with locations that would benefit from increased climate change resilience. The assessment will suggest appropriate tree species and support funding bids to facilitate the delivery of both tree planting and ongoing maintenance.</p>				
Council				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO ₂)
4.1	DeliverThe Manchester Tree Action Plan	City Policy; Neighbourhoods	Funding via Council and partners	No but storage, sequestrati

	<p>To achieve.....A target of net 1,000 new trees, 1,000 new hedge trees and 4 community orchards a year on known schemes on public or partner land. Investigate opportunities for planting in parks, Council owned open spaces, highways and the grounds of buildings.</p> <p>By.....Ongoing</p>			on & air quality benefits
4.2	<p>Deliver.....Complete the Horizon 2020 Grow Green Project and the new 'sponge' park in West Gorton to and use the learning to inform green and blue infrastructure across the city.</p> <p>To achieve.....Encourage nature based solutions to be embedded in open spaces, highways schemes and new residential and commercial developments to improve resilience to flood risk.</p> <p>By.....Ongoing</p>	City Policy	Yes via Horizon 2020	No but adaptation benefits
City				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO₂)
4.3	<p>Deliver.....Fund and commission a Tree Opportunity Mapping assessment of tree planting opportunities within existing woodland (and particularly those affected by Ash Dieback), within parks, along streets and within gardens.</p> <p>To achieve.....This evidence will underpin work at a neighbourhood level by identifying local opportunities for planting and supporting funding bids. The mapping will include an assessment of which are the most appropriate species for carbon storage and sequestration.</p>	City Policy	Council funding identified	No

	By..... December 2020			
4.4	<p>Deliver.....Additional Council funding to support planting of more beacon trees, mature trees, street trees and hedgerows across the city to support delivery of 4.3.</p> <p>To achieve.....Maximising the Council's contribution to the City of Trees (https://www.cityoftrees.org.uk/) 3 million trees target as part of the Northern Forest. Exact number to be agreed.</p> <p>By.....Funding put in place during 2020/21</p>	City Policy	Funding from additional Capital Fund budget	No but storage, sequestration & air quality benefits

5. Influencing behaviour and being a catalyst for change

Introduction
Although the Council's direct CO ₂ emissions make up approximately 2% of the city's total emissions, the Council has a unique role within the city to lead by example and also influence the behaviour of a range of different cohorts. Influencing positive behaviour change in Manchester's residents, workers and visitors and also influencing behaviours, policies and investments at a city region and national level will support the climate change agenda.
Commitment
To use every opportunity to engage, empower and equip Council staff and elected members with the knowledge and skills to make a positive difference. Influence behaviour change across the city's residents, businesses, public sector organisations, voluntary and community sector and visitors. Develop clear positions to influence, lobby and work in partnership with Greater Manchester and UK Government to take more action to tackle the climate emergency.
Council

Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO ₂)
5.1	<p>Deliver.....Roll out carbon literacy training across the Council using a pyramid approach with universal introductory e-learning module (or equivalent for staff with ICT access), 1 day equivalent Our Climate, Our City on a targeted basis working with specific services, elected members and the most senior 300 managers in the Council. Utilise internal communications and the Intranet to share information and promote behaviour change and action.</p> <p>To achieve.....A fully informed workforce who are able to support embedding climate change action within the organisation and across the city.</p> <p>By.....Training programme rolled out throughout 2020. Become a Silver Carbon Literate Organisation in 2020 and Gold by 2025. E-learning module rolled out universally during 2020 with 1 day training on a targeted basis.</p>	Human Resources and Organisational Development	Funding for a 12 month full time trainer post agreed February 2020.	No
5.2	<p>Deliver.....Roll out the additional 10% social value weighting for the environment to take the total social value to 30%. Launch this and update the suppliers and commissioners toolkits.</p> <p>To achieve.....Influence the behaviours and activities of new and existing suppliers via the Council's procurement and commissioning activity.</p> <p>By.....April 2020</p>	Integrated Commissioning and Procurement	N/A	TBC
5.3	<p>Deliver.....Embedding zero carbon ambitions into all decision making including revenue and capital gateway decisions. Build addressing climate change into the grants to Voluntary and Community Sector organisations and cultural organisations.</p>	Finance, Governance and Scrutiny	N/A	No

	<p>To achieve.....Use the Council's decision making and financial instruments to influence change within the Council and across the city.</p> <p>By.....Ongoing</p>			
City, Greater Manchester and National				
Ref	Action	Owner	Project Cost or funding in place	Annual Carbon Saving (tCO₂)
5.4	<p>Deliver.....Work with Manchester Climate Change Agency and other partners to establish a citywide programme of community engagement activities. Include development of climate change actions in all 32 Ward Plans and use Neighbourhood Investment Funding and the Our Manchester Challenge Fund to support projects which will affect positive change. Continue to work with the Youth Council and schools to deliver follow up activity from the Youth Climate Summit events in 2019 and 2020. Work with the Age-Friendly Manchester Board to develop specific communications and case studies for over 50's.</p> <p>To achieve.....Support community groups and residents to engage in the climate change agenda and build their capacity to take positive local action. Ensure that this includes residents of all ages and ethnicity.</p> <p>By.....Ward Plans by April 2020. Other activities are ongoing.</p>	Neighbourhoods	Funding and capacity in place	No
5.5	<p>Deliver.....A citywide communications strategy and campaign to raise awareness, promote positive behaviour change and share examples of projects.</p>	Communications	Funding in place	No

	<p>To achieve.....Promote positive action and behaviour change across the city's residents, workers, businesses and visitors.</p> <p>By.....April 2020 and then a rolling programme.</p>			
5.6	<p>Deliver..... Continue to provide existing funding to the Manchester Climate Change Agency, underwrite the funding for a new Chief Executive and working with partners to secure additional funding.</p> <p>To achieve.....A Manchester Climate Change Agency which is fit for purpose to effectively champion and drive forward citywide climate change action.</p> <p>By.....December 2020</p>	City Policy	Funding in place	No
5.7	<p>Deliver.....A plan for engaging, supporting and influencing key Manchester stakeholders (including businesses) to reduce their carbon footprint and sign up to the zero carbon ambition. This will include anchor institutions such as health partners and universities, and strategic development partners. Use the Council's membership of the Oxford Road Corridor Partnership to fully implement and embed the learning from the Horizon 2020 Triangulum project and work up plans for a zero carbon corridor.</p> <p>To achieve.....Support the work of the Manchester Climate Change Partnership as the city's principal mechanism for engaging, mobilising and supporting organisations across the city. Influencing and supporting key stakeholders to reduce their carbon emissions and identifying Council actions that will unblock barriers to enable them to accelerate action.</p> <p>By.....December 2020</p>	City Policy	N/A	TBC
5.8	<p>Deliver.....A large scale event with the city's schools to support them to take action on climate change.</p>	Education, City Policy	Funding and	TBC

	<p>To achieve.....Additional knowledge and capacity across the city's schools to develop and implement their own bespoke climate change action plans and improvements to their buildings.</p> <p>By.....First event delivered by June 2020</p>		capacity in place	
5.9	<p>Deliver.....Use the Council's representatives and senior officers and elected members to influence the Greater Manchester Pension Fund; Greater Manchester Combined Authority; Greater Manchester Chamber of Commerce; Transport for Greater Manchester and the GM Transport Committee; Health and Social Care Partnership.</p> <p>To achieve.....Influence key Greater Manchester organisations to decarbonise and promote sustainable behaviour, investments and decision making to support delivery of the city's climate change ambitions.</p> <p>By.....Ongoing</p>	City Policy	N/A	TBC
5.10	<p>Deliver..... Develop a proposition to UK Government in relation to COP26 being held in Glasgow in November 2020. This will include working through partnerships with other authorities via the Council's membership of Core Cities UK, with other local authority areas with airports and through the Convention of the North.</p> <p>To achieve....Influence and work in partnership with government to ensure that Manchester (and other UK cities) can meet local climate change objectives and contribute to the UK's zero carbon commitment.</p> <p>By.....November 2020</p>	City Policy	N/A	No
5.11	<p>Deliver.....Work with Manchester Climate Change Agency to actively</p>	City Policy	Funding in	No

	<p>participate in international networks and projects to identify and develop best practice that can be used to accelerate action in Manchester. Including but not limited to:</p> <ul style="list-style-type: none"> ● Covenant of Mayors ● Eurocities ● URBACT Zero Carbon Cities (2020-22) ● C-Change <p>To achieve.....Learning from other cities who are delivering ambitious climate change programmes and use funding to build capacity within the Council and city. Share Manchester's learning to support other cities through programmes such as Zero Carbon Cities.</p> <p>By.....Ongoing</p>		place	
5.12	<p>Deliver.....A Green Skills Plan for the city to support the delivery of the Manchester Work and Skills Strategy and Our Manchester Industrial Strategy.</p> <p>To achieve..... A skills system which supports the city's ambition to be zero carbon by 2038 and maximises opportunities for residents and businesses.</p> <p>By.....Sub group of the Work and Skills Board will be established in April 2020 and plan drafted by September 2020</p>	Work and Skills with Work and Skills Board	N/A	No

Appendix 2: Summary of Climate Change Research and Insight

1. Overview

Manchester City Council's Communications Service commissioned insight among Manchester residents to understand the views of residents from across the city in relation to climate change. The research was delivered in two phases:

- **Phase 1**
A face-to-face on-street survey with over 1,000 Manchester residents to gauge their perceptions, awareness and understanding of climate change and explore their behaviours relating to climate change and establishing what Manchester City Council should prioritise in order to combat climate change and become a zero carbon city by 2038.
- **Phase 2**
A series of focus groups with Manchester residents recruited from the on-street survey to gain a greater depth of insight into topics covered in the survey, particularly around behaviours, as well as exploring ideas for the Council's campaign.

Strict quotas on age, gender, ethnicity and geographical area were implemented to match the population of the city as a whole. Through the research we have gathered a broad range of views to understand:

1. What residents know about climate change
2. What residents are currently doing to counteract climate change
3. What is stopping residents to do more or behave differently
4. How the Council and / or partners could encourage residents to do more
5. What activities/actions residents think the Council should prioritise in order to achieve the aim of being a carbon zero city by 2038.

2. Research results

A summary of key results from the climate research can be found below.

2.1 Effects of climate change

A question was asked, unprompted, on what people thought the effects of climate change are. Responses included:

- Extreme hot weather/global warming
- Extreme weather (eg storms)
- Rising sea levels, flooding
- Extreme cold weather
- Increased pollution
- Changes in plants/wildlife, increased wildfires

Subgroups aged between 55-64 and 65+ were more likely to say they do not believe in climate change (4% overall).

Across the board people felt that climate change would affect the UK more than

Manchester (City) or their local area.

Of those who believe in climate change, 75% said that the issue is very important to them (34%) or somewhat important (41%). 10% said it is unimportant to them.

2.2 Behaviours to reduce climate change

A list of behaviours and activities were shown to respondents who were asked to indicate whether they currently did these specifically to reduce the impact of climate change.

For any activities they were not currently doing, respondents were subsequently asked to state whether they would be willing to do this, or not, to reduce the impact of climate change.

- 73% avoiding use or using fewer carrier bags
- 34% avoiding or eating less red meat
- Manchester (city) residents least likely to grow own food or drive an electric/hybrid car
- 73% would use renewable or green energy at home (sustainable supplier)
- 72% would retrofit boiler/insulation/windows

Focus groups pointed out that this is as much about money/poverty as climate change. There was a discrepancy between homeowners and those who rent and what people are prepared to do and what they are able to do.

2.3 People were not prepared to do the following:

- Almost half were unwilling to grow food at home
- Minimise travel by air (38%)
- Campaign against climate change
- Avoid or eat less dairy/animal products

2.4 Barriers to behavioural change

In order to understand potential barriers to behaviour changes, respondents were asked what stopped them from doing more to reduce the impact of climate change. This question was unprompted and respondents could provide more than one response.

The most common response, provided by 37%, was that respondents did not know enough about what they can do or that they need more information. This was followed by three in ten (30%) respondents who felt as though they already do enough to reduce the impact of climate change.

Clear barriers were identified by some respondents, including changes being:

- Too expensive (24%)
- Too time consuming (20%)
- Too inconvenient (17%)
- 6% said poor public transport stopped them doing more

- 7% believed that they would not make a difference
- 2% that it is too late to reduce the impact of climate change
- 2% said they were not interested or did not want to make any changes

2.5 What should the Council prioritise?

People were asked which areas the Council should prioritise or focus on. They were asked to pick three options from a list.

- Improve public transport
6% said public transport is poor, 27% say if it was cheaper they could use it and 47% said supporting better public transport should be a Council priority. Focus group attendees also linked this to safety and suggested that they would walk/cycle/use the tram more if public safety was improved.
- Clean air initiatives, increase green spaces
- Increase awareness/provide information/advice and influence

2.6 What would incentivise behavioural change?

Given that a common barrier to doing more to combat climate change was the expense, it is perhaps unsurprising that financial incentives were popular when considering how to combat climate change.

A quarter (26%) said that financial incentives or money off their Council Tax would encourage them to do more, which was also a common topic of conversation amongst focus group participants.

A suggestion from the focus groups was to introduce a discount scheme for residents, whereby those who recycle correctly are rewarded with discounted Council Tax and those who do not recycle are conversely penalised.

Others suggested targeting businesses to be carbon neutral, reduce food waste (work with caterers) etc...

2.7 There is no one-size fits all answer

The research confirmed that there is now one size fits all answer. There was no consistency across age, gender, diversity or locality.

There were however some consistent trends:

- Young people aged between 16-34 were more willing to change behaviours
- There was also a female bias with regard to the willingness to change behaviours
- Older people are aware, but less willing to change behaviours
- Less awareness in North Manchester (9%), compared to South (17%) and Central (17%)
- Data shows broadly stronger awareness among white respondents as opposed to Black, Asian and minority ethnic (BAME) respondents

3. Next steps

The research and insight is being used to inform a citywide communications campaign which will be launched in spring 2020.

Appendix 3: Summary of Youth Climate Action Summit no 2

1.0 Event Summary

Nearly 350 pupils and teachers from schools across Manchester gathered for a special summit on 17th January 2020, to have their concerns heard, their voice listened to and develop new ideas for action on the issue of climate change. The Youth Climate Change Action Summit, held at the Manchester Central Convention Complex, was the second event of its kind to be held in the city. It gave pupils aged from 9 - 14 the chance to explore what they can do to help the city to meet its ambitious, science-based target to become zero-carbon by 2038 at the latest.

At the event three Manchester schools delivered presentations detailing their approach to tackling climate change. Young people expressed their views on how climate change should be tackled, explored its causes and challenged a panel of local civic leaders on the actions they are taking to ensure that the city meets its ambitious zero-carbon target. Pupils attended workshops hosted by experts in their field, exploring what steps they can take at home and in school to reduce the carbon impact of energy consumption, transport choices and food and goods consumption, and explored what steps they can take at home and in school to reduce their carbon emissions. All schools in the city were invited to send a group of pupils to represent them at the event.

The event was recorded by young people from Groundwork as part of the 'Young Reporters Project', enabling young people to gain new skills in journalism to help get their voices heard and showcase their filming from the day.

2.0 Background

The first Manchester Young People's Climate Change Action summit was held in July 2019, during the same week that Manchester City Council formally declared a 'climate emergency'.

The motion declared that climate change is a serious risk to Manchester's future and committed the council to embedding the issue as an integral part of its decision-making process - ensuring that all key decisions are taken with the city's target of becoming zero-carbon by 2038 at the latest in mind.

3.0 Introduction

Objectives for the event:

1. Outline what the city's commitments are on climate change and share progress to date.
2. Share good practice between Manchester schools.
3. Provide an opportunity for young people to meet organisations, policy makers and decision makers, in order to understand what is happening and give young people a platform to challenge and debate.
4. To listen to young people!

5. To provide information through themed workshops to help young people develop skills and take practical action in their homes, communities and schools.
6. To provide teachers and school staff an opportunity to network, learn from other schools and be inspired to take away ideas.

Young people's outcomes of the event:

1. What can I do - in my school, in my community and at a city level.
2. What do I need help with to enact change
3. Help young people to articulate what they feel is missing. Capture this, consider and respond - including through actions that need to be taken forward by other organisations, as part of the Manchester Climate Change Framework for 2020-38 and Action Plan for 2020-22.

Format of the event:

The aim was to make the event an interactive experience - to encourage active participation from delegates. The event was designed to inspire and enable our young people to get their voices heard and get ideas to take forward action at home, school and in their communities. The event was hosted by young people, with presentations from Manchester schools showcasing good practice and workshops delivered by experts in their field.

3.1 Attendee metrics and survey

Table 1: Attending schools by geography

Area	Total Schools from Area	Primary	Secondary	Total Area % of Attending Schools
North	11	7	4	22%
Central	14	8	6	29%
South	24	17	7	49%
Totals	49	32 (65%)	17 (35%)	

Feedback on the day: A graffiti wall was created in the foyer for young people to write down their feedback following the workshops.

Post event survey: Following the event a survey was sent to all schools to collect feedback to understand what worked well and what could be improved. The survey included 10 questions about the venue, the content of the event and open questions to capture likes / dislikes. The survey included a mixture of quantitative and qualitative questions.

3.2 Program and speakers

The Summit was organised by Manchester City Council - by a cross directorate group of staff from Youth Strategy, Education, Directorate Support and the Waste & Recycling Team with support from the Manchester Climate Change Agency.

Figure 1: Event programme

  			
<h2>Agenda</h2> <p>Manchester Central 17 January 2020</p> <p>The event will be completed by young people from the Manchester Youth Council.</p>		<h2>Workshops</h2> <p>All young people will attend two workshops</p>	
10.45am	Sign-in/Security	Food Real Food, Wythenshawe	Join the revolution – why you should grow your own food A workshop about respect for food. Food miles with a focus on an apple's journey – impact of globalisation, power of supermarkets, food map. Solutions: Grow your own – Intro to skills, consider alternative methods of growing – aquaponics, eat seasonal, demand local food, Practical – planting, teek cloning, natural science.
11–11.20am	Welcome and Energiser activity	Energy and Mobile Phones Manchester Museum	Find out more about the raw materials inside your phone, where they come from, how they are extracted, and their true costs. Use this insight to write your own short label for a museum specimen that will make the reader think twice before replacing their phone with the next model.
11.20–11.30am	Welcome from Councillor Rahman A snapshot of the council's achievements so far (animation)	Climate Change Manchester Environmental Education Network	Manchester Environmental Education Network is working with eco teams in Manchester to take social action on climate change. The aim of this session is for young people to learn about the issues, share their knowledge with others, then take action in their community.
11.30am–12noon	A school's approach to climate change Sharing good practice Three Schools: – Dean Trust, Ardwick – Loreto, Chorlton – Unity Community Primary, Cheetham	The Ignition Project Royal Horticultural Society, City of Trees and Groundwork	Plants and trees for health and wellbeing. A design workshop exploring the use of plants and trees to improve human health and wellbeing.
12noon–12.30pm	Lunch (In auditorium)	Reduce, Reuse, Recycle Biffa	Why recycling is important in terms of saving energy, conserving raw materials, and protecting the environment.
12.30–1.05pm	Workshop 1	Nature Lancashire Wildlife Trust and Action for Conservation	Nature and how to protect the environment. This workshop will get the students on their feet, defining conservation in relation to the environment and nature. It will challenge them to think about what they can do to protect the environment.
1.10–1.45pm	Workshop 2	Campaigns Keep MCR Tidy	We will be looking at the key ingredients for a great campaign and thinking about the use of visual images in campaign material. We will also try our hand at designing campaign material to promote the upcoming Great British Spring Clean.
1.50–2pm	Young leaders feedback (auditorium)	Food & Food Waste in the UK FareShare	This workshop is about how much food is wasted in the UK. We'll discuss what that means for the planet, and explain how FareShare turns food waste into a social solution.
2–2.25pm	Ask the Leaders – One minute to answer each question – Nominated responders	Carbon Literacy Project AMUJ	How to reduce the youth carbon footprint. Carbon footprints across the world and what you can do to reduce them.
2.25pm	Next steps	Transport Living Streets	Why changing the way we travel is important in tackling climate change. We will start with an activity looking at facts around emissions and transport. We will focus on everyday local journeys and consider the wider benefits of walking and cycling. We will ask young people to think about how they could travel more sustainably and how they could encourage more students to walk and cycle at their school.
2.30pm	Close		

Three schools (Dean Trust, Ardwick, Unity Community Primary School, Cheetham and Loreto High School, Chorlton) presented their schools approach to tackling climate change. This was the most popular segment of the event and received overwhelming positive feedback.

All delegates attended two workshops after lunch which were delivered by partners including Action for Conservation, Biffa, City of Trees, FareShare, Groundwork, The Ignition Project, the Journalism Club, Keep Manchester Tidy, Living Streets, Lancashire Wildlife Trust, Manchester Environmental Education Network, Manchester Metropolitan University, Manchester Museum, Real Food Wythenshawe and the Royal Horticultural Society (RHS).

This was followed by a Question and Answer session which included a panel of experts: Cllr Luthfur Rahman (Exec Member for Skills, Culture & Leisure), Cllr Angeliki Stogia (Exec Member for Environment, Highways and Planning), Cllr Garry Bridges (Exec Member for Children's Services), Amanda Corcoran (Director for Education), Matthew Roberts (Transport for Greater Manchester), Jonny Saddler (Manchester Climate Change Agency).

3.3 Location and venue

The event was held in the Exchange Hall at Manchester Central Complex, which is located in the city centre. The venue was easily accessible by public transport and had a car park on-site for those who travelled by car. Positive feedback was received from young people, school staff, workshop providers and MCC staff about the venue. The venue is purpose designed for conferences and suited the format of the event. The event began and ended in the auditorium. Workshops were delivered in the atrium spaces and small meeting rooms - which worked well.

Registration for the event took place in the entrance, the space became quite congested during the registration period and led to delays starting the event. This could have been eased by having two registration desks and providing a longer period of time for schools to register prior to the event starting. A disney style queuing system could have made the process more ordered.

3.4 Marketing, media and promotion

The event was promoted via the Schools Circular (to all of Manchester's 168 schools and education establishments) in December 2019 and again in January 2020. Schools were invited to request upto 5 tickets for young people aged 9-14. Tickets for the event were managed via Eventbrite. The aim was to allocate 300 tickets to schools - in total 356 were allocated. On the day 348 young people and school staff attended - a drop out rate of 2.25%.

Social Media engagement:

#McrClimateChange - 40 tweets were sent out during the event from a variety of groups, including schools, some of the organisations in attendance for workshops, and Manchester Youth Council

@mcrcclimateyb - The Manchester Climate Change Youth Board Twitter account (twitter.com/mcrcclimateyb) was active during the event, seeing the following response to messages:

Posts: 19
 Impressions: 20,500
 Retweets: 32
 Likes: 139
 Replies: 22
 Link Clicks: 12

The engagement rate was 1%. Essentially, there was some sort of engagement for every hundredth time someone saw a tweet about this event, which is in line with the Council's main Twitter account.

Media: A media alert was issued on Wednesday 15th January 2020. There was a good response from media outlets and radio / tv interviews were conducted on the day of the event.

BBC Radio Manchester (preview piece, including interview with Cllr Luthfur Rahman, plus on-the-day vox pop with pupils)
 Hits Radio / Global Radio (attended on the day, to record interviews with Cllr Rahman and pupils)
 BBC North West TV (a short piece ran on Saturday 18th January 2020 bulletins, including vox pop interviews with pupils from Dean Trust Ardwick)
 Manchester Evening News - News article on 27th January 2020.

Sponsorship: The organisations delivering the workshops waived any fees they may normally charge for the event.

3.5 Staffing

The venue provided a number of staff as part of the event package. This included security staff to undertake bag checks (venue requirement) and staff to guide young people to the event space. This support was valuable on the day. MCC staff (15) from across Neighbourhoods and Education provided support on the day to support stage management, marshalling, delivery of workshops and registration. 10 staff worked as 'Marshalls' during the event - providing support during ingress and egress. During registration the marshalls encouraged young people to capture their thoughts and feelings about the day ahead using tablets which created a word cloud on the screen in the auditorium. Staff then chaperoned the groups of children to their workshops and then back to the auditorium for the final session.

The registration staff remained at the venue entrance until the final delegates left. A 'quiet space' was made available in a room near the front foyer - teachers were made aware of this space in advance. The room was used by a couple of young people during the event. First Aiders were available from the venue staff and MCC staff present - nobody required first aid during the event.

4.0 Conclusion and recommendations

Feedback from the event has provided some useful learning to take forward and inform future events with young people.

Event Programme:

The majority of delegates thought that the event programme worked well and there was a good balance between listening and active engagement. Overwhelmingly, the most popular part of the event were the presentations from the three schools with over 80% of respondents rating this section as excellent. Young people also really enjoyed the opportunity to question leaders and many would have welcomed more time for this section. Over 87% of respondents thought the length of the event was about right.

Workshops:

The majority of feedback about the workshops was positive and this was an enjoyable section for young people. Young people described the workshops as '*inspiring*', '*fun*' and '*really good*'. Workshop providers fed back that some students

may have benefited from receiving some pre event learning to ensure key concepts were understood - particularly for those at key stage 2. Comments from both schools and workshop providers suggest that whilst there were benefits to bringing primary and secondary school children together, the workshops may have been more effective if split by age: Stage 2 (9-11) and Key Stage 3 (11-14).

Next Steps:

- Pilot the 'skills to save the planet' resource - 7 schools have indicated they are interested.
- Finalise the co-produced 'Environmental Wheel' resource with the Youth Council and pilot with young people.
- Establish a 'Youth Climate Action Network' to keep progressing efforts to support young people to get their voices heard and enable climate change action. This network will create opportunities for MCC Officers with youth / environmental objectives to network, share ideas and collaborate. A link will be made to a wider network of external organisations working in this sphere.
- Education to develop a system to capture schools environmental pledges and track progress.
- Create an award category for 'Young people tackling Climate Change' in the annual young people's Buzz Awards.
- Explore how schools can be better supported to reduce energy consumption from school buildings - this was a key theme which emerged from discussion at the event and from survey feedback.
- Overwhelmingly, feedback from young people and teaching staff showed that the element they enjoyed the most was the opportunity to network and learn from each other. Schools need to be empowered and encouraged to network more.
- Develop an action plan to take forward the recommendations from this report and for this to feed into the Zero Carbon Coordination Group.

Appendix 4: Summary of Policy and Funding Asks

The successful delivery of the Council's Climate Change Action Plan 2020-25 requires partnership working with Greater Manchester agencies and with UK Government. The Council also needs to influence the development of new policies and secure additional funding for infrastructure to support the city's zero carbon ambition.

A brief summary of these asks is provided below but the detailed proposals will be developed through Workstream 4 of the Zero Carbon Coordination Group.

1. Greater Manchester

Work with the Greater Manchester Combined Authority on the following areas:

- Decarbonisation of the public estate
- Decarbonisation of domestic and commercial buildings
- Develop a Local Energy Plan for Manchester via the Greater Manchester Local Energy Market project which is funded by UK Research and Innovation
- Developing joint funding bids to UK Government and other funding bodies
- Work together to lobby UK Government to provide a devolved fund for commercial and domestic retrofit programme
- Seek further devolution of powers from Whitehall to Greater Manchester to enable the city region to address the climate emergency
- Support the Greater Manchester submission to the Comprehensive Spending Review and ensure that zero carbon is central to the submission
- Continue to focus on brownfield development at the core of the conurbation
- Consistent approach to considering climate change in procurements

Work with Transport for Greater Manchester on the following areas:

- Further expansion of Electric Vehicle Charging Infrastructure
- Delivery of Bus Reform including a fully Electric or Hydrogen Bus Fleet
- Implementation of a Clean Air Zone
- Implementation of the new City Centre Transport Strategy
- Further expansion of Metrolink and 'tram-trains'
- Promotion of active travel through implementation of Beelines walking and cycling network

Work with the Greater Manchester Pension Fund to ensure that they:

- Fully divest from investments in fossil fuels
- Increase investment in local zero carbon schemes which benefit Manchester and the city region
- Adopt the Manchester and Greater Manchester zero carbon 2038 target

2. UK Government

As the host country for COP26 in November 2020, the UK now needs to become a global leader in tackling climate change and transitioning to a green economy. Government needs to set a much clearer national policy direction to deliver this level of change. This means Government driving changes to the energy we use to shift much more quickly away from fossil fuels and towards renewable energy sources, in particular rapidly increase the pace and scale of solar, onshore wind, offshore wind, electric and other non-gas boilers, electric vehicles, national planning and building standards, and a credible aviation reductions plan nationally and internationally.

The pace of change in Manchester could be significantly accelerated if we could work with Government to jointly develop and jointly invest in a green investment fund of significant scale, covering investments in energy, retrofit of domestic and commercial buildings, green infrastructure and biodiversity. Greater Manchester and Manchester have the expertise of successfully running housing and infrastructure investment pots to generate an ongoing return on investment for reinvestment, and the same principles could be applied here

In relation to the important role for Local Government on climate change improved national cooperation and leadership and planning is required on issues such as clean air and clean air zones. The right economic incentives are not in place to enable Combined Authorities and Local Authorities to effectively rapidly drive this agenda.

Government need to focus on developing national policies to accelerate progress towards zero carbon which support businesses and protect more vulnerable households. This should include removing subsidies for fossil fuels and shifting policy to favour renewable energy sources and de-risking the transition to zero carbon heating and energy.

Some examples of the support we will be requesting from UK Government include:

a) Funding and infrastructure

- A UK Shared Prosperity Fund which can support delivery of Manchester's zero carbon ambition
- Continued access to European Funding such as Horizon Europe after the end of the UK's transition period on 31 December 2020
- A new national infrastructure approach and programme for domestic and commercial retrofit which also delivers on green jobs
- Significant Government funding to kick-start a Greater Manchester / Manchester infrastructure investment fund in the actions identified in climate change action plans
- A significantly funded scrappage or vehicle retrofit funding scheme to support the implementation of the Greater Manchester Clean Air Zone
- Increased investment and support for research to accelerate the decarbonisation of the aviation industry
- An enhanced Clean Air Fund of £1.5 billion to support 60 local authorities including Manchester

- Lobby for further investment in new transport and cycling infrastructure.

b) Policies and standards

- A national plan with targets which will ensure that the UK meets its obligations under COP21
- A significantly funded incentivisation scheme to promote Solar PV investment across public, commercial and domestic buildings
- Consistency of government policy across all departments e.g. Department for Education funding and school building standards and tensions with Section 106 agreements and Community Infrastructure Levy
- To ask that the planned fundamental review of Business Rates addresses the current disincentives to investing in solar PVs and other carbon reducing measures which then increase the Rateable Value and hence Business Rates liability of the asset
- National planning policy to actively encourage onshore wind electricity generation rather than seek to restrict it
- A coherent policy which promotes renewable energy with financial incentives for domestic and commercial premises such as grants alongside free insulation and other energy efficiency measures
- National legislation on Single Use Plastics and other waste packaging
- New legislation to reduce consumption based emissions and embedded carbon
- Continue to lobby for local planning authorities such as Manchester to be able to set more ambitious energy efficiency standards for new buildings. This is in response to the Future Homes Standard consultation on Part L of the Building Regulations which proposes to “restrict local planning authorities from setting higher energy efficiency standards for dwellings”. Government should actively encourage cities and others to set their own more ambitious standards rather than seek to restrict this power.
- More powers for local government on selective licencing to include energy efficiency alongside funding to effectively enforce
- A national focus on Nature Based Solutions as a way of supporting climate adaptation and improving biodiversity, including significant funding to invest in natural infrastructure

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