

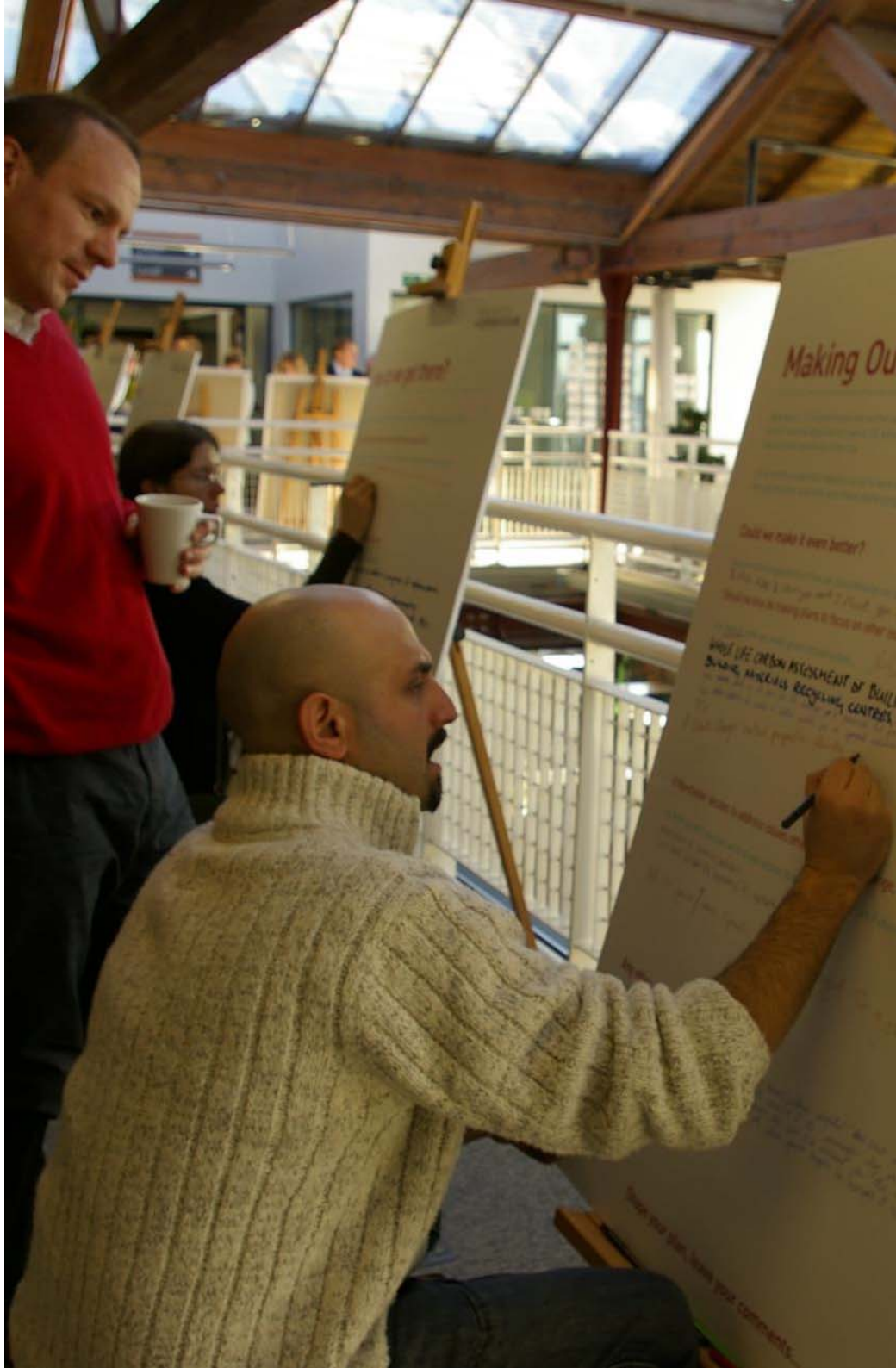
Zero Carbon Manchester

Zero Carbon City: the challenge & opportunity
26th November 2019

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Principal Policy Officer
Manchester City Council

Agenda

1. Manchester's Climate Change Commitments
2. The Challenge
3. The Opportunity
4. Where Next?



Manchester's Climate Change Commitments



‘Manchester will play its full part in limiting the impacts of climate change’



November 2018

Playing Our Full Part

Direct CO₂ emissions

- Buildings
- Transport

Indirect / 'consumption-based' CO₂ emissions

- Food
- Construction materials
- Clothes
- Furniture
- Electronics
- Waste
- Etc

Manchester Airport Aviation CO₂ emissions

- Part of UK and international strategy

Direct CO₂ Emissions Targets



Credit: Dr Jaise Kuriakose

Direct CO₂ Emissions Targets



15m tonnes
CO₂ 2018-2100




TyndallManchester
Climate Change Research



Adopted by
MCC Nov 2018

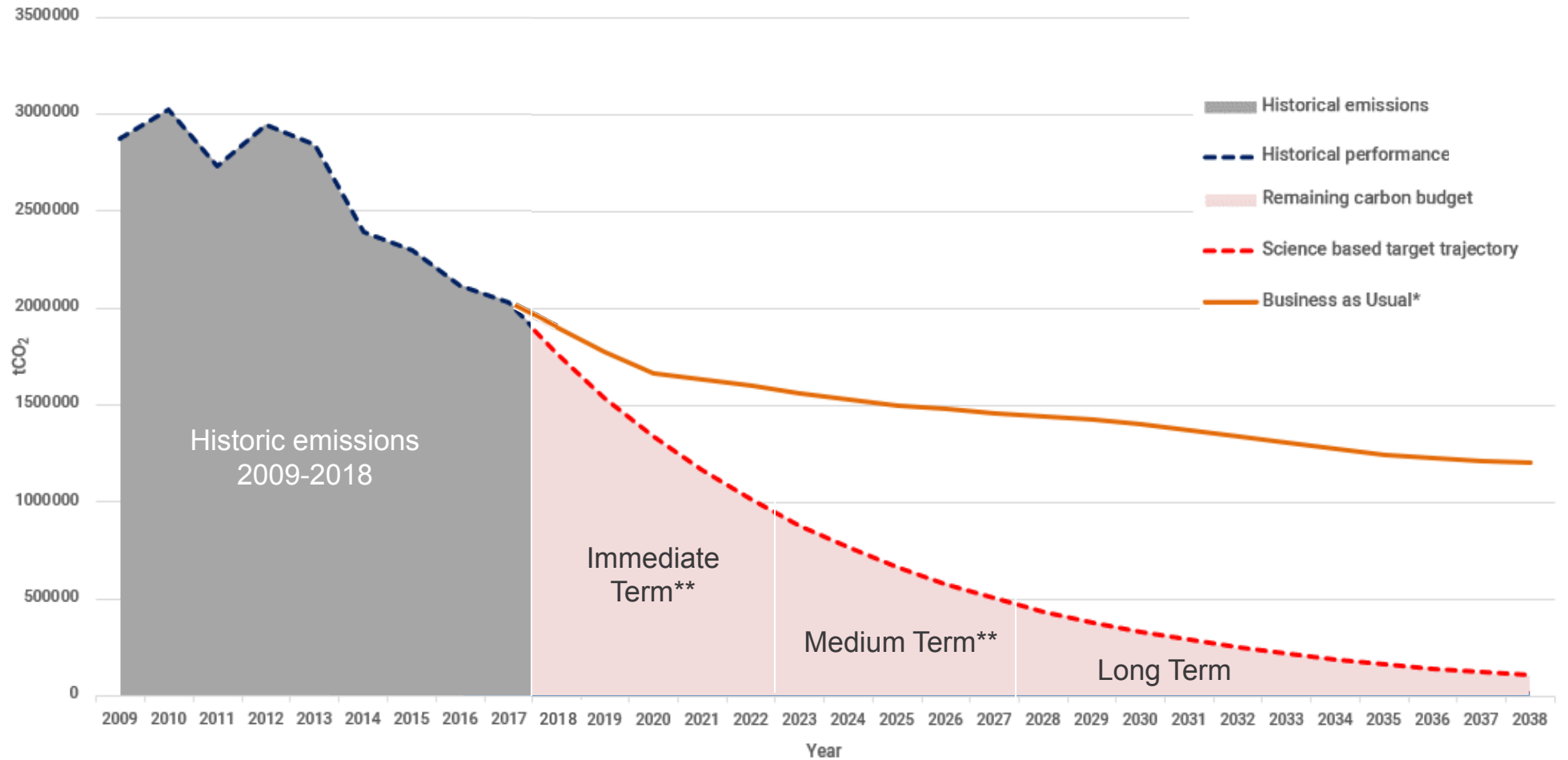
www.manchesterclimate.com/plan

Credit: Dr Jaise Kuriakose

@mcrclimate

MANCHESTER
CLIMATE CHANGE AGENCY

The Challenge

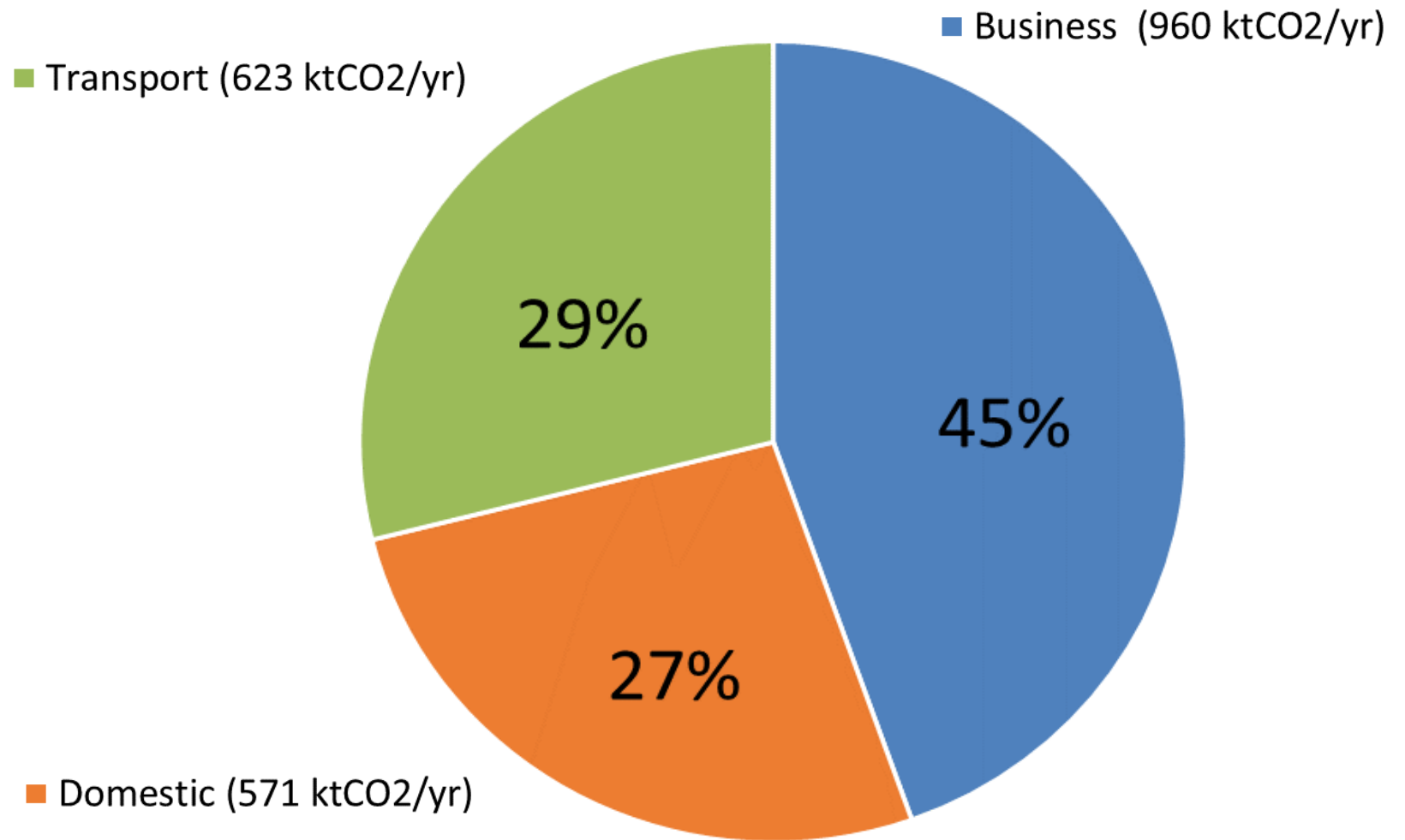


Total budget (2018-2100) tCO ₂	Immediate term (2018-2022) tCO ₂	Medium term (2023-2027) tCO ₂	Long term (2028-2037) tCO ₂
15,187,610	6,928,620	3,593,560	3,046,920

* Business as usual as defined by Level 1 ambition thresholds within the Anthesis' SCATTER model.

** Immediate Term & Medium Term periods align with the 3rd and 4th nationally legislated carbon budget periods (respectively) under the UK Climate Change Act (2008).

Our Direct CO₂ Emissions



Transport

Shift to zero emission transport

Current context:

- EV dominant: 80 charging points¹ in Manchester
- Fuel cell: 14 active² Hydrogen fuel points UK wide (0 in GM)

Level 4 ambition:

- By **2035** 100% zero emissions cars and buses
- By **2025** complete railway electrification



*Estimated from chargeyourcar.org.uk

**Estimated from netinform.net



Renewable Electricity Supply

Solar PV

Current context:

- Approximately **0.1km²** currently installed on all property types, ground mounted etc.
- Equates to 16m² on **25%** of all domestic properties

Level 4 ambition:

- 16m² solar PV on **50%** of domestic properties
+
- An additional **3.1km²** (550 football pitches) on commercial roof space and ground mounted sites



Domestic Buildings

Insulation (energy demand reduction)

Current context:

- Fuel poverty impacts the economy and health
- 16.2% of households in Manchester are classed as fuel poor (*UK average is 10.6%)

Level 4 ambition:

- 60% (130,000) homes insulated, average thermal leakiness decreases by 75%



*Source: Home Energy Conservation Act: Greater Manchester 2017/18 – 18/19, 30th March 2017



Existing Buildings

- Erneley Close, Longsight
- One Manchester
- 32 flats
- Passivhaus
- £50/year energy bills
- 3 residents no longer have asthma



New Buildings

- One Manchester
- Passivhaus
- Affordable



Manchester Civic District Heating Quarter

- GMCA / MCC project with Vital Energi
- Connect initially five core buildings
- Plans for expansion to universities and hospitals on 'Oxford Road Corridor)
- Fully operational end of 2020 (also private wire electricity network)
- Plans for Piccadilly Station and NOMA quarter and others parts of GM



Other projects with GMCA

- GMCA / MCC working on District Energy Procurement Agency
- Modelled on Swedish VARMEK cooperative to develop green procurement & innovation
- LED street lighting conversion
- Budgets
 - £14m energy efficiency
 - £4m renewable generation
 - £2 million of Salix funding
 - Several EU funded projects
 - Development of GM wide financial instruments
 - Increasing after MCC / GMCA 'climate emergency' resolutions



Social & Economic Benefits



Low Carbon Sector (GM)

2015	£5.4bn sales	38,000 jobs	2,000 businesses
2038	£17bn sales	100,000 jobs	6,000 businesses



£17m/year
savings to NHS
by ending fuel poverty
in all 34,000 homes



Air Quality
10 people
die prematurely every day
£1.3bn
economic loss
from traffic congestion



30,000
new entrants
needed to work in the
environment and
sustainability sector



UK STEM skill gap
in low carbon sector
costing by 2023
£6.7bn
to the UK economic growth

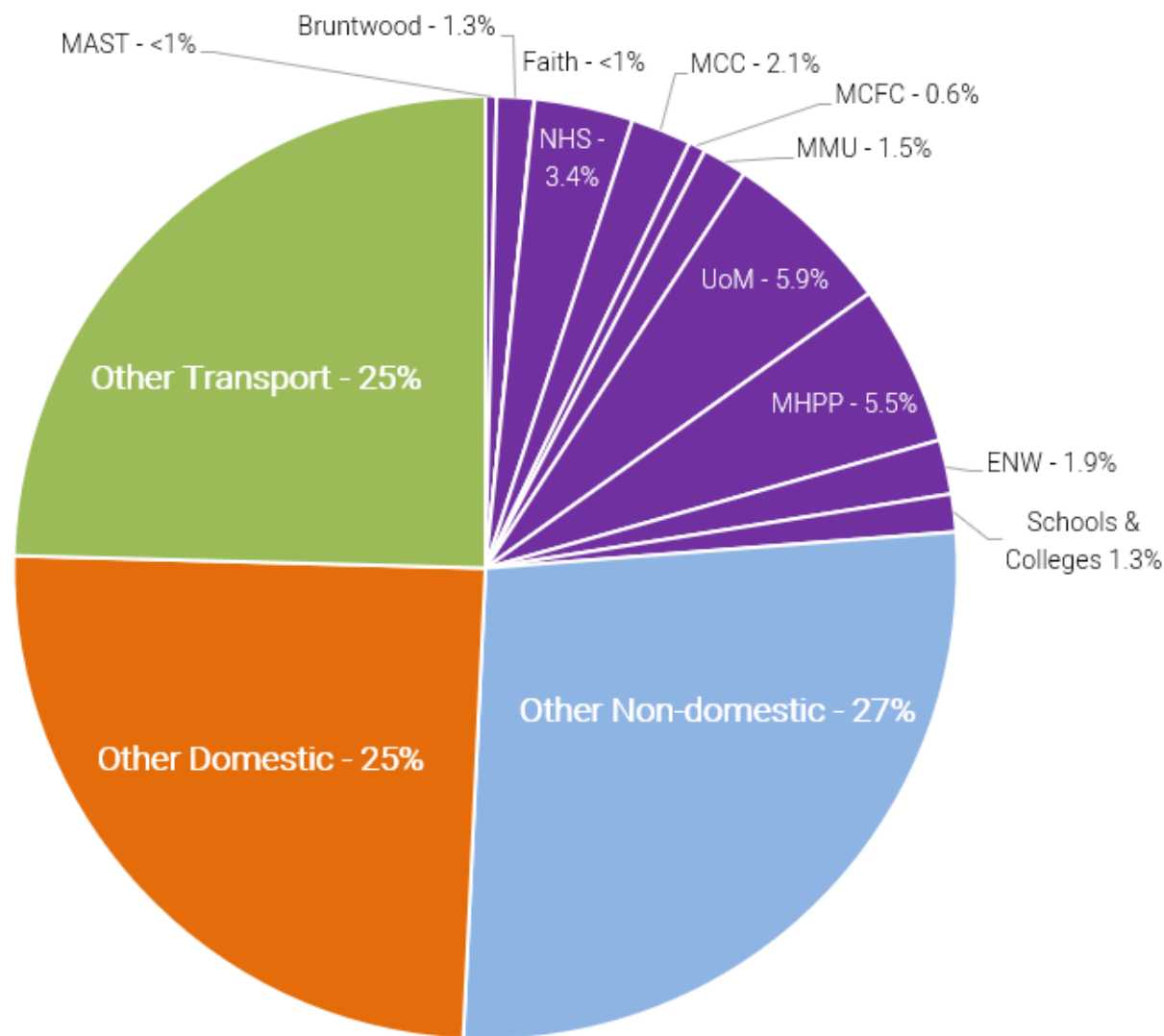
International Markets



<https://www.globalcovenantofmayors.org/>

Where Next: growing our Partnership

1. Arts & culture
2. Bruntwood (property)
3. Faith Partnership
4. Joint Health Board
5. Manchester City Council
6. Manchester City Football Club
7. Manchester Met University
8. University of Manchester
9. Manchester Social Housing Providers
10. Electricity Northwest
11. Schools & colleges



Where Next: partnership with Government

COP 26 GLASGOW



**UNITED NATIONS
CLIMATE CHANGE
CONFERENCE**

NOVEMBER 2020

Thank You and Further Information

Commitments and Strategy

- Science-based Targets
- Draft Manchester Zero Carbon Framework 2020-38

www.manchesterclimate.com/plan

Actions for All

www.manchesterclimate.com/getinvolved

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