


Welcome to Cities 2020

Introduction

(0.1) Please give a general description and introduction to your city including your city’s reporting boundary in the table below.

	Administrative boundary	Description of city
Please complete	Independent city	<p>Manchester is the UK’s second city after London and has a population of 563,200 as of 2020 (principal estimate from 2016 data). Around 30% of the population is aged under 30 years old and the city is growing at a rate of around 1% per year.</p> <p>The city has a total of 19,995 business in 2016 with 399,600 people working in Manchester in 2016. Manchester’s economy is projected to grow around 3% per annum. The main sectors are business, finance and professional services, advanced manufacturing, life sciences & healthcare innovation, energy & environment, creative, digital and technology.</p> <p>Manchester covers an area of 11,564 hectares with 32 wards. Manchester sits within the Greater Manchester conurbation, attached is a map of Greater Manchester and its boroughs, the city of Manchester can be seen in yellow. The ten metropolitan boroughs of Greater Manchester – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, and Wigan – represent the largest city region economy outside London, with a gross value added (GVA) of £62.8 billion. In the decade to 2012, the economy grew by 42% and it has been one of the major UK city-regions driving job growth (84% between 2002-2015*), at twice the rate of jobs growth of the north as a whole.</p> <p>The ten councils– the first statutory “Combined Authority” in the UK outside London – and our Mayor coordinate key issues such as economic development, regeneration and transport. This governance structure has enabled the region to secure greater powers from central government to shape its own future and success.</p> <p> ¹</p>

 ¹Greater Manchester Boroughs Map.jpg

(0.2) If you have not previously submitted your Letter of Commitment to the Global Covenant of Mayors, either through the relevant regional covenant or through the

Global Covenant secretariat, please attach the letter signed by an appropriately mandated official (e.g. Mayor, City Council) to this question.

City Details

(0.3) Please provide information about your city's Mayor or equivalent legal representative authority in the table below.

	Leader title	Leader name	Current term end year
Please complete	Councillor	Sir Richard Leese	2022

(0.4) Please select the currency used for all financial information disclosed throughout your response.

GBP Pound Sterling

(0.5) Please provide details of your city's current population. Report the population in the year of your reported inventory, if possible.

	Current population	Current population year	Projected population	Projected population year
Please complete	563,200	2020	600,000	2030

(0.6) Please provide further details about the geography of your city.

	Land area of the city boundary as defined in question 0.1 (in square km)
Please complete	115.64

Governance and Data Management

Governance

(1.0) Does your city incorporate sustainability goals and targets (e.g. GHG reductions) into the master planning for the city?

Yes

(1.0a) Please detail which goals and targets are incorporated in your city’s master plan and describe how these goals are addressed in the table below.

Goal type	How are these goals/targets addressed in the city master plan?
Emissions reduction targets	<p>The city's overarching strategy, the Our Manchester Strategy 2016-25, sets out the headline commitment for Manchester to 'play its full part in limiting the impacts of climate change'.</p> <p>Since the last CDP submission, Manchester Climate Change Agency has updated the definition of what it means for the city to play its full part, in line with the Paris Agreement and the latest science. A refreshed set of objectives and targets were developed in early-2020, underpinned by recommendations by the Tyndall Centre for Climate Change Research and supported by the Manchester Zero Carbon Advisory Group. http://www.manchesterclimate.com/targets</p> <p>The objectives and targets are set out in the Manchester Climate Change Framework 2020-25, the city's high-level strategy for tackling climate change. The framework was published by the Agency in February 2020 and formally endorsed by Manchester City Council in March 2020. http://www.manchesterclimate.com/framework-2020-25</p> <p>The framework sets out the 4 high-level objectives that the city need to achieve by 2025:</p> <ol style="list-style-type: none"> 1. Staying within our carbon budgets 2. Climate adaptation and resilience 3. Health and wellbeing 4. Inclusive, zero carbon and climate-resilient economy <p>Staying Within Our Carbon Budgets 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. The carbon budget objective is split into 3 sub-objectives:</p> <ol style="list-style-type: none"> 1. Direct Emissions 2. Aviation Emissions 3. Consumption-based Emissions

	<p>The direct emission sub-objective is: 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:</p> <ul style="list-style-type: none"> - A maximum of 6.9 million tonnes during 2018-22, and - A maximum of 3.6 million tonnes during 2023-27.
<p>Emissions reduction targets</p>	<p>As part of the Staying Within our Carbon Budgets objective of the climate change framework 2020-25 an aviation emissions sub-objective was also adopted.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>For more information see the Manchester Climate Change Framework 2020-25 here, http://www.manchesterclimate.com/sites/default/files/Manchester%20Climate%20Change%20Framework%202020-25.pdf</p>
<p>Emissions reduction targets</p>	<p>As part of the Staying Within our Carbon Budgets objective of the climate change framework 2020-25 an indirect/ consumption emissions sub-objective was also adopted.</p> <p>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.</p> <p>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 maybe 60% greater than they are for our direct CO₂ emissions.</p>

	<p>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.</p> <p>For more information see the Manchester Climate Change Framework 2020-25 here, http://www.manchesterclimate.com/sites/default/files/Manchester%20Climate%20Change%20Framework%202020-25.pdf</p>
<p>Adaptation targets</p>	<p>In response to comments from CDP in 2019 on the Draft Manchester Climate Change Framework, the final Framework includes a new objective on 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.</p> <p>However, the Framework also recognises that, at the time of its publication, further work is required to develop a SMART adaptation and resilience objective.</p> <p>In response, Manchester has recently been successful in a bid for the UK Natural Environment Research Council's 'Climate Resilience: Embedded Researcher scheme'. During 2021 this will give the Agency dedicated capacity and expertise to enable development of a SMART adaptation and resilience objective.</p> <p>In addition we will also be taking forward the 6 actions set out in the Framework for 2020-25:</p> <p>Action:</p> <ol style="list-style-type: none"> 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 aim. <p>Educate and prepare:</p> <ol style="list-style-type: none"> 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. <p>Research and planning:</p> <ol style="list-style-type: none"> 4) Continue to develop a clear and up-to-date understanding of how the climate is

	<p>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.</p> <p>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.</p> <p>6) Utilise the European Climate Risk Typology to identify and then learn from cities and urban areas that have a similar climate risk profile as Manchester.</p>
<p>Other, please specify</p> <p>Inclusive, zero carbon and climate resilient economy objective</p>	<p>Inclusive, zero carbon and climate-resilient economy</p> <p>This objective was published in the Framework 2020-25. It was developed jointly with reps 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 Strategy (OMIS).</p> <p>The objective is: 'To ensure that Manchester establishes an inclusive, zero carbon and climate resilient economy where everyone can benefit from playing an active role in decarbonising & adapting the city to the changing climate.'</p> <p>During 2020-25, we will develop our list of strategic actions based on our growing understanding of the city's needs. The following list is a starting point, based on work from 2019-20 with orgs and groups involved in education & training in the city, including Manchester's Work and Skills Board & the Manchester Careers, Education, Information, Advice & Guidance Group.</p> <ol style="list-style-type: none"> 1) Ensure that climate change remains 1 of the key objectives in the implementation of the OMIS, 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 & 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 & training providers can respond. In particular, we need to develop the 'green skills' the city needs to deliver the projects & programmes planned for 2020-25 & to prepare for further initiatives from 2026. 4) Support existing & new businesses in the low carbon and environmental goods and services sector to provide the expertise & 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 & where workers may need support to transition into new jobs where they can deploy their skills.

	<p>Over the coming year we plan to set up an Independent Advisory Group to set up a monitoring & reporting system for this objective.</p>
<p>Other, please specify Health and Well-being objective</p>	<p>Health and Well-being objective This objective was published in the Manchester Climate Change Framework 2020-25. It was 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 2018-2722.</p> <p>The 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.'</p> <p>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.</p> <p>Over the coming year we plan to set up an Independent Advisory Group to set up a monitoring & reporting process for this objective.</p>

Climate Hazards and Vulnerability

Climate Risk and Vulnerability Assessment

(2.0) Has a climate change risk and vulnerability assessment been undertaken for your city?

In progress

(2.0a) Please select the primary process or methodology used to undertake the risk and vulnerability assessment of your city.

	Primary methodology	Description
Risk assessment methodology	Other, please specify Methodology in development	<p>Manchester Climate Change Agency has recently had a successful bid with the UK Climate Resilience: Embedded Researcher scheme which will enable a climate change risk and vulnerability assessment of the city. Task 1.1 of the project is defining Manchester’s city-level climate risks and vulnerabilities which will produce a Manchester climate risk and vulnerability assessment.</p> <p>Since 2018, MCCA has established a robust city-level and sector-level policy framework to enable action on climate change. Although concentrating on climate change mitigation to date, the Manchester Climate Change Framework 2020-25 contains this high-level 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.”</p> <p>However, thus far the pursuit of this policy differs from the city’s mitigation work in three respects: it requires underpinning by reviews of the latest science; it necessitates detailed engagement with stakeholders; and it requires the development of indicators to enable performance reporting over time.</p> <p>The planned project addresses these issues, correlating closely with the Joint UKRI & Met Office Science Plan by planning for climate-related risks through adaptation and, to a lesser extent, characterising climate-related risks for Manchester. It places an academic with considerable experience in climate change resilience and adaptation research, a proven track record in developing work of policy and practice relevance, and a knowledge of stakeholder governance, to act as MCCA’s ‘Resilience and Adaptation Lead’ for the 12-month project.</p>

		<p>Working collaboratively, and underpinned by the latest resilience and adaptation science, the researcher, the staff at MCCA and members of MCCP will establish a SMART city-level adaptation and resilience objective for the city’s climate change strategy (V. 2.0 of Manchester Climate Change Framework 2020-25) and an associated robust, trustworthy monitoring regime. The project will also support organisations and sectors from across Manchester to develop bespoke commitments and actions and build capacity for their implementation. To support and enable these commitments, the project will also develop the existing local policy framework and identify where new policies are required.</p>
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GCoM Additional Information

Climate Hazards

(2.1) Please list the most significant climate hazards faced by your city and indicate the probability and consequence of these hazards, as well as the expected future change in frequency and intensity. Please also select the most relevant assets or services that are affected by the climate hazard and provide a description of the impact.

Climate Hazards

Extreme hot temperature > Extreme hot days

Did this hazard significantly impact your city before 2020?

Yes

Current probability of hazard

Medium Low

Current magnitude of hazard

Medium

Social impact of hazard overall

Increased demand for public services
 Increased demand for healthcare services
 Increased risk to already vulnerable populations

Most relevant assets / services affected overall

Transport
 Residential
 Education
 Public health
 Society / community & culture
 Emergency services

Please identify which vulnerable populations are affected

Children & youth
Elderly
Persons with disabilities
Persons with chronic diseases

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Although heatwaves and extreme hot days are rare in Manchester in the present day, climate change projections indicate that they will become more common in the future. In the period 1945-1969, there were 2 heat stress incidents in Manchester. This rose to 10 in the period 1994-2017. As part of the Greater Manchester (GM) Critical infrastructure risk assessment, using projected climate change (developed under the EcoCities project) for a 2050's high GHG emissions scenario, projections suggest:

- summer mean daily maximum temperature: + 5.6°C
- Warmest day in summer: + 6°C
- Warmest night in summer: + 4.4°C

It is important to note that there is a geographic element to this hazard. Under the EcoCities project (Cavan 2010), 3 climate zones were defined for GM. The increases of heat stress (and max temp) is most prevalent for GM's Mersey Basin zone, which is where the vast majority of Manchester is situated.

This increases the risk of negative impacts linked to high temperatures, such as negative health effects and reductions in the productivity of employees. This is particularly important due to economic activity concentrated in the city region core (and the Mersey basin zone) and the prevalence of vulnerable groups (deprived, health impacted, young and elderly) in the spatial locations projected to suffer the worse increases as well as urban heat island effect as a forcing factor on top.

Therefore, the spatial pattern of Manchester's urban heat island demonstrates that certain areas, generally those where development density is at its highest, are more likely to suffer from negative impacts as a result. There is also an equality dimension to heat stress. For example, there is greater potential exposure to heat stress in more

deprived areas. In effect, groups that are vulnerable to heat stress, due to factors including poverty and poor health, show the highest potential exposure to this climate change impact. (Adapted from the Greater Manchester CDP submission).

Climate Hazards

Flood and sea level rise > Flash / surface flood

Did this hazard significantly impact your city before 2020?

Yes

Current probability of hazard

Medium

Current magnitude of hazard

Medium High

Social impact of hazard overall

Fluctuating socio-economic conditions

Increased demand for public services

Increased demand for healthcare services

Increased risk to already vulnerable populations

Most relevant assets / services affected overall

Water supply & sanitation

Transport

Commercial

Residential

Public health

Emergency services

Land use planning

Please identify which vulnerable populations are affected

Children & youth

Elderly

Marginalized groups

Persons with disabilities

Persons with chronic diseases

Low-income households

Unemployed persons

Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

High

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Flooding stands out as one of the key weather and climate threats to the city, not just in the future but also in the present day. Indeed, evidence from the EcoCities project suggests that flooding has been the most prominent hazard facing Manchester over recent decades, and that surface water flooding is superseding fluvial flooding (from main rivers) as the most common type of event (Carter and Lawson 2011). Indeed, pluvial flooding now dominates, accounting for 50% of all floods since 1994 (in Greater Manchester).

The GM Critical infrastructure risk assessment looked at the 2050s high GHG emissions scenario (developed under the EcoCities project) and compared it to conditions during 1961-1990. The findings for GM's Mersey Basin zone (where Manchester city is situated) projects the following hazard increases which will intensify the pluvial/flash flood risk by:

- Precipitation on the wettest day in winter: + 31%
- Precipitation on the wettest day in summer: + 19%
- Winter mean precipitation: +28%
- Annual mean precipitation: +9%

In addition to the damage flooding causes to buildings and infrastructure, flooding also brings knock-on secondary impacts which must be recognised. One example is the effect of flood damage to people's homes, and the subsequent psychological stress that this can cause flood victims. (Adapted from the Greater Manchester CDP submission).

See the GM Critical infrastructure risk assessment here: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf

Climate Hazards

Extreme hot temperature > Heat wave

Did this hazard significantly impact your city before 2020?

No

Current probability of hazard

Medium Low

Current magnitude of hazard

Medium Low

Social impact of hazard overall

- Increased demand for public services
- Increased demand for healthcare services
- Increased risk to already vulnerable populations
- Increased resource demand

Most relevant assets / services affected overall

- Residential
- Education
- Public health
- Society / community & culture
- Emergency services

Please identify which vulnerable populations are affected

- Children & youth
- Elderly
- Persons with disabilities
- Persons with chronic diseases

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Although heatwaves and extreme hot days are rare in Manchester in the present day, climate change projections indicate that they will become more common in the future. In the period 1945-1969, there were 2 heat stress incidents in Manchester. This rose to 10 in the period 1994-2017. As part of the Greater Manchester (GM) Critical infrastructure risk assessment, using projected climate change (developed under the EcoCities project: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf) for a 2050's high GHG emissions scenario, projections suggest:

- summer mean daily maximum temperature: + 5.6°C
- Warmest day in summer: + 6°C
- Warmest night in summer: + 4.4°C

It is important to note that there is a geographic element to this hazard. Under the Ecocities project (Cavan 2010), 3 climate zones were defined for GM. The increases of

heat stress (and max temp) is most prevalent for GM's Mersey Basin zone, which is where the vast majority of Manchester City is situated.

This increases the risk of negative impacts linked to high temperatures, such as negative health effects and reductions in the productivity of employees. This is particularly important due to economic activity concentrated in the city region core (and the Mersey basin zone) and the prevalence of vulnerable groups (deprived, health impacted, young and elderly) in the spatial locations projected to suffer the worse increases as well as urban heat island effect as a forcing factor on top.

Therefore, the spatial pattern of Manchester's urban heat island demonstrates that certain areas, generally those where development density is at its highest, are more likely to suffer from negative impacts as a result. There is also an equality dimension to heat stress. For example, there is greater potential exposure to heat stress in more deprived areas. In effect, groups that are vulnerable to heat stress, due to factors including poverty and poor health, show the highest potential exposure to this climate change impact. (Adapted from the Greater Manchester CDP submission).

Climate Hazards

Storm and wind > Severe wind

Did this hazard significantly impact your city before 2020?

Yes

Current probability of hazard

Medium

Current magnitude of hazard

Medium

Social impact of hazard overall

Increased demand for public services

Increased demand for healthcare services

Increased risk to already vulnerable populations

Most relevant assets / services affected overall

Energy

Water supply & sanitation

Transport

Food & agriculture

Waste management

Information & communications technology

Environment, biodiversity, forestry

Emergency services

Please identify which vulnerable populations are affected

Children & youth

Elderly
Marginalized groups
Persons with disabilities
Low-income households
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Do not know

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

Disruption and short term problems associated with damage to infrastructure or problems with movement (including mobilisation of emergency response). There could be a risk to health due to the dangers of high winds. This could be compounded by disruption to the wider energy and ICT networks. This, alongside combinations of high wind events with higher rainfall, could see this hazard impact combine with more frequent and higher risk fluvial and pluvial flood risks identified above. (Adapted from the Greater Manchester CDP submission)

Climate Hazards

Flood and sea level rise > River flood

Did this hazard significantly impact your city before 2020?

Yes

Current probability of hazard

Medium Low

Current magnitude of hazard

Medium Low

Social impact of hazard overall

Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations

Most relevant assets / services affected overall

Energy
Water supply & sanitation
Transport
Food & agriculture
Waste management
Information & communications technology
Environment, biodiversity, forestry
Emergency services

Please identify which vulnerable populations are affected

Children & youth
Elderly
Marginalized groups
Persons with disabilities
Low-income households
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

Do not know

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

River flooding stands out as one of the key weather and climate threats to the city, not just in the future but also in the present day, with the River Irwell, Irk and Medlock running through parts of the city. Indeed, evidence from the EcoCities project suggests that flooding has been the most prominent hazard facing Manchester and Greater Manchester over recent decades, and that surface water flooding is superseding fluvial flooding (from main rivers) as the most common type of event (Carter and Lawson 2011).

Although fluvial flooding is relatively uncommon in Manchester, given the location of key assets and infrastructures within Flood Zones and the high consequences of related impacts should they occur, the associated risks remain high. Manchester is already seeing an intensification in this fluvial flood hazard. with river flooding events becoming increasingly frequent in the last 70 years.

Within the GM Critical infrastructure risk assessment (which looked at 2050s high GHG emissions change is from 1961-1990 at 90th percentile) scenario for GM's Mersey Basin

zone (which Manchester city is situated in). Which was defined under the Ecocities project, Cavan 2010, the emissions scenario, projects the following hazard increases which will intensify the pluvial/flash flood risk by:

- Precipitation on the wettest day in winter: + 31%
- Precipitation on the wettest day in summer: + 19%
- Winter mean precipitation: +28%
- Annual mean precipitation: +9%

In addition to the damage, flooding causes to buildings and infrastructure, flooding also brings knock-on secondary impacts which must be recognised. One example is the effect of flood damage to people's homes, and the subsequent psychological stress that this can cause flood victims. (Adapted from a previous Greater Manchester submission)

See the GM Critical infrastructure risk assessment here: https://resin-cities.eu/fileadmin/user_upload/Resources/City_report_GM/GMCCRA_report_final.pdf

Climate Hazards

Extreme Precipitation > Rain storm

Did this hazard significantly impact your city before 2020?

Yes

Current probability of hazard

Medium High

Current magnitude of hazard

Medium

Social impact of hazard overall

Increased demand for public services
Increased risk to already vulnerable populations
Increased resource demand

Most relevant assets / services affected overall

Energy
Water supply & sanitation
Transport
Food & agriculture
Information & communications technology
Residential
Society / community & culture
Emergency services
Land use planning

Please identify which vulnerable populations are affected

Children & youth
Elderly

Persons with disabilities
Persons with chronic diseases
Low-income households
Persons living in sub-standard housing

Future change in frequency

Increasing

Future change in intensity

Increasing

Future expected magnitude of hazard

High

When do you first expect to experience those changes in frequency and intensity?

Short-term (by 2025)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

With surface water flooding events increasing in frequency in Manchester, and climate change projections threatening a rise in intense downpours, attention needs to be paid to protecting people, buildings and infrastructure from the associated consequences.

Climate Hazards

Extreme cold temperature > Extreme cold days

Did this hazard significantly impact your city before 2020?

Do not know

Current probability of hazard

Low

Current magnitude of hazard

Low

Social impact of hazard overall

Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations
Increased resource demand

Most relevant assets / services affected overall

Transport
Residential
Emergency services

Please identify which vulnerable populations are affected

- Elderly
- Persons with disabilities
- Persons with chronic diseases
- Low-income households
- Persons living in sub-standard housing

Future change in frequency

Do not know

Future change in intensity

Increasing

Future expected magnitude of hazard

Medium Low

When do you first expect to experience those changes in frequency and intensity?

Medium-term (2026-2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

(2.2) Please identify and describe the factors that most greatly affect your city’s ability to adapt to climate change and indicate how those factors either support or challenge this ability.

Factors that affect ability to adapt	Indicate if this factor either supports or challenges the ability to adapt	Level of degree to which factor challenges/supports the adaptive capacity of your city	Please describe how the factor supports or challenges the adaptive capacity of your city
Infrastructure capacity	Supports	Somewhat supports	Electricity North West has committed to support Manchester and the north to become a zero carbon city by de-carbonising the city's power to near net zero by 2038.
Community engagement	Supports	Significantly supports	Manchester has an incredibly strong history of working collaboratively. Manchester Climate Change Partnership (MCCP) is a network of 60 organisations across 10 sectors, composing 20% of the city's economy and carbon emissions, with influence over the remaining 80%. MCCP is coordinated and supported by Manchester Climate Change Agency

			<p>(MCCA), which operates with two core principles: taking a science-based approach to setting objectives, and; the need for 'bottom-up' stakeholder action to meet the city's targets, enabled by strategic interventions by local and national agencies. Combined, MCCA and MCCP champion and facilitate citywide climate change action. Manchester has an advanced policy framework for climate change mitigation, committing to halving CO2 emissions during 2020-25 and achieving net-zero by 2038. The partnership is committed to the cities carbon reduction targets and gives us unprecedented access to Manchester's citizens as customers, staff, students as well as access to Manchester's organisations through partnership, supply chains and their networks.</p>
Access to basic services	Supports	Significantly supports	<p>Particularly in relation to disaster risk response which is mandated under legislation (civil contingencies act 2004) means that public sector is well placed to respond to hazard events</p>
Poverty	Challenges	Significantly challenges	<p>Inequality, including income inequality and poverty, negatively affects citizens adaptive capacity.</p>
Resource availability	Challenges	Significantly challenges	<p>Funding available to local authorities and other public sector agencies working in this field has to compete with a range of other statutory priorities. This is occurring against a challenging background of wider public sector funding pressures, There are added challenges this year with COVID-19 and the recovery, which is having an impact on capacity of key organisations to develop and deliver adaptation and resilience responses.</p>
Access to quality / relevant data	Challenges	Moderately challenges	<p>1. The extent and nature of climate related risk is not yet fully understood due to the complexity of interconnections between the changing</p>

			<p>climate, land use and natural processes.</p> <p>2. Records have not been systematically kept of the incidence and consequences of extreme weather events impacting on critical infrastructure (and other locations and assets) located within and serving Manchester. This makes it difficult to generate a strategic picture of priority sectors, locations and hazard events that are of greatest relevance to the conurbation. The passing of the Flood and Waters Management Act (in 2010) has started to address this issue in the context of flooding.</p> <p>3. There are issues and uncertainties concerning the accuracy of data and prediction tools, particularly regarding future flooding projections data. This makes is challenging to develop adaptation and resilience responses, particularly regarding hard infrastructure investments that operate over long time horizons.</p>

(2.3) Is your city facing risks to public health or health systems associated with climate change?

Yes

(2.3a) Please report on how climate change impacts health outcomes and health services in your city.

Area affected by climate change

Health outcomes

Health systems (service provision, infrastructure and technologies)

Areas outside the health sector (e.g. agriculture, water and sanitation, transport, power generation, built environment)

Health-related risk and vulnerability assessment undertaken

No

Identify the climate hazards most significantly impacting the selected areas

Identify the climate-related health issues faced by your city

Timescale of climate-related issues for the selected health area

Please identify which vulnerable populations are affected by these climate-related impacts

Please explain

Further work is needed on this topic. This will be undertaken by the 'Manchester Health, Wellbeing and Climate Change Independent Advisory Group, once established during 2020-21. Its establishment has been delayed due to COVID.

<http://www.manchesterclimate.com/advisory-groups>

Adaptation

Adaptation Actions

(3.0) Please describe the main actions you are taking to reduce the risk to, and vulnerability of, your city's infrastructure, services, citizens, and businesses from climate change as identified in the Climate Hazards section.

Climate hazards

Extreme hot temperature > Extreme hot days

Action

Tree planting and/or creation of green space

Action title

IGNITION

Status of action

Monitoring and reporting

Means of implementation

Capacity building and training activities

Infrastructure development

Policy and regulation

Co-benefit area

Disaster Risk Reduction

Enhanced resilience

Enhanced climate change adaptation

Social community and labour improvements
Improved public health
Ecosystem preservation and biodiversity improvement

Sectors/areas adaptation action applies to

Building and Infrastructure
Spatial Planning
Water

Action description and implementation progress

The Urban Innovation Action programme IGNITION project, which includes organisations such as the Greater Manchester Combined Authority, Manchester City Council, the University of Manchester and the Environment Agency as partners, is ongoing. The headline objective of this project is to establish innovative NBS funding and delivery mechanisms to increase Greater Manchester's urban green infrastructure over the next two decades. The project has produced a green infrastructure baseline that will be used to better understand and plan the enhancement of this resource in Manchester.

This project, backed by €4.5 million from the EU's Urban Innovation Actions (UIA) initiative, brings together 12 partners from local government, universities, NGOs and business. The aim is to develop the first model of its kind that enables major investment in large-scale environmental projects which can increase climate resilience. By 2038 this will enable an increase in Greater Manchester's urban green infrastructure coverage by 10% from a 2018 baseline.

Finance status

Finance secured

Majority funding source

Other, please specify
EU Horizon 2020

Total cost of the project (currency)

5,000,000

Total cost provided by the local government (currency)

228,000

Total cost provided by the majority funding source (currency)

4,000,000

Web link

NB: the local government contribution is the required 20% match funding (for the 80% EU funding). The £220,000 figure is a combination of Greater Manchester Combined Authority (lead partner), Manchester City Council and Salford City Council.

The project, partnership and bid development was led by Manchester Climate Change Agency, on behalf of GMCA.

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

Climate hazards

Flood and sea level rise > Flash / surface flood

Action

Nature based solutions for water

Action title

GROWGREEN

Status of action

Implementation

Means of implementation

Infrastructure development

Co-benefit area

Disaster Risk Reduction
Enhanced resilience
Enhanced climate change adaptation
Social community and labour improvements
Improved public health

Sectors/areas adaptation action applies to

Building and Infrastructure
Spatial Planning
Water

Action description and implementation progress

GrowGreen: an €11.2m project running from 2017-22 coordinated by Manchester City Council and Manchester Climate Change Agency to support cities to develop and implement plans to become greener and better adapted to climate change. The project will provide two key outputs for Manchester: a demonstration project in West Gorton, and; a refreshed Manchester Green and Blue Infrastructure Strategy. By working with the five EU partner cities (Wroclaw, Valencia, Brest, Modena, Zadar), Wuhan in China and the project's expert partners, GrowGreen should help Manchester to take on-board the latest best practice and provide a catalyst to embed green infrastructure throughout the city's planning, development and regeneration.

The new West Gorton Community park opened in July 2020 and demonstrates how Nature-Based Solutions such as swales, bio-retention tree pits, rain gardens and permeable paving can be used to reduce surface water flooding in urban areas. Work on Manchester's Green and Blue strategy refresh has commenced and a piece of work has been commissioned to develop a river valley strategy for Manchester demonstrating how they can be better utilised to adapt the city to the changing climate and maximise other benefits such as improved biodiversity and health and well being.

Finance status

Finance secured

Majority funding source

Other, please specify

EU Horizon 2020

Total cost of the project (currency)

11,200,000

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

11,200,000

Web link

www.growgreenproject.eu

Climate hazards

Flood and sea level rise > River flood

Action

No action currently taken

Action title

Mayfield Development

Status of action

Pre-implementation

Means of implementation

Infrastructure development

Co-benefit area

Disaster Risk Reduction

Enhanced resilience

Enhanced climate change adaptation

Social inclusion, social justice

Improved public health

Resource conservation (e.g. soil, water)

Ecosystem preservation and biodiversity improvement

Improved access to and quality of mobility services and infrastructure

Sectors/areas adaptation action applies to

Building and Infrastructure

Spatial Planning

Water

Action description and implementation progress

The Mayfield development is a new 24-acre urban quarter in central Manchester, including a 6.5-acre new city centre park, immediately to the south of Piccadilly Station. Construction will begin in Q4 2020, with the first buildings estimated to complete in 2022.

The strategic Renovation Framework (SRF) for the Mayfield site was developed by the key landowner, London and Continental Railways (LCR), Manchester City Council (MCC) and Transport for Greater Manchester (TfGM). The key urban design principles of the Mayfield SRF are to: create a distinctive sense of plan; enhance connectivity; maximise regeneration benefit; optimise sustainability; incorporate a new major urban park for Manchester, focused around the River Medlock.

Reconfiguration of Piccadilly Station is also considered, with works to incorporate Network Rail's Northern hub initiative and reinvention of the brick arch viaducts to create a distinctive retail/arts/cultural destination.

Mayfield has the opportunity to be the most sustainable district in Manchester. The rejuvenation of brownfield and the ability to create new ecological habitats will educate and inspire. Bringing back to life a once derelict building, in close proximity to a major transport hub, with associated public realm improvements, gives the scheme a highly sustainable foundation which will be built upon with a holistic approach to building design to minimise energy use and emissions of CO₂ and to have a positive impact on the wellbeing of all who experience Mayfield.

This ethos of low embodied energy will extend to the use of new components for the development, with materials selected to minimise embodied energy, to maximise recycled content as far as practicable, and with consideration of responsible sourcing. Construction practices which minimise waste generation during construction (for example off-site prefabrication and matching design sizes to standard sizes) will also be considered from the outset. All buildings will at least achieve an excellent, if not outstanding, BREEAM rating.

Also, the park will bring multiple benefits. The park will be designed around the pattern of the river's flooding, protecting habitable zones from the adverse effects and improve ecological and pedestrian connections along the Medlock Valley. It will provide sustainable drainage strategies & optimise air quality. It will provide open spaces to promote health and wellbeing, for example, health and fitness facilities will be integrated into the park. It will increase ecological value along with the rejuvenating a tired industrial landscape. There will also be extensive amenities onsite, as well as safe active transport links to encourage cycling.

Finance status

Finance secured

Majority funding source

Public-private partnership

Total cost of the project (currency)

1,400,000,000

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

Web link

http://www.manchester.gov.uk/download/downloads/id/27052/mayfield_srf_may_2018.pdf

Climate hazards

Action

Other, please specify

Development of Manchester Adaptation and Resilience KPI's and monitoring and reporting System

Action title

UK Climate Resilience: Embedded Researcher scheme

Status of action

Pre-implementation

Means of implementation

Stakeholder engagement

Assessment and evaluation activities

Monitor activities

Development and implementation of action plan

Co-benefit area

Shift to more sustainable behaviours

Improved access to data for informed decision-making

Sectors/areas adaptation action applies to

Business and Financial Service

Action description and implementation progress

Since 2018, MCCA has established a robust city-level and sector-level policy framework to enable action on climate change. Although concentrating on climate change mitigation to date, the Manchester Climate Change Framework 2020-25 contains this high-level 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."

However, thus far the pursuit of this policy differs from the city's mitigation work in three

respects: it requires underpinning by reviews of the latest science; it necessitates detailed engagement with stakeholders, and it requires the development of indicators to enable performance reporting over time.

This project addresses these issues, correlating closely with the Joint UKRI & Met Office Science Plan by planning for climate-related risks through adaptation and, to a lesser extent, characterising climate-related risks for Manchester. It places an academic with considerable experience in climate change resilience and adaptation research, a proven track record in developing work of policy and practice relevance, and a knowledge of stakeholder governance, to act as MCCA's 'Resilience and Adaptation Lead' for the 12-month project.

Working collaboratively, and underpinned by the latest resilience and adaptation science, the researcher, the staff at MCCA and members of MCCP will establish a SMART city-level adaptation and resilience objective for the city's climate change strategy (V. 2.0 of Manchester Climate Change Framework 2020-25) and an associated robust, trustworthy monitoring regime.

The project will also support organisations and sectors from across Manchester to develop bespoke commitments and actions and build capacity for their implementation.

To support and enable these commitments, the project will also develop the existing local policy framework and identify where new policies are required.

Finance status

Finance secured

Majority funding source

Other, please specify

Strategic Priorities Fund, UK Research and Intelligence / Natural Environment
Research Council

Total cost of the project (currency)

87,500

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

70,000

Web link

<https://nerc.ukri.org/funding/application/currentopportunities/uk-climate-resilience-embedded-researcher-scheme-phase-two-embedded-researchers/>

Adaptation Planning

(3.2) Does your city council, or similar authority, have a published plan that addresses climate change adaptation?

Intending to undertake in the next 2 years

GCoM Additional Information

Adaptation Goals

(3.3) Please describe the main goals of your city's adaptation efforts and the metrics / KPIs for each goal.

Adaptation goal

The KPI's for adaptation have not currently been set, but will be developed as part of NERC UK Climate Resilience: Embedded Researcher scheme which is due to kick off September 1st 2020, in the meantime actions will focus on reducing flood risk and heat stress by increasing the quality and quantity of Manchester's green spaces and waterways. .

Climate hazards that adaptation goal addresses

Target year of goal

Description of metric / indicator used to track goal

Does this goal align with a requirement from a higher level of government?

Do not know

Select the initiatives related to this adaptation goal that your city has committed to

Comment

City-wide Emissions

City-wide GHG Emissions Data

(4.0) Does your city have a city-wide emissions inventory to report?

Yes

(4.1) Please state the dates of the accounting year or 12-month period for which you are reporting your latest city-wide GHG emissions inventory.

	From	To
Accounting year dates	January 1, 2018	December 31, 2018

(4.2) Please indicate the category that best describes the boundary of your city-wide GHG emissions inventory.

	Boundary of inventory relative to city boundary (reported in 0.1)	Excluded sources / areas	Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)
Please explain	Same – covers entire city and nothing else		

(4.3) Please give the name of the primary protocol, standard, or methodology you have used to calculate your city’s city-wide GHG emissions.

	Primary protocol	Comment
Emissions methodology	2006 IPCC Guidelines for National Greenhouse Gas Inventories	Manchester uses local authority emissions data, part of the UK Greenhouse Gas Inventory produced by the Department for Business, Energy & Industrial Strategy (BEIS). The UK Greenhouse Gas Inventory compilers follow detailed guidance produced by the Intergovernmental Panel on Climate Change (IPCC). The function of the IPCC is to publish reports and guidelines relevant to the implementation of the UN Framework Convention on Climate Change. As part of this function, the IPCC produces the Guidelines for National Greenhouse Gas Reporting and these are then adopted by the UNFCCC.

(4.4) Which gases are included in your city-wide emissions inventory?

CO2

GCoM Additional Information




(4.5) Please attach your city-wide inventory in Excel or other spreadsheet format and provide additional details on the inventory calculation methods in the table below.

Emissions inventory format

This inventory is in a format other than the GPC

Document title and attachment

'Manchester and UK emissions analysis' and 'MCR CO2 Plots 1 - 2019-20 report, 2018 inventory' and '2005-18-uk-local-regional-co2-emissions' which is the data set as it comes from BEIS

-  2005-18-uk-local-regional-co2-emissions.xlsx
-  Manchester and UK emissions analysis (1).xlsx
-  Copy of MCR CO2 Plots 1 - 2019-20 report, 2018 inventory.xlsx

Emissions factors used

IPCC

**Global Warming Potential
(select relevant IPCC Assessment Report)**

IPCC 5th AR (2013)

Please select which additional sectors are included in the inventory

- Industrial process and/or product use
- Agriculture, forestry or other land use sectors

Population in inventory year

547,627

Overall level of confidence

High

Comment on level of confidence

The UK produces a breakdown of carbon dioxide emissions by Local Authority area as a subset of its annual inventory of greenhouse gas emissions this is produced by the Department for Business, Energy and Industrial Strategy each year (BEIS). Dr Christopher Jones, Senior Research Fellow for the Tyndall Centre for Climate Change Research at the University of Manchester created the Manchester Emissions plots from the BEIS local authority data. Which was then ratified by our Zero Carbon Independent Advisory Group <http://www.manchesterclimate.com/zero-carbon-advisory-group>. This data is reported as part of the Manchester Climate Change Annual Reports <http://www.manchesterclimate.com/progress>.

(4.6a) The Global Covenant of Mayors requires committed cities to report their inventories in the format of the new Common Reporting Framework, to encourage standard reporting of emissions data. Please provide a breakdown of your city-wide emissions by sector and sub-sector in the table below. Where emissions data is not available, please use the relevant notation keys to explain the reason why.

	Direct emissions (metric tons)	If you have no direct emissions to	Indirect emissions from	If you have no indirect	Emissions occurring outside	If you have no emissions	Please explain any excluded sources, identify any emissions covered under an
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	tonnes CO2e)	report, please select a notation key to explain why	the use of grid-supplied electricity, heat, steam and/or cooling (metric tonnes CO2e)	emissions to report, please select a notation key to explain why	the city boundary as a result of in-city activities (metric tonnes CO2e)	occurring outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	ETS and provide any other comments
Stationary energy > Residential buildings	607,000			Not Estimated		Not Estimated	direct emissions includes. Domestic Electricity, Domestic Gas and Domestic 'Other Fuels' We are working on a methodology for scope 3 emissions.
Stationary energy > Commercial buildings & facilities		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Stationary energy > Institutional buildings & facilities		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Stationary energy > Industrial buildings & facilities		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.

Stationary energy > Agriculture	500	Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Stationary energy > Fugitive emissions		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Total Stationary Energy	1,376,000	Integrated Elsewhere		Not Estimated		Not Estimated	Direct emissions includes: A. Industry and Commercial Electricity B. Industry and Commercial Gas C. Large Industrial Installations D. Industrial and Commercial Other Fuels E. Agriculture F. Domestic Electricity G. Domestic Gas H. Domestic 'Other Fuels' We are working on a methodology for scope 3 emissions.
Transportation > On-road	609,500	N/A		Not Estimated		Not Estimated	Includes Road Transport (A roads) Road Transport (Motorways) and Road Transport (Minor roads) We are working on a methodology for scope 3 emissions.
Transportation > Rail	7,500	N/A		Not Estimated		Not Estimated	Direct emissions from diesel trains. We are working on a methodology for scope 3 emissions.
Transportation > Waterborne navigation		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Transportation > Aviation		Combination of notation keys		Not Estimated		Not Estimated	All emissions from all flights from Manchester Airport are in the scope of the Manchester Climate Change Framework 2020-25. They are reported separate from our direct and

							indirect emissions at http://www.manchesterclimate.com/progress
Transportation > Off-road		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Total Transport	658,000			Not Estimated		Not Estimated	Direct emissions includes Road Transport (A roads) Road Transport (Motorways) Road Transport (Minor roads) Diesel Railways and Transport Other. We are working on a methodology for scope 3 emissions.
Waste > Solid waste disposal		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Waste > Biological treatment		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Waste > Incineration and open burning		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Waste > Wastewater		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Total Waste		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
IPPU > Industrial process		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
IPPU > Product use		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.

Total IPPU		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
AFOLU > Livestock		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
AFOLU > Land use		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
AFOLU > Other AFOLU		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Total AFOLU		Integrated Elsewhere		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Generation of grid-supplied energy > Electricity-only generation		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Generation of grid-supplied energy > CHP generation		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Generation of grid-supplied energy > Heat/cold generation		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Generation of grid-supplied		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.

energy > Local renewable generation							
Total Generation of grid-supplied energy		Not Estimated		Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.
Total Emissions (excluding generation of grid-supplied energy)	1,967,000			Not Estimated		Not Estimated	We are working on a methodology for scope 3 emissions.

(4.8) Please indicate if your city-wide emissions have increased, decreased, or stayed the same since your last emissions inventory, and describe why.

	Change in emissions	Primary reason for change	Please explain and quantify changes in emissions
Please explain	Decreased	Other, please specify Move away from coal to produce electricity.	<p>Reported local area data for Manchester’s energy CO2 emissions in 2018 (2.03 MtCO2) show a 2% fall in emission from 2017 (2.07 MtCO2) . Local and regional CO2 emissions data is currently only available to 2018. If Manchester follows the UK national average emissions change in 2019 (4% reduction from 2018) then CO2 emissions for 2019 are projected to be 1.95 MtCO2. Manchester has seen a similar trend to the wider UK in terms of sectoral emissions trends. While emissions have reduced over time in industrial, commercial and domestic sectors (driven in part by significant decarbonisation of the national electricity grid since 2013), transport emissions have not fallen significantly. Transport therefore now accounts for an increasingly large share on the city’s climate change impact.</p> <p>From our climate change strategy 2010-20: target to reduce direct (Scope 1 and 2) CO2 emissions by 41% against a 2005 baseline by 2020. Our direct CO2 emissions are estimated to be 40% lower in 2019 than in 2005 and on track for the 41% target.</p> <ul style="list-style-type: none"> • Buildings

		<p>there has been a decrease in energy-related emissions from Industrial, commercial and domestic buildings within the city. Emissions from these sources have fallen by 41% from 2010 to 2018. This may largely be due to emissions associated with electricity (Scope 2) halving in this period.</p> <p>Much of the progress in the domestic sector can be attributed to improvements with electricity supply (-58% reduction since 2010). Emissions from gas consumption, largely reflecting energy demand for space and water heating in homes, has not declined to the same extent (-18% reduction since 2010).</p> <ul style="list-style-type: none"> • Renewable energy As of 2019 Manchester has an estimated 21 MW of installed solar PV. With no reported hydro, wind or anaerobic digestion reported in the statistics for local renewables, this is currently the extent of Manchester's locally generated renewable electricity. • Transport (excluding aviation) Emissions from surface transport have remained relatively static over the past decade, falling by only 6% between 2010 and 2018. Unlike electricity supply, there has been no fundamental transformation in surface transport emissions. There is a significant need to transform transport around the city, including through active travel and public transport. Note that aviation is reported separately to our direct emissions.
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(4.9) Does your city have a consumption-based inventory to measure emissions from consumption of goods and services by your residents?

	Response	Provide an overview and attach your consumption-based inventory if relevant
Please complete	Intending to undertake in the next 2 years	<p>Manchester does not currently have a consumption-based inventory to measure emissions from the consumption of goods and services by our residents. This was recognised as a gap in Manchester Climate Change Framework 2020-25 where the 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' was adopted.</p> <p>In November 2019 the Tyndall Centre was commissioned by the Manchester Climate Change Agency to review the city's climate change targets. As part of this review, Dr Christopher Jones made a series of recommendations on how Manchester might measure and manage its</p>

		<p>consumption-based emissions.</p> <p>This review noted that obtaining accurate and up-to-date data for city-level consumption-based footprints is a major challenge. Centrally, there is currently insufficient data on trade flows in and out of the city. This means that city-level consumption-based footprints rely heavily on assumptions, downsampling and estimations, painting a fuzzy picture.</p> <p>Moreover, given the lack of local-level data, it is very hard to account for the change that is specific to Manchester. We cannot, therefore, currently track our progress year-on-year effectively or set aggregated consumption-based emissions targets.</p> <p>Nonetheless, based on a study by the C40 Cities Group we can estimate that Manchester’s consumption-based footprint is around 60% greater than its production-based footprint. Drawing upon this and Department for Business, Energy and Industrial Strategy (BEIS) data, we can roughly estimate the city’s consumption-based footprint to be around 3.3 MtCO₂.</p> <p>As set out in the Manchester Climate Change Framework 2020-25, we now need to undertake additional work 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.</p> <p>The Consumption-Based Emissions Sub-Group of The Manchester Zero Carbon Advisory Group, led by Dr Joe Blakey (The University of Manchester), will work to expand our understanding of Manchester’s consumption-based emissions, enabling the city to better monitor and manage them. http://www.manchesterclimate.com/advisory-groups</p>
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City-wide external verification

(4.12) Has the city-wide GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

Yes

(4.12a) Please provide the following information about the city-wide emissions verification.

	Name of verifier and attach verification certificate	Year of verification	Please explain

Please complete	Dr Christopher Jones	2020	Dr Chrisptopher Jones, Senior Research Fellow for the Tyndall Centre for Climate Change Research at the University of Manchester created the Manchester Emissions plots from the BEIS local authority data. Which was then ratified by our Zero Carbon Independent Advisory Group http://www.manchesterclimate.com/zero-carbon-advisory-group
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Historical emissions inventories

(4.13) Please provide details on any historical and base year city-wide emissions inventories your city has, in order to allow assessment of targets in the table below.

Inventory date from

January 1, 2017

Inventory date to

December 31, 2017

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO₂e)

2,073

Is this inventory used as the base year inventory?

No

Methodology

2006 IPCC Guidelines for National Greenhouse Gas Inventories

File name and attach your inventory

Information can be found in the '2005-18-uk-local-regional-co2-emissions' spreadsheet

Comments

Inventory date from

January 1, 2016

Inventory date to

December 31, 2016

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

2,194.2

Is this inventory used as the base year inventory?

No

Methodology

2006 IPCC Guidelines for National Greenhouse Gas Inventories

File name and attach your inventory

Information can be found in the '2005-18-uk-local-regional-co2-emissions' spreadsheet

Comments

Inventory date from

January 1, 2015

Inventory date to

December 31, 2015

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

2,371.7

Is this inventory used as the base year inventory?

No

Methodology

2006 IPCC Guidelines for National Greenhouse Gas Inventories

File name and attach your inventory

Information can be found in the '2005-18-uk-local-regional-co2-emissions' spreadsheet

Comments

Inventory date from

January 1, 2014

Inventory date to

December 31, 2014

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

2,485.2

Is this inventory used as the base year inventory?

No

Methodology

2006 IPCC Guidelines for National Greenhouse Gas Inventories

File name and attach your inventory

Information can be found in the '2005-18-uk-local-regional-co2-emissions' spreadsheet

Comments

Inventory date from

January 1, 2005

Inventory date to

December 31, 2005

Scopes / boundary covered

Scope 1 (direct)

Scope 2 (indirect)

Previous emissions (metric tonnes CO2e)

3,274.7

Is this inventory used as the base year inventory?

Yes

Methodology

2006 IPCC Guidelines for National Greenhouse Gas Inventories

File name and attach your inventory

Information can be found in the '2005-18-uk-local-regional-co2-emissions' spreadsheet

Comments

Provisional data

Re-stating previous emissions inventories

(4.14) Since your last submission, have you needed to recalculate any past city-wide GHG emission inventories previously reported to CDP?

No

GCoM Emission Factor and Activity Data

(4.15) Please provide a summary of emissions factors and activity data used in your inventory.

Applicable sub-sector

Category

Fuel type or activity

Emission factor source

Gas

Emission factor value

Emission factor unit (numerator)

Emission factor unit (denominator)

Activity level (per emission factor unit denominator)

Comment

Manchester uses local authority emissions data, part of the UK Greenhouse Gas Inventory produced by the Department for Business, Energy & Industrial Strategy (BEIS). Please see their methodology here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904215/2019-ghg-conversion-factors-methodology-v01-02.pdf

Emissions Reduction

Mitigation Target setting

(5.0) Do you have a GHG emissions reduction target(s) in place at the city-wide level?

Fixed level target

(5.0b) Please provide details of your total fixed level target(s).

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

Manchester does not have a fixed level target we have a carbon budget for our direct CO2 emissions.

Manchester's carbon budget was calculated by the Tyndall Centre for Climate Change Research in June 2018, proposed by Manchester Climate Change Agency in October 2018, and formally adopted by Manchester City Council, on behalf of the city, in November 2018.

The adopted carbon budget relates to the total remaining amount of carbon dioxide (CO2) from energy use within the local authority area that Manchester should limit its emissions to in order to meet its goal of making a 'fair contribution' to the United Nations Paris Agreement on Climate Change. This carbon budget was set on the basis of a report by Kuriakose et al which used the latest science and the principle of equity within the Paris Agreement to determine a remaining budget for Manchester for the 2018 to 2100 period.

The report, as well as providing a quantification of the remaining carbon budget for Manchester, also includes five-yearly interim carbon budget periods and proposes an emissions reduction pathway with an average annual reduction rate. The report is based on an approach to setting local carbon budgets developed as part of the Department of Business Energy and Industrial Strategy (BEIS) funded SCATTER project in 2017/18. This underlying approach also recommended that the carbon budget is reviewed "on a five-yearly basis to reflect the most up to date science, any changes in global agreements on climate mitigation and progress on the successful deployment at scale of negative emissions technologies."

http://www.manchesterclimate.com/sites/default/files/Appendix%20%20-%20Quantifying%20the%20Implications%20of%20the%20Paris%20Agreement%20to%20Manchester%202018_0.pdf

In late-2019/early-2020 the Agency commissioned the Tyndall Centre to review the city's targets, in relation to:

- Direct emissions
- Indirect / consumption-based emissions, and
- Aviation emissions

The review and its recommendations were used to inform the development of the objectives and targets in the Manchester Climate Change Framework 2020-25. Copies of the Tyndall Centre's reviews for each scope are available from:

<http://www.manchesterclimate.com/targets-2020>

Boundary of target relative to city boundary (reported in 0.1)

Same – covers entire city and nothing else

Year of target introduction

2018

Target year

2038

Projected population in target year

623,800

Target year absolute emissions goal (metric tonnes CO₂e)

0.06

Percentage of target achieved

Does this target align with the global 1.5 -2 °C pathway set out in the Paris agreement?

Yes - 2 °C

Select the initiatives that this target contributes towards

Global Covenant of Mayors for Climate & Energy

Does this target align to a requirement from a higher level of government?

Yes, but it exceeds its scale or requirement

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

The UK Government has committed bring all greenhouse gas emissions to net-zero by 2050. Manchester has committed to be zero carbon by 2038, at the latest. But noting that the key parameter is staying within a science-based carbon budget, rather than hitting a specific zero carbon end-date alone.

Sector

All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions

The headline target, set in 2009, was to reduce the city's CO₂ emissions by 41% by 2020, from 2005 levels. This target equated to Manchester's fair share of the UK's legally binding carbon reduction obligations under the Climate Change Act 2008. This equates to a reduction from levels of 3.2 million tonnes per annum (2009) to less than two million; it also equates to a reduction in per capita emissions from 7.3 tonnes to 4.3 tonnes per head. As of 2018 data (the most recent available), we have achieved

92.4% of this target, using current trends it has been projected that we will meet this target however the definitive data will not be available to 2022.

Boundary of target relative to city boundary (reported in 0.1)

Same – covers entire city and nothing else

Year of target introduction

2009

Target year

2020

Projected population in target year

563,200

Target year absolute emissions goal (metric tonnes CO₂e)

1,932.26

Percentage of target achieved

92.4

Does this target align with the global 1.5 -2 °C pathway set out in the Paris agreement?

Yes - 1.5 °C

Select the initiatives that this target contributes towards

Other, please specify

UK Climate Change Act 2008.

Does this target align to a requirement from a higher level of government?

Yes

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.

This target equated to Manchester's fair share of the UK's legally binding carbon reduction obligations under the Climate Change Act 2008.

(5.1) Please describe how the target(s) reported above align with the global 1.5 - 2 °C pathway set out in the Paris agreement.

The Paris Agreement commits the global community to take action to: “hold the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C”. As part of the SCATTER project, this report translates the “well below 2°C” commitment enshrined in the Agreement into 1) a long-term carbon budget for Manchester, 2) a sequence of five-year carbon budgets, and 3) a date of effective ‘carbon neutrality’ for the region. Building on the latest science and emissions data, the analysis quantifies the challenging mitigation agenda necessary for Manchester to make a ‘fair’ contribution to a globally stable climate.

<http://www.manchesterclimate.com/targets-2018>

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

(5.2) Is your city-wide emissions reduction target(s) conditional on the success of an externality or component of policy outside of your control?

Yes

(5.2a) Please identify and describe the conditional components of your city-wide emissions reduction target(s).

1. The target requires national aviation emissions to stay within a given carbon budget which assumes emissions don't continue increasing through to 2030 and start to reduce after this. If national aviation emissions were to keep growing at pre 2020 levels the carbon budget for Manchester would shrink.
2. National grid decarbonisation. The UK National Grid has stated that full grid decarbonisation is possible before 2038 and this being achieved will help meet the climate goals of the city.
3. National transport strategy. As well as other powers and resources to help decarbonise building energy emissions, Manchester needs a national transport strategy to remove diesel trains in the city and ban fossil fuel vehicles from sale so that travel into the city from outside is primarily public transport or EV.

(5.3) Does your city-wide emissions reduction target(s) account for the use of transferable emissions units?

No

Mitigation Actions

(5.4) Describe the anticipated outcomes of the most impactful mitigation actions your city is currently undertaking; the total cost of the action and how much is being funded by the local government.

Mitigation action

Outdoor Lighting > LED / CFL / other luminaire technologies

Action title

Street Lighting LED replacement

Means of implementation

Infrastructure development

Implementation status

Implementation

Estimated emissions reduction (metric tonnes CO2e)

8,400

Energy savings (MWh)

18,699.74

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Job creation

Scope and impact of action

Manchester City council are currently 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.

Progress to date

- Achieved certified completion of 94.6% units.
- Replaced 26,272,626 kWh (annual) with 7,572,888 kWh, a saving of 18,699,738 kWh (71.1%).

The project will be completed on 31st August 2020 (some remaining units to be completed by 31 March 2021, delay due to access issues).

Finance status

Finance secured

Total cost of the project

32,800,000

Total cost provided by the local government

32,800,000

Majority funding source

Public-private partnership

Total cost provided by the majority funding source (currency)

32,800,000

Web link to action website

https://secure.manchester.gov.uk/info/500350/signs_lights_and_road_markings/7469/w_e_are_replacing_your_street_lights

Mitigation action

Energy Supply > Low or zero carbon energy supply generation

Action title

Civic Quarter Heat Network

Means of implementation

Infrastructure development

Implementation status

Implementation

Estimated emissions reduction (metric tonnes CO2e)

1,600

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions

Improved resource efficiency (e.g. food, water, energy)

Improved resource security (e.g. food, water, energy)

Scope and impact of action

Manchester city council working in partnership with Vital Energi to create the Manchester Civic Quarter Heat Network.

The network will provide a highly efficient, environmentally-friendly heat and power solution for some of Manchester's most iconic buildings, making significant carbon reductions.

The network will contain power cables to distribute the electricity generated and underground pipes that deliver heat and hot water to connected buildings - one of the most cost-effective ways of reducing carbon emissions from heating. The network has been designed to enable future expansion, with efficiency and carbon savings increasing as more buildings join.

The first buildings to be connected are:

- Town Hall
- Town Hall Extension and Central Library
- Manchester Central Convention Centre
- The Bridgewater Hall
- Heron House

Heat will be generated

from an energy centre, which is being built near to Manchester Central Convention Centre, at the junction of Great Bridgewater Street and Lower Mosley Street.

The energy centre's five flues will be incorporated into a 'Tower of Light', which will be a sculptural landmark for the city and was completed on the 30th July 2020 .

Containing a 3.3MWe CHP engine and two 12MW gas boilers, the energy centre will generate electricity and harness the recovered heat from this process for distribution via a 2km district heating network, which will supply heat for the buildings.

The scheme has been part-funded by a £2.87m grant from the Government's Heat Network Investment Project (HNIP), with MCC being one of the first local authorities to receive this funding. The total cost of the project coming to an estimated £26 million

The scheme is projected to save an initial 1,600 tonnes of carbon emissions per year and the energy centre will become even more efficient as additional buildings are connected.

Work will be required to identify options for a zero carbon fuel source.

Finance status

Finance secured

Total cost of the project

26,000,000

Total cost provided by the local government

Majority funding source

Local

Total cost provided by the majority funding source (currency)

Web link to action website

https://secure.manchester.gov.uk/news/article/8199/full_steam_ahead_for_manchester_s_civic_quarter_heat_network &

https://secure.manchester.gov.uk/news/article/8528/final_sections_added_to_manchester_s_40m_tower_of_light

Mitigation action

Buildings > Energy efficiency/ retrofit measures

Action title

MCC Buildings Carbon Reduction Programme

Means of implementation

Infrastructure development

Implementation status

Implementation

Estimated emissions reduction (metric tonnes CO2e)

4,800

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Scope and impact of action

The MCC carbon reduction programme is a programme to significantly improve the energy efficiency of 13 key Manchester City Council (MCC) buildings.

Buildings in MCC's operational estate represented 68.9% of MCC's direct carbon dioxide emissions in 2018/19. The Carbon Reduction Programme (£25.2m) will invest in schemes such as combined heat and power, solar photovoltaic panels, and the use of LED lighting within MCC's estate.

There are currently 2 Phases. 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 (£3.3m) 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. 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.

Current Progress June 2020:

- Phase 1 - Wythenshawe Forum now back onsite post COVID-19. Town Hall Extension were back on site early July with LED lighting replacements & automated controls.
- Phase 1a - European Regional Development Fund (ERDF) programme funding is contributing to Solar PV at Hammerstone Road Depot alongside wider refurbishment & at the National Cycling Centre. The Ministry of Housing Communities & Local Government have completed their technical appraisal & have approved in principle over

£1.2million of ERDF funding

- Phase 2 - £15m budgeted. Working with energy partners to look at potential projects, activity stalled due to C19. Site visits to recommence in July, high level assessments to be available by the end of August.
- HydroZero pilot (hydrogen fuel cell boiler replacement) installation at 2 libraries for late July.

Going forward we need to 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) Corporate Estate and Facilities.

To achieve:

- 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

Expected Annual Carbon Saving (tonnes CO₂) and cost:

- Completion of phase 1 Buildings Carbon Reduction Programme: 1400, £7.6m (in place)
- Completion of Phase 1 (a) Buildings Carbon Reduction Programme - ERDF Supported: 400, £2.6m (in place)
- Phase 2 of Carbon Reduction Programme: 3000, £15m (priority in Capital Strategy pending final approvals)

Finance status

Feasibility finalized, and finance partially secured

Total cost of the project

25,200,000

Total cost provided by the local government

25,200,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

25,200,000

Web link to action website

<https://democracy.manchester.gov.uk/documents/s16315/The%20Councils%20Climate%20Change%20Action%20Plan%202020-25%20and%20Appendices.pdf>

Mitigation action

Waste > Improve the efficiency of waste collection

Action title

Biffa Waste Collection Fleet

Means of implementation

Infrastructure development

Implementation status

Pre-implementation

Estimated emissions reduction (metric tonnes CO2e)

900

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

- Reduced GHG emissions
- Improved resource efficiency (e.g. food, water, energy)
- Improved resource quality (e.g. air, water)

Scope and impact of action

In summer 2015, Biffa took over the running of the Council's household refuse collection service from Enterprise and also began running the Council's Street Cleansing services. This resulted in 28 sweepers and 40 tippers, transferring from the Council to Biffa.

This contributed to an increase in emissions from the Biffa waste fleet and a decrease in the Council fleet vehicle emissions. Since the 2009/10 baseline, emissions from the waste fleet have increased by 23.2% from 2,496 tCO₂ to 3,076 tCO₂. Since the 2015/16 contract change, emissions have increased by 19.3%. This increase has been due to additional vehicles being added to the fleet, longer collection rounds and the use of vehicles with engines that reduce NO₂ emissions to improve air quality but which use more fuel, therefore, increasing CO₂ emissions.

In 2019, Biffa started to trial the first fully electric Refuse Collection Vehicle in Manchester and the success of this trial has led to the purchase of 27 Electric Refuse Collection Vehicles due to arrive in Autumn 2020, which will deliver approximately 900 tCO₂ savings per annum. The trial is the first step in the effort to ultimately end the CO₂ emissions released from diesel fuels during waste collections and to help improve the city's air quality.

Work is underway with Electricity North West to install charging infrastructure at the Hammerstone Road Depot and Longley Lane Depot to power the new electric refuse collection vehicles.

Finance status

Finance secured

Total cost of the project

9,780,000

Total cost provided by the local government

9,780,000

Majority funding source

Local

Total cost provided by the majority funding source (currency)

9,780,000

Web link to action website

<https://democracy.manchester.gov.uk/documents/s16315/The%20Councils%20Climate%20Change%20Action%20Plan%202020-25%20and%20Appendices.pdf> &
https://secure.manchester.gov.uk/news/article/8444/electric_dreams_council_makes_huge_commitment_to_eco-friendly_bin_lorries

Mitigation action

Private Transport > Improve fuel economy and reduce CO2 from motorized vehicles

Action title

Replacement of the Council's Operational Fleet with Electric Vehicle alternatives.

Means of implementation

Infrastructure development

Implementation status

Implementation

Estimated emissions reduction (metric tonnes CO2e)

400

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Per year

Co-benefit area

Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Improved resource quality (e.g. air, water)

Scope and impact of action

Manchester City Council is running a rolling replacement of current fleet vehicles with electric vehicles. As at April 2020, the Council operated 220 fleet vehicles, including 16 electric vans, one electric car, one electric people carrier and three hybrid cars.

Since the 2009/10 baseline, emissions from the Council fleet have decreased by 72.2% from 2,863 tCO₂ to 797 tCO₂. Since the 2015/16 contract change, emissions have decreased by 30.3%. A number of fleet vehicles are coming up for replacement this year and will be replaced with electric vehicles.

Work is currently underway to assess the level of charging infrastructure required across the Council's fleet and estates.

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. The completion of this will save over 400 tCO₂ per year.

Finance status

Finance secured

Total cost of the project

Total cost provided by the local government

Majority funding source

Local

Total cost provided by the majority funding source (currency)

Web link to action website

<https://democracy.manchester.gov.uk/documents/s16315/The%20Councils%20Climate%20Change%20Action%20Plan%202020-25%20and%20Appendices.pdf>

Mitigation action

Energy Supply > Optimize traditional power/ energy production

Action title

A Local Energy Plan for Manchester via the Greater Manchester Local Energy Market project.

Means of implementation

Assessment and evaluation activities

Implementation status

Implementation

Estimated emissions reduction (metric tonnes CO2e)

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production

Co-benefit area

Improved resource efficiency (e.g. food, water, energy)
Improved access to and quality of mobility services and infrastructure
Improved access to data for informed decision-making

Scope and impact of action

The project is led by Electricity North West Ltd (ENWL) and brings together the resources of Greater Manchester Combined Authority (GMCA), Hitachi EU, Bruntwood and innovative SME Upside Energy and it will test the feasibility of a GM region-wide local energy market which responds to 'place-based' constraints and market needs.

The key driver for the project is to enable and increase the flexibility in the energy distribution network through: novel management tools (including building management systems), Market Aggregators and virtual power plants (VPP) to allow higher penetration and accelerated deployment of renewable energy sources (RES) and demand-side(DSR) response opportunities.

A deliverable from this project is a local energy plan for Manchester. The Plan will identify areas suitable for Solar PV deployment (domestic and non-domestic), battery storage, low carbon heating solutions, electric vehicle deployment. The project started in April 2020 and has been funded by UK Research & Innovation (£111,647). Although there are no direct savings in carbon or energy this project allows further development and implementation of carbon saving measures and technologies.

Finance status

Finance secured

Total cost of the project

111,647

Total cost provided by the local government

Majority funding source

(Sub)national

Total cost provided by the majority funding source (currency)

111,647

Web link to action website

<https://gtr.ukri.org/projects?ref=133799#/tabOverview>

GCoM Additional Information

Mitigation Planning

(5.5) Does your city have a climate change mitigation or energy access plan for reducing city-wide GHG emissions?

Intending to undertake in the next 2 years

(5.5b) Please explain why you do not have a city climate change mitigation plan and any future plans to create one.

	Reason	Comment
Please explain	Action plan in early stages of project planning	<p>The Manchester Climate Change Framework 2020-25 (Version 1.0) is the city's overarching climate change strategy. It provides high-level details of the actions that need to be taken to enable the city to meet its targets (see below).</p> <p>Version 2.0 of the Framework will be developed during 2021-22, as part of the EU-funded Zero Carbon Cities project. The project is led by Manchester, to support 6 EU cities to set science-based targets and develop Zero Carbon SECAPs: https://urbact.eu/zero-carbon-cities.</p> <p>From Version 1.0 of the Framework:</p> <p>Buildings (existing): retrofit over 11,500 of Manchester's 226,640 homes per year</p> <p>Buildings (new): all new development needing to be zero carbon from 2023 at the latest</p> <p>Energy:</p> <ul style="list-style-type: none"> - 100% renewable energy - at least 50%

		<p>of all homes should have the equivalent of 16m2 of solar PV panels by 2024</p> <ul style="list-style-type: none"> - over 13,600 (6%) of Manchester's 226,640 homes connected to a low carbon heating source every year. <p>Ground Transport:</p> <ul style="list-style-type: none"> - significant increases in sustainable modes of transport - 100% of Manchester's cars and buses need to be zero emissions (tailpipe) by 2035 <p>Flying:</p> <ul style="list-style-type: none"> - work with UK Government to ensure that flights from Manchester Airport and all UK airports are fully in line with the Paris Agreement <p>Food:</p> <ul style="list-style-type: none"> - 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 <p>The things we buy and throw away:</p> <ul style="list-style-type: none"> - Buy less - Buy better - Buy from local businesses - Repair - Recycle <p>Green infrastructure and nature-based solutions:</p> <ul style="list-style-type: none"> - increase urban green infrastructure by 10% by 2038, from 2018 levels
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Opportunities

Opportunities

(6.0) Please indicate the opportunities your city has identified as a result of addressing climate change and describe how the city is positioning itself to take advantage of these opportunities.

Opportunity	Describe how the city is maximizing this opportunity
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<p>Development of clean technology businesses</p>	<p>The Greater Manchester Business Growth Hub Offers custom advice to support small and medium-size enterprises (SMEs) in their progression towards a zero carbon future; cutting carbon emissions, improving products and processes, increasing energy efficiency and boosting profitability. The Growth Hub's approach is to empower businesses to make their Green Growth Pledge to celebrate their green commitments and implement their bespoke zero carbon action plans. From 2013 to present:</p> <p>Cost savings achieved in businesses, by improving environmental performance: 38,290,365</p> <p>Tonnes of carbon dioxide equivalent (CO₂e) saved: 175,826</p> <p>Tonnes of solid, liquid and gaseous materials saved: 13,483</p> <p>Cubic metres of water saved: 1,426,878</p> <p>Tonnes of waste diverted from landfill: 165,295</p> <p>Jobs Created: 68.11</p> <p>Jobs Safeguarded: 19</p> <p>Sales Increased (Value): 14</p> <p>Sales Increased (Count): £7,996,336</p> <p>Businesses Assisted (minimum of 12 hours): 143</p> <p>Intensive support (12+ hours): 106</p>

Collaboration

(6.2) Does your city collaborate in partnership with businesses in your city on sustainability projects?

Yes

(6.2a) Please provide some key examples of how your city collaborates with business in the table below.

Collaboration area	Type of collaboration	Description of collaboration
Building and Infrastructure	Collaborative initiative	<p>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 and working towards a zero carbon Manchester pathway.</p> <p>They hold a key opportunity to influence member and attendee behaviours in addition to their own buildings and transport. Manchester was recognised as an URBACT Good Practice city and is now leading an URBACT Transfer Network on best practice in the arts and culture sector to reduce emissions.</p> <p>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.</p> <p>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.</p>
Energy	Collaborative initiative	<p>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, which will see the, spending £63.5m to decarbonise their operations and help Manchester businesses, colleagues and customers to do the same in the next three years.</p>

		<p>ENW commissioned research with the Tyndall Centre into what the top five things that SMEs should do now to decarbonise. They are now feeding that information into SMEs and have increased their business to business engagement to help business users and local authorities.</p> <p>Their headline targets by 2025 are, 10% reductions year on year for their own operations and two carbon neutral depots. To roll out their Smart Street technology, which optimises the voltage on the electricity network, making domestic appliances run more efficiently and potentially saving Manchester's customers up to £60 per a year on their electricity bill.</p>
Building and Infrastructure	Collaborative initiative	<p>Bruntwood is a family-owned property company offering office space, serviced offices, retail space and virtual offices in the north of England, led by one purpose: creating thriving cities. They work with over 3,000 businesses and own over 100 landmark properties, over 25 of which are located within the city of Manchester. Bruntwood were the first UK commercial property company to sign the World Green Building Council's Advancing Net Zero commitment.</p> <p>As a member of the Manchester Climate Change Partnership, Bruntwood has signed our commitment to act and has been working collaboratively with us over the past year to nail down their climate change action plan as well as taking part in cross-cutting projects across the partnership such as the UK Climate Resilience: Embedded Researcher scheme.</p> <p>Their headline achievements for 2019/20 are, they have invested in a solar deployment strategy across several their buildings and introduced a number of sensors in their MCR city centre and Trafford offices to monitor CO₂, humidity and temperature. Using the data from these sensors, they have introduced green infrastructure to reduce CO₂ levels and manage temperatures.</p> <p>Their headline target to achieve is to reduce carbon intensity (kgCO₂e/m²) by 100% by 2030 compared to a 2017/18 baseline. They are also urgently driving to develop Science Based Targets for Scope 3 emissions and procure 100% renewable electricity for all their estate.</p>
Industry	Collaborative initiative	<p>Manchester City Football Club, as a member of the Manchester Climate Change Partnership, has been working collaboratively with Manchester to reduce its emissions. Over 30 football & concert events held by Manchester City Football Club over the year. Each event attended by c.50,000 people per event.</p>

		<p>Their estate comprises of the main Etihad stadium plus a number of offices and training buildings and facilities. In 2019/20 they have changed the light fittings (Stadium) to LED, reducing consumption by just over 1million kw/h and begun an active programme of energy use behaviours to reduce consumption and energy waste across the organisation.</p> <p>They are working with partners and stakeholders across the Etihad Campus to share information and benefits – resulting in Campus framework. They are also reducing packaging (inward and outward) and with partners/stakeholders, for example, they have removed all single-use plastic from match/event days and are trialling an anaerobic digester for both food and grass waste where source reduction isn't possible.</p> <p>By 2025 they plan to, significantly change energy consumption behaviours, 1,000,000 Kw/h of energy via change to LED. Remove all consumable plastics, packaging across the business, 88,000 single-use plastic cups per match/concert (x23) = reduction of 2.2million/annum. Have 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). Further develop their biodiversity and ecology – with year-on-year growth in habitat, wildlife and active engagement. Develop their estate and property in line with the UN Sustainable Development Goals and have a fully engaged, knowledgeable and innovative workforce and supported base that champions best practice and challenges actions and impact.</p>
<p>Public Health and Safety</p>	<p>Collaborative initiative</p>	<p>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. These are a part of the Manchester University's NHS Foundation Trust (MFT) which is a member of the Manchester Climate Change Partnership and has been working collaboratively with the city to reduce its carbon emissions as the NHS's footprint is directly impacted by other city sectors such as transport (air quality) and housing (social care/fuel poverty).</p> <p>During 2019/20 they 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.</p>

		<p>Anaesthesia accounts for 4% of their 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.</p> <p>Throughout 2019/20 they 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.</p> <p>In November 2019, MFT publicly declared a climate emergency, committing to deliver the Manchester net zero carbon by 2038 target. This was widely communicated across their stakeholders and they will be building on this in 2020/21, by targeting areas of significant carbon hotspots within the MFT.</p> <p>Their headline action is to reduce our core carbon emissions by 33% by 2023/24 against the 2017/18 baseline. They also plan to include travel and transport sustainability criteria within key contracts and embrace new and existing digital technologies to reduce the environmental impact of care, prevent ill health and management long-term health conditions.</p>
<p>Business and Financial Services</p>	<p>Collaborative initiative</p>	<p>Manchester Metropolitan University (MMU) is the sixth-largest university in the United Kingdom by enrolment (33,010 total students) and a Member of Manchester Climate Change Partnership. Manchester Metropolitan University is the UK’s second greenest university according to the People and Planet League 2019.</p> <p>In 2019/20 MMU has, 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 in July 2020. This will be redrafted 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.</p> <p>They have developed a new leadership and governance structure to steer the environment/climate agenda, chaired by the University’s Provost and Deputy Vice-Chancellor. They are also working with Manchester Climate Change Agency with the UKRI embedded researcher scheme.</p>

		<p>Through 2020 to 2025 MMU aims to, develop and deliver of the Manchester Met's 2026 Carbon Management Plan developing a pathway to zero carbon by 2038. Develop and deliver 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. The full Plan will be published in ~ January 2021.</p>
Social Services	Collaborative initiative	<p>Manchester City Council have developed their own climate change action plan for 2020-25, setting out how they will contribute to the citywide Climate Change Framework: www.manchester.gov.uk/zerocarbon</p> <p>Manchester Climate Change Agency will be working collaboratively with MCC to support the Green Recovery from the COVID-19 pandemic.</p> <p>Manchester City Council has reaffirmed its commitment to a green recovery. In a response to Manchester Climate Change Partnership and Agency's letter in June 2020, the Leader of Manchester City Council, Sir Richard Leese, set out:</p> <p>"The Council and our partners have already undertaken a tremendous amount of work in response to the COVID-19 pandemic and we are now firmly in the planning for recovery phase. We have been clear throughout this period that our climate change ambitions should be considered within all of the different recovery workstreams. As well as addressing the global climate emergency, we also believe that local action on climate change will help to create a city which is more economically competitive, resilient and inclusive."</p> <p>http://www.manchesterclimate.com/green-recovery</p>
Building and Infrastructure	Collaborative initiative	<p>The University of Manchester is the second-largest university in the United Kingdom by enrolment (40,490 total students). The University of Manchester is the largest single-site university in the UK and is also a Member of the Manchester Climate Change Partnership.</p> <p>During 2019/20 UofM has opened 2 BREEAM Excellent buildings, completed 3 LED lighting projects, using their Revolving Green Fund, with annual CO2 savings are 116 tCO2 and lifetime CO2 savings are 2,300 tCO. They have also engaged over 450 staff in Green Impact, engaged with a network of 381 staff champions,</p>

		<p>actively working alongside 196 staff to implement changes including undertaking resilience and influencing training, and 4,676 first-year students completed half a day's action-based learning on sustainability as part of the University's Ethical Grand Challenges.</p> <p>During 2020-25 they plan to endorse a 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. Eliminate avoidable single-use plastic from catering, stationery and laboratories by 2022. Reduce business air travel by 12% (based on km travelled) from 2014/15 baseline by 2022. Launch an engagement platform for students to take action on sustainability and continue delivering Ethical Grand Challenges and train all students and staff in carbon literacy.</p>
Building and Infrastructure	Collaborative initiative	<p>The Manchester Housing Providers Partnership (MHPP) brings together Manchester's registered housing providers and are working collaboratively with Manchester through the Manchester Climate Change Partnership. There are 17 registered housing providers that are all members with stock holdings across Manchester.</p> <p>In 2019/20 they have, 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. Agreed to become a fully Carbon Literate by 2025 and agreed to develop a communications strategy to be delivered through all available channels and action plan for targeted engagement.</p> <p>Throughout 2020/21 they will be working with Manchester Climate Change partnership to further develop climate change action plan.</p> <p>Through 2020-25 they have stated that all business decisions must demonstrate carbon reduction has been a key consideration through an environmental impact assessment. They will assess current infrastructure and lease arrangements and move to a fully electrified fleet. Ensure all electrical energy procurement is through suppliers of renewable electricity and consider renewable heating for all developments projects before gas boilers.</p>
Business and Financial Services	Collaborative initiative	<p>On July 1st 2020, Manchester was announced as one of eight global cities selected for a new initiative to help cities and businesses work together for urgent climate action.</p> <p>The 'City-Business Climate Alliance' (CBCA) has been developed by the C40, CDP and World Business Council for Sustainable Development. Through their existing networks the partners already support over 10,000 businesses and almost 1,000 cities to take</p>

		<p>action towards the Paris Agreement.</p> <p>CBCA has been developed to build on this work and support the development of eight new city-business partnerships to accelerate local action towards meeting city, national and international climate change targets.</p> <p>Between 2020-2023, Manchester will build on the existing Manchester Climate Change Partnership and invite new sectors and organisations to join the city's zero carbon programme.</p> <p>The other partner cities include: Dallas (USA), Durban (South Africa), Lisbon (Portugal), New York (USA), Stockholm (Sweden), Tel Aviv (Israel), and Vancouver (Canada), and these cities provide Manchester with an exciting opportunity to learn from their innovative zero carbon initiatives.</p>
<p>Business and Financial Services</p>	<p>Collaborative initiative</p>	<p>The 'URBACT Zero Carbon Cities project', is led by Manchester and supported by Energy cities.</p> <p>Seven European cities are involved in this project, to support them to set science-based targets and develop Zero Carbon SECAPs:</p> <ul style="list-style-type: none"> Bistrita (RO) Frankfurt am Main (DE) Manchester (UK) Modena (IT) Tartu (EE) Vilvoorde (BE) Zadar (HR) <p>The network of 7 European cities, will establish science-based carbon reduction targets, policies and action plans, including governance and capacity building.</p> <p>These action plans will enable them to contribute to the successful implementation of the Paris Agreement and the EU's strategic vision for carbon neutrality by 2050.</p> <p>At a local level, ZCC will establish a local group (URBACT Local Group) to develop a local action plan incorporating science based targets for the city. The city has an existing structure which lends itself to the ULG – the Manchester Climate Change Partnership. The Partnership is made up of local stakeholders including public, private, community, academic, business and faith, who can contribute to the production and implementation of the Local Action Plan.</p>

Finance and Economic Opportunities

(6.5) List any mitigation, adaptation, water related or resilience projects you have planned within your city for which you hope to attract financing and provide details on the estimated costs and status of the project. If your city does not have any relevant projects, please select 'No relevant projects' under 'Project Area'.

Project area

No relevant projects

Project title

Stage of project development

Status of financing

Financing model identified

Identified financing model description

Project description and attach project proposal

Total cost of project

Total investment cost needed

Energy

(8.0) Does your city have a renewable energy or electricity target?

Yes

(8.0a) Please provide details of your renewable energy or electricity target(s) and how the city plans to meet those targets.

Scale

City-wide

Type

Energy

Energy / electricity types covered by target

All energy consumed (percentage)

Base year

2020

Total renewable energy / electricity covered by target in base year (in unit specified in column 3: energy/electricity types covered by target)

Percentage renewable energy / electricity of total energy or electricity in base year

1

Target year

Total renewable energy / electricity covered by target in target year (in unit specified in column 3: energy/electricity types covered by target)

100

Percentage renewable energy / electricity of total energy or electricity in target year

Percentage of target achieved

Please specify plans to meet the target(s) and in which sector this target will be implemented (i.e. All energy sectors, electricity, heating and cooling and/or transport)

All energy consumed in the city

(8.1) Please indicate the source mix of electricity consumed in your city.

Electricity source

Coal

35.4

Gas

28.2

Oil

1

Nuclear

22.3

Hydro

1.3

Biomass

4.7

Wind

5.3

Geothermal

0.8

Solar

1

Other sources

0

Total - please ensure this equals 100%

100

Year data applies to

2018

(8.2) What scale is the electricity mix data reported above?

Regional/State electricity mix reported

(8.4) How much (in MW capacity) renewable energy is installed within the city boundary in the following categories?

	MW capacity	Comment
Renewable district		

heat/co oling		
Solar PV	21	See page 10 of 21 http://www.manchesterclimate.com/sites/default/files/Mcr%20Climate%20Change%20Annual%20Report%202020_0.pdf
Solar thermal		
Hydro power	0	
Wind	0	
Other, please specify		

(8.5) Does your city have a target to increase energy efficiency?

Yes

(8.5a) Please provide details on your city’s energy efficiency targets.

Scale

City-wide

Energy efficiency type covered by target

Other, please specify

Retrofit over 11,500 of Manchester’s 226,640 homes per year

Base year

Total energy consumed/produced covered by target in base year (in unit specified in column 2)

Target year

Total energy consumed/produced covered by target in target year (in unit specified in column 2)

Percentage of energy efficiency improvement in target year compared to base year levels

Percentage of target achieved

Plans to meet target (include details on types of energy in thermal /electricity)

Please indicate to which energy sector(s) the target applies (Multiple choice)

Transport

(10.0) Do you have mode share information available to report for the following transport types?

Passenger transport

(10.1) What is the mode share of each transport mode in your city for passenger transport?

Please complete

Private motorized transport

23.66

Rail/Metro/Tram

39.62

Buses (including BRT)

21.56

Ferries/ River boats

Walking

13.2

Cycling

1.96

Taxis or For Hire Vehicles

Micro-Mobility

Other

(10.4) Please provide the total fleet size and number of vehicle types for the following modes of transport.

	Number of private cars	Number of buses	Number of municipal fleet (excluding buses)	Number of freight vehicles	Number of taxis	Transport Network Companies (e.g. Uber, Lyft) fleet size	Customer-drive carshares (e.g. Car2Go, Drivenow) fleet size	Comment
Total fleet size								The fleet size for the

								whole of Manchester is unknown. However As at April 2020, the Council operated 220 fleet vehicles, including 16 electric vans, one electric car, one electric people carrier and three hybrid cars.
Electric								
Hybrid								
Plug in hybrid								
Hydrogen								

(10.7) Do you have a low or zero-emission zone in your city? (i.e. an area that disincentivises fossil fuel vehicles through a charge, a ban or access restriction)

No

Food

Food Consumption

(12.0) Report the total number of meals and tonnes that are served and/or sold through programs managed by your city (this includes schools, canteens, hospitals etc.).

Total meals and tonnes that are served or sold through programs managed by your city

Number of meals

3,922,732

Tonnes served and/or sold

Comment

3,632,723 Primary School meals plus approx. 290,000 High School meals. These are annual totals for 2019-2020 (lower than usual due to COVID-19).

Manchester Fayre (MF) is the City Council's in-house catering provider. As the largest school meal provider, the company employs approximately 700 staff based at 120 locations across the City and each year the service provides, on average, around 5.5 million school meals (25,000 daily).

The service works in neighbourhoods and with communities to promote healthy eating through educational workshops and other engagement activities delivered by MF's nutrition team. Their proactive nutrition team check all ingredients, recipes and menus before approval for use in schools, which ensures they meet legislative standards and fulfil the requirements of their Bronze Food for Life Catering Mark award.

As a result of the Food for Life bronze achievement, 103 MF catered primary schools have received a certificate to proudly display in school. These were presented to Unit Managers at MF's annual training carousel where they also received a briefing session about Food for Life, delivered by representatives from the Food for Life Catering Mark team.

MF has won a number of awards recently including the Association of Public Service Excellence (APSE) Best Performer for Education Catering in 2014/15 and 2015/15. The provider has also won the 2016 Lead Association for Catering (LACA) Change4Life award in recognition for their strategic approach to gradually reduce sugar on the menu and for supporting health promotion lessons with pupils.

(12.1) What is the per capita meat and dairy consumption (kg/yr) in your city?

Meat consumption per capita (kg/year)

Amount

Year data applies to

Comment

This year we have been unable to quantify meat and dairy consumption in the city. However we have been encouraging a reduction of intake within our schools.

For over 10 years we have operated 'Meat Free Mondays' for our primary school menu, which is part of our commitment to reducing the carbon footprint. Due to the multicultural nature of our customers, our menus feature a wide range of non-meat and vegetarian dishes, and so feature very few meat based dishes. When a meat dish is featured, schools have the flexibility of choosing the meat popular with their customers and anecdotal evidence indicates that poultry is the preferred meat option in many schools.

In line with School Food Standards, meat dishes must be featured at least three menu days each week; when a meat dish is featured, schools have the flexibility of choosing the meat popular with their customers and anecdotal evidence suggests that poultry is the preferred meat option in many schools.

Dairy consumption per capita (kg/year)

Amount

Year data applies to

Comment

As Above this year we haven't been able to quantify the cities dairy intake. However to give some indication of the dairy consumption that is occurring in our schools.

In line with the School Food Standards, a portion of milk or dairy food must be available each menu day, as such semi-skimmed milk is available as a drink option at lunch and a locally produced lower fat cheese features as a sandwich/jacket filling and in some main meals.

Also in line with the standards, a portion of non-dairy protein must be available for vegetarian customers at least three menu days each week which does encourage caterers to not rely on cheese-based main meal dishes for vegetarians.

Sustainable Food Policies and Actions

(12.3) Does your city have any policies relating to food consumption within your city? If so, please describe the expected outcome of the policy.

	Response Please describe the expected outcome of the policy
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<p>Please complete</p>	<p>Yes</p>	<p>Manchester Food board established 2019.</p> <p>Manchester Food Board policy statement to be published in Autumn 2020.</p> <p>Manchester City Council is the local government body for the Manchester Food Board. The delivery of healthy and/or sustainable food for our communities is firmly embedded in a range of city policy and strategies:</p> <ol style="list-style-type: none"> 1. 'Food Futures' Strategy: aims to exert a broader influence over food work in the city, with the delivery of the strategy aims and objectives via the Manchester Food Board commitments and action plan. In addition, Food Futures have a range of existing distinct programme areas that aim to promote food as a platform to improve the diets and health and wellbeing of our residents, e.g. the Growing Manchester Programme. 2. The Green and Blue Infrastructure Strategy (G&BI) aims to reposition the appreciation and value of green spaces in Manchester. Its 3-year action plan aims to capture and signpost green infrastructure-related activity from a broad range of partners, with a key objective being to improve the quality and functionality of green space. A cross-sector stakeholder implementation plan is in place with key partners who deliver excellence in food growing in the City, such as Hulme Community Garden Centre & Sow the City. As such, sustainable food growing plays a key role in improving the functional value and usefulness of our green spaces, with the G&BI resourcing £85,000 investment to improve allotment spaces and annually increase the number of new orchards planted per year. 3. The Manchester Strategy (MS) vision is for Manchester to be in the top flight of world-class cities by 2025. The MS sets a long-term vision for Manchester's future and describes how it will be achieved. The MS outlines the role of the food and drink hospitality sector in the city and of food growing in delivering opportunities for physical and mental health improvements in our communities. 4. Manchester Climate Change Framework 2020-25 <p>Also food features in a range of policies and strategies to promote food security, health and wellbeing, such as the Family Poverty Strategy, Our Children: Manchester's Children and Young People's Plan 2016-2020 and Manchester's Early Help Strategy 2015-2018. Food also plays a key role in the quality and review of our commissioned services in care homes, home care and supported living for our older generations.</p>
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(12.4) How does your city increase access to sustainable foods?

Do you subsidise fresh fruits and vegetables?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Although we do not subsidise fresh fruits and vegetables, we do have at least one portion of fruit and one portion of vegetables each day available to customers in line with the School Food Standards, and furthermore operate an unlimited access salad bar that features a variety of seasonal fruits and vegetables (during non covid times). Please refer to the Good Food Greater Manchester strategy

<https://www.goodfoodgreatermanchester.org/manchester-sfc> &

https://www.sustainablefoodplaces.org/Portals/4/Documents/SFC_Manchester_Application_FINAL_PDF.pdf

Do you tax/ban higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Unfortunately, we do not tax/ban higher carbon foods (meat, dairy, ultra-processed). For examples of the projects and initiatives manchester does have please refer to the Good Food Greater Manchester strategy

<https://www.goodfoodgreatermanchester.org/manchester-sfc> and

https://www.sustainablefoodplaces.org/Portals/4/Documents/SFC_Manchester_Application_FINAL_PDF.pdf

Do you use regulatory mechanisms that limit advertising of higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Unfortunately, we do not use regulatory mechanisms that limit advertising of higher carbon foods (meat, dairy, ultra-processed). For examples of the projects and initiatives manchester does have please refer to the Good Food Greater Manchester strategy

<https://www.goodfoodgreatermanchester.org/manchester-sfc> and

https://www.sustainablefoodplaces.org/Portals/4/Documents/SFC_Manchester_Application_FINAL_PDF.pdf

Do you incentivise fresh fruit/vegetables vendor locations?

Action implemented

No

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

We do not incentivise fresh fruit and vegetables however please see earlier response in 12.4 where we positively encourage fruit and vegetable consumption with children via unlimited access salad bar. Please refer to the Good Food Greater Manchester strategy <https://www.goodfoodgreatermanchester.org/manchester-sfc> & https://www.sustainablefoodplaces.org/Portals/4/Documents/SFC_Manchester_Application_FINAL_PDF.pdf

Waste

(13.0) What is the annual solid waste generation in your city?

	Amount of waste generated (tonnes/year)	Year data applies to	Please describe the methodology used to calculate the annual solid waste generation in your city
Please complete	163,411	2019	2018/19 Financial Year. From https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/849135/LA_and_Regional_Spreadsheet_1819.ods

Water Security

Water Supply

(14.0) What are the sources of your city's water supply?

Surface water, from sources located fully or partially within city boundary

Ground water

(14.1) What percentage of your city's population has access to potable water supply service?

100

(14.2) Are you aware of any substantive current or future risks to your city's water security?

Do not know

Water Supply Management

(14.4) Does your city have a publicly available Water Resource Management strategy?

Not intending to undertake

(14.4b) Please explain why your city does not have a public Water Resource Management strategy.

	Reason	Please explain
Please explain	Water Resource Management is covered in other plans	Water resource planning (and regulation) is the responsibility of the privatised water company United Utilities

Submit your response

What language are you submitting your response in?

English

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I have read and accept the Terms and Conditions

Please confirm how your response should be handled by CDP.

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I am submitting my response	Publicly (recommended)