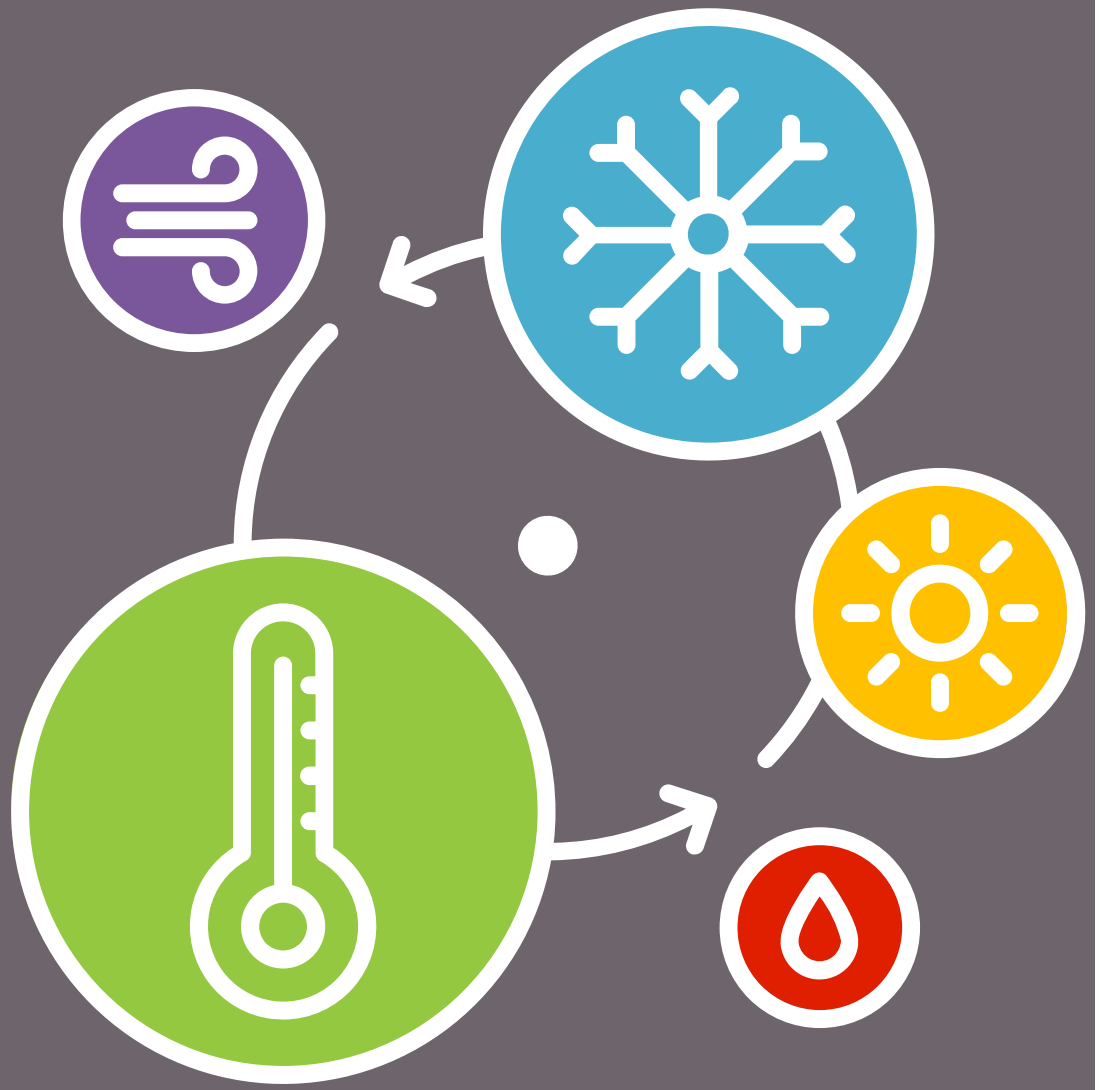
Climate change and adaptation for Highways

Emma Pye

Jan 2025

PYE MANAGEMENT
SUSTAINABILITY CONSULTANTS



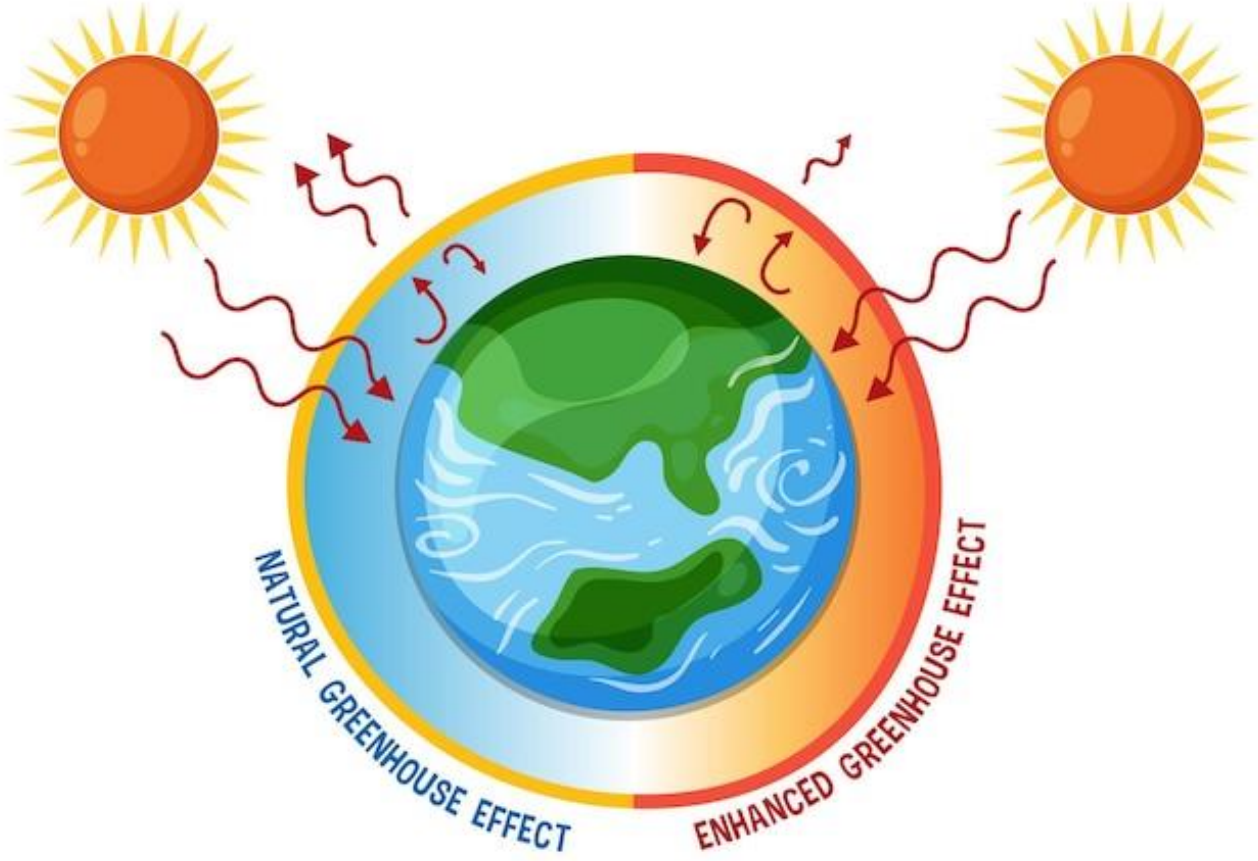
Emma Pye

Founder and Director

- Over 20 years' experience working within the construction, highways and quarrying sectors.
- Experienced in:
  - Carbon foot printing, climate adaptation
  - PAS 2080,
  - Sustainability strategies,
  - Biodiversity, waste and water management,
  - Environmental Management Systems
  - Integrated Management Systems
  - Ecology (Ecological Clerk of Works)

- BSI committee member for ISO 14001: EMS and ISO 14002 Environmental auditing

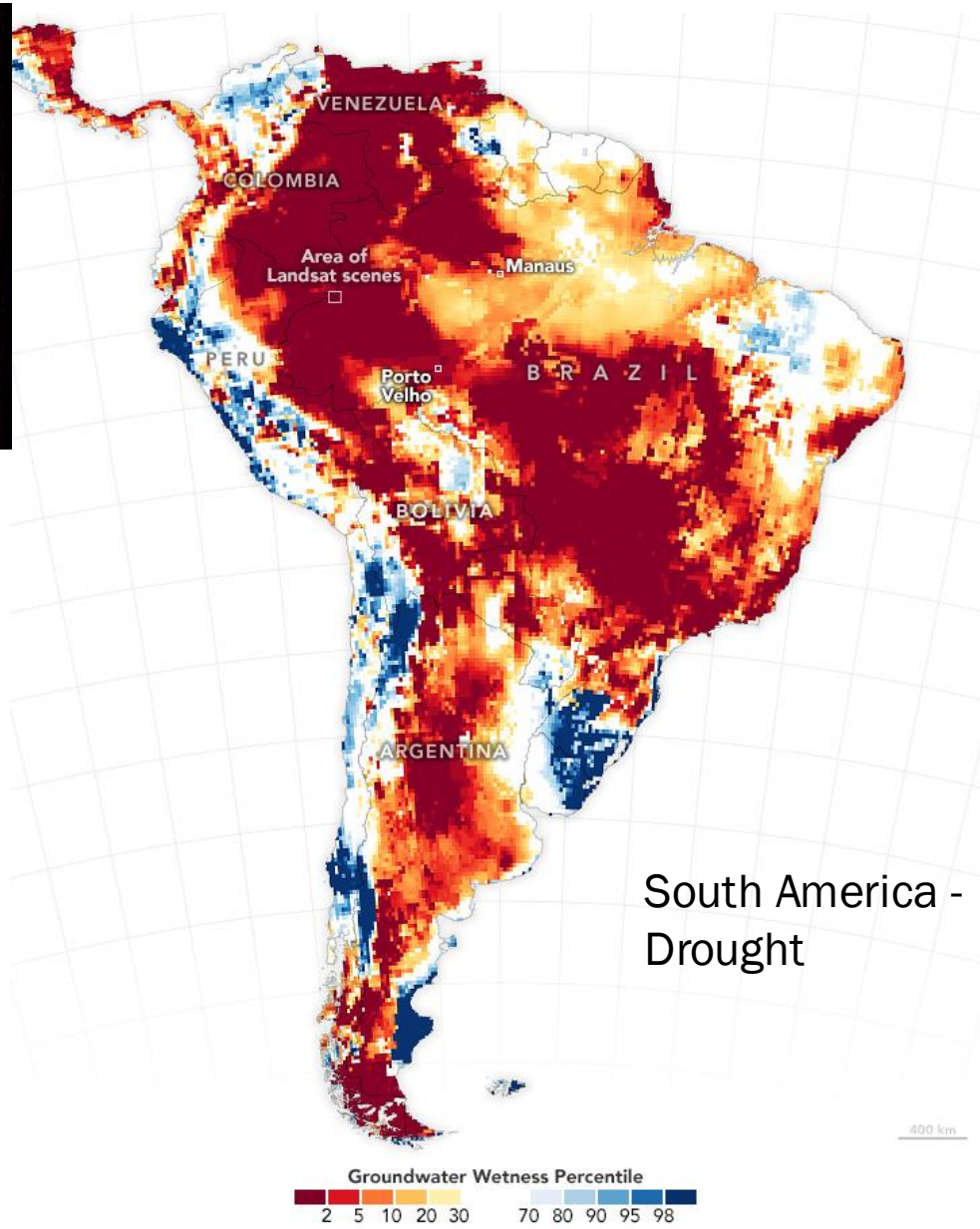
Carbon, what, why, how?



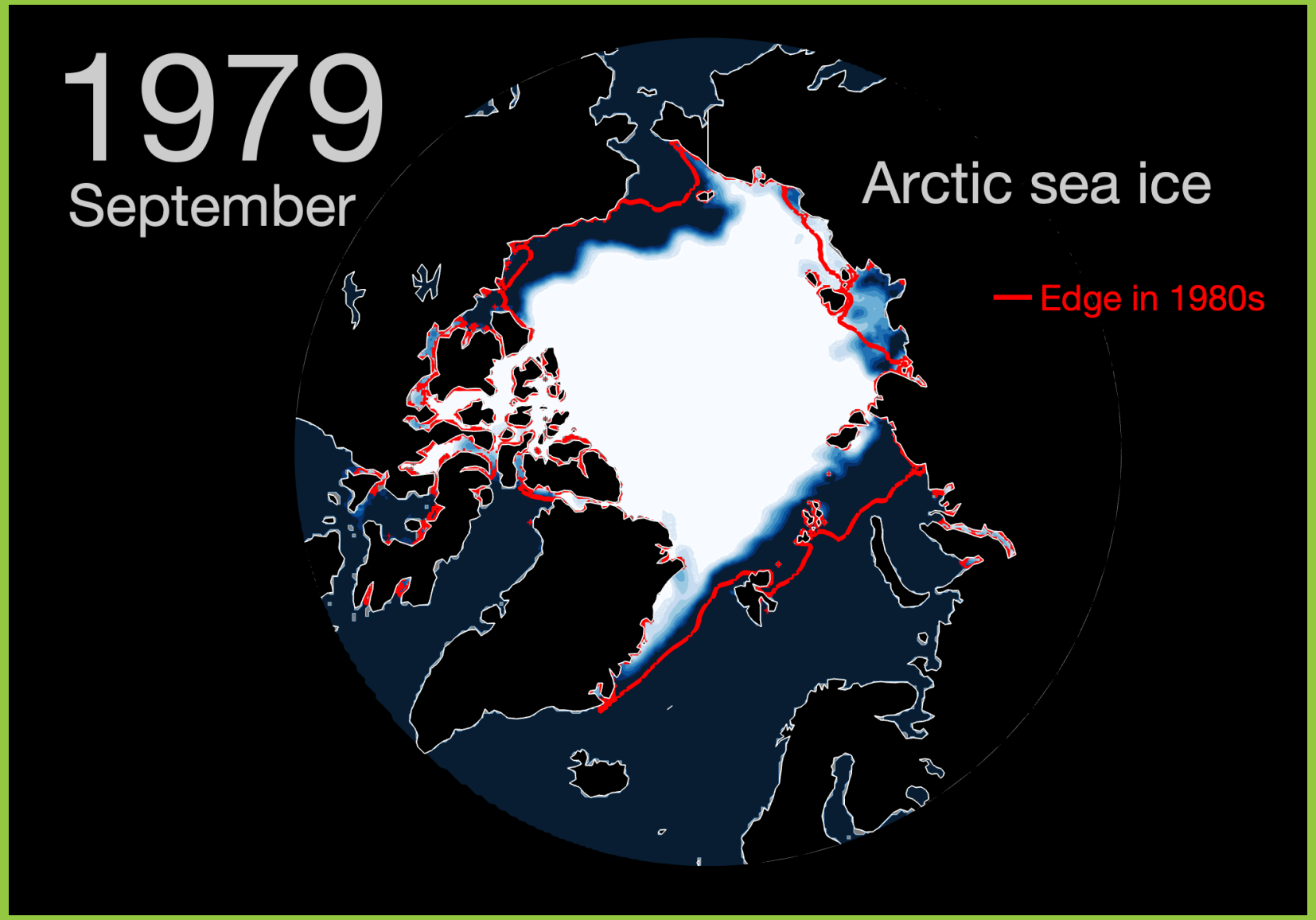
2024/25

USA - Wildfires

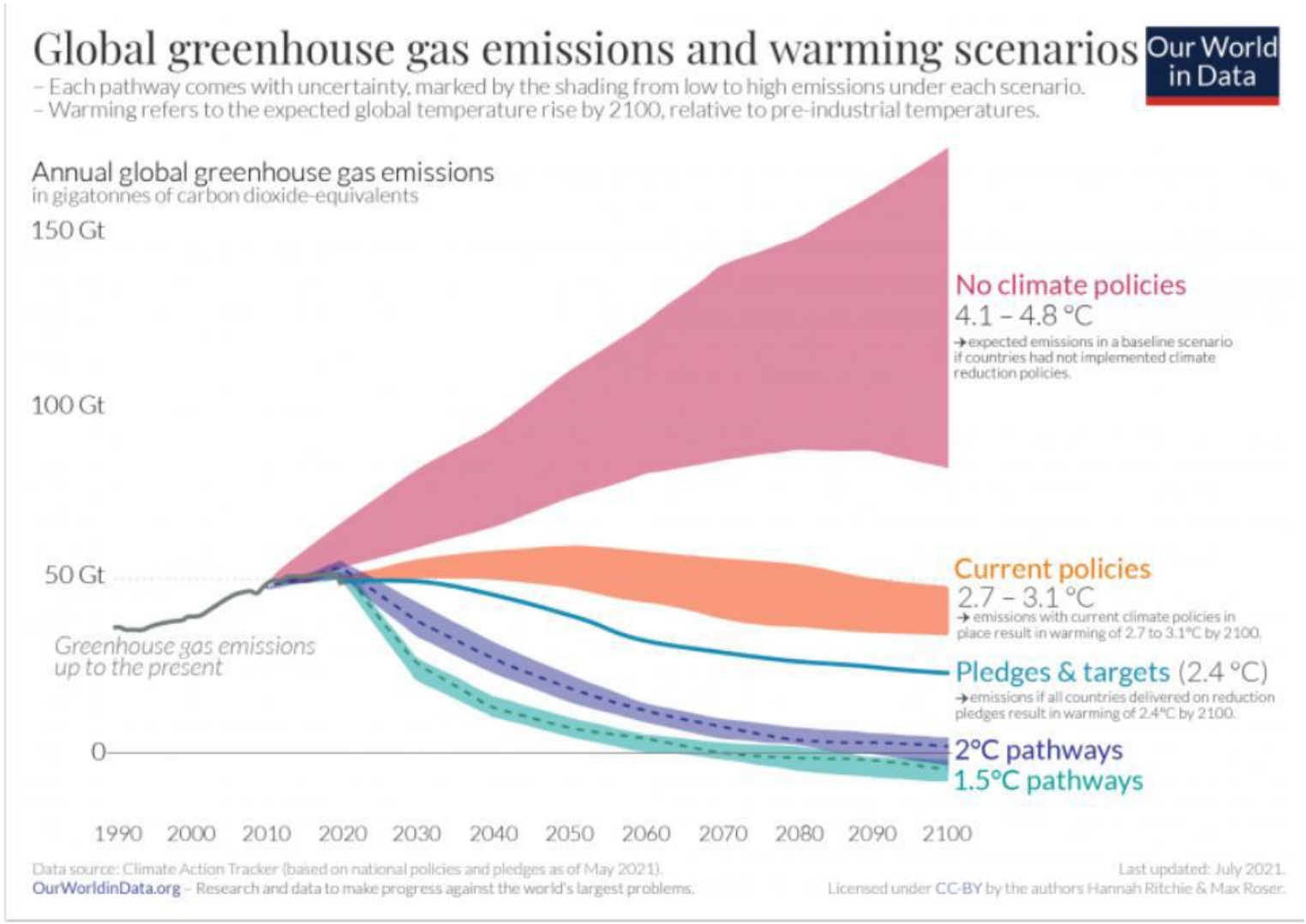
UK - Flooding



South America - Drought

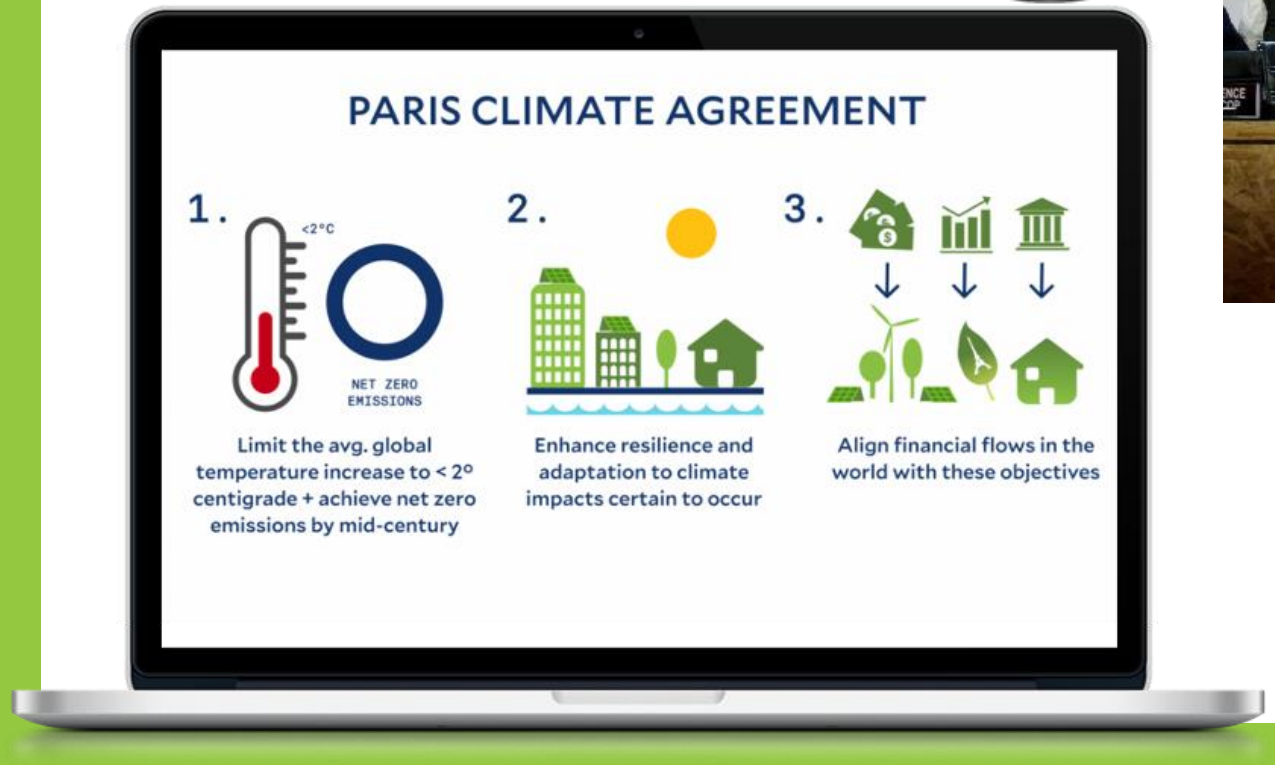

1979
September
Arctic sea ice
— Edge in 1980s

What if we do nothing?



Paris Climate agreement

UNITED NATIONS
PARIS CLIMATE AGREEMENT
SIGNING CEREMONY
22 APRIL 2016



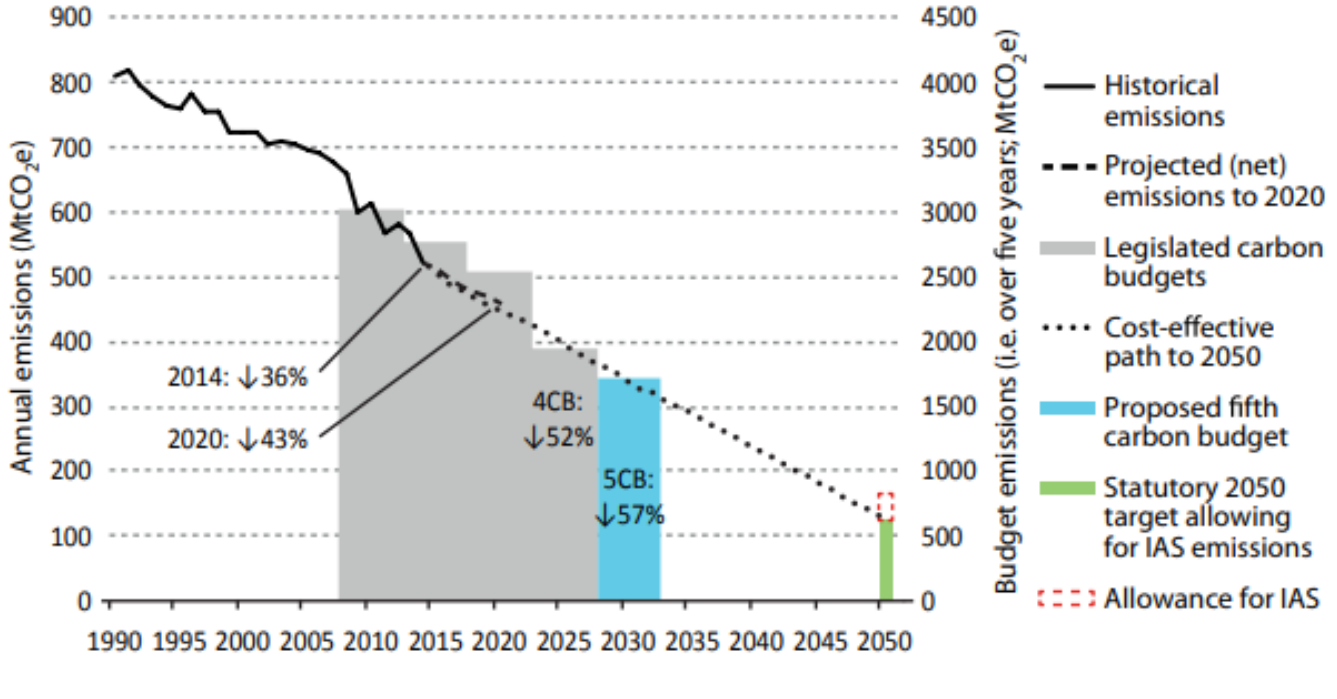
The UK's Climate Change Act, 2008

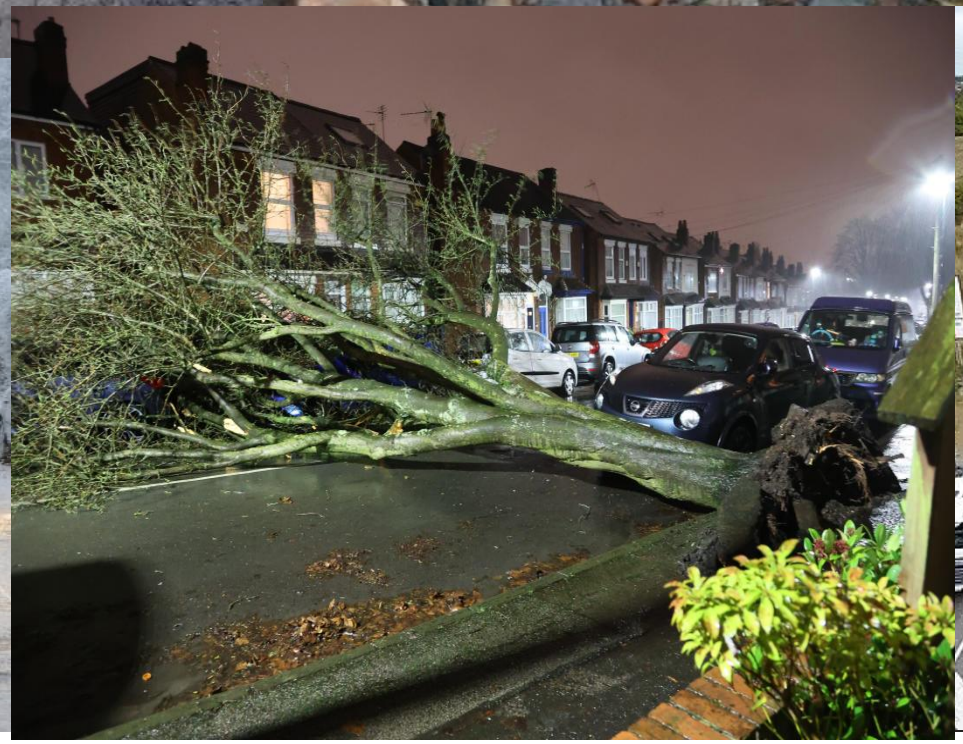
- World-leading in legislation against climate change
- 80% reduction in emissions by 2050, vs 1990 baseline

Committee on Climate Change

Climate Change Act 2008

Figure 1: The recommended fifth carbon budget would continue emissions reduction on the path to the UK's 2050 target



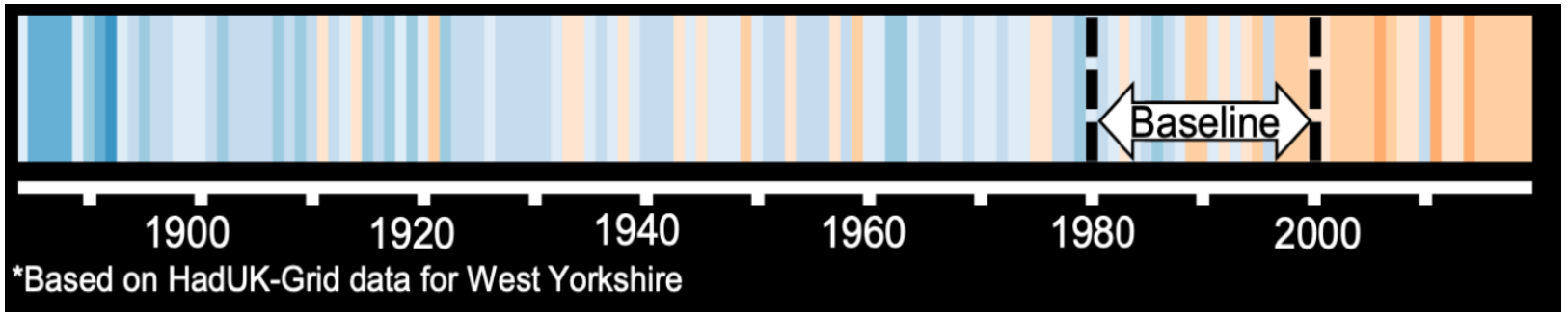


LCLIP - Local Climate Impacts Profile

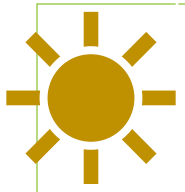
- Local Climate Impacts Profile
  - Purpose – raise awareness of current vulnerability to weather events in a particular locality to prepare for an adaptation strategy.

  - Reviewing impact of storm events
    - Highlighting impacts
    - Looking for shocks
    - Common issues
    - Locations repeatedly affected

  - Interviews, reviewing data



LCLIP – Output: The headlines



Extreme weather teams

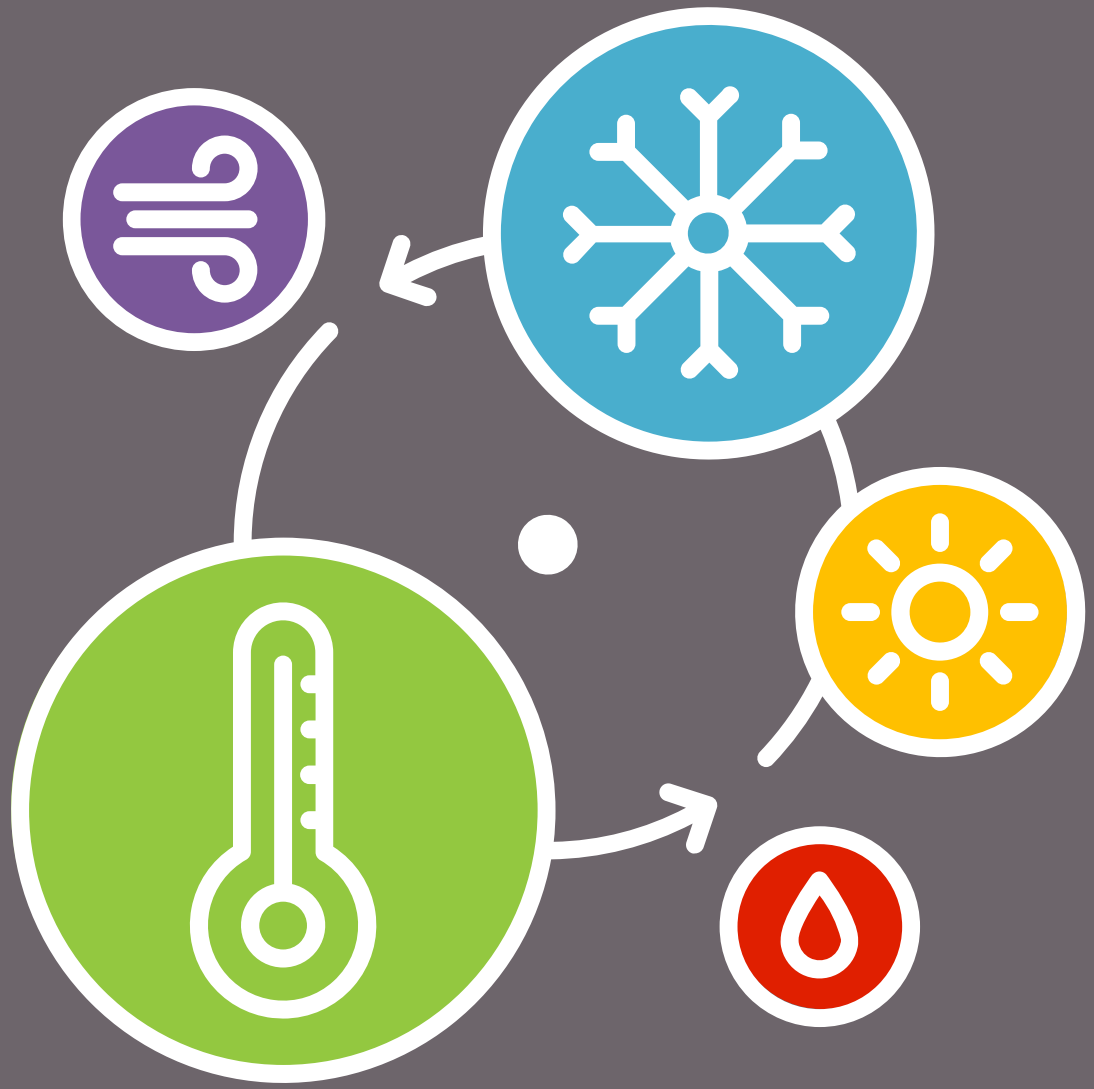
Increase potholes

Less gritting

Flash floods

Grass cutting/gully emptying

Roads soften



Clients are changing

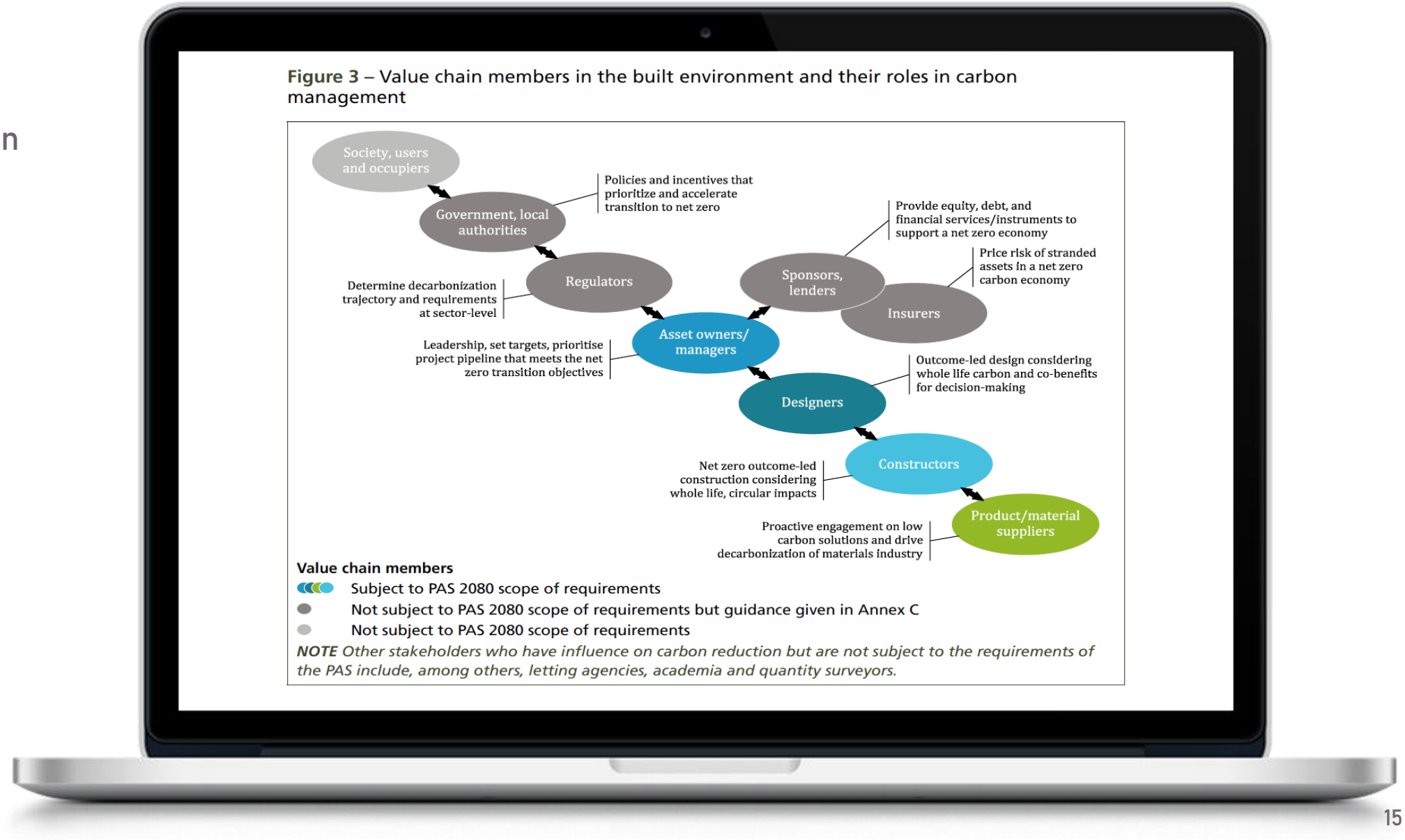
- National Highways
  - Net Zero plan
  - PAS 2080 requirements
  - Carbon calculating tool
- Local Authorities
  - Climate Emergencies
  - Carbon footprint information
  - Carbon data for projects
- Tier 1 Contractors
  - Sustainability Strategies
  - Net zero targets /Science based targets
  - PAS 2080

What can we do?

Measure Business Carbon footprint

Implement PAS 2080

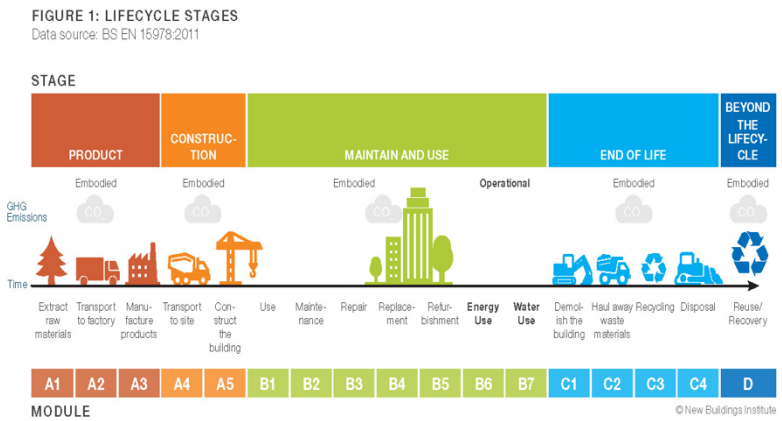
- All value chain members



Carbon reduction

- Carbon reduction hierarchy

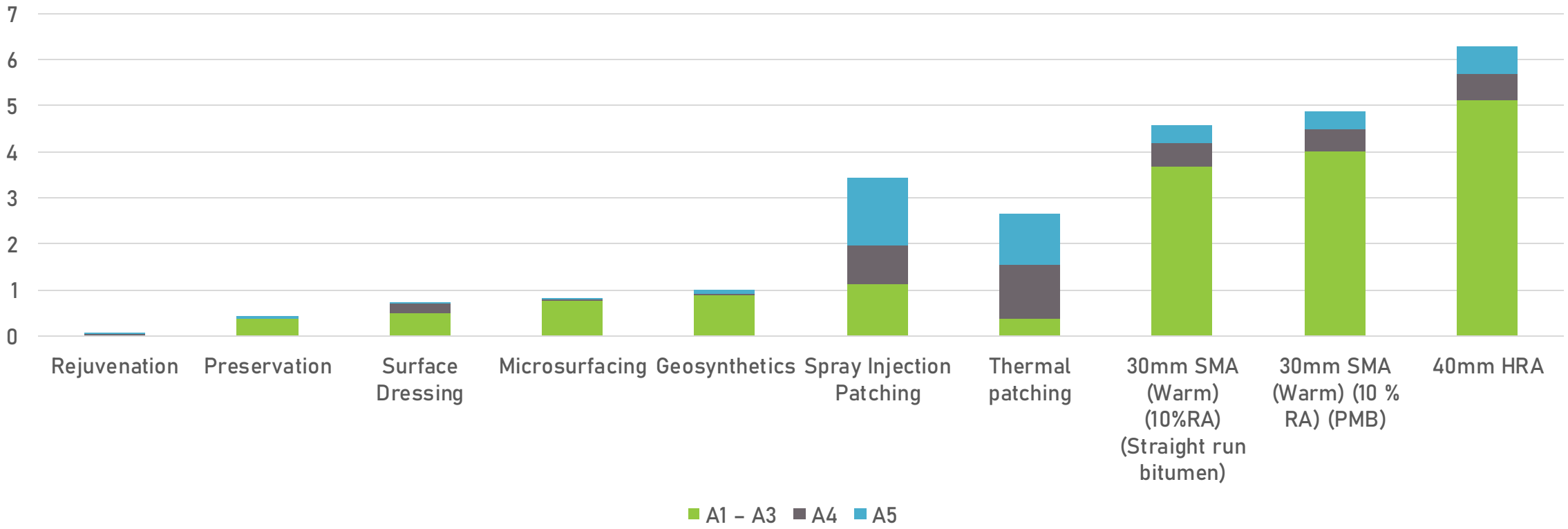
Circularity



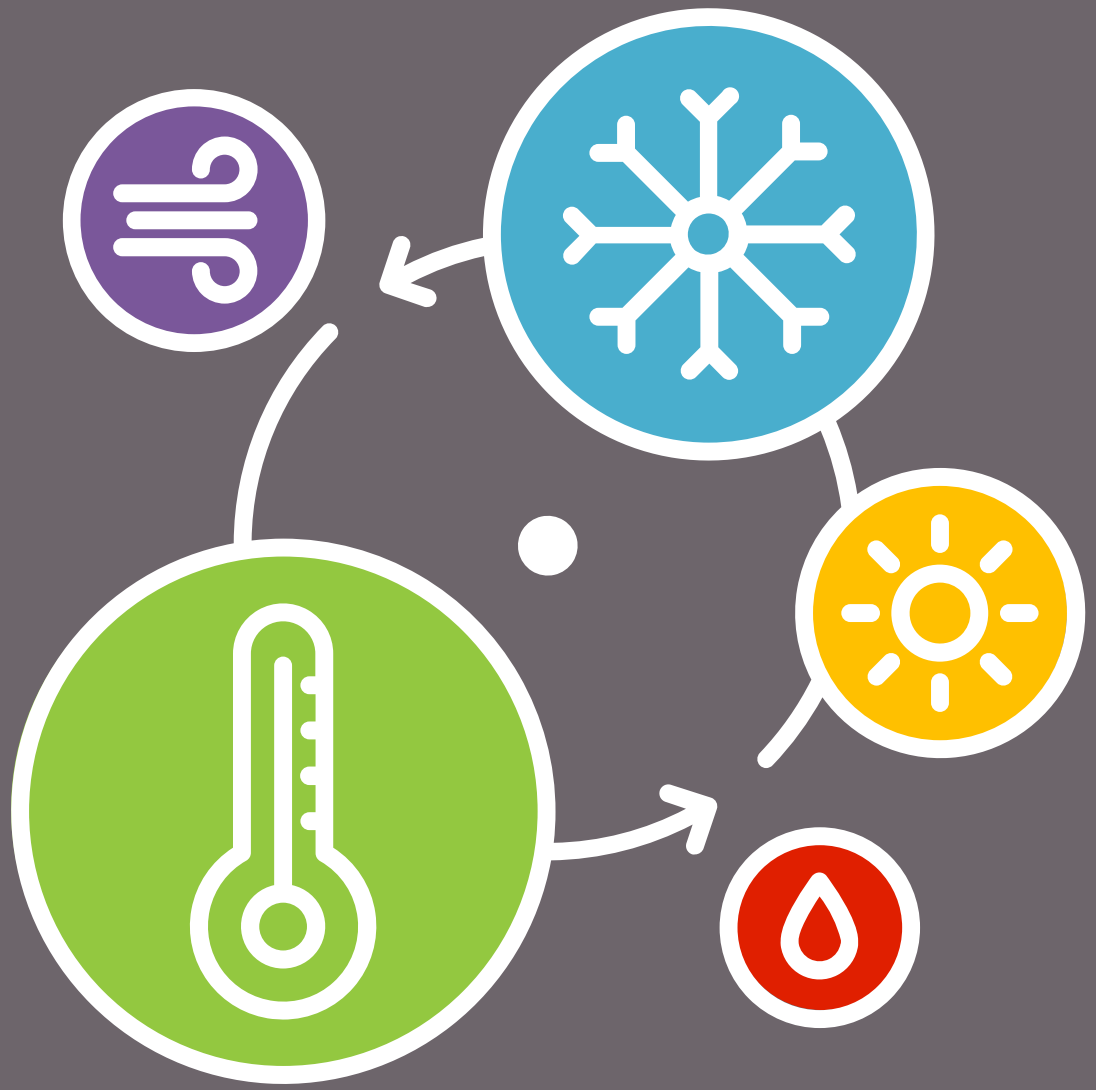
RSTA Carbon Emissions report Rev 1

- Produced in 2023
- Available free from the RSTA website
- Figures are presented broken down :
  - A1-A3: Product
  - A4: Transport to site
  - A5: Installation
- The figures are presented in m2
- RSTA 2nd Edition to be released April 2025

The results



Units: Kg CO2 e/m² - Please note that the figures do not include break out or removal of existing road surface.



Greenwashing

The GCC (Green Claims Code) is based on six overarching principles. Environmental claims must:

- 1. be truthful and accurate
- 2. be clear and unambiguous
- 3. not omit or hide important information
- 4. be substantiated,
- 5. consider the product or service's full life cycle, and
- 6. comparisons must be fair and meaningful

Thank you for your time

Any questions?

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