

CONSTRUCTION PROCUREMENT A LEVER FOR WHOLE SYSTEM TRANSFORMATIVE CHANGE

Chris Clarke



AGENDA

- SCAPE
- Why act?
- Why construction procurement?
- How?
- What **you** can do...

Local Authority owned

By the public sector, for the public sector



Constructing Excellence

Gold Standard Verified

£3bn annually

“

I am very pleased that SCAPE has achieved **Gold Standard Full Verification of their 11 current frameworks...**

...delivering better, safer, faster and greener project outcomes.

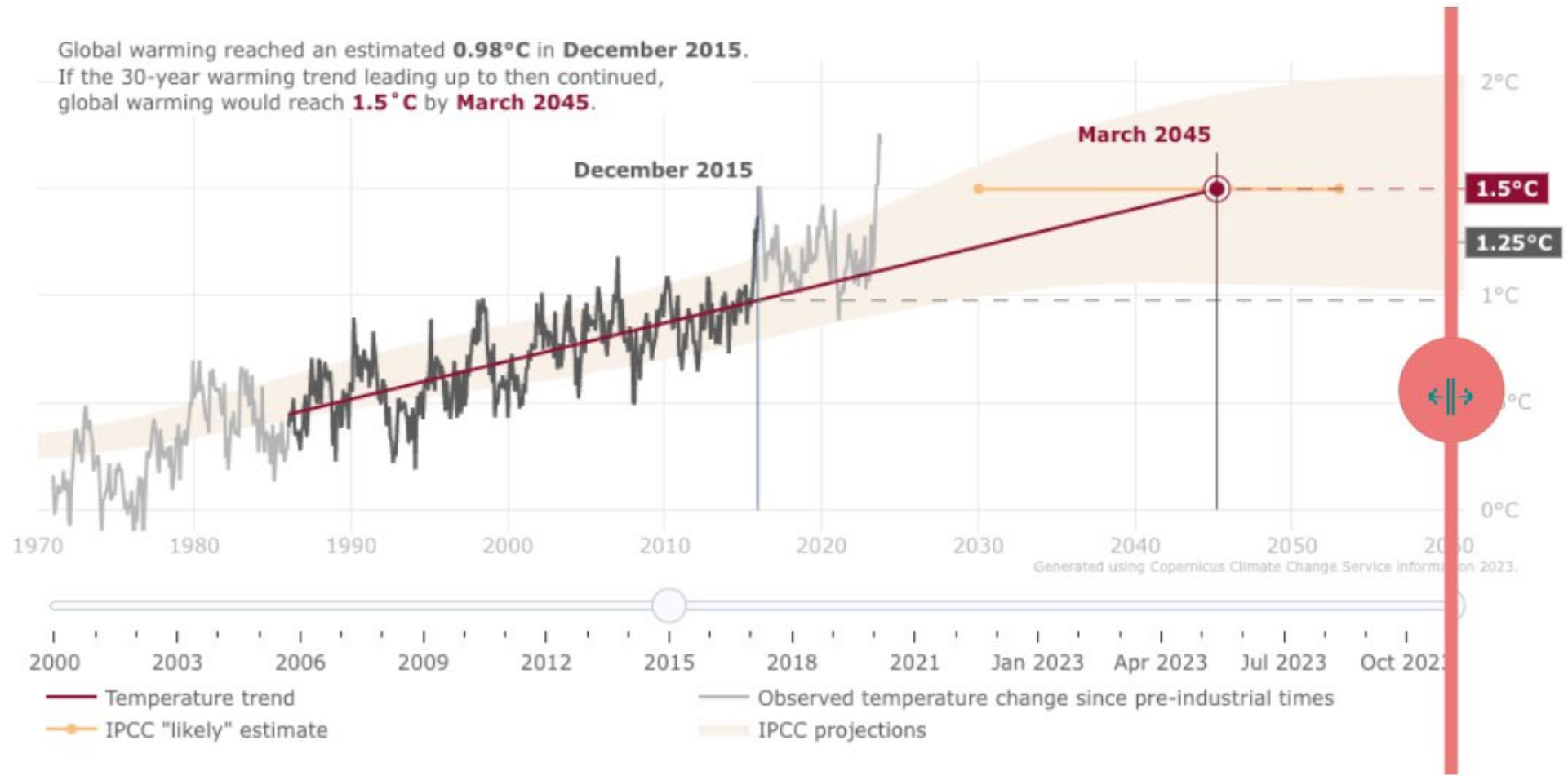
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Professor David Mosey CBE

Chair, Constructing Excellence Gold Standard Task Group

Running out of time: 2015 vs 2023

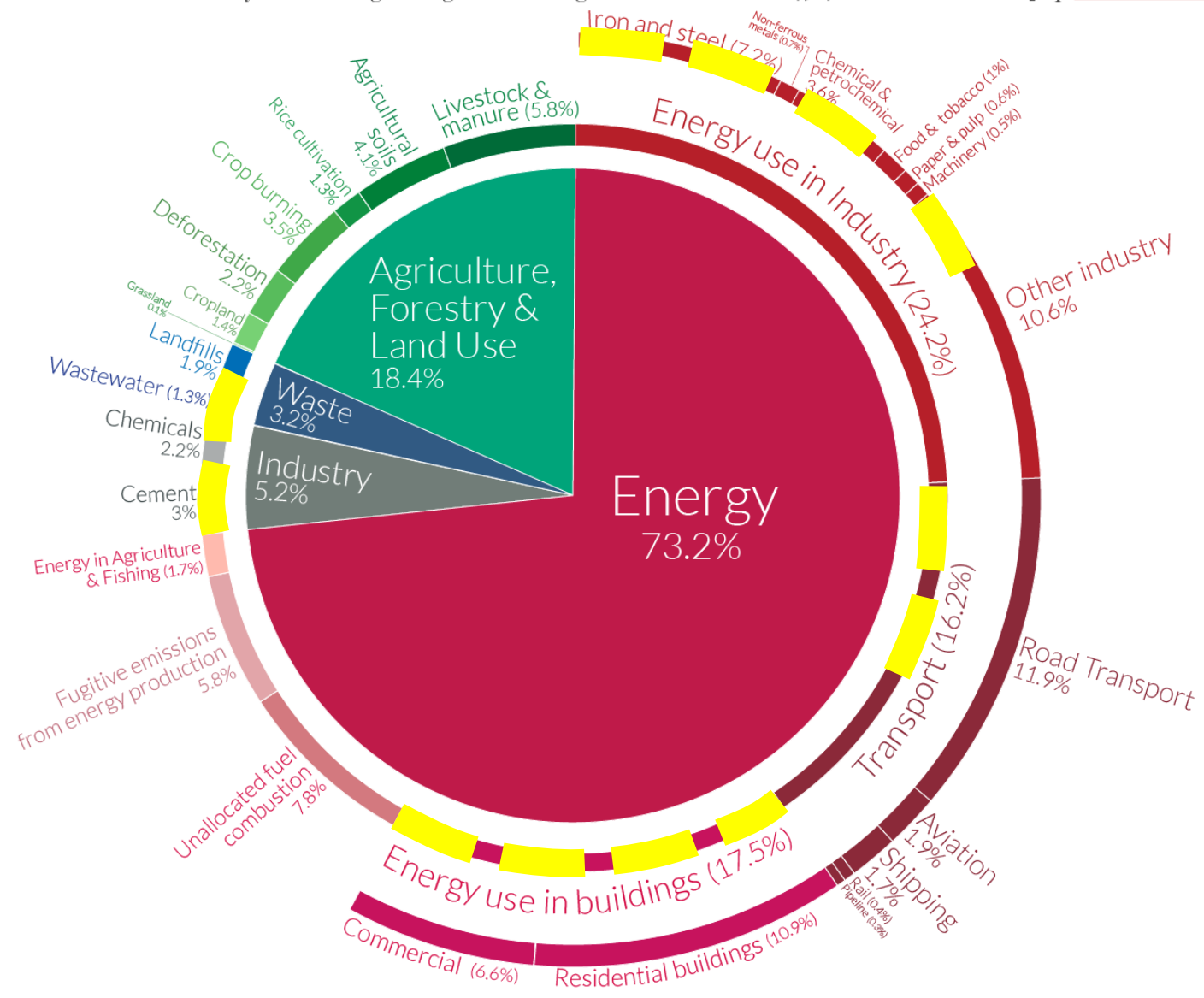


Source: [Copernicus Climate Change Service](#) • Estimation of when we would breach 1.5°C over the pre-industrial average in December 2015 compared to October 2023. Slide to compare the values.

Global greenhouse gas emissions by sector



This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO₂eq.



Built Environment:

Contribution to world emissions

- Energy in buildings = 17.5%
- Iron and steel = 7.2%
- Cement = 3%
- A share of transport, waste, chemicals, other industrial processes

40% total



- Less than half of Councils are including **works** in their Scope 3 footprints
- Ignoring over 40% of their true footprint
- Less than 3% of projects procured through SCAPE are setting targets aligned to the climate emergency

- UK construction buys concrete, steel.
- Heavy industry buy gas and coal.

Who buys buildings and roads? **You** do.

- Public sector works = 10% of UK spend
- Longest forward pipeline.

- So who funds future demand for fossil fuels?

REDUCING LIFECYCLE EMISSIONS IN PROJECTS?



**Embodied
carbon
emissions**

Emissions arising from the **manufacture of products** and the **construction process** on site



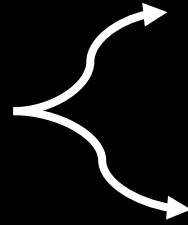
**Operational
carbon
emissions**

Emissions arising from the **operation of the building** throughout its life, **mainly energy use**

HOW?



**Embodied
carbon
emissions**



- Select materials and products that create few emissions to make
- Select for construction methods that minimise emissions during construction



**Operational
carbon
emissions**



- Design for energy efficiency (eg passivhaus). Design out gas. Use renewable energy. Decarbonise the grid.

PUBLIC PROCUREMENT DUTIES | ENGLAND

Climate Change Act, 2008

Set in law the UK climate change target, cutting emissions by 78% by 2035 compared to 1990 levels

**Procurement Policy Note
21/06**

Carbon reduction plans on every procurement over £5m

**Construction Playbook V2 –
Whole Life Carbon
assessment**

Environment Act, 2021

Aims to improve air and water quality, tackle waste, improve biodiversity and make other environmental improvements

Planning Bill

Biodiversity net gain on every project

Social Value Act, 2012

Requires public sector commissioners to consider how they could improve the economic, environmental and social wellbeing of their local area through procurement

**Procurement Policy Note
06/20**

Taking account of social value in the award of central government contracts

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Procurement Policy Note 21/06

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Construction Playbook V2 – Whole Life Carbon assessment

Business Footprint

SECR reporting

Large and listed businesses, LLPs

Project Footprint

WLC Assessments

Non-mandatory...yet

Client

- Low carbon specification
- Requires carbon to be measured and reduced

Project Team

- Responds to specification; designs, procures and constructs a lower carbon building using interconnecting assemblies components and products
- Accounts for your Scope 3 emissions in construction process through Life Cycle Assessment
- Requires product manufacturers to demonstrate credentials when selecting products

Manufacturer

- Manufactures in a lower carbon way
- Accounts for emission in manufacturing and transport of products
- Produces certified Environmental Product Declarations

Input
specification

Outcome
specification

Prescriptive

Performance-
based



Transformative standards for steel

STEELZERO

In partnership with



- 70% manufactured through blast furnaces
 - Change steel and save the planet?
- Technology deficit....

What do we do while we wait
for steel?

...ask for different outcomes.



Reducing Embodied Carbon in Buildings

Low-Cost, High-Value Opportunities

Report / July 2021



Concrete



Optimize concrete mix

14%–33% reduction
None to low cost premium

Rebar



Use high recycled content rebar

4%–10% reduction
None to low cost premium

Insulation



Select low- or no-embodied-carbon insulation products

16% reduction
No cost premium

Glazing



Select low-embodied-carbon glazing products

3% reduction
10% cost premium

Finish Materials



Select low- or no-embodied-carbon on finish materials

5% reduction
None to low cost premium

43%

reduction in up front embodied carbon

0.5%

increase in capital cost

R&D OUTCOMES | CIRCULAR TWIN

Reasons for choosing a net zero project strategy...

67%
reduction in
whole life
carbon

52%
reduction in
annual energy
use

3-5%
increase in
capital cost

<6yr
payback
period

20%
Est. saving in
overall
programme

2FE school – outcomes of opting for RIBA 2030 performance targets



What would happen if we re-thought the procurement and design processes, putting carbon *before* capex ?

Real baseline project =
2FE primary school



Digital
re-design



Real
time



DFE
spec

Project carbon “budget”
RIBA 2030 climate challenge
emissions targets

How did we achieve these outcomes?

Carbon reduction isn't magic!



BUT it does take expertise and effort

Carbon reduction in projects isn't magic!
BUT it does take expertise and effort



Carbon
reduction
brief &
targets

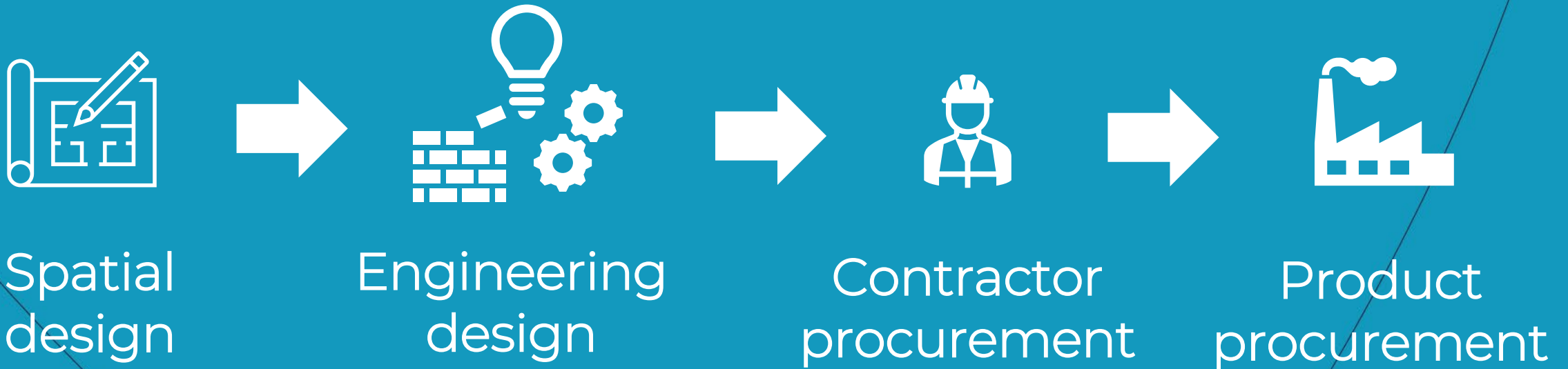


Carbon
literate
team

Re-thinking the traditional process

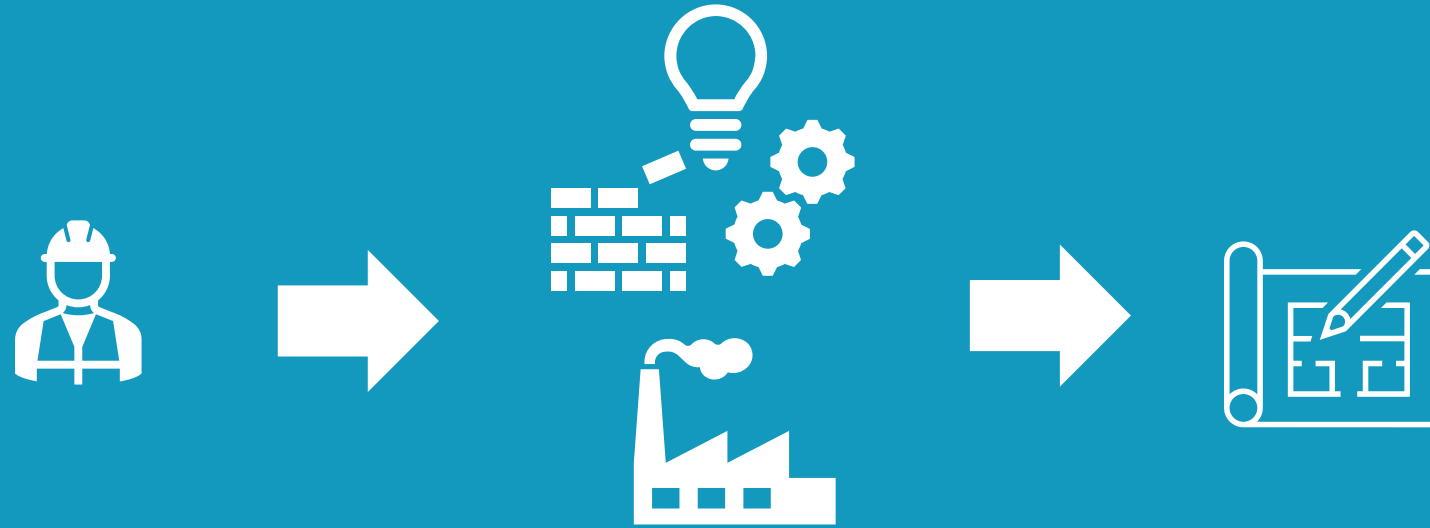


How the team achieved outcomes?



Traditional procurement paradigm

How did we achieve these outcomes?



*Integrated design and build contract.
Ultra early manufacture and engineering input*

THANK YOU

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