

CWCT 2021 AGM and Members Meeting Sustainability update

Sustainability Update

- ▶ Agenda

- | | |
|------------------------|-------------------------|
| ▶ Introduction | John Downes |
| ▶ Methodology update | Anna Wendt, Teni Ladipo |
| ▶ Future Work | Will Wild |
| ▶ Summary and round up | John Downes |

Sustainability Update – The Year to date

- ▶ We have had 1 year since legislation has been introduced.
- ▶ What have we done collectively?
- ▶ As an Industry what have we produced?
- ▶ Am I being too hard on everyone?



Sustainability Update – The Year to date

- ▶ The CWCT has formed a sustainability committee

- ▶ John Downes
- ▶ Ed Forwood
- ▶ Damian Rogan
- ▶ Leandro Heine
- ▶ Henk De Bleecker
- ▶ Mark Foster
- ▶ Gary Ledger
- ▶ David Metcalfe



- ▶ Education and Information Papers
- ▶ What does 'Future Work' look like?
- ▶ Produced CWCT 1st sustainability paper – Sustainability Guide 01.
- ▶ Formed a workstream group on carbon calculation methodology
- ▶ Secondment Resource Strategy

Sustainability Update – The Year to date

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Sustainability Guide 01
An Introduction to Sustainability in Façades



1.0 Introduction

The Brundtland Commission^[1] defined sustainable development as '*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*'.

Sustainability is a broad topic encompassing environmental issues such as greenhouse gas emissions, the use of water and other resources, the treatment of waste and many other social and economic factors.

Sustainability Update – The Year to date



Carbon Calculation
Methodology update

Anna Wendt

SUB-COMMITTEE EMBODIED CARBON CALCULATION METHODOLOGY



Anusha Badrinarayanan,
Sustainability Engineer,
Lendlease



Anna Wendt, Partner,
Global Director Facades
Buro Happold



Duncan Cox, Senior
Associate, Sustainability
Thornton Tomasetti



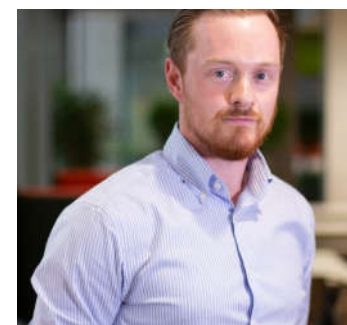
Gianluca Rapone, Associate
Sustainability Lead
FMDC



Medha Gayathri
Nilayamgode Sustainability,
Wintech



Teni Ladipo, Senior
Facade Consultant
Buro Happold



Will Wild, Senior Facade
Engineer,
Arup



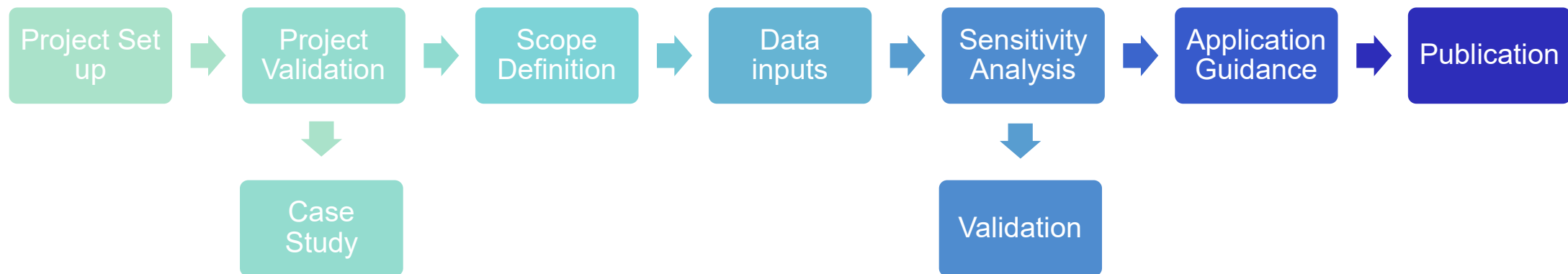
Mission: To develop an industry wide standardised approach for calculating embodied carbon in façade systems

What is key?

- Consistency of approach
- Pace of development
- Accessibility to calculation



Approach and Draft Roadmap



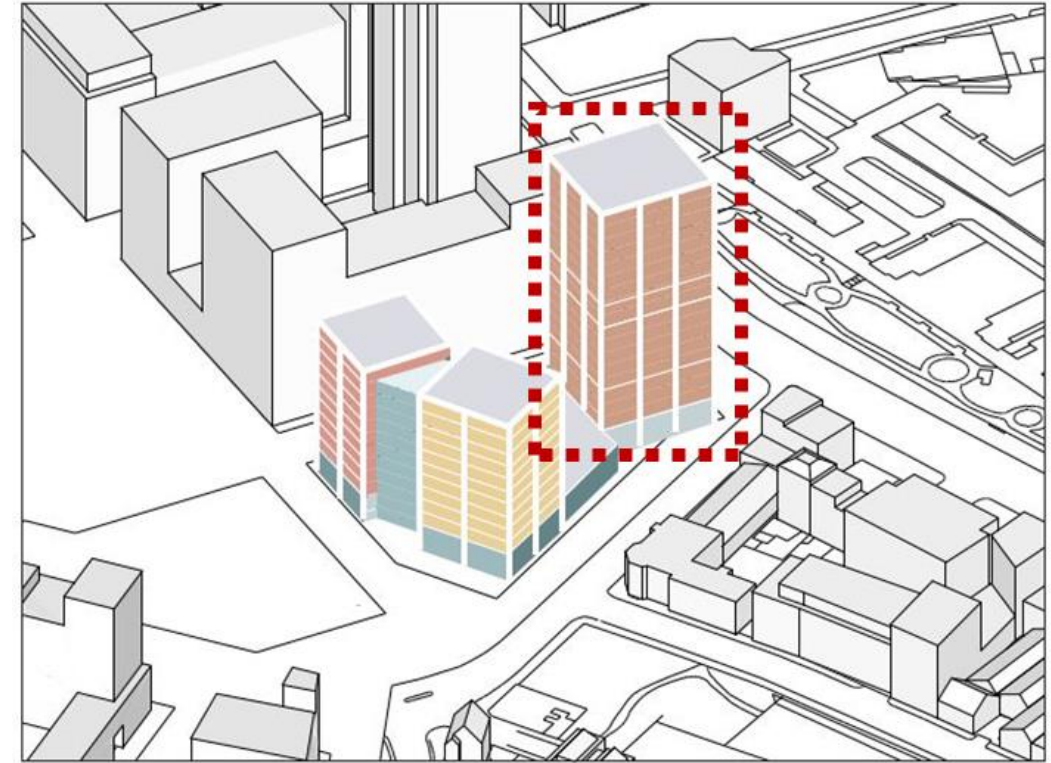


Case study feedback

Teni Ladipo

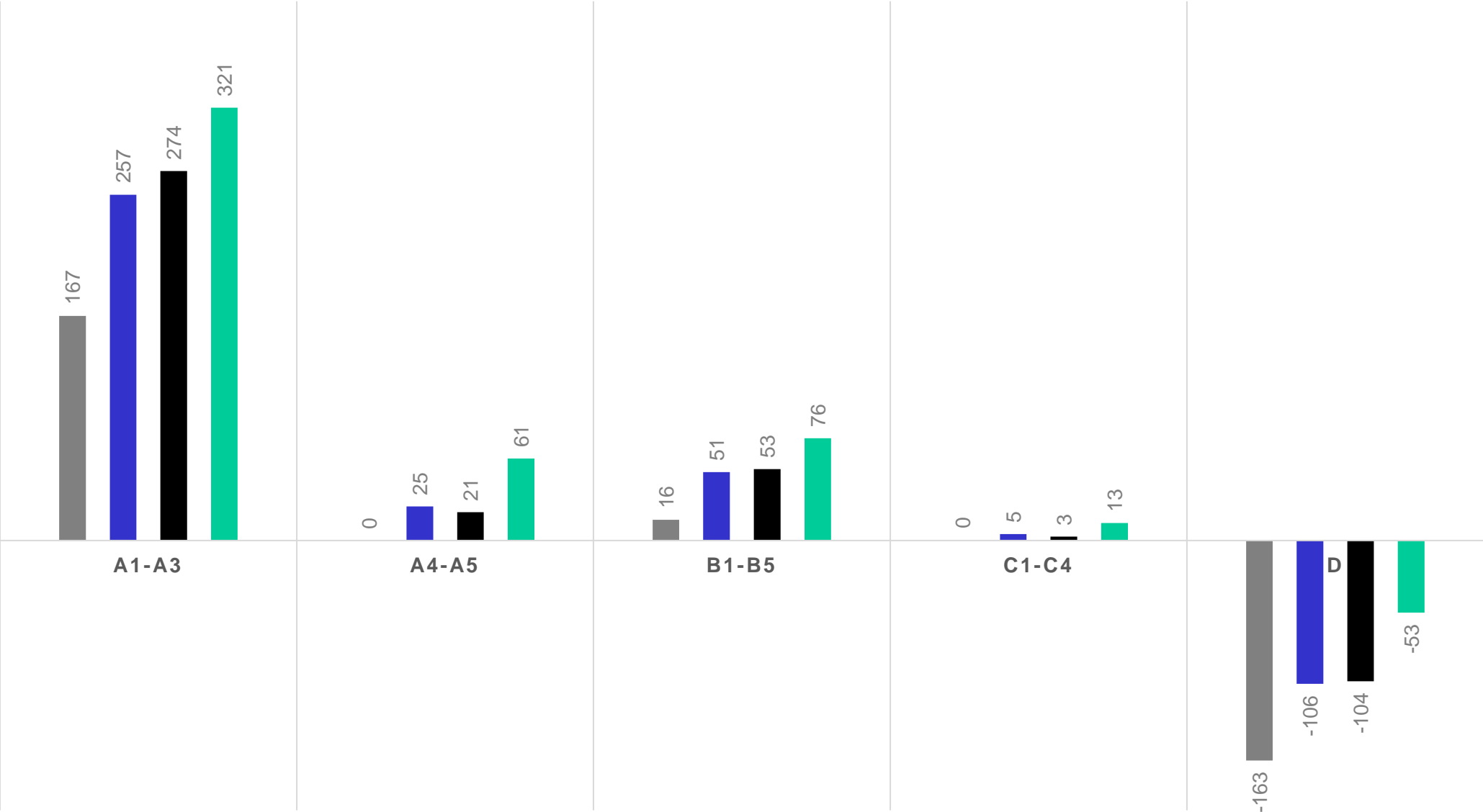
Embodied Carbon Case Study

- ▶ **First sub-committee task:** for a case study building in London, calculate the embodied carbon of the facade for all life cycle stages
 - Product stage (A1 – A3)
 - Construction process stage (A4 – A5)
 - Use stage (B1 – B7)
 - End of life stage (C1 – C4)
 - Benefits and loads beyond the system boundary (D)

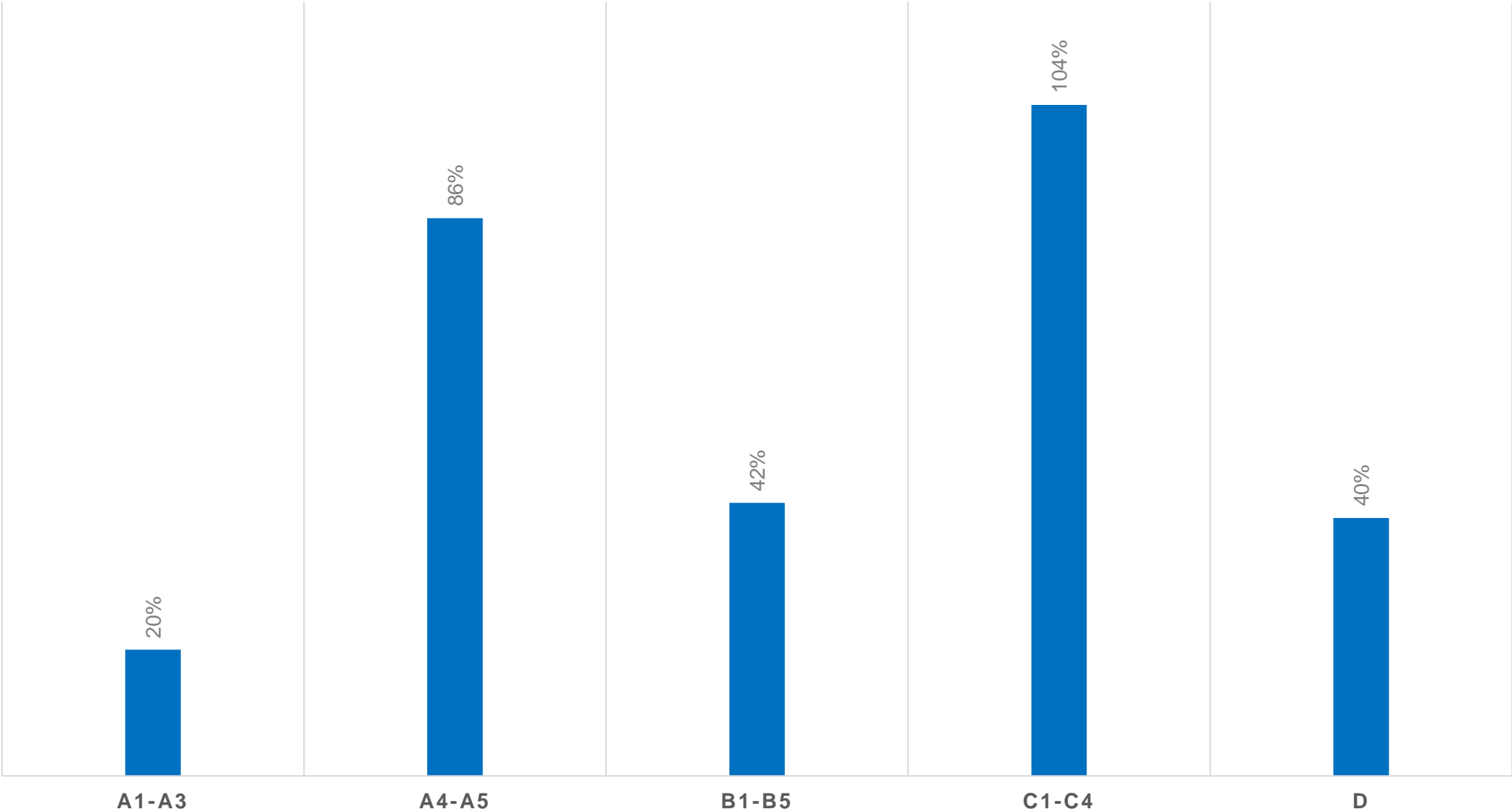


Concept Sketch demarcating residential tower

■ Lowest ■ Mean ■ Median ■ Highest



VARIATION (COV) BY LIFECYCLE STAGE



Typical Components vs

(considered by everyone)

Mullions

Transoms

Curtain wall projections (fins/caps)

Glazing systems

Spandrels / opaque infill panels

Rainscreen cladding panels

Insulation

Non-Typical Components

(not considered by everyone)

Fire stopping

Cavity barriers

Bracketry

Sealants

Membranes

Gaskets

Spacers

Thermal breaks

Common data sources

ICE Database

Manufacturer EPDs

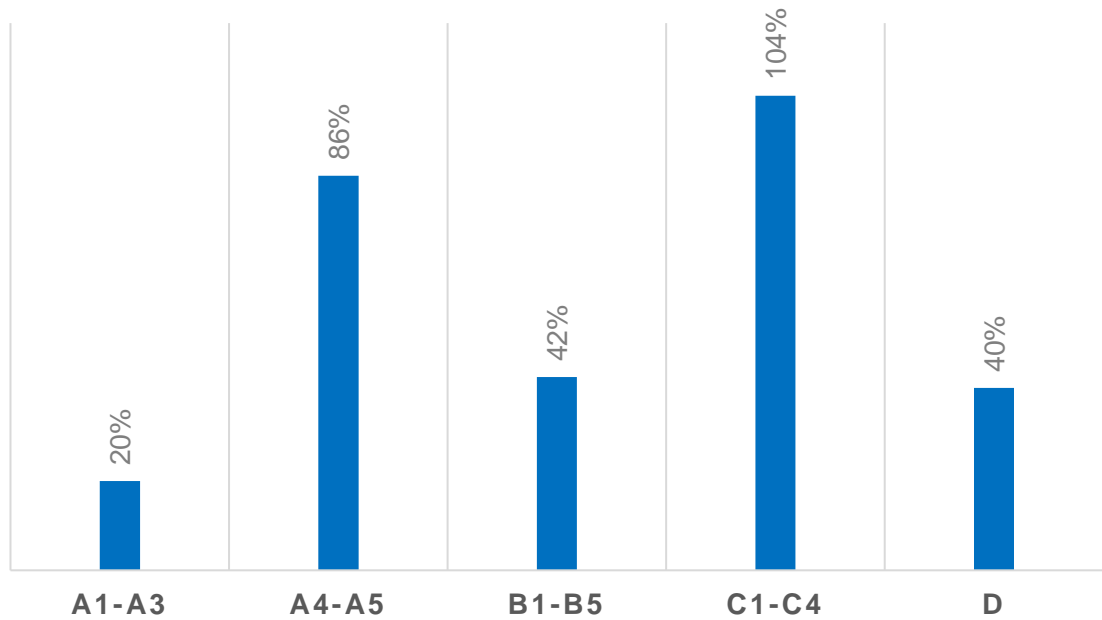
Consultant calculated values

Some key initial conclusions

1. **Agreement required for essential facade components in calculations**
2. **Consistent method and assumption process required**
3. **Guidance required on how to derive and apply embodied carbon data**
4. **Significance of developing A4-D methodology stages must not be overlook**

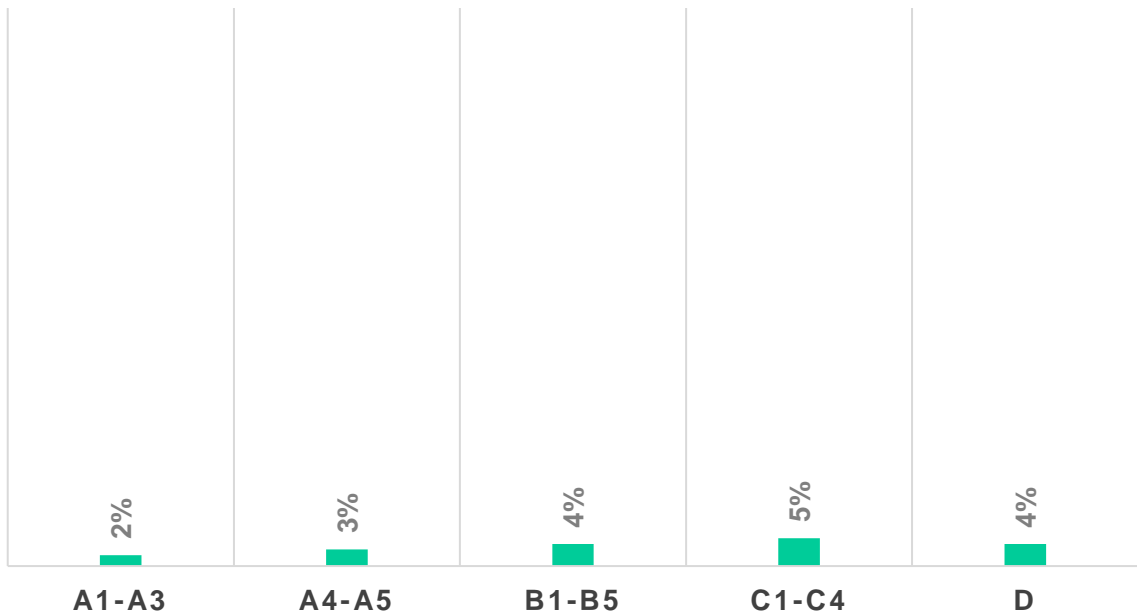
Next steps...

VARIATION (COV) BY LIFECYCLE STAGE



Results pre-methodology

VARIATION (COV) BY LIFECYCLE STAGE



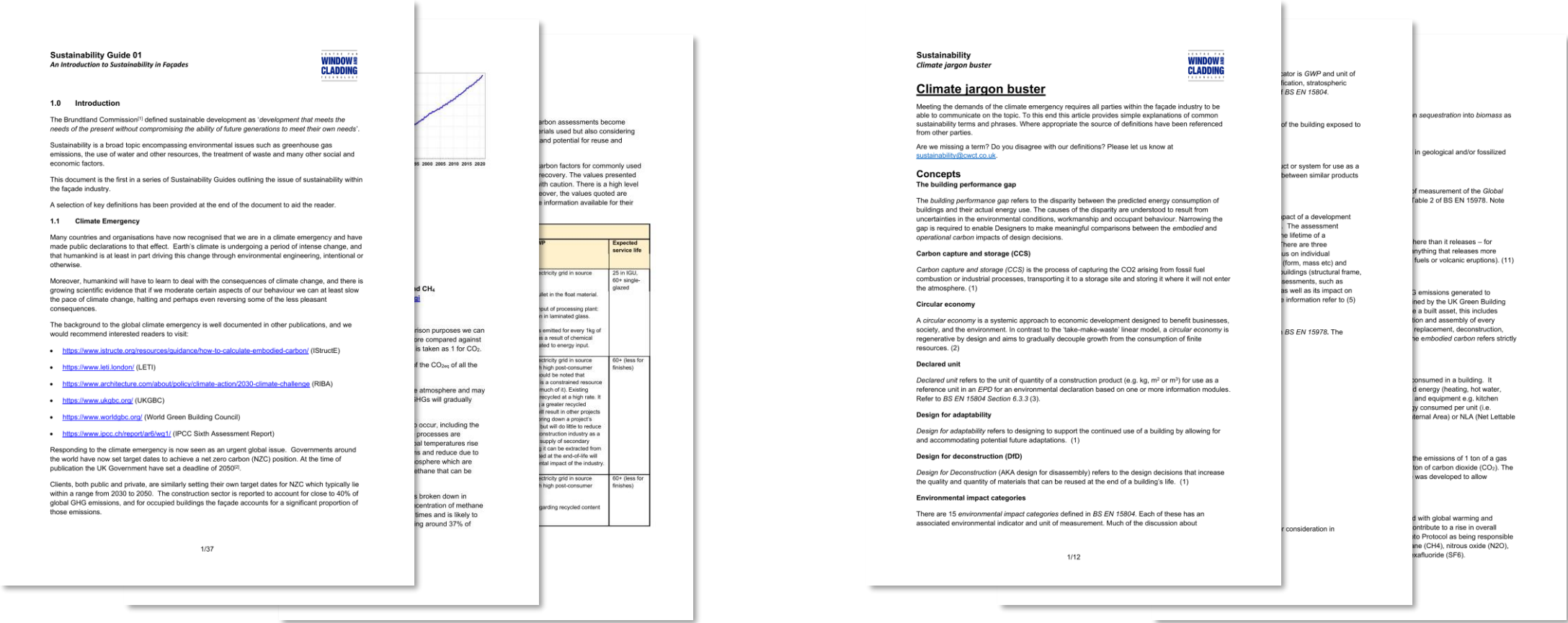
Aspirational results post-methodology



'Earthrise' December 24, 1968, Apollo 8



Where to start?



SG01: Sustainability primer
(37 pages)

Climate jargon buster
(12 pages)

Future topics

- ▶ Balancing embodied and operational carbon
- ▶ Embodied carbon methodology
- ▶ Benchmarking embodied carbon
- ▶ Guide to EPDs
- ▶ Carbon offsetting
- ▶ Design for disassembly
- ▶ Guide to low-carbon material specification
- ▶ Climate resilience
- ▶ Material passports
- ▶ Facades and the circular economy
- ▶ Guide to climate retrofit and refurbishment



Missing something? Please let us know at sustainability@cwct.co.uk



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