# Action on climate change: from science based targets to making it happen

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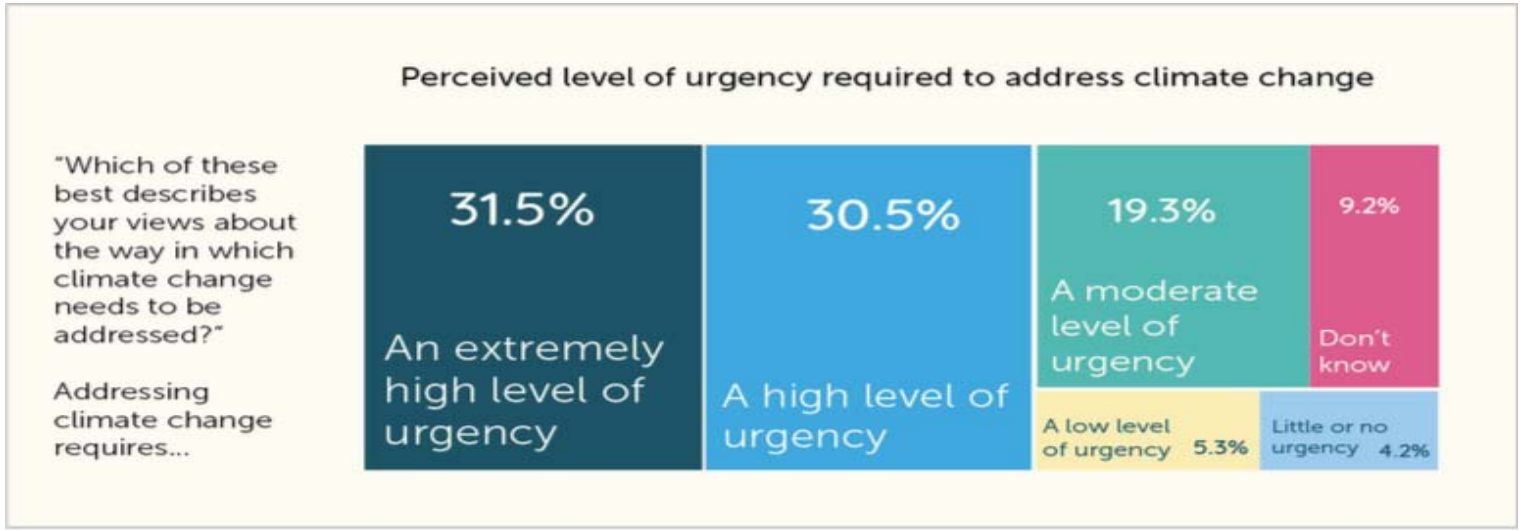
# Setting City Area Targets and Trajectories for Emissions Reduction (SCATTER)

- BEIS funded project to develop climate change targets and mitigation pathways for Core Cities in 2017
- Collaboration with GMCA and Anthesis Group
- Built on Tyndall Centre work on carbon budget setting
- Local climate change targets aligned with Paris Agreement
- Climate emergency declarations – over 60% LAs declared
- Key conclusions of analysis – urgent and profound change in energy provision and demand

# Public perceptions of urgency

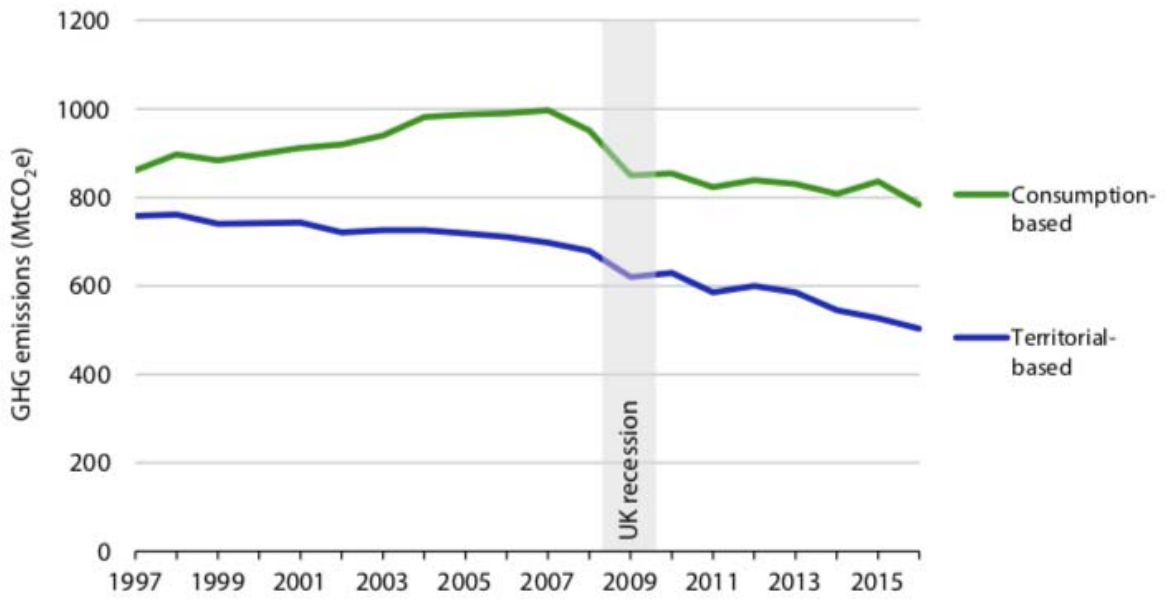



Centre for Climate Change and Social Transformation CAST
https://cast.ac.uk/publications/briefings/

# UK action and progress

- 2008 Climate Change Act – 80% reduction on 1990 levels by 2050
  - Paris and IPCC reports – indicate the need to do more faster
- Recently committed to ‘Net Zero’ by 2050
- Committee on Climate Change progress reports
  - 40% reduction in territorial emissions on 1990 levels – 75% increase in size of economy
  - 75% of the reduction since 2012 have come from power sector
  - Transport, Industry, Buildings and Agriculture stayed fairly flat since 2008
  - Clear goals, ambitious strategy and well designed policies have delivered the change in the power sector

**Figure 1.7.** Territorial emissions have fallen faster than consumption emissions




**Source:** Defra (2019) *UK's Carbon Footprint 1997 - 2016*; BEIS (2019) *Final UK greenhouse gas emissions national statistics: 1990-2017*; CCC analysis.
**Notes:** International aviation and shipping is included in the territorial emissions statistics. Both consumption and territorial emissions are expressed using IPCC 5th Assessment report GWP100 values, without carbon cycle feedbacks, with F-gas emissions excluded. This is the basis for the published consumption emissions statistics and hence adjustment of the territorial statistics allows a like-for-like comparison.

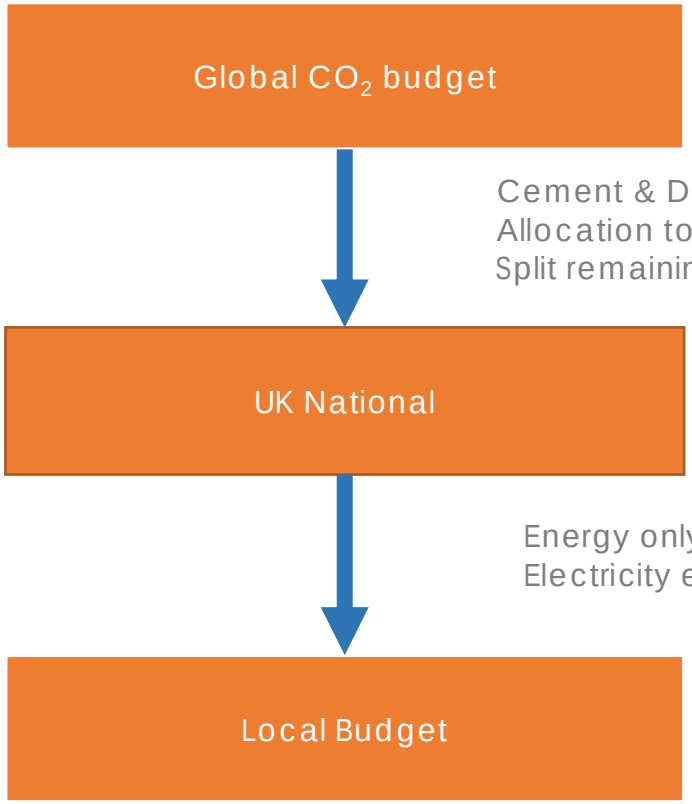
# CCC 2019 progress report

- Our current policies are insufficient to meet our carbon targets for 2023-2027 and 2028-2032
- The government has delivered just 1 out of 25 actions the CCC recommended in 2018
- Out of 24 indicators to assess progress – 7 were on track in 2018

# Cities and Local Authorities showing leadership

- Over 60% local authorities have declared climate emergencies
- Manchester Mayor's commitment to carbon neutrality by 2038
- Based on our research –15% pa reductions (SCATTER)
- Ambition requires a collaboration between stakeholders in the city region

# Allocating Carbon Budgets




Paris Agreement compatible carbon budget from IPCC SR1.5 – well below 2ºC, pursuing effort to limit to1.5 ºC

Cement & Deforestation as global overheads
Allocation to developing Parties
Split remaining budget between developed Parties (grandfathering)

Aviation and Shipping stay at UK level

Energy only $CO_2$ emissions sub-divided
Electricity emissions consumption based

Budget for $CO_2$ emissions from: Electricity use, Heating, Transport and Industry

# Features of Tyndall Carbon Budgets

1. A global carbon budget that means we "*…keep well below 2°C …and to pursue efforts to limit the temperature increase to 1.5°C.*"

2. We do not assume substantial uptake of **carbon dioxide removal technologies** /negative emission technologies (NETs) – i.e we don't include NETs until they are deployed at scale.

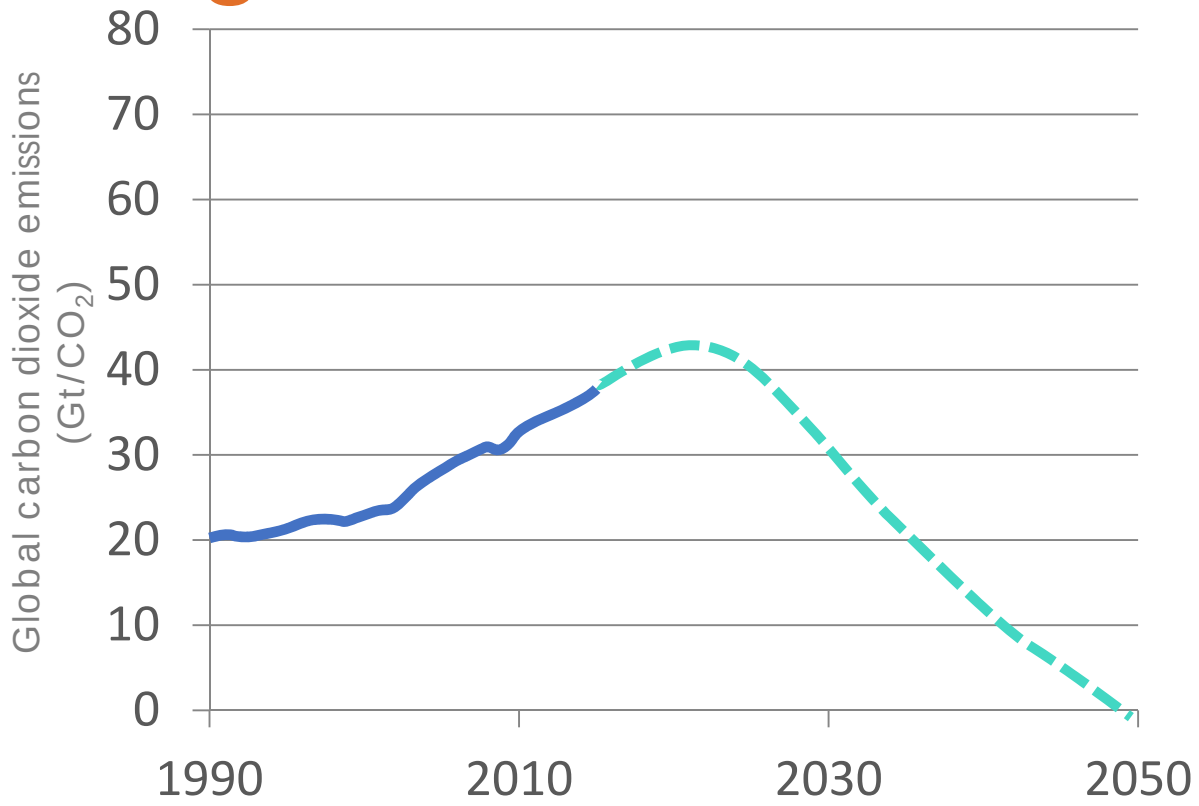
3. Clear representation of **equity** issues:
   i. Allowance for cement production for development
   ii. Deforestation is considered as global overhead
   iii. Emissions peak in developing parties by ~2025

4. Carbon offsetting is not used to meet the $CO_2$ budget

# Carbon Budgets

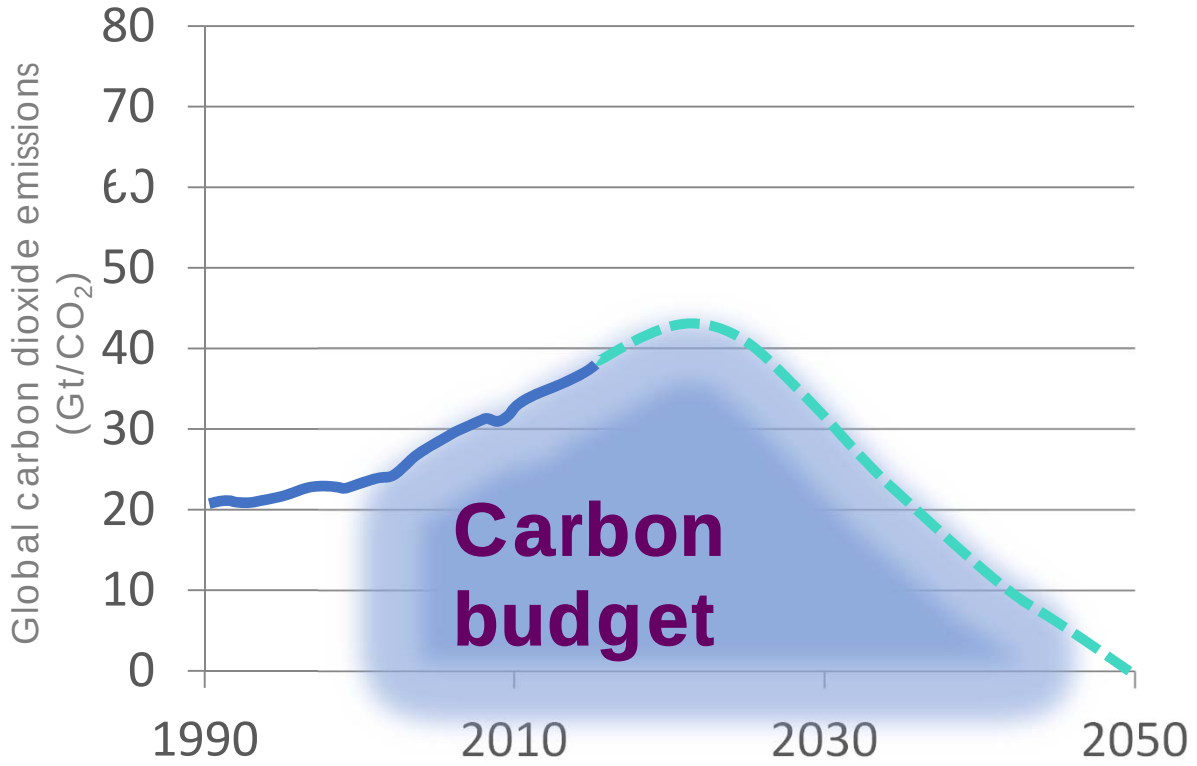
*For climate change goals (e.g. 1.5°C to 2°C)*

...it's not long-term targets (e.g. 80% by 2050) that matter...



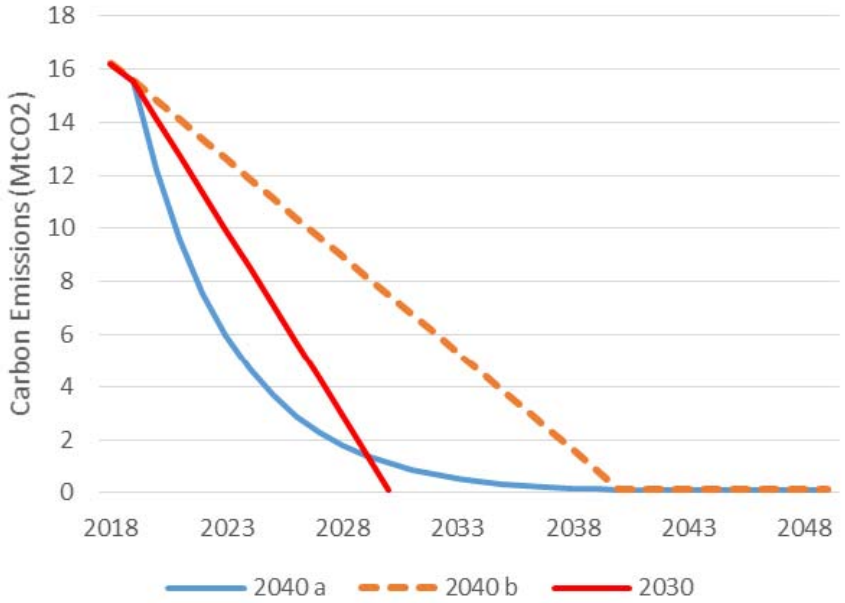
# Carbon Budgets

...but the cumulative $CO_2$ emissions, *the area under the curve*



# Carbon Limits & Target Years

- The same end point target can have different climate change implications.
- Earlier ‘zero’ year can have more $CO_2$
- $CO_2$ emissions in the red scenario are 20% higher than in blue

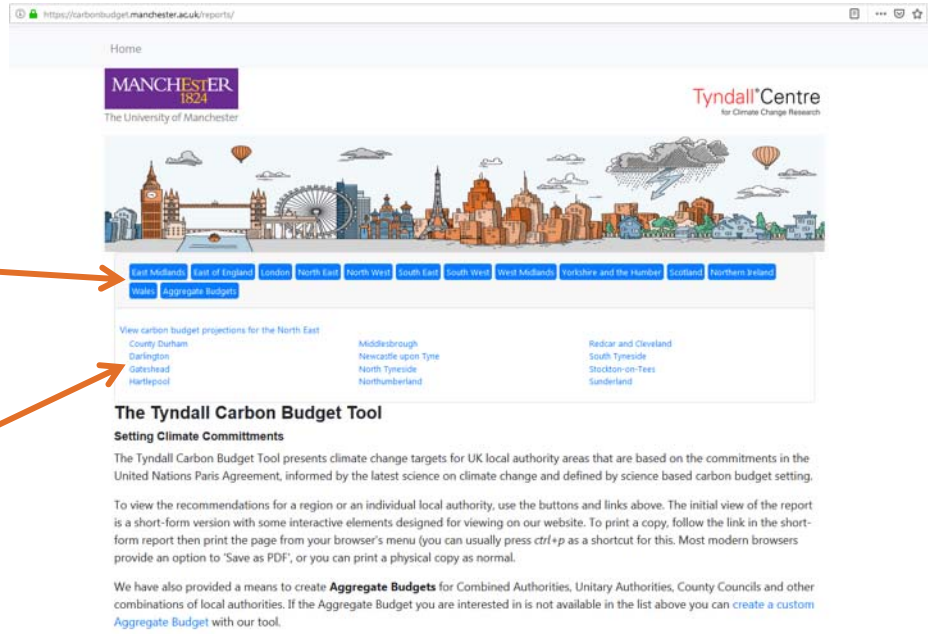


# Carbon Budget Setting Tool

- Visit - carbonbudget.manchester.ac.uk/reports/

- Select the region

- Select Local Authority



The most difficult thing is the decision to act, the rest is merely tenacity.

Amelia Earhart

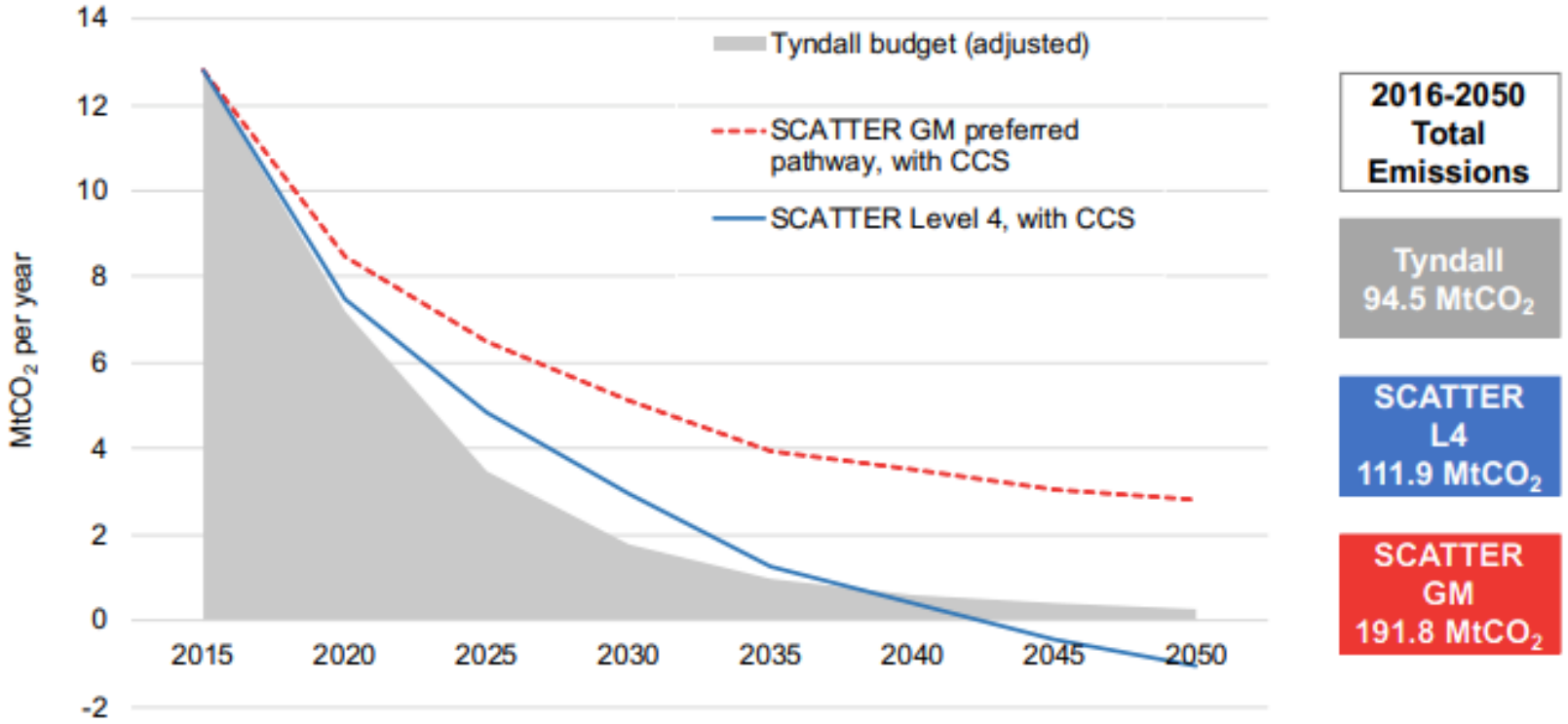



**Figure 1 – Potential Carbon Reduction Pathways for Greater Manchester; Source: Anthesis**

# How can we achieve rapid and ambitious change?

- Honesty about the scale of the challenge – expertise to understand options
- Central to what we do – not an add on
- Deliver where we have responsibility - expand and utilise our influence
- Tackle the difficult sectors
- Collaborate and engage outside your organisation
- Demonstrate and celebrate success and possibilities
- Enhance and communicate co-benefits

# Collaborations: Electricity North West

- DNOs central to this transition
- ENW has embedded our target work in their strategy
- Supporting customers to be part of the transition – LAs, Commercial and domestic

# Collaborations: live events

- Collaboration with Massive Attack
- Understand touring emissions
- ‘Positively disrupt’ the sector
- Liverpool city council
  - ‘super low carbon gig’

# What next?

- Loads of potential – what is socially, politically and economically possible is dynamic
- It is too big a challenge for some elements to be left out or for us to 'cheat' – the climate knows! Must be central to strategy and decision-making.
- Considering wider co-benefits - well-being, prosperous communities
- Get the planning and decision-making frameworks aligned to our ambition – we need to be honest about the current barriers/processes

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www.carbonbudget.manchester.ac.uk/reports/

Tyndall Centre 20 years
for Climate Change Research