

MANCHESTER CLIMATE CHANGE ANNUAL REPORT

2022



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Foreword

This Annual Report, produced by Manchester Climate Change Agency (MCCA, the Agency), sets out Manchester's progress against its climate change targets.

The message is clear. Manchester is not on track to meet our climate targets and obligations under the Paris Agreement and is predicted to see a rebound in emissions after the Covid-19 pandemic.

Manchester's emissions have reduced consistently since 2005, with average annual falls of around 2.7m tCO₂, driven by progress in decarbonising the power sector. There are also individual organisations within the Manchester Climate Change Partnership (MCCP, the Partnership) who are on track to achieve their zero carbon 2038 targets.

However, to achieve our city's climate goals and mitigate the impacts of climate change, further urgent action needs to be taken now and by everyone at a pace and scale not seen before. Meeting our climate targets is an enormous and urgent undertaking. But Manchester has always been a can-do city and by working together there is a huge amount we can achieve.

This Summer's heatwave and extreme weather globally, most recently the floods in Pakistan, has brought home the reality of the climate emergency. We also understand that after the real challenges of the Covid-19 pandemic and the current 'cost of living' crisis, it is essential that climate action supports measures to make our homes warmer, improve our health and wellbeing, and enable a 'just transition' that supports fairness as we move from a high carbon to a zero carbon economy.

To help shape climate action in the city, the Agency has recently produced the 2022 Update of the Manchester Climate Change Framework (2020-25). This sets out the scale of action needed to reduce emissions by 50%, recognising that progress in future will need to cover the whole economy.

The challenge before us is clear, but it is also clear that acting now is the right and responsible thing to do. Priorities for the city remain unchanged - the delivery of the Manchester Climate Change Framework and reaching the city's target of zero carbon by 2038 - to ensure our communities can thrive, our businesses can prosper, and we can continue to draw people and businesses to the city to share in our success.

I would like to thank all those involved in the preparation of this report, and the work of the Manchester Climate Change Agency and Partnership over the past year. There is a huge collective appetite across the city to act on Climate Change, and I am confident that working together we can meet the challenge.

Mike Wilton

Chair, MCCA CIC Board of Directors, Manchester Climate Change Partnership

Introduction

Since 2015, the Manchester Climate Change Agency has been publishing Manchester's Annual Climate Change Report, detailing the city's progress against its climate change targets and strategies.

This report includes:

- An update on the city's carbon budget using emissions data for 2020
- An update against the headline objectives set out in the Manchester Climate Change Framework 2020-25¹ and,
- An update on Agency progress against the priorities set out in the 2021 Annual Report²

There are references throughout this document to the 2022 Update of the Manchester Climate Change Framework (2020-25) This can be viewed [here](#).

¹ <https://www.manchesterclimate.com/framework-2020-25>

² <https://www.manchesterclimate.com/progress>

Part 1 Citywide Progress

This section of the annual report aims to provide a brief update of activity over the past year against the headline objective set out in the Framework 2020-25:

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

The Partnership and its Independent Advisory Groups have supported the development and provided content for this report, using the most up to date data available.

The Partnership and Agency believe this approach is important to ensure the city has an honest and transparent view of progress against its commitments. As a result, it will enable the city to celebrate and encourage more activity in the areas where good progress is being made, at the same time as focusing attention on areas where progress is not yet good enough and new interventions are required.

STAYING WITHIN OUR CARBON BUDGETS

OBJECTIVE FOR 2020-25:

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 CO₂ emissions.

This section has been produced in collaboration with the Manchester Climate Change Partnership Zero Carbon Independent Advisory Group:

Dr Ali Abbas,

Joint-coordinator, Manchester Friends of the Earth

Dr Joe Blakey,

Lecturer, University of Manchester

Prof Paul Hooper,

Head of Enterprise Development, Centre for Aviation, Transport and the Environment, Manchester Metropolitan University

Dr Christopher Jones,

Knowledge Exchange Fellow, Tyndall Centre for Climate Change Research at the University of Manchester

Matt Rooney,

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This section covers progress against our three sub-objectives for:

- Direct CO₂ emissions
- Consumption-based emissions
- Aviation emissions

Direct Emissions

This section contains a review and progress from the data for direct energy related emissions data (commonly referred to as scope 1 and 2 or territorial emissions). These are defined by the Tyndall Centre for Climate Change Research as carbon dioxide emissions from our energy system, i.e., the gas, electricity and liquid fuels used to power and heat our homes and businesses and to transport us around the city.

Manchester's overall emissions have reduced consistently over recent decades. Since 2005, the average annual fall has been around 2.7m tCO₂. This is despite the city's population growing by approximately 22% between 2005 and 2020.

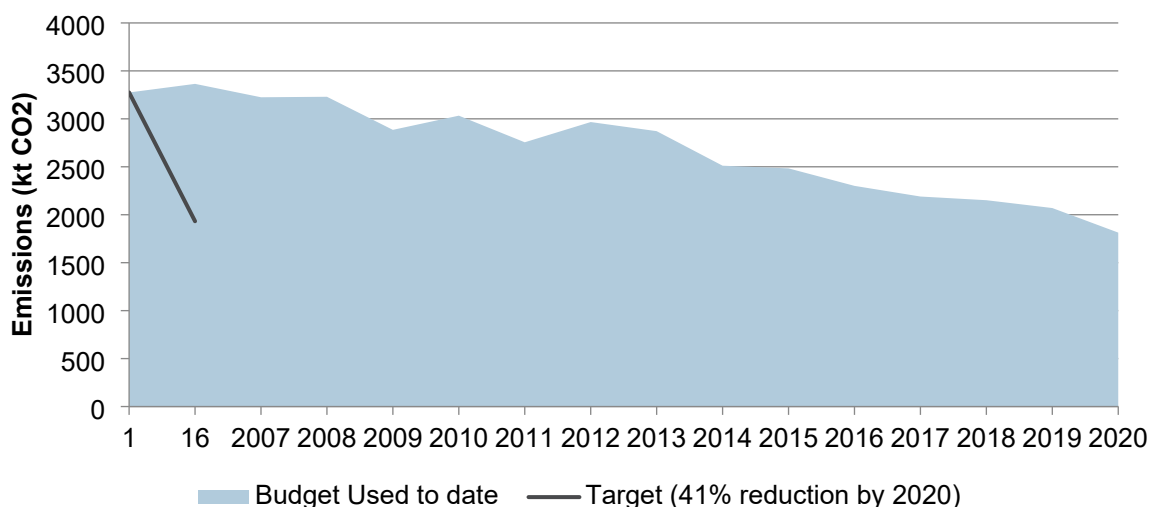
Data is collected at a national level by the Department for Business, Energy & Industrial Strategy (BEIS) and predictions for the city are made by the Tyndall Centre.

BEIS carbon emissions data is calculated each year for local authorities. There is always an 18-month lag in the publication of each year's data e.g. the most up to date in this report is 2020 (2021 verified BEIS data will not be published until June 2023).

2020 progress against our Carbon budget

Historic city commitments

Before setting a science based target, Manchester has had a long-standing commitment to reduce carbon emissions in the city. As predicted in the 2021 Annual Report³ - Manchester has met its very first commitment, to reduce scope 1 and 2 emissions by 41% against a 2005 baseline by 2020. Graph 1 below shows Manchester met its 2020 endpoint goal, with emissions in 2020 45% lower than in 2005, however the budget for the period was exceeded (by 1.4m tCO₂) due to higher than target emissions for many of the years prior to 2014.



Graph 1: Progress Against Manchester's 2005 to 2020 Target.

³ <https://www.manchesterclimate.com/progress>

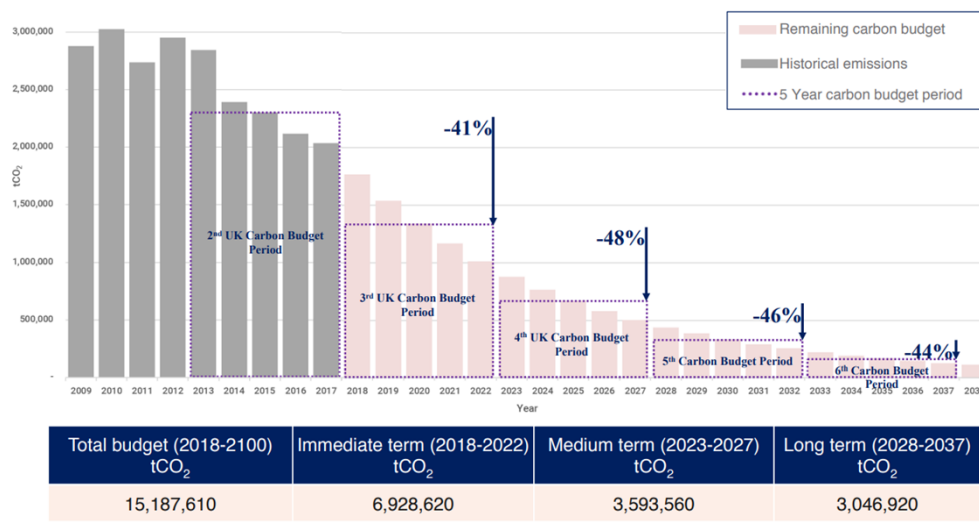
Science-based carbon budget

In 2018, Manchester used a science-based targets approach to set a zero carbon date of 2038 and a carbon budget for direct emissions of 15m tCO₂ for the period 2018-2100 for the city.

The definition of zero carbon used in the Framework is based on the Tyndall Centre's recommendation and is the point beyond which Manchester's average annual carbon emissions are 97% lower than 1990 levels⁴.

The budget is broken into five-year periods to reflect the nationally legislated Carbon Budget periods under the UK Climate Change Act (2008)⁵.

Graph 2 shows Manchester's original carbon budget and target reduction within 5-year periods. Reduction % estimates represent the average (mean) emissions of each 5-year Carbon Budget period compared against previous 5-year Carbon Budget period average. The first interim budget (2018-2022) is 6.9m tCO₂



Graph 2 Manchester's original carbon budget.

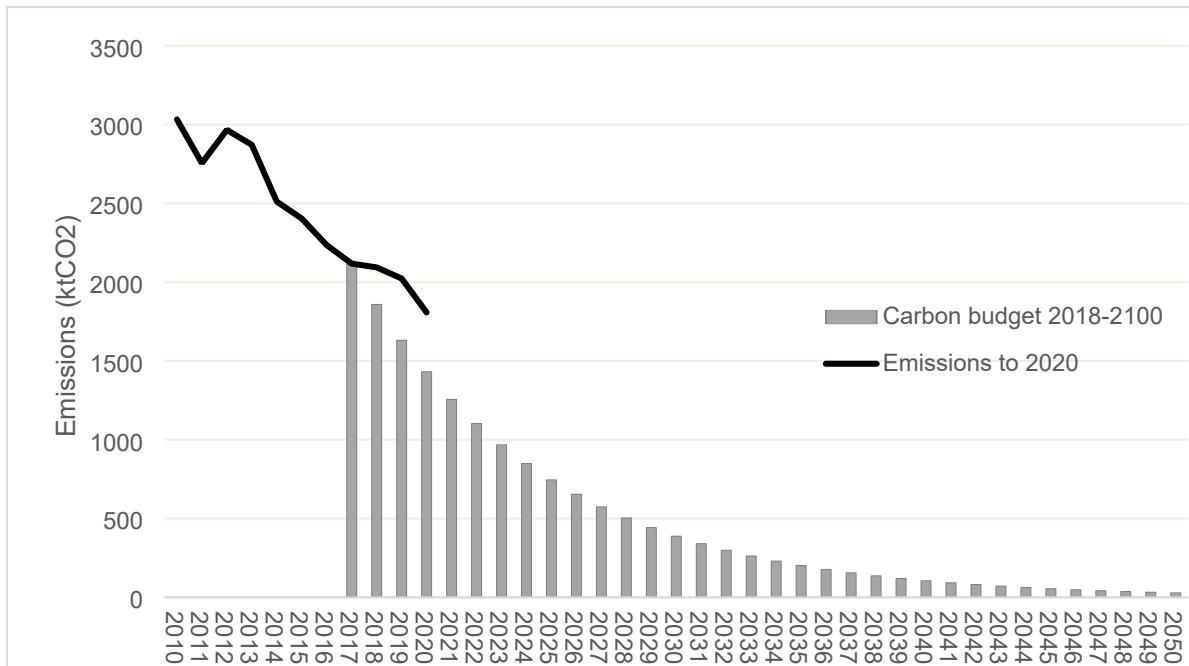
Manchester Climate Change Partnership, in recognition that urgent action was needed to reduce emissions rapidly, committed in the Framework 2020-2025 the city's first milestone - to **reduce emissions by at least 50% by 2020-25**. This target originally required a 13% annual carbon emissions reduction⁶.

Since the publication of the 2020-2025 Framework, BEIS have made adjustments to their data sets. This means the baseline and the budget has been updated to be more robust. The adjusted data has increased the historic emissions and the starting point. This now means in 2020 we estimate that emissions are 1.8m tCO₂ and not 1.3m tCO₂ as originally estimated.

⁴ https://www.manchesterclimate.com/sites/default/files/POFP%20Proposal%20to%20MCC%2016.10.2018_0.pdf

⁵ <https://www.theccc.org.uk/about/our-expertise/advice-on-reducing-the-uks-emissions/>

⁶ <https://www.manchesterclimate.com/targets-2020>



Graph 3: Manchester's actual emissions compared to Manchester's carbon budget

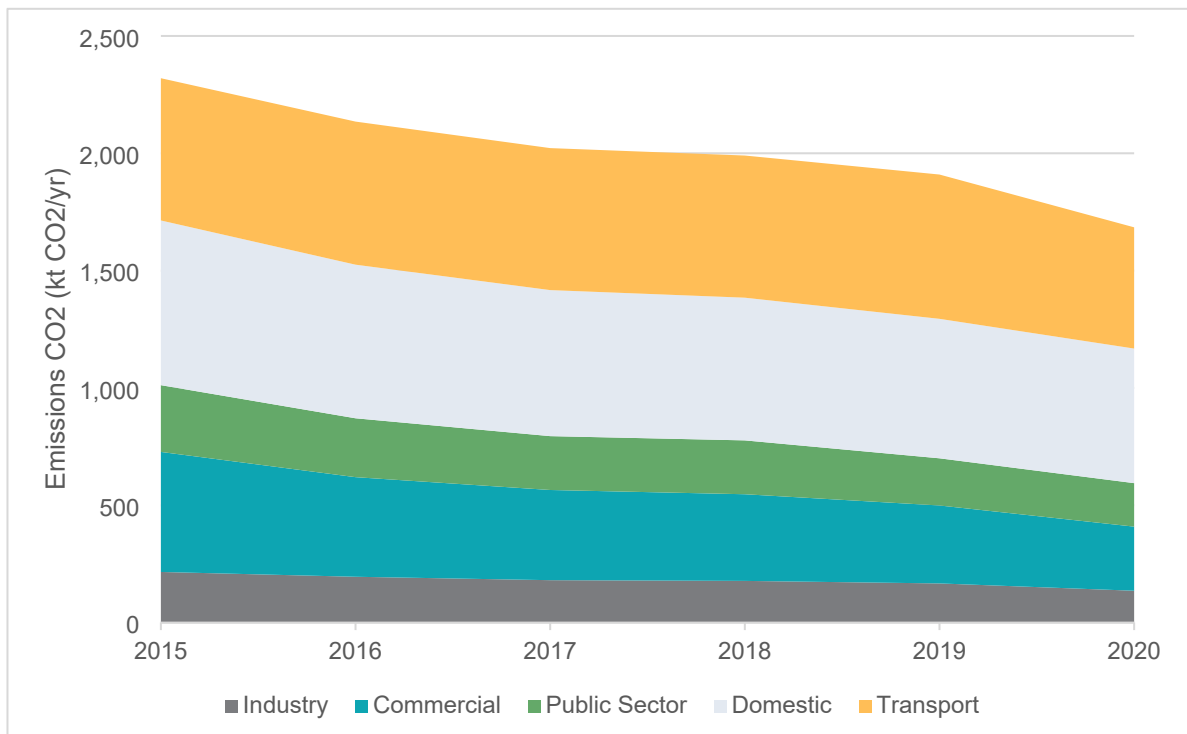
Graph 3 shows Manchester's carbon budget (vertical bars) and our actual emissions to 2020 (descending line). The gap between the line and the bars indicates we are not on track to hit our first milestone.

The table below looks at the annual progress from 2018 to 2020 in further detail.

Year	M tCO2	Annual Progress	Target Reduction per annum*	Explanation
2018	2.15	↓ 2%	13%	Primarily due to the decarbonisation of the national grid.
2019	2.07	↓ 4%	14.5%	Over 2018 and 2019, 58% of the 2018 to 2022 interim carbon budget has been used. Manchester's Climate Change Framework was published recommending urgent action for buildings, transport and renewable energy.
2020	1.81	↓ 12%	15%	Direct energy related emissions fell by 12% in 2020. This is the city's greatest annual reduction in recent years. Transport was the area seeing the greatest reduction in CO ₂ , but these changes are not long lasting as government travelling restrictions due to Covid-19 were temporary.
Cumulative total Emissions	6.03m tCO2 the total budget for the 5 year period and the first three years have used up 87 percent of the total Overall, we have reduced the city's emissions by 17% (2017 baseline of 2.19m tCO2)			

* these numbers represent what would need to happen to the 13% per annum target reduction in order to recover the slippage from the previous year or years as recorded in previous annual reports

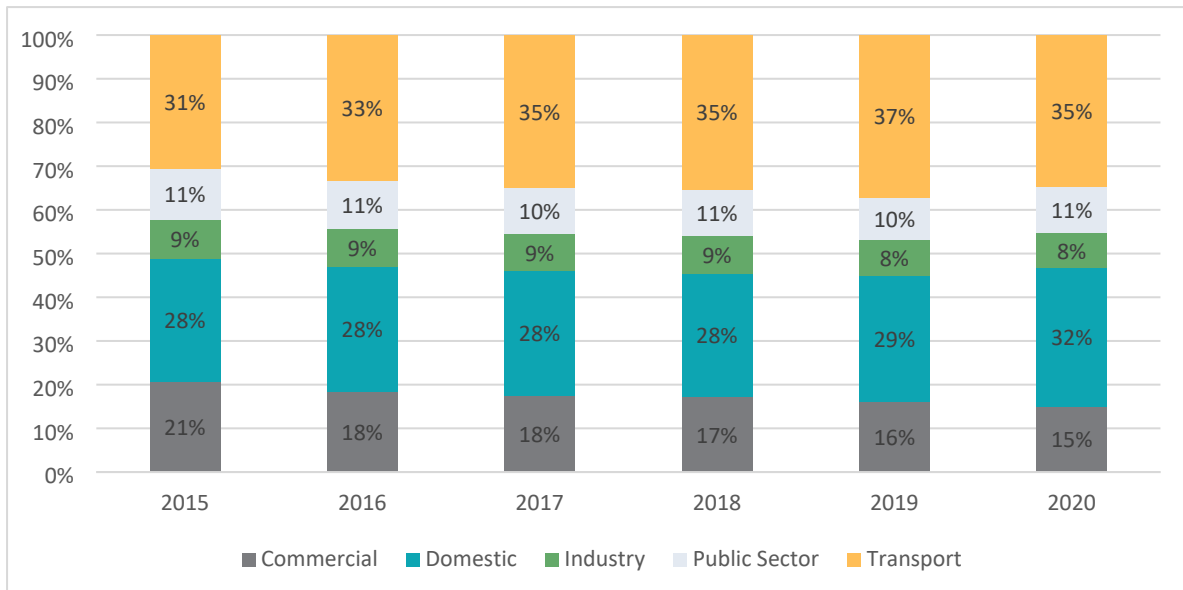
Emissions reduction progress so far has been dominated by the power sector. The CCC report⁷ outlines the scale of emissions reduction both nationally and locally in decarbonising the UK electricity supply. Nationally, emissions decreased by 65% over the period 2009-2019, while the carbon intensity of the grid fell from nearly 500g CO₂/kWh in 2009 to 200g CO₂/kWh in 2019. Generation from renewable sources grew at the largest rate ever – they now generate 29% of total electricity, up from 27% in 2019 (with the total low-carbon generation share now at 39%).



Graph 4: Manchester Direct Energy CO2 Emissions by Sector 2015 to 2020- the greatest reductions from decarbonising the grid

The scale of reduction in the electricity sector has not been matched by transport or buildings as can be seen in graph 4.

⁷ <https://www.theccc.org.uk/wp-content/uploads/2022/06/Progress-in-reducing-emissions-2022-Report-to-Parliament.pdf>



Graph 5: Percentage split of emissions in buildings (commercial, domestic, industry and public sector) and transport between 2015-2020

Buildings: Graph 5 shows the built environment (commercial, domestic, industry and public sector) is responsible for 65% of Manchester’s direct emissions in 2020, of which the majority (32%) came from homes. Burning oil and gas to provide heating and hot water in homes is the biggest source of buildings emissions in Manchester. Pre-pandemic data shows very little overall change in energy use in buildings - they account for over a third of Manchester’s emissions. Household and commercial natural gas use have been largely unchanged since 2015. Highlighting that these energy forms are an ongoing barrier to seeing greater overall reductions in energy CO₂ emissions.

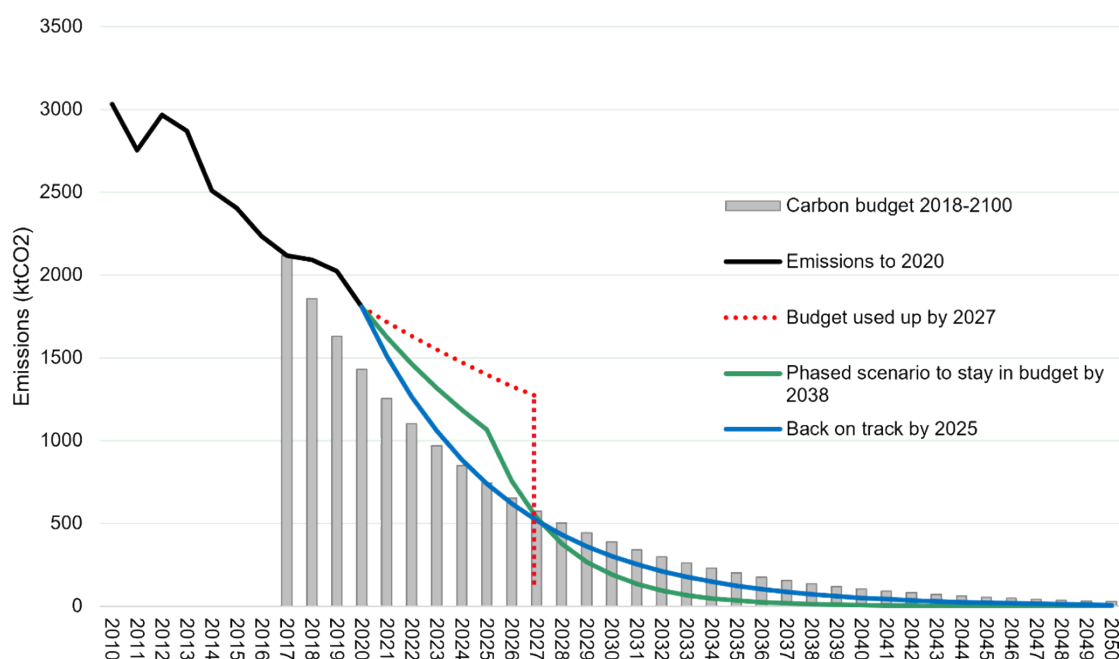
Transport: Graph 5 shows that transport makes up 35% of Manchester’s direct emissions in 2020, the majority from on-road vehicles: cars, buses, vans, and motorbikes, predominantly running on petrol and diesel. During the Covid-19 pandemic emission from travel by public transport decreased as more people were working from home. Graph 5 shows prior to the pandemic emissions from transport had started to increase slightly after being largely flat for the previous four years.

Scenarios for staying within our carbon budget

Manchester has not been reducing its direct emissions by the targeted 13% per year, so **we are not currently on track to stay within our carbon budget** and are at risk of missing our first milestone: to reduce the city's direct emissions by 50% by 2025.

Based on the 2020 BEIS data, the 2022 Update to the Manchester Climate Change Framework shows that the distribution of the carbon budget can be varied in a number of ways, although slower annual reduction rates must be compensated for by faster reduction rates in the future to keep within the budget. The 2022 Update to the Framework, sets out two scenarios for the city to remain within its carbon budget based on our annual emissions reduction up to 2020 (graph 6). Neither the Framework Update or this report is advocating for the city to adopt either trajectory, it is highlighting the risk to the carbon budget if we continue to decarbonise at our current average rate and illustrating that there are multiple ways for the city to remain within its carbon budget to 2038.

There is not preferred scenario identified, rather, it illustrates the urgency with which we need to act, and the scale of action needed to stay within our carbon budget between now and 2038. It also illustrates what happens to our carbon budget if we fail to take urgent action at scale.



Graph 6: Emissions reduction scenarios for Manchester to stay within its carbon budget

The smoothly descending **blue line** gets the city back on track to meet the 50% reduction target for direct emissions by 2025.

It requires immediate, large-scale action and investment to deliver a 16% per annum (pa) reduction in direct emissions every year until 2038.

The staggered **green line** ensures the city stays within its carbon budget to 2038 via a phased approach to emissions reductions.

It recognises the challenges associated with immediately and retroactively upscaling action to the high level required in the blue line scenario, and so identifies a first phase to 2025 that requires a 10% pa reduction in direct emissions - still a high expectation compared to pre-pandemic averages - to provide time for the city to intensify its efforts to develop the projects, financial investment and delivery systems needed in phase two. Phase two requires a much steeper reduction in direct emissions of 29% pa, every year to 2038.

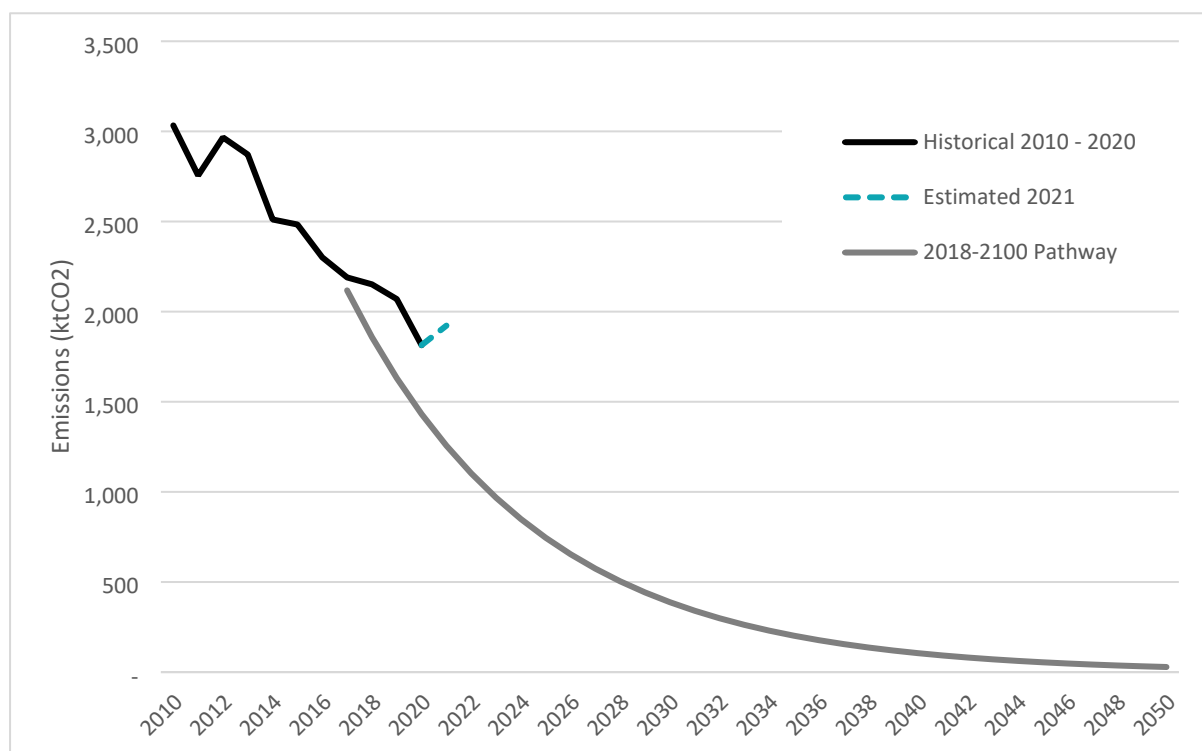
The dotted **red line** shows we will use up our carbon budget by 2027 if we continue to reduce our direct emissions at just above the average rate the city was achieving pre pandemic (5% pa).

2021 emissions forecast

The pandemic happened between 2020-2021 and resulting restrictions have caused sharp falls in economic activity, energy demand and emissions in 2020.

Manchester’s emissions and output will almost certainly increase in 2021 as lockdown restrictions were lifted. Due to the lag in nationally produced BEIS data, the Tyndall centre makes an annual prediction for the city. This estimates that emissions **will rise 6% in 2021 compared with those in 2020** as the economy begins to recover from the Covid-19 pandemic, but overall will remain lower than 2019.

This means that an average reduction rate of **21% per year** would now be required to stay within the budget based on an even distribution of the budget.



Graph 7: Manchester’s historic emissions and estimated emissions for 2021

Impact on 5 year budget 2018-2022

The total emissions from 2018 to 2020 plus the estimate for 2021 is 7.9m tCO₂ which means the city has already exceeded its first interim 5-year carbon budget (6.9m tCO₂) by 15% with one year remaining. As the 2021 data shows an uplift in emissions, it negatively affects the cumulative position. At the end of 2020 we saw a 17% overall decrease in emissions, we are now only projecting a 12% reduction over the 4 years. This means staying within our carbon budget to 2038 is at even further risk than set out in the 2022 Update.

Scale of action as set out in the 2022 Update

This calls for even more urgency to deliver the recommended actions set out in the 2022 Update to deliver the scale of action needed to reduce our direct emissions from buildings and transport by 50%, and the scale of increase in renewable energy generation needed to support this, using an evidence base provided by the Anthesis SCATTER model.

Buildings: There has been no sustained reduction in emissions from buildings in the last decade reflecting low levels of annual home energy efficiency improvements.

The 2022 Update to the Framework sets out the following priority areas

- We need to **retrofit existing buildings** – our homes, institutions, industrial and commercial premises – to make them more energy efficient; they need to be better insulated, rely less on gas for heating, and use more efficient appliances and equipment.
- We need to construct **new buildings** to high and rising standards of low carbon performance, covering operational and embodied energy, which ensures we do not add to the future cost of decarbonisation.

Transport: During the Covid-19 pandemic emissions from travel by public transport decreased as more people were working from home. The increased in travel patterns as lockdown restrictions eased are predicted to increase emissions compared to 2020⁸.

The 2022 Update to the Framework sets out the following priority areas:

- We need to **travel less** and **change the way we travel**, ensuring we chose the right mix of transport for each journey, prioritising active travel (walking / wheeling⁹ and cycling) and public transport, particularly for short trips.
- We also need to rapidly reduce our dependency on fossil fuels and **deploy electric vehicles** at scale for both public and private transport.
- The relative success of reducing emissions in the electricity sector to date has not been matched in transport, buildings, or industry. Only a few sectors have strong plans to adapt to the current and future climate, leaving key risks to Manchester's infrastructure and natural environment.

⁸ <https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics>

⁹ [Campaigning for inclusive cycling, Wheels for Wellbeing](#)

Renewable Energy: Reducing emissions from electricity generation and then using low-carbon electricity to power the economy is a central part of reaching Zero Carbon by 2038. Sector emissions have fallen rapidly over the last decade, and the Government has made a strong commitment to fully decarbonise the sector by 2035.

Manchester is largely dependant upon the national grids' decarbonisation, the CCC¹⁰ report:

- Electricity supply represents 11% of UK emissions. Sector emissions increased by 10% in 2021 but have fallen by over 75% since 1990.
- Electricity demand rose 2% in 2021 compared to 2020, largely driven by rebounding industrial demand following Covid-19 restrictions.
- Low carbon generation fell by 9% in 2021 compared to 2020, largely driven by low wind speeds and nuclear outages
- The increase in emissions in 2021 means there is a large gap to achieving the Government's Net Zero Strategy pathway.

Manchester generates only 1% of the UK's renewable energy. Large scale deployment of small scale solar is required to contribute towards the city's zero carbon targets.

The 2022 Update to the Framework sets out the following priority areas

- We need to see a **rapid shift away from fossil fuels to electricity** for heating, transport, and industry. To support this, we need to **increase renewable energy generation**, both locally and at national level.
- This needs to be coupled with a **step change in energy efficiency** across all sectors, and increased adoption of **smart grid** technologies and **local storage** to balance energy supply and demand for maximum efficiency.

Prepared in collaboration with by Dr Chris Jones (University of Manchester)

¹⁰ <https://www.theccc.org.uk/wp-content/uploads/2022/06/Progress-in-reducing-emissions-2022-Report-to-Parliament.pdf>

Consumption-Based Emissions

Our consumption-based emissions are sometimes called indirect emissions. They occur from the services we use and the goods that we buy and ultimately dispose of.

They are significant as they can be 60% greater¹¹ than our direct emissions but are more difficult to assess accurately, particularly at city-scale, and so target-setting and granular monitoring is not yet possible.

The Manchester Climate Change Framework 2020-25 committed to better understanding the broader climate change impact of the city's consumption of goods and services and to take action to develop more sustainable consumption practices for the city's residents and organisations.

Since publication of the Framework, MCCA and the members of the Zero Carbon Advisory Group have collaborated with city partners on research and initiatives, all of which are summarised in the 2022 Update and have fed into the recommended actions. The key areas the 2022 Update identified to achieve zero carbon are:

- We need to **half the city's consumption-based emissions by 2030**, before halving once again by 2036.
- We need to **produce goods and services more sustainably**, moving to a circular economy, alongside becoming more **sustainable consumers**.
- We need to **reduce waste** production, including unnecessary **food waste**, and manage unavoidable waste as sustainably as possible, maximising reuse and recycling.

2022 Progress

The Update to the Framework and last year's Annual Report both set out an estimated consumption-based emissions footprint for the city. The data for this has been updated and shows a slight increase in emissions (3.14 – 3.24m t CO₂e), as data improves we assume the city's footprint will continue to grow. The impact of Covid-19 is as yet unknown however there is a study in Italy¹² that has shown consumption-based emissions fell by around 20% during lockdown, but more work needs to be done to understand the impact on UK cities.

During 2022 we are collaborating with the Place-Based Climate Action Network (PCAN) to support a project entitled 'Enabling place-based climate action to address consumption-based emissions'. The outcome of this project will be a more localised breakdown of the UK's consumption-based emissions account reported annually by the UK Government department DEFRA for the period 2001-2019 (the latest year for data). This will give us an overview of the major areas of consumption including energy, public and private transport, food, consumables and services. It will also allow us to compare average consumption accounts by household income decile specific to the North West region.

¹¹[2270_C40_CBE_MainReport_250719.original.pdf](#)

¹²<https://doi.org/10.1016%2Fj.scitotenv.2020.139806>

2021 Actions	2022 Progress
The Consumption-Based Emissions Sub-Group, will work to expand our understanding of Manchester’s consumption-based emissions, enabling the city to better monitor and manage them.	An update contained within the 2022 Annual Report and 2022 Update to the Framework.
We will continue to work towards tackling these hotspots, whilst also improving our understanding of Manchester’s overall consumption-based footprint and working to track changes year-on-year	<p>Dr Josephine Mylan and Usman Aziz published the second part of their ‘deep dive’ study on the role of food in CBE and made a series of recommendations for actions on food -related emissions in the Covid-19 recovery¹³.</p> <p>More detail and recommended actions are set out in the 2022 Update of the Framework (2020-25).</p>

Produced in collaboration with the Manchester Zero Carbon Advisory Group – Consumption-Based Emissions Sub-group:

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Usman Aziz,
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¹³ <https://www.manchesterclimate.com/content/incorporating-food-manchester%E2%80%99s-climate-change-response>

Aviation Emissions

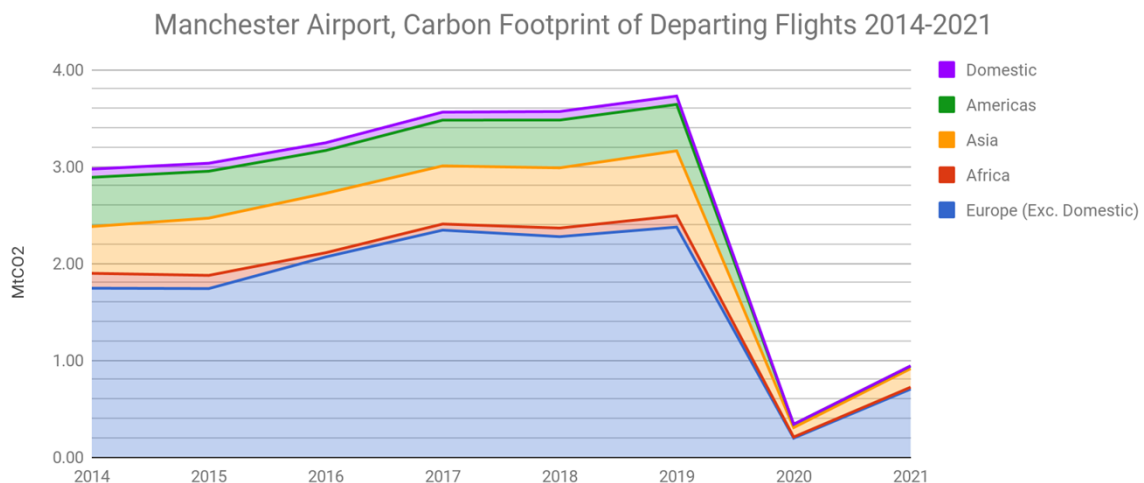
Our aviation emissions can be defined as the CO₂ emissions from flights taken by Manchester residents and organisations, from Manchester and other UK airports.

2022 Progress

The Covid-19 pandemic had an unprecedented impact on many sectors of the economy, and the aviation industry was no exception.

Restrictions on non-essential travel saw passenger numbers at Manchester Airport fall by 94% to 1.8 million in 2020. In 2021, passenger numbers climbed to 4.8 million, still well below the pre-pandemic level of 29.3 million in 2019.

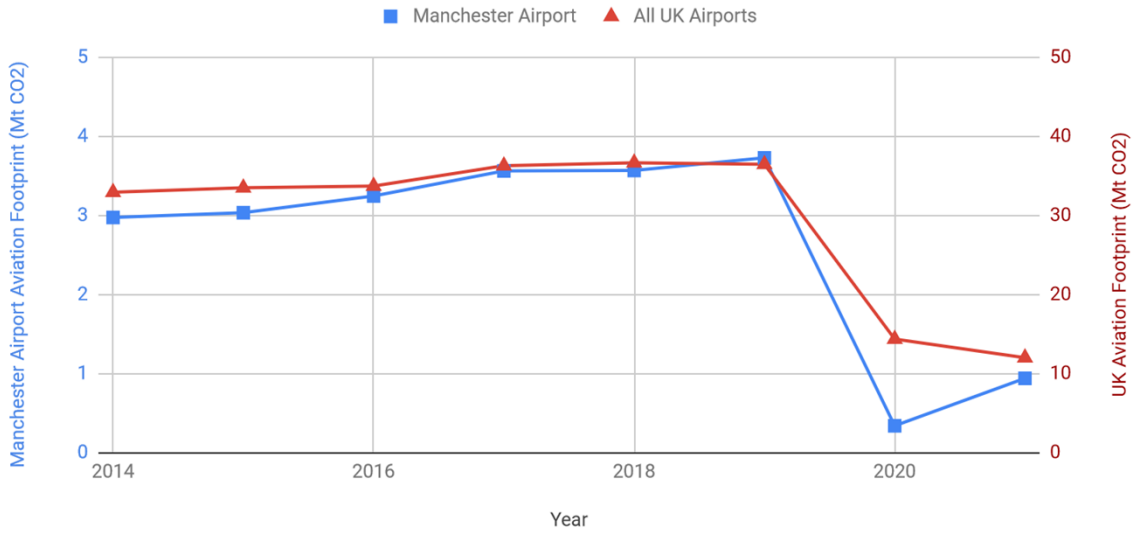
As a result, we estimate that emissions from flights from Manchester Airport increased by 180% from 0.34m tCO₂ in 2020 to 0.94m tCO₂ in 2021.



Graph 8: Carbon footprint of departing flights from Manchester Airport (2014-2021)

In comparison, UK aviation emissions are projected to have fallen by 16% from 14.3m tCO₂ in 2020 to 12m tCO₂ in 2021.

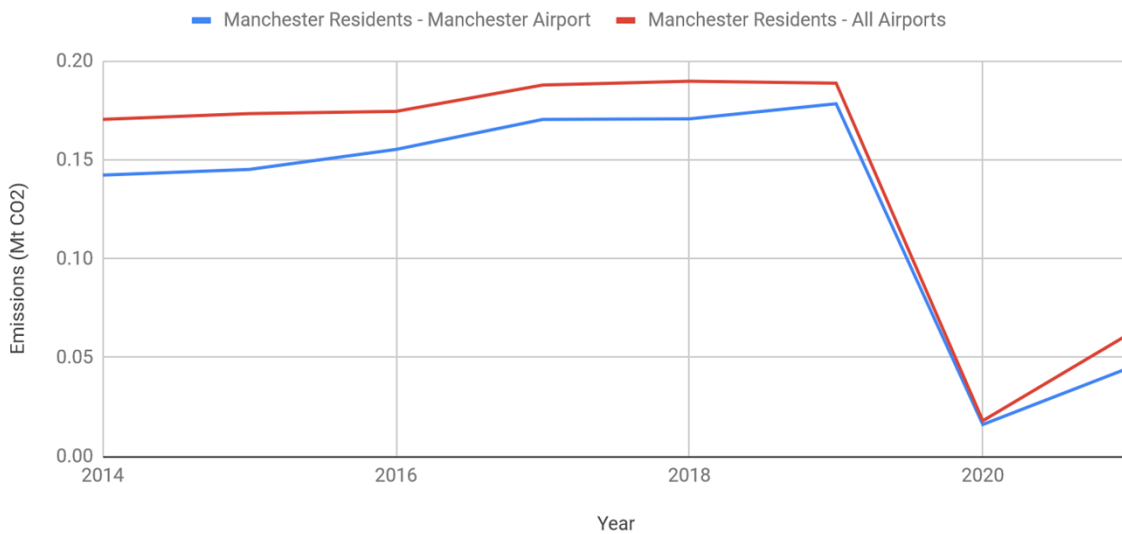
UK Aviation Footprint, Manchester Airport Aviation Footprint



Graph 9: UK Aviation footprint compared to Manchester Airport aviation footprint.

Emissions from flights taken by Manchester residents from all UK airports also grew, increasing by 240% from 0.018m tCO₂ in 2020 to 0.062m tCO₂ in 2021.

Emissions from Manchester Citizen Flights



Graph 10: Emissions from Manchester citizen flights

It is still unclear how quickly, if at all, aviation will return to pre-pandemic levels, with high fuel costs and staff shortages acting as a constraint on growth.

Manchester recognises 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.

2021 Action**2022 Progress**

The aviation sub-group will continue to monitor aviation emissions, and work with the Partnership to help members play their part in keeping to a pathway aligned with the Tyndall carbon budget and the recommendations of the Climate Change Committee.

The 2022 Update to the Framework, presents a new agreement reached by members of Manchester's Climate Change Partnership (MCCP), with support from its Zero Carbon Advisory Group, which notes the importance of tackling aviation emissions through national policy to avoid displacement of emissions from one UK airport to another, and of international industrial collaboration to deliver the technologies and processes needed for zero emission flights.

Produced in collaboration with the Manchester Zero Carbon Advisory Group – Aviation Sub-group:

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Joint Coordinator, Manchester Friends of the Earth

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Dr Christopher Pailing,

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ADAPTATION & RESILIENCE

HEADLINE OBJECTIVE 2020-25:

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

This section has been produced in collaboration with the Manchester Climate Change Partnership Adaptation and Resilience Independent Advisory Group (ARAG):

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Climate Resilience Lead, The Environment Agency

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Dr Paul O'Hare,
Senior Lecturer, Manchester Metropolitan University

Climate change creates risks for our communities, buildings, critical infrastructure, wider economy, and natural environment; yet we do not fully understand the impacts we face at local level and so cannot plan and prioritise effective action. Adaptation needs to play an increasing role as we work to stay within our carbon budget.

In order to adapt

We need to **understand our exposure to climate change risk** and make detailed plans that support all our residents, all parts of our city, its economy and natural environment to adapt.

This includes prioritising action to ensure our **critical infrastructure is resilient** to climate change and ensuring our most **vulnerable communities are protected**.

We need to ensure all the investments we make are resilient to climate change and we need to develop innovative models to **unlock new private investment** for adaptation.

2022 Progress

2021 Actions	2022 Progress
<p>Refine the emerging vision for realising greater climate resilience and adaptation. This will include the development of a series of objectives for resilience, and associated actions for strategic stakeholders, business, and communities.</p>	<p>ARAG have led the development of Manchester Climate Ready: risk, resilience, and adaptation¹⁴. This provides a vision for a climate resilient Manchester and identifies seven principles to catalyse coherent action. The work has been integrated as part of the 2022 Update to the Framework.</p>
<p>Support research and planning that assesses climate risk and develops associated adaptation and resilience responses.</p>	<p>Updates on the research and planning have been included in the 2022 Update to the Framework. Work is underway with:</p> <ul style="list-style-type: none"> - The Met Office on a City Pack¹⁵ to provide climate projections and highlight the importance of addressing climate risk. And a heat mapping tool to give the city a better understanding of its exposure and vulnerability to heat over time. - The University of Exeter on a Local Climate Adaptation Tool¹⁶ (LCAT) that is intended to recommend adaptation action that will support

¹⁴ <https://www.manchesterclimateready.com/what-is-adaptation-and-resilience>

¹⁵ https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/spf/manchester-city-pack_august-2022.pdf

¹⁶ <https://thentrythis.org/projects/climate-and-health-tool/>

	improvements in health and wellbeing.
Include adaptation and resilience in the engagement, education and support activities delivered by Manchester Climate Change Agency, and across the wider Partnership. This will include giving specific attention to climate resilience and adaptation in the Framework Update and associated consultations.	Manchester Climate Ready website ¹⁷ has been published to share information and best practice examples for adaptation and resilience collated from members of the MCCP and wider partners across Manchester.
Continue to deliver the ‘Green Infrastructure and Nature-based Solutions’ action in the Climate Change Framework. Support will also be given to the refresh of the citywide Green & Blue Infrastructure Strategy currently underway.	The Advisory Group supported the refresh of Manchester’s Green and Blue Infrastructure Strategy Implementation Plan 2021-25 ¹⁸ and strong links are drawn to the 2022 Update of the Framework. Continued support has also been given to the GrowGreen ¹⁹ and IGNITION ²⁰ projects.
Provide constructive support and input to the refresh of the Manchester Local Plan which will provide an opportunity to update the statutory planning framework for the city to ensure it is supportive of efforts to increase the pace of adaptation and aspiration to build a more resilient city. Issues for consideration will include, the approach to flood risk, dealing with heat stress in new buildings and delivering sustainable drainage systems.	Work is ongoing as the MCC Local Plan is developing and early conversations have been had to give planning teams an overview of adaptation and resilience.

¹⁷ <https://www.manchesterclimateready.com>

¹⁸ https://www.manchester.gov.uk/downloads/download/7456/2022_green_and_blue_infrastructure_refresh

¹⁹ <https://growgreenproject.eu/>

²⁰ <https://gmgreencity.com/projects-and-campaigns/ignition/>

HEALTH & WELLBEING

HEADLINE OBJECTIVE 2020-25:

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.

This section has been produced in collaboration with the Manchester Climate Change Partnership Health and Wellbeing Independent Advisory Group

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The Climate Change Framework states that the actions we need to take to reduce our CO₂ emissions and adapt the city to climate change also have the potential to improve the health and wellbeing of Manchester's residents. Equally, actions that improve our health and wellbeing can also help to tackle the climate crisis.

The Framework calls for new strategic initiatives to accelerate action and remove barriers that are limiting further action, and notes they need to be focused on the people and communities where climate action has most potential to improve health and wellbeing.

The UK's Climate Change Committee (CCC) echoes this in its 2020 report Sustainable Health Equity: Achieving Net Zero UK²¹ which gives evidence to show that climate change will lead to more unpredictable systemic shocks that will impact population health.

The effects of climate change on health and wellbeing will be cumulative, becoming more severe and unpredictable over time if left unaddressed, and they will commonly impact our most vulnerable communities first and worst. Impacts will be both direct and indirect.

Direct impacts are created by our changing climate increasing exposure to heat and cold, UV radiation, air pollution, pollen, emerging infections, and extreme weather events such as flooding and its associated water-borne diseases.

- Poor air quality kills 28,000 to 36,000 people in the UK each year²².
- Heatwaves cause an average 8% increase in emergency hospital admissions on the top 5% of hottest days in the UK. For every 1°C increase in temperature over 20°C, ambulance callouts for the NHS increase by 1%²³.
- Whilst flood water poses a relatively small risk of drowning, people who are unable to relocate after a flood are at risk of ill health from living in damp homes and the experience of flooding can also generate severe mental health impacts that may outlast the immediate impacts of the flood itself.

Indirect impacts of climate change on population health and health inequalities are much more complex and systemic but are increasingly being recognised in global reports²⁴ and include: under-nutrition related to food insecurity, increases in the price of food, water and domestic energy, and increased poverty, unemployment and anxiety; respiratory illnesses from cold damp homes and rising levels of obesity due to lack of physical activity and provision of good quality green space or active transport infrastructure.

2022 Progress

This year we have formed the new MCCP Health and Wellbeing Advisory Group and Manchester's Marmot Taskforce to better understand the link between health inequalities and climate change, including creation of a tailored action plan, and the

²¹ <https://www.instituteofhealthequity.org/resources-reports/sustainable-health-equity-achieving-a-net-zero-uk/main-report.pdf>

²² <https://airqualitynews.com/2018/08/22/comeap-updates-estimates-on-uk-air-pollution-deaths/>

²³ <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/climaterelatedmortalityandhospitaladmissionsenglandandwales/2001to2020/previous/v1>

²⁴ [https://doi.org/10.1016/s0140-6736\(17\)32464-9](https://doi.org/10.1016/s0140-6736(17)32464-9)

need for indicators to track climate and health. The work of these two groups is summarised below:

2021 Actions	2022 Update
<p>In summary, these are:</p> <ul style="list-style-type: none">- Support a just energy transition that minimises air pollution from all sources;- Design and retrofit homes to be energy efficient, climate resilient and healthy;- Build a sustainable, resilient and healthy food system; and- Develop a transport system that promotes active travel and road safety which minimises pollution; <p>The UK Health Expert Advisory Group also advocated a move towards a sustainable economic model that values health & wellbeing.</p> <p>All of these actions form part of the Partnership’s priorities for activity in 2021/22.</p> <p>As well as considering the suitability of those ‘beacon indicators’ (Marmot BBF) the Partnership’s intention is to adopt the recommendation of the UK Health Expert Advisory Group that health equity impact assessments be carried out on a sector-by-sector basis for the City’s carbon budget that includes both mitigation and adaptation. In that way, it is intended that Health & Wellbeing becomes a cross-cutting theme with a requirement that all sectors reflect on their impact.</p>	<p>Manchester’s Marmot Health Inequalities Task Group:</p> <p>The Greater Manchester Health and Social Care Partnership commissioned the Institute of Health Equity to deliver: ‘Build Back Fairer in Greater Manchester: Health Equity and Dignified Lives’²⁵, which was published in June 2021.</p> <p>Health and Wellbeing Advisory Group:</p> <p>The Group has fed into the 2022 Update, and the Manchester Marmot Health Inequalities Task Group, and agreed to focus its efforts on developing a set of indicators to track the impact of climate change on health inequalities in Manchester, bringing together existing metrics to add new insights wherever possible.</p>

²⁵ <https://www.instituteofhealthequity.org/about-our-work/latest-updates-from-the-institute/greater-manchester-a-marmot-city-region>

INCLUSIVE, ZERO CARBON AND CLIMATE RESILIENT ECONOMY

HEADLINE OBJECTIVE 2020-25:

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.

Meeting our goals on climate action can also help Manchester to establish a more inclusive economy where everyone can benefit from playing an active role in decarbonising and adapting the city to the changing climate.

As there were no actions set out in the 2021 Annual Report we have provided an overview of activity underway to build demand for, and increase supply of, green skills into make sure that local businesses and residents can make the most of the new opportunities that the shift to a zero carbon city offers.

2022 Progress

Green skills

Manchester's new Work and Skills Strategy recognises the skills gaps in the low carbon sector and the challenges this presents to achieving our climate change goals. It also notes the opportunities presented for the local workforce, including through upskilling/reskilling. Work has begun on a green skills plan to support businesses and residents with a focus on the skills needed for retrofitting buildings and low carbon transport.

Greater Manchester's Green Economy report explores this further and identifies the biggest opportunities lie where green technologies are approaching mass-adoption stage, such as electric vehicles, low carbon heating, and renewable energy; noting this will bring changes to the volume, make-up, and skill levels of hundreds of different occupations, especially in construction, manufacturing, and logistics.

Across the North West, businesses and universities are collaborating to develop the UK's first regional skills plan to support both younger generations and those already in work into new, green jobs as they emerge, ensuring business and industry have access to the talent they need to successfully transition to a net zero economy.

Green economy

In Greater Manchester the low carbon and environmental goods and services sector includes over 3,100 companies with over 58,000 employees and sales of over £8.6bn. It grew by over 27% (by sales) in the five years between 2015/16 and 2019/20 and represents over 14% of Greater Manchester's business base (by GVA) and over 3% of total employment. This is larger than the Advanced Manufacturing, Digital, Creative, and Science, Research and Development sectors combined and outperforms a host of global cities including Milan, Portland, Copenhagen, Seattle, Stockholm, and Berlin.

The Local Government Association has estimated that by 2030 the UK will need over 690,000 jobs directly in the low carbon and renewable energy economy, with this figure rising to over 1.1m by 2050. Their interactive report: Local green jobs –

accelerating a sustainable economic recovery²⁶ enables analysis of these figures at local authority level with sectoral breakdown.

Bee Net Zero

Business support organisations across the city region have taken a collaborative approach to make Greater Manchester the easiest place in the UK for every business to become a green business.

Bee Net Zero²⁷ provides support and guidance to help organisations make the transition to zero carbon, including setting out ten key steps to achieving net zero, simple actions that can be taken immediately to reduce carbon footprints, and help to find more targeted business support and funding.

The partnership includes the Greater Manchester Local Enterprise Partnership, Combined Authority, and Chamber of Commerce, The Growth Company, Business in the Community, Pro Manchester, Transport for Greater Manchester, Electricity North West, the national SME Climate Hub, and Manchester Climate Change Agency.

Latest business growth hub data for 2018-2022 shows that

- 93 SMEs across the city are receiving support to improve resource and energy efficiency.
- 31 SMEs had a grant approved, 27 of which have been received with a grant value of £138k
- Across the city's SMEs, 5,100tCO₂e carbon savings have been made resulting in sales increases of £1.4m and cost savings amounting to £394k
- 24 businesses across the city have been supported primarily through Journey To Net Zero²⁸

City Business Climate Alliance

The Agency and Partnership are working with CDP, C40 Cities, and the World Business Council on Sustainable Development on the City-Business Climate Alliance (CBCA) initiative²⁹.

Manchester is one of eight cohort cities alongside Dallas, Durban, Lisbon, New York, Stockholm, Tel Aviv and Vancouver; and MCCA is helping to draw expertise and insight from across this partnership to support production of this Update and MCCP's activities around net zero new buildings, commercial retrofit, and setting/reporting on science-based targets.

²⁶ <https://www.local.gov.uk/local-green-jobs-accelerating-sustainable-economic-recovery>

²⁷ www.Beenetzero.co.uk

²⁸ <https://www.businessgrowthhub.com/resource-efficiency/journey-to-net-zero#:~:text=Journey%20to%20Net%20Zero%20is%20a%20programme%20specially%20designed%20to,no%20prior%20expertise%20is%20required.>

²⁹ <https://www.city-businessclimatealliance.org/>

HOW WILL THE ENERGY CRISIS AFFECT MANCHESTER?

The energy crisis in 2022 as result of high oil and gas prices, has the potential to impact future CO2 emissions. Energy use may reduce in 2022, but not as a result of measures to increase energy efficiency, but rather due to increased levels of fuel poverty.

The decarbonisation of the grid has required a small number of actors supported by local supply chains in specific places, however, many of the urgent changes and decisions which are needed now to reduce our emissions and adapt to climate change have a strong local dimension. Decarbonising buildings, transport, and industry, and building our resilience to climate risk all need delivery at a local scale.

For Manchester residents, we recognise that:

- High inflation is likely to reduce disposable incomes and spending power.
- More residents may be pushed into poverty, and residents already in poverty may find it significantly harder to recover.
- Residents on the fringes of eligibility for support may be amongst the worst affected.
- Nearly 20% of households are now fuel poor.
- Over 12% of United Utilities customers are accessing financial support.
- Over 11% of households are struggling with food insecurity and the number of food providers has almost doubled since 2017.

For Manchester business, we recognise that:

- Inflation has caused upwards pressure on wages, the cost of raw materials and energy, and is increasing business costs. Supply chain disruption is also contributing to price inflation.
- Decreased consumer confidence and squeezed household budgets are leading to fewer sales, particularly impacting the retail, hospitality, culture, and leisure sectors.
- A potential Real Living Wage increase is a positive ambition for the city but may put pressure on some business sectors to make that commitment and meet other inflationary pressures.

For the public and voluntary/charitable sectors in Manchester we recognise that:

- Price inflation is affecting budgets (especially relating to fixed costs like energy) and project viability, as well as lowering the relative value of funding awards provided.
- Uncertain funding reduces the ability of organisations to plan ahead and deliver services to support residents, communities and business.

The recommended actions outlined in the 2022 Update reflect the latest understanding of how we can tackle both climate change and wider socioeconomic

challenges, including the rising cost of living, together; ensuring we deliver multiple benefits. For example:

- Insulating properties creates warmer, healthier homes that are cheaper to heat and that create fewer greenhouse gas emissions.
- Improving the efficiency of product design and manufacturing processes reduces the cost of material and energy inputs to industry.
- Transitioning to a zero carbon, climate resilient city creates opportunities for innovation, diversification and growth for business, and opportunities for new jobs and skills for local people.

Part 2 Manchester Climate Change Agency Action 2021-22

This section of the report sets out the actions taken against the priorities established in the 2021 Annual Report. It describes activities undertaken by the Agency from October 2021 until September 2022.

Progress against the priorities in the 2021 report:

Priority 1: Helping our city to set the right objectives and targets, in line with the Paris Agreement and the latest science

1. Adopt mitigation actions and indicators presented in the refresh of the Climate Change Framework 2020-25 across all headline objectives

The 2022 Update to the Manchester Climate Change Framework was published in September 2022. It sets new granular targets for reducing the city's direct emissions by 50% plus associated actions for all sectors in the city to deliver.

2. Living within our Carbon budget

- a. Direct Emissions: Continue to monitor progress against the direct carbon budget and investigate methods to improve accuracy of emissions local reporting

The 2022 Update to Manchester's Climate Change Framework identifies 115 actions for reducing our direct energy-related emissions (44 for building, 38 for transport, and 33 for renewable energy generation) for delivery at local, Greater Manchester, and national level by the public and private sectors, and communities across the city.

- b. Aviation Emissions: Work with partners and other UK cities to establish a target for aviation emissions

MCCP adopted a new agreement on tackling aviation emissions which is included in the 2022 Update to the Manchester Climate Change Framework. It was co-created by the Aviation sub-group of MCCP's Zero Carbon Advisory Group.

- c. Consumption-Based Emissions: develop a more detailed understanding of our consumption-based emissions to enable us to target action and establish performance indicators to monitor progress

The University of Manchester has continued to support the city in understanding its consumption-based emissions, with the second part of its research on food³⁰. Additional work is underway in collaboration with Leeds University.

The 2022 Update to Manchester's Climate Change Framework identifies 27 actions relating to Consumption-based Emissions for delivery at local, GM, and national level by the public and private sectors, and communities across the city.

³⁰ <https://www.manchesterclimate.com/content/incorporating-food-manchester%E2%80%99s-climate-change-response>

3. Climate Adaptation and Resilience: Better understand the extent of risk and vulnerability faced by our residents and businesses to focus effort on the key risks and locations most in need. Further work will establish a vision for resilience, a framework to guide further action on adaptation and to scope possible performance indicators to measure progress.

MCCA secured funding to support a secondment from Manchester Metropolitan University which with support from MCCP's Adaptation and Resilience Advisory Group, has produced a vision for progressive resilience which identifies the key characteristics of such a resilient city, and seven principles to guide both ambition and practical action. These can be found on the new Manchester: Climate Ready website³¹ along with examples of adaptation best practice from MCCP members. In addition, work is underway with the Met Office on production of a City Pack to forecast climate projections at local level and a heat mapping tool to help the city better understand its exposure to extreme heat over time³². MCCA are also working with the University of Exeter on a Local Climate Adaptation Tool³³ that is intended to recommend adaptation action that will support improvements in health and wellbeing.

The 2022 Update to Manchester's Climate Change Framework identifies 24 actions relating to Adaptation and Resilience for delivery at local, GM, and national level by the public and private sectors, and communities across the city.

4. Health and Wellbeing: Explore local partnerships and the need for advisory groups. Establish performance indicators

MCCA has worked with the Manchester Health and Wellbeing Board to establish an independent Advisory Group³⁴ to support the work of MCCP, including production of the 2022 Update to the Climate Change Framework and the provision of support to the Manchester Marmot Health Inequalities Taskforce.

5. Inclusive, Zero Carbon & Climate Resilient Economy: Assist the City in the delivery of the Economic Recovery plan including supporting the case for the necessary investment. Explore local partnerships and the need for advisory groups. Establish performance indicators

MCCA is part of the 3Ci initiative exploring ways to unlock private investment into the transition to zero carbon³⁵. MCCA is also part of the Bee Net Zero³⁶ partnership which brings together business support organisations from across Greater Manchester to collaborate on making this the easiest place in the UK for every business to become a green business.

³¹ <https://www.manchesterclimateready.com/what-is-adaptation-and-resilience>

³² https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/spf/manchester-city-pack_august-2022.pdf

³³ <https://thentrythis.org/projects/climate-and-health-tool/>

³⁴ <https://www.manchesterclimate.com/content/manchester-health-and-wellbeing-advisory-group>

³⁵ <https://cp.catapult.org.uk/project/uk-cities-climate-investment-commission/>

³⁶ <https://beenetzero.co.uk/>

The 2022 Update to the Climate Change Framework includes data on the scale and economic impact of the local low carbon sector, along with growth projections for future need and an update on the policies and strategies supporting skills development to enable us to capture the opportunities presented by the transition to zero carbon for our local workforce.

The 2022 Update identifies six actions relating to an Inclusive, Zero Carbon and Climate Resilient Economy for delivery at local, GM, and national level by the public and private sectors, and communities across the city.

Priority 2: Helping our city to take action

6. Engaging and empowering businesses and organisations: work with partners to establish new/refreshed climate change action plans for all Partnership members, to ensure that they can all benefit from and contribute to the city's Economic Recovery and Investment Plan and implement the actions developed in Framework V2.0.

MCCA is supporting MCCP to develop new programmes of work that will help to accelerate the decarbonisation of member organisations, including via sharing best practice between Manchester organisations and internationally via our involvement in the City Business Climate Alliance initiative³⁷ and Bee Net Zero initiatives.

The 2022 Update to Manchester's Climate Change Framework includes development of an expanded list of actions for business³⁸.

7. Engaging and empowering residents and communities: continue to work with partners to further develop and roll out the In Our Nature climate action programme across the city and develop new programmes that engage and support Manchester's residents and communities to play an active role in tackling climate change.

MCCA successfully secured £2.5m from The National Lottery Community Fund - Climate Action Fund to support residents and communities across Manchester play an active role in tackling climate change³⁹. This 3-year, citywide programme started in September 2022 and will catalyse action, share tools, techniques and best practice, and measure the impact of resulting activity, whilst building a climate movement in Manchester.

The 2022 Update to Manchester's Climate Change Framework includes development of an expanded list of actions for residents⁴⁰.

8. Engaging and empowering young people: continue to support the delivery of the Youth Board's manifesto. Establish the formation of manifesto priority working

³⁷ <https://www.city-businessclimatealliance.org>

³⁸ <https://www.manchesterclimate.com/content/2022-update>

³⁹ <http://inournaturemcr.co.uk/>

⁴⁰ <https://www.manchesterclimate.com/content/2022-update>

groups and establish a monitoring framework to record progress and increase awareness and the citywide impact of the Youth Board through establishing a rolling outreach programme for the Youth Board and create and embed neighbourhood level youth climate action groups.

MCCA has supported the Youth Board to develop a work programme aligned to Manifesto priorities and develop plans for a youth-focused event to be held in Autumn 2022 and a recruitment drive. It has also worked with youth groups in Newton Heath on urban greening activities as part of the In Our Nature (ION) programme.

The 2022 Update to Manchester's Climate Change Framework drew in elements of the Youth Board's Manifesto⁴¹ to ensure that the Framework Update aligned with the views of Manchester's young people.

9. Participate in the EU-funded GrowGreen project to support the roll-out of nature-based solutions citywide, building on the demonstration project in West Gorton.

The Agency has supported Manchester City Council (as the project lead) with the delivery of the GrowGreen project. Disseminating learning through the ION programme.

Actions around green infrastructure and nature-based solutions are captured with the Adaptation and Resilience chapter of the 2022 Update to the Manchester Climate Change Framework

Priority 3: Helping our city to understand its progress, strive for best practice and learn from others

10. Annual reports: produce the Manchester report to CDP / Global Covenant of Mayors 2022 (July 2022); produce the Manchester Climate Change Annual Report 2022 (September 2022).

The CDP Cities Report was submitted on 28th July 2022⁴² and the Annual Report published in October 2022

11. Continue to develop the Partnership and Agency-wide communications to communicate key messages and collaboration opportunities across the city and conurbation. Specific engagement and communication strategies will be developed for each programme – Communities, Business and Young People

MCCA is working with MCCP members and partners involved in delivery of MCCA programmes to communicate key messages and to explore innovative ways to bring more resource into this activity, including via virtual teams and external funding bids.

⁴¹ <https://www.manchesterclimate.com/youth-board>

⁴² <https://www.manchesterclimate.com/gcom-cdp-reports>

12. To work with other partners in Greater Manchester (GM) and nationally to seek to influence Government and other key institutions to provide more powers and resources to unblock barriers to local action. To also work collaboratively nationally and internationally by sharing learning and best practice, e.g. at the GM Green Summit 2021 and through the Zero Carbon Cities programme and the CBCA Cohort Cities network.

The Agency has worked collaboratively on a local and national level via GM Mission-based Approach working groups, the UK Core Cities Low Carbon Group and 3Ci (formerly UKCCIC) initiative with Core Cities and London Councils. We have continued to work collaboratively and share best practice on a local and international level through participation in City Business Climate Alliance and the Zero Carbon Cities and GrowGreen projects.

MCCA has engaged extensively with partners across GM in the development of the 2022 Update to Manchester's Climate Change Framework.

Priority 4: Helping our city ensure climate action initiatives are inclusive, informed and driven by seldom heard voices

13. Removing barriers: Work with partners to remove barriers of participation for all outreach and consultation work and engage with established groups and organisations to build relationships with traditionally considered 'difficult to reach communities'.
14. Diversity: Ensure the range of our work reflects the racially and culturally diverse geographical communities of Manchester.
15. Adopting best practice: Work with partners to establish regular training on engaging with seldom heard groups and adopt and formally integrate best practice in our work.
16. Embedding participatory ethos: Work with partners to embed the ladder of participation in our work to ensuring communities always feel that their contributions are respected

- A) MCCA's work to support MCCP includes ensuring diverse communities are engaged and active in the Partnership, e.g. Youth Board, Age-Friendly Manchester, Our Faith Our Planet.
- B) MCCA's In Our Nature community engagement pilot programme was built around engaging culturally and geographically diverse communities in Manchester where there are often barriers to engagement, particularly on climate change. The pilot was delivered by a partnership of organisations who have embedded the participatory ethos and community capacity building into the programme to ensure communities have led the design and delivery of climate actions in their local areas. The partnership has worked extensively to assess its activities and integrate best practice into the future programme.
- C) MCCA has consulted widely on the 2022 Update to the Manchester Climate Change Framework to ensure it reflects best practice and is responsive to local needs and wider socioeconomic priorities; this includes climate

assembly workshops with residents, surveys of business, and multiple detailed engagements with policy makers and decision makers in the public, private and voluntary sector across the city.

Priority 5: Helping our city to establish the strategy, governance and partnerships needed to meet the targets

17. Develop the Agency's capacity, securing the resources to recruit to the approved structure

MCCA has a new Director and two new Deputy Directors in place, and the Community Interest Company also has five new Directors on its Board.

18. Embed the priorities of the Climate Change Framework V2.0 across key citywide policy frameworks, including the Local Plan.

The 2022 Update to the Manchester Climate Change Framework includes multiple detailed recommended actions to embed climate goals into local and national policy and strategy, including the Local Plan.

19. Develop and publish the Manchester Climate Change Framework V2.0 by July 2022 as part of the EU-funded Zero Carbon Cities project

The main body of the 2022 Update to the Manchester Climate Change Framework was completed in July and circulated to all MCCP members and wider stakeholders for comment, including publication within E&CC Scrutiny Committee papers which are publicly available. At the same time, MCCA launched a 'conversation' to share headline messages from the Update and to capture insights on climate change from residents⁴³. The survey is still open. Feedback from the July publication informed the final publication in September 2022.

20. Further develop the membership of the Partnership, including through Manchester's participation in the 'City-Business Climate Alliance' project with seven other global cities, the C40, CDP and World Business Council for Sustainable Development.

Five new members have joined MCCP: Deloitte, Wates, and THG, The Carbon Literacy Trust and Arup and further connections are being explored through the CBCA initiative.

⁴³ <https://www.manchesterclimate.com/content/mcca-framework-conversation>

Part 3 Next Steps

Manchester Climate Change Agency Action 2022/23

As set out in the 2022 Update of the Manchester Climate Change Framework, throughout 2022-23, Manchester Climate Change Partnership and Manchester Climate Change Agency will work together to:

- Promote the 2022 Update of the Framework to raise awareness of the scale and urgency of action needed if Manchester is to meet its climate change goals.
- Champion action that supports delivery of the targets and recommendations contained in this Update.
- Include a wider diversity of voices and perspectives in Manchester's climate conversation and positive action.
- Expand engagement in climate action through convening and supporting new programmes and initiatives.
- Work with partners outside the city to ensure Manchester has access to the latest best practice in climate finance, policy, technology, and practical delivery.
- Position Manchester as a leader on climate action in the UK and internationally.

In addition, MCCP has asked MCCA to:

- Assess the relative impact of the recommendations in the Update, with specific focus on those over which Manchester has direct control. Whilst the targets relating to direct emissions give a clear indication of priority action, it has been identified that additional insights into the level of impact, cost, ease of implementation and timeframe needed would help to catalyse action and prioritise often limited resources.
- Explore options for tracking progress against the targets and recommendations made in the Update. Whilst acknowledging that data is not available for all measures, and that when it is available it is often time-lagged, incomplete and incompatible with other data, a more granular monitoring of progress would help to trigger corrective action as well as amplify success.
- Enhance the city's reporting of climate action, building on the existing Annual Reports⁴⁴ and the targets and recommendations in this Update, to more regularly and in more granular detail, highlight the progress being made towards the city's goals for climate change mitigation and adaptation.

Members of the Partnership and its independent Advisory Groups will support these actions.

⁴⁴ [How are we doing? | Manchester Climate Change](#)

15 Actions for Every Resident and Organisation

Every individual and organisation in the city needs to play their part in helping the city to meet its targets, and, at the same time, realising the wider financial, health and wellbeing benefits that will also come as a result. The Agency has developed a list of 15 suggested Actions for every individual and organisation in the city to take:

<http://www.manchesterclimate.com/15-actions>

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THANK YOU

Manchester Climate Change Agency wishes to thank all those involved in the production of this report:

Members of the Zero Carbon Advisory Group and Sub-groups

Members of the Adaptation and Resilience Advisory Group

Members of the Health and Wellbeing Advisory Group

And finally, thank you for reading. If you have any feedback or questions please contact Manchester Climate Change Agency at info@manchesterclimate.com



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