



MANCHESTER

Climate Change Strategy 2017-2050

How a centre of the industrial revolution becomes a centre of the energy revolution: From spinning yarn to carbon budgeting

The city of Manchester played a key role in the industrial revolution in the 19th century. As a former textile capital, the city has a history of paying attention to each and every detail as every single yarn adds its part to the garment. Today, Manchester is one of the frontrunners in the energy revolution with its roadmap to become a zero carbon city by 2050.



INHABITANTS 520,000

SIGNATORY OF THE COVENANT OF MAYORS Since 2009

REGION Greater Manchester

CHANGING CULTURE The roadmap specifies that a change in culture is an enabling objective. Thereby, an understanding of climate change and how to take action is embedded throughout the city, and expected to underpin action to meet all of the strategy's other objectives.

PARTICULARITY: HIGHLY INCLUSIVE ROADMAP INCLUDING SEVERAL CITIZEN-LED BOARDS The inclusiveness of Manchester's strategy is represented by several boards and actions that aim at involving the society as a whole. The youth board, for instance, is led by 16-25 year old residents. Furthermore, the Climate Change Board allows all city stakeholders to contribute to the strategy's ongoing development process and delivery, representing a collective approach to climate change action with a robust and transparent governance scheme.

AMBITION OF THE PLAN: A VISION OF ZERO CARBON

OVERALL ENERGY & TRANSPORT GOALS BY 2050

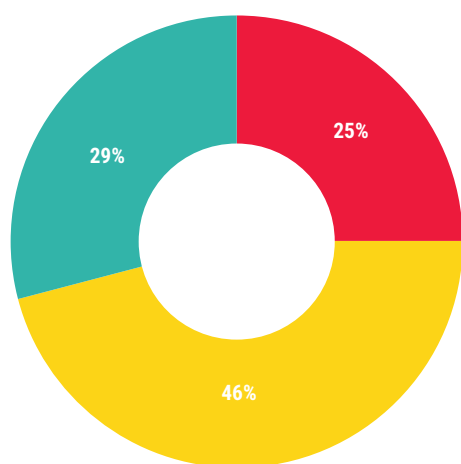
- > Zero carbon
- > Zero waste
- > Become fully climate resilient

*“ Vision 2050 Manchester is playing its full part in limiting the impacts of climate change, locally and globally. It is a **thriving, zero carbon, zero waste, climate resilient city** where all our residents, public, private and third sector organisations are actively contributing to and benefiting from the city's success. We compete and collaborate with cities around the world, ensuring that our collective efforts have limited global average temperature increases to well below 2oC, hopefully to 1.5oC, relative to pre-industrial level. ”*

(Source: Manchester Climate Change Strategy 2017-2050)

PRIORITY OBJECTIVES AND MAIN LEVERS OF IMPLEMENTATION

In order to realise its vision and ambition, Manchester has identified five priority objectives: **sustainable economy and jobs; healthy communities; resilience to climate change; zero carbon and culture change**. Intrinsically linked, these objectives represent the fact the **successful delivery of this strategy will require joint action, an integrated approach, and collaboration across traditional areas of policy**. Based on these five priority objectives, six thematic areas of action were identified, including buildings, energy, transport, resources and waste, food and green spaces and waterways.



Manchester's Scope 1 and 2 CO₂ emissions (2015 estimated)

- Business (1,169 ktCO₂)
- Domestic (724 ktCO₂)
- Transport (639 ktCO₂)

Our 'zero carbon' objective is that:

“ Manchester will adopt and stay within a scientifically robust carbon budget that is consistent with the Paris Agreement to limit global average temperature increases to well below 2°C, ultimately resulting in Manchester becoming a zero carbon city by 2050.

Manchester's carbon budget, pathway and timescales for becoming zero carbon will be kept under ongoing review and be subject to revision, to ensure that the city plays its full role as part of the Paris Agreement. ”

It is hoped that the development of carbon budgets for Manchester will help to inform the development of the Greater Manchester Climate Change Strategy for 2020+. And that hopefully it will also help inform potential work by GMCA to agree a Greater Manchester carbon budget with UK Government, on the basis that, with the right devolved powers and funding, the city-region can deliver local action that makes a measurable contribution towards achieving UK CO₂ targets.

State of play of Manchester's CO₂ emissions - Source: Manchester Climate Change Strategy 2017-2050

ZERO CARBON

In order for Manchester to become zero carbon, the energy that the city uses will be decarbonised by switching from fossil fuels to renewable energy sources, while also electrifying heat and transport. This will require new technologies such as battery storage to deal with fluctuating supply and demand. Furthermore, the city will adopt as one of the first European cities a comprehensive carbon budget approach.



TOWARDS A CARBON BUDGET

In the framework of its roadmap, Manchester plans to adopt a continuous, robust carbon budget consistent with the Paris Agreement by aiming at limiting global average temperature increase to well below 2°C. Manchester's carbon budget should also result in the city becoming zero carbon by 2050.

The idea behind Manchester's **carbon budget** is that it sets out how much CO₂ Manchester is *permitted* to emit in order to comply with the Paris Agreement. Manchester's roadmap will include five-year carbon budgets, which will be announced alongside future implementation plans, which will be published every 5 years. The carbon budget will be subject to ongoing revisions and modifications as required in this process.



Manchester's first carbon budget was announced in February 2018, and already laid out a detailed pathway and timescale for expenditure. In the framework of the EU-funded project SCATTER, the Tyndall Centre for Climate Change Research has calculated **a total carbon budget of 71 million tonnes CO₂ between 2018 and 2100 for Manchester**. 67 million tonnes of that budget are allocated to a series of 5 year carbon budgets for the period 2018 to 2038, with the remaining 4 million tonnes allocated to the period 2038 to 2100. Consequently, Manchester's annual carbon emissions will need to fall to near zero (below 0.6 Mt CO₂) already by 2038, in order to stay within the city's total carbon budget. Hence, Manchester will need to **reduce its carbon emissions by an average of 13% per year in order to be Paris-proof and comply with its own carbon budget**.

Apart from setting a clear climate action trajectory for the next three decades, Manchester's carbon budget also allows for calculating the city's contribution towards achieving the UK's carbon reduction targets (i.e. locally determined contribution), and thus represents a valuable, measurable and trackable tool for demonstrating the important role of cities in national climate policy.

CLIMATE RESILIENCE

Resilience to flooding, but also heat stress plays a crucial role for Manchester. Making the city and its infrastructure resilient to climate change includes the city's workers and supply chains. In return, this is expected to support businesses to prosper from selling their products and expertise needed to make Manchester and other cities worldwide resilient.



HOW IT WILL BE ACHIEVED



Through generating and distributing energy locally, this will help to climate-proof the energy infrastructure, which will also help to secure Manchester from disruption in energy supply. Building the capacity of communities and individuals to become resilient to flooding and heat stress will prevent the physical and mental health impacts that can otherwise occur. In addition, well-insulated and naturally ventilated buildings will avoid the need for air conditioning.

Manchester's Businesses: Key to the Success of the City's 2050 Roadmap

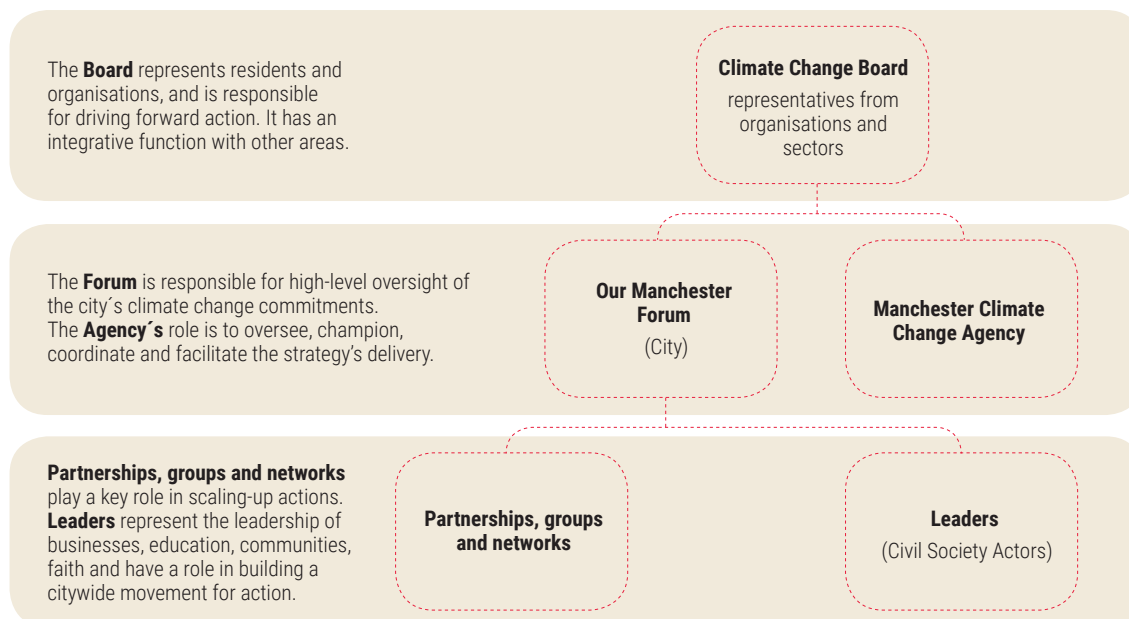
Manchester's industrial and commercial sectors are the city's greatest source of carbon emissions: 960,000 tonnes in 2017, equating to 45% of the city's total emissions. Bringing Manchester's businesses on board in the 2050 roadmap is therefore quintessential to its success.

With the definition of the zero carbon vision, the city's businesses have grasped the potential of designing new cutting edge, zero emission work spaces. In conjunction with the real estate sector and local universities, several flagship building retrofit projects are currently underway, such as for example the Oxford Road Corridor or Mi-IDEA, where NZeB and positive energy technologies are being used to make Manchester's industrial and commercial building stock progressively fit for the city's 2050 zero carbon trajectory.

GOVERNANCE

The **Manchester Climate Change Board**, established in February 2018, is responsible for driving forward the successful implementation of Manchester's 2050 roadmap. As part of the city's wider *Our Manchester* governance structure, the board contains a set of thematic sub-boards (e.g. the Climate Change Youth Board) that are each responsible in relation to their area of *the Our Manchester* strategy. The Manchester Climate Change Board also has an integrative function, as it integrates climate action into all areas of the *Our Manchester* strategy - from health, quality of life, jobs to economic success. The Board consists of representatives from different organisations and sectors across Manchester, and understands its mission as acting on behalf and in the interests of the city's residents and organisations. Therefore, the Board has committed to report publicly on its activities, by displaying the Board's meetings minutes on www.manchesterclimate.com and making formal accounts available at the Companies House at beta.companieshouse.gov.uk/company/09761661, thereby exemplifying the transparent, accountable and democratic character of Manchester's roadmap.

The **Manchester Climate Change Agency** is responsible for the coordination and delivery of the 2050 roadmap, while the **Manchester Forum** is overseeing that Manchester meets its commitments set out in its roadmap.



Despite the far reaching competences of the board, the forum and the agency, Manchester wants to ensure that really every part of the city is involved within the strategy. Therefore, in order to reach all local stakeholders and citizens, existing and **future partnerships**, groups and networks are all mobilised to play a critical role within the 2050 roadmap. Although political role models and leading by example can inspire and help drive action, Manchester acknowledges the fact that different stakeholders respond best to the activities and opinions of their peers and competitors. Hence, **leaders** of any societal level are encouraged to build on the city wide movement for action on climate change.

With this elaborated governance architecture in place, the city of Manchester demonstrates that in order to ensure the successful implementation of a 2050 roadmap, all residents, public and private sector organizations should feel responsible in doing their part in the city's climate action.

“ Through the Manchester Climate Change Youth Board, we aim to act as a voice for the young people of the city, to drive change across a number of sectors for a green and healthy future for ours and future generations ”

Tudor Baker, Manchester Climate Change Youth Board member

Manchester Climate Change Youth Board

The Manchester Climate Change Youth Board was established in November 2017 through an open application process. Made up of six talented 16-25 year olds who are studying and working in Greater Manchester, the Youth Board are vital members of the city's Climate Change Board, bringing energy and driving youth action in the city.

“ Our young people have the biggest stake in the city's future success. By creating jobs in the low carbon economy, cleaning our air, providing access to green spaces and enabling travel by walking, cycling and public transport, the city will prosper over the short term and into the future. This is why the Board and the Agency have established a new Manchester Climate Change Youth Board, to provide a platform for Manchester's young people to develop their own youth-led climate change initiatives ”

(Source Quote: Manchester annual report on Climate Change Strategy 2017-2050)

CITIZEN PARTICIPATION

During the months of July and October in 2016, Manchester launched a public consultation on the roadmap's overall vision, to which more than 700 residents and organisations replied. 85% of respondents agreed on the objective of becoming a zero carbon city by 2050, while another 6% found that this target was not high enough. Subsequently, the city respected the will of its residents and set a zero carbon vision in its 2050 roadmap.

Citizen participation in Manchester is also fostered by developing a low carbon culture within the city, which is characterised cultural and lifestyle change, ability and motivation of residents to take climate action. Manchester championed for example the Carbon Literacy Project, which raises awareness of the carbon dioxide costs and impacts of everyday activities. Consequently, this project contributes to increase the ability and motivation of Manchester's residents to reduce emissions on individual, community and organisational level.