Confor
Promoting forestry and wood

Accelerating wood use in construction

(& How regulation can help)

Timber in construction: from roadmap to reality – 20 November 2025

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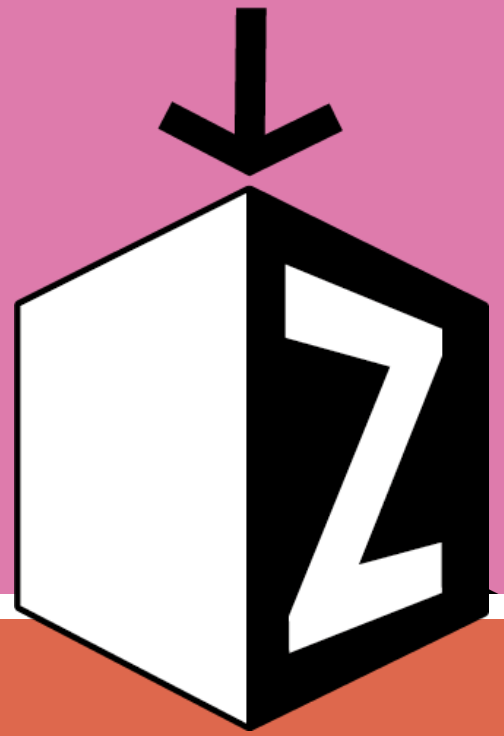


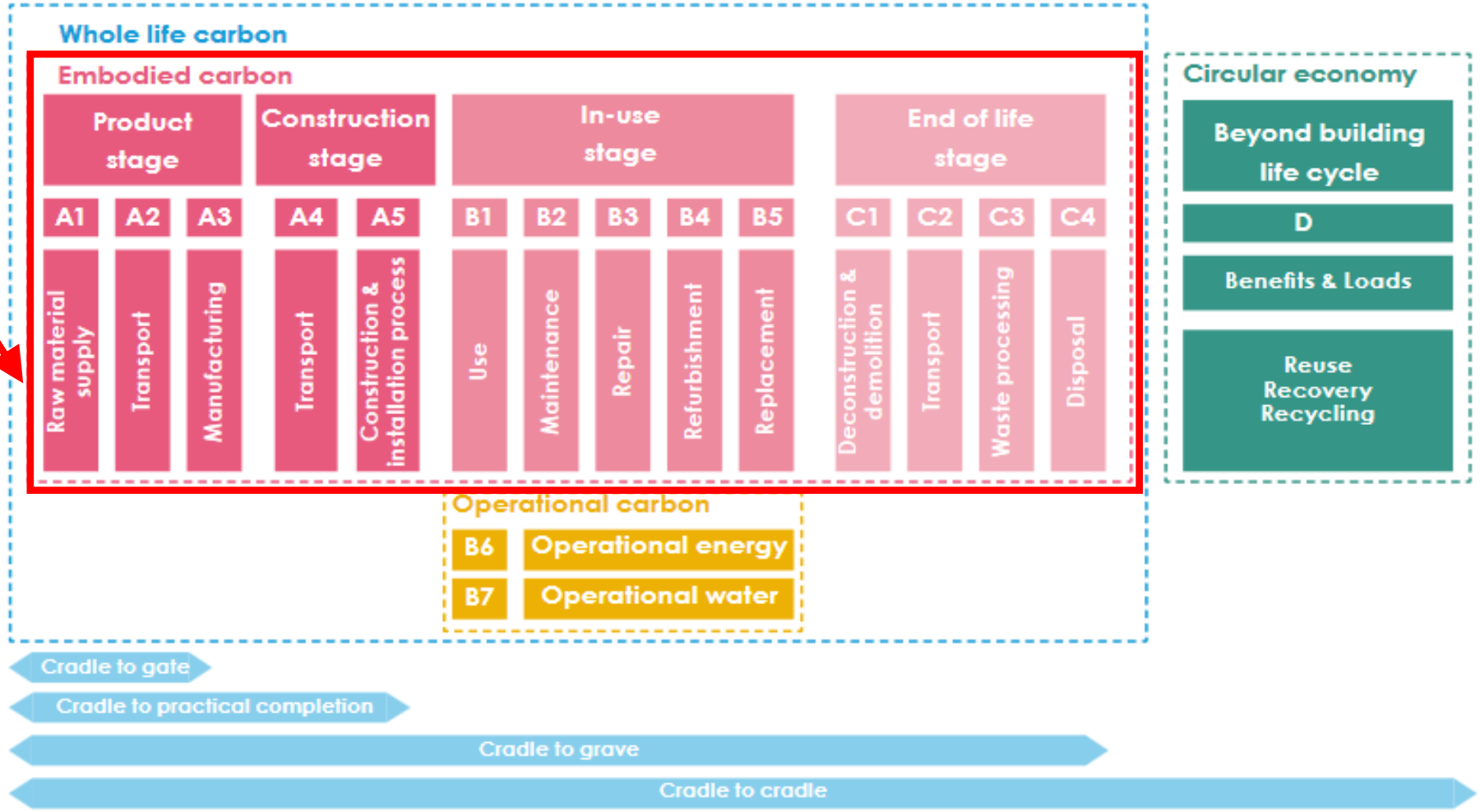
Some thoughts and opinions

Aim = reduce CO_2 emissions of timber in construction

- Received wisdom: **"nature-based materials are good"**
- But **are they really**?
  - Why must sequestration be reported separately?
  - What happens at end-of-life?
- How do we **ensure – and demonstrate –** timber in construction lowers CO_2 emissions?
- And how **can regulation help**?

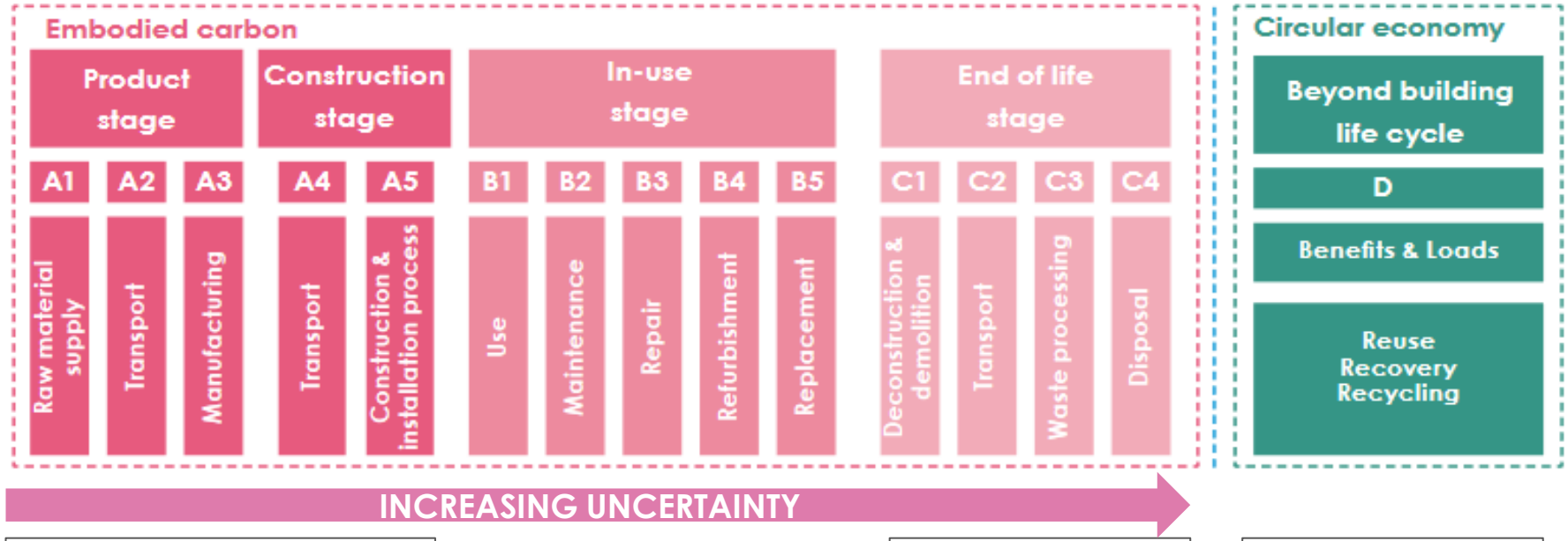
Recap of LCA modules

Embodied Carbon



Source: LETI Climate Emergency Design Guide

Recap of LCA modules



INCREASING UNCERTAINTY

REPORT SEPARATELY:
sequestered biogenic carbon (negative emissions)
- It **does not 'belong' to the project (yet)**
- **It can be 'earned' over the project's lifetime** through entering into a contract with the timber producer (FSC/PEFC)

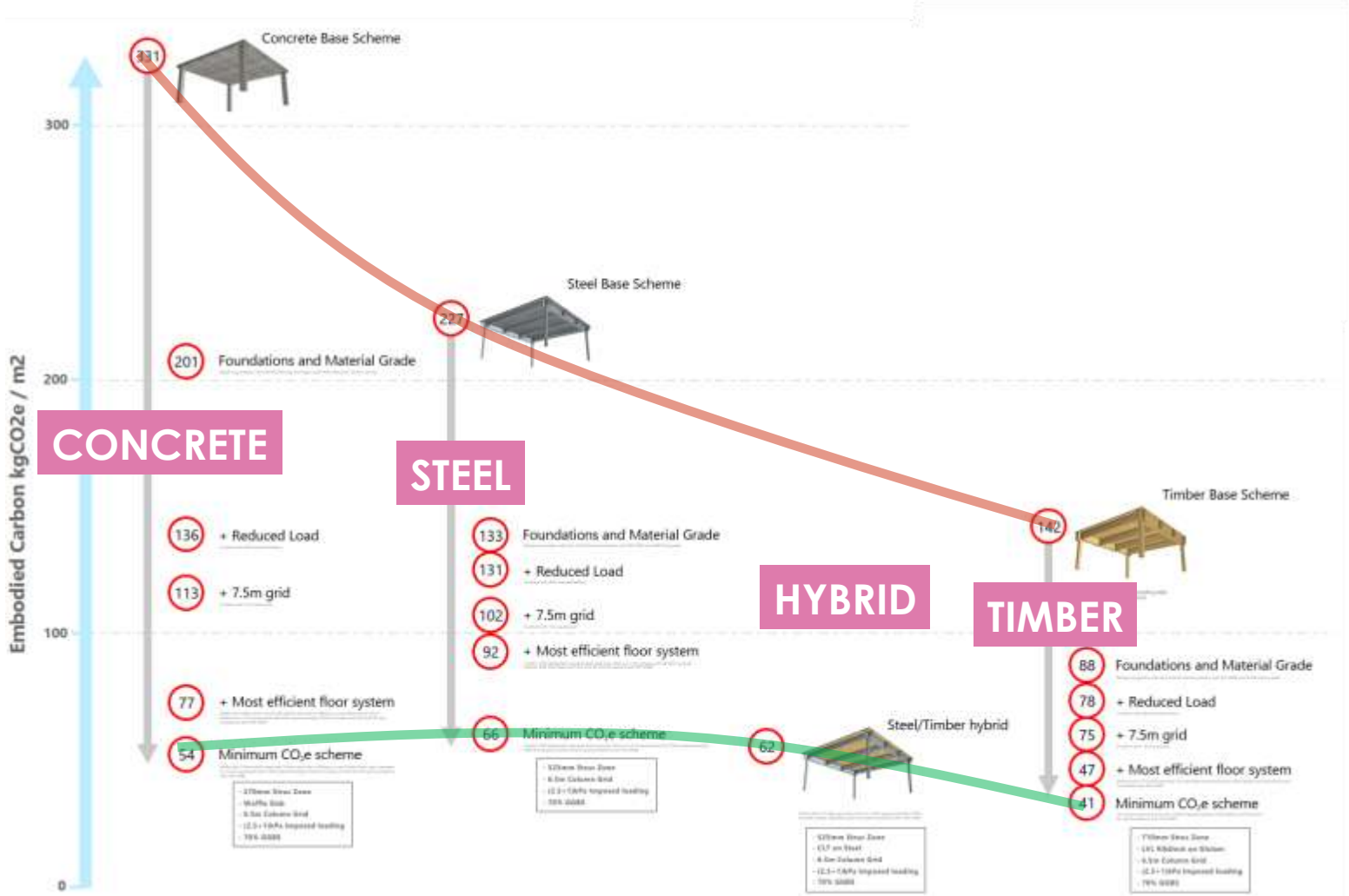
REPORT EOL CO_2 RELEASE? CHOICE:
- **Waste biogenic carbon, CO_2 thrown back into the atmosphere**
- **'Do the right thing'** - Keep CO_2 out of the atmosphere

REPORT SEPARATELY:
Benefit of handing over stored CO_2 to new generations of buildings (risk of double counting)

In the relative absence of 'better practice', LCA analysis usually assumes this

Source: LETI Climate Emergency Design Guide

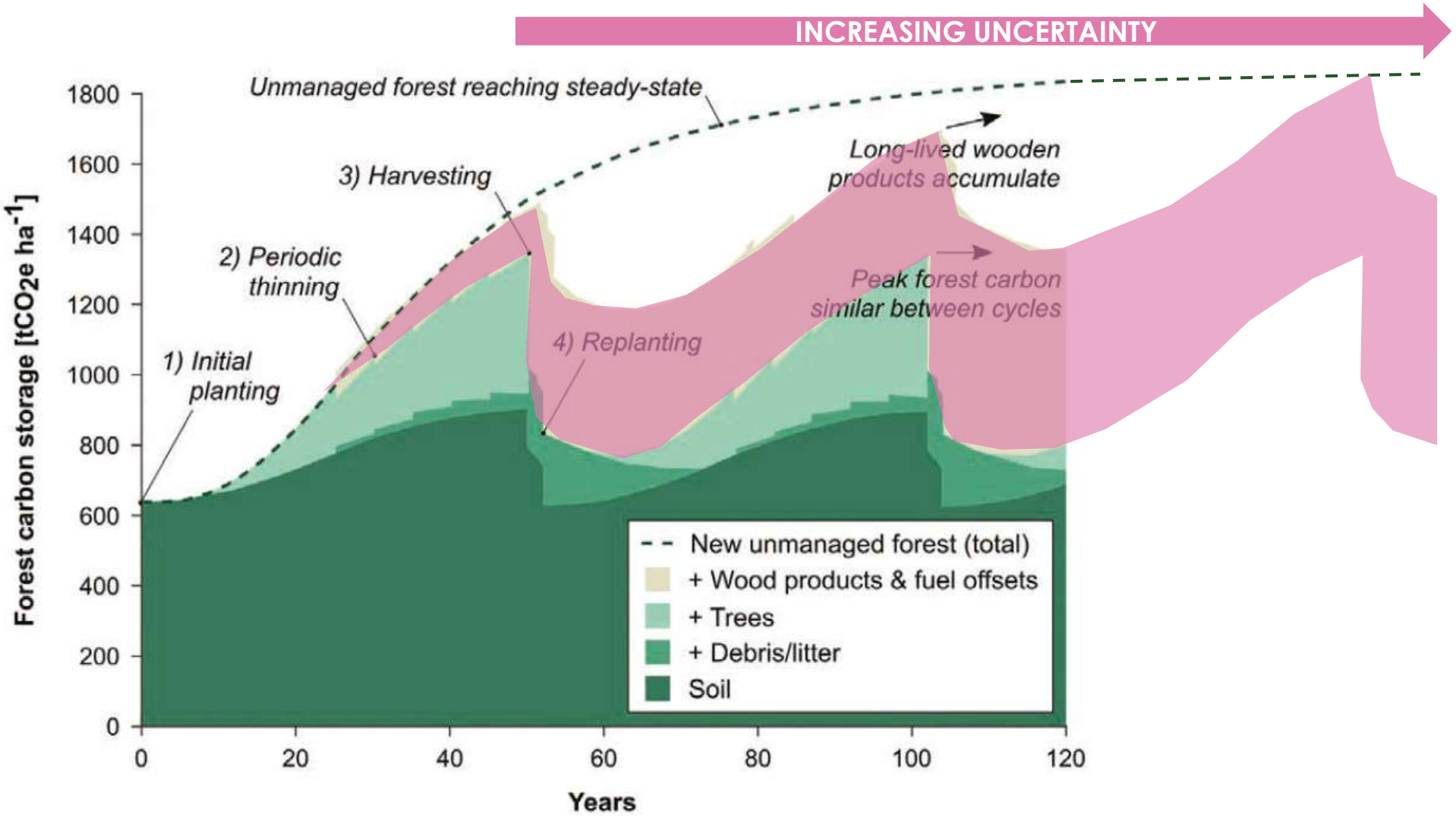
Upfront carbon emissions (A1-A5) – structure, NO SEQUESTRATION



- Super-efficient concrete, steel, and timber structures have similar emissions
- For timber, there are ADDITIONAL SEQUESTRATION BENEFITS that are **not shown here**
- To recognise these, the 'building' needs to work hard at keeping this sequestered CO_2 out of the atmosphere

Source: Buro Happold 2020, https://www.istructe.org/resources/case-study/embodied-carbon-structural-sensitivity-study/

Efficient use of structural timber:



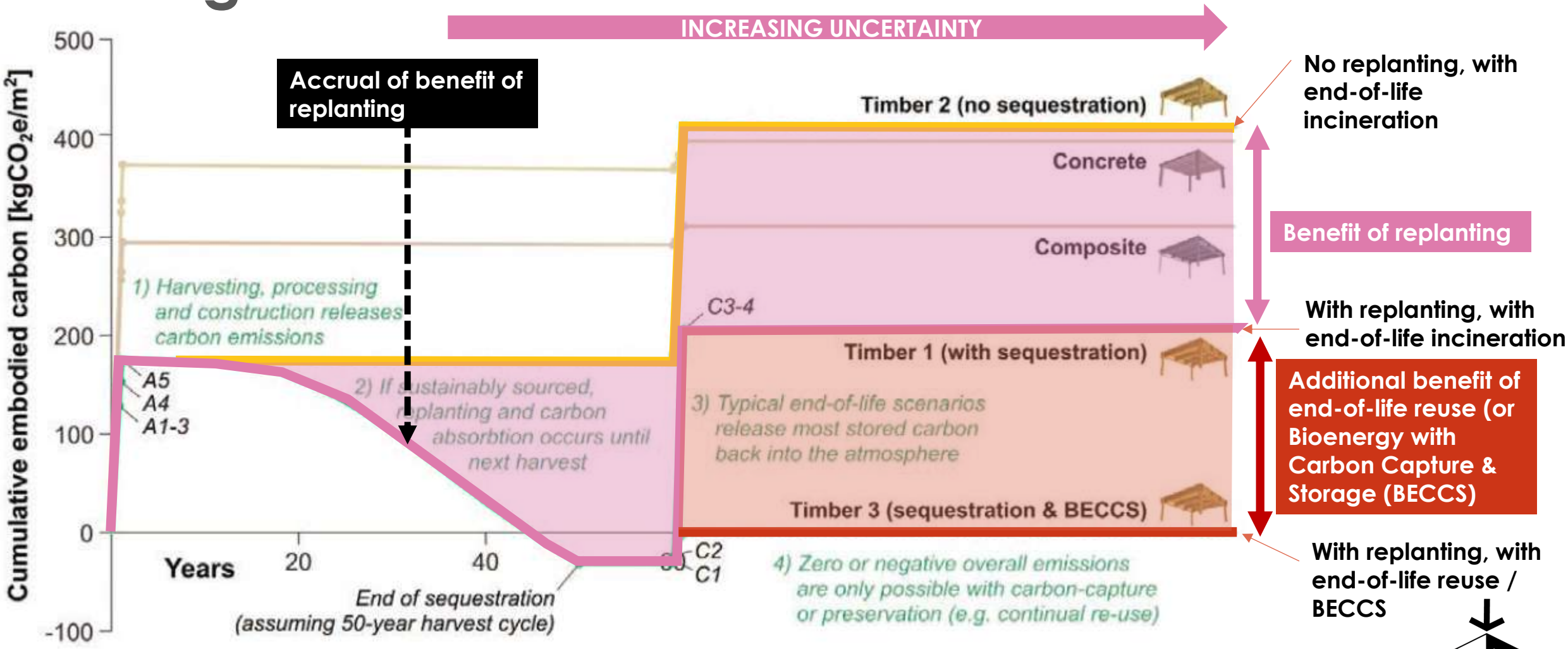
Cumulative building-sequestered carbon that 1 hectare of forest yields over time (assuming buildings hold on to the carbon)

Source: Will Hawkins, 2021, thestructuralengineer.org

Future sequestered CO_2 by forest can be 'claimed' by the building

- [Assumption: CO_2 is assumed 'lost' unless you can prove otherwise]
- **During building's life:** Via FSC/PEFC etc, the benefit of sequestered biogenic CO_2 hypothecated to the building by the replanted forests accrues / amortises to the building over life cycle
- **At building's end of life** (*should it happen*): biogenic CO_2 has historically been re-emitted to atmosphere.
  - **BUT THERE ARE ALTERNATIVES!**

Biogenic benefits accrue to a structural timber building over its life



Source: Will Hawkins, 2021, thestructuralengineer.org

What can be done to make CO_2 sequestered into timber last beyond EOL?

- **[Producers**: best practice forest management]
- **Designers**:
  - Extend building life: **flexible**, **adaptable** (but watch upfront embodied carbon cost of this)
  - *If you must*, take it down and make it easy to reuse: **demountable, design in layers.** Need **REVERSE LOGISTICS** supply chain to be functional
- **Owners**: **material passports** (demonstrable **residual value**)
- **Innovators**: make **affordable BECCS** a reality
- **LCA professionals**: **assumptions** reflect the above (but honesty about uncertainty)
- **Standardisation Committee**: clearer guidance on **assumptions**
- **Regulators**: **mandate reporting** along these standards

Consequences of these analyses (as well as limits on emissions) NOT being mandatory:

- Uneven playing field penalises 'good players'
- Less incentive for everyone in the structural timber production supply chains to push for best practice
- "Harder to compare"

UK built environment emissions

25% Direct built environment | **17%** Surface Transport | **58%** Other Sectors

Consumption basis, from UKGBC Net Zero Roadmap 2021: 703 million tCO_2e

Embodied carbon

Operational carbon

UK buildings just meeting regulations

33% | **67%**

Progress to 2030

Modern, low-energy building in 2030 (predicted)

72% | **28%**

UNREGULATED | **REGULATED**

Grid decarbonisation, new technology, tighter building regulations

Part L was the catalyst for energy industry readiness, not the other way round

Two requirements of embodied carbon regulation

MEASURE NOW

Z1

Whole life carbon assessment regulation (**2026**)

Whole life carbon data

LIMIT LATER

Z2

Embodied carbon efficiency regulation (Upfront limits) (**2028**)

Limits on embodied carbon emissions

Support from industry: demand for LEVEL PLAYING FIELD

Barratt Developments "welcome regulation to mandate the reporting of whole life carbon, leading to the eventual introduction of embodied carbon limits in construction"

"**JLL** supports amendments to Building Regulations requiring assessment of whole life carbon emissions and limitation of embodied carbon emissions"

"**abrdn** Investments are supportive of the regulation of embodied carbon."

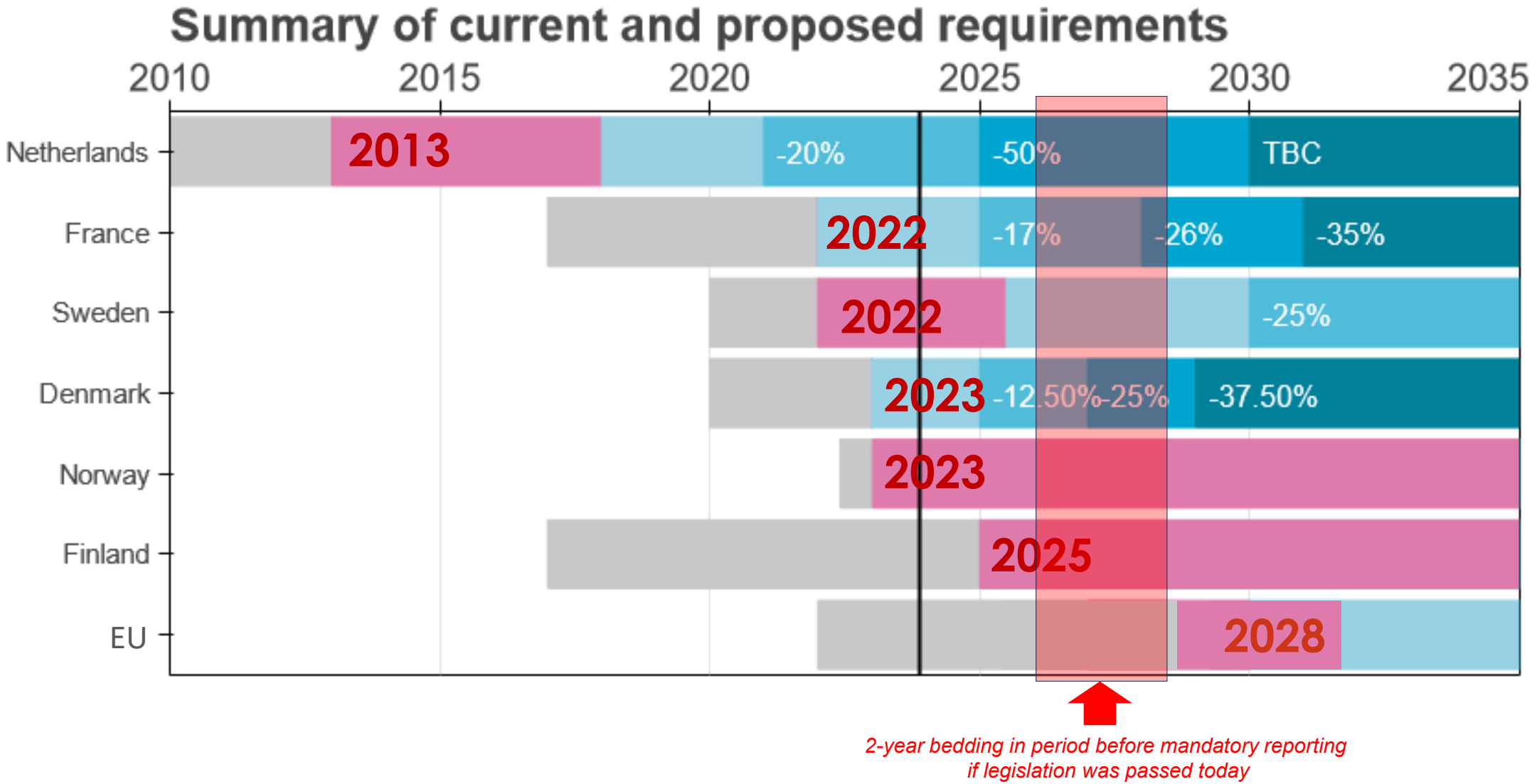
"**Royal London Asset Management** endorses the concept of regulation that mandates the reporting of – and sets limits on – embodied carbon emissions in the built environment."

"**Stanhope** fully supports the principle of regulating upfront embodied carbon in construction."

"**Landsec** […] fully supports these assessments becoming a legal requirement as part of Building Regulations."

View more at: https://part-z.uk/industry-support

Start of mandatory carbon reporting (red dates)



Source: http://www.jannikgiesekam.co.uk/embodiedcarbon/

2023

The clearest case **for** embodied carbon regulation to date: inconsistent methodology, uncertain data, skills gap

2024

2025

RICS IStructE UKGBC Embodied Carbon Summit

CONSENSUS:

- Industry is ready for regulation
- Industry wants a 'roadmap of certainty' from government
- Without clear direction, consistency of approach is unlikely to increase
- Industry has all the tools, guides and training required, we just need wider rollout

Part Z will drive…

1. Rapid alignment of **methodology & data** across the sector
2. **Training** in embodied carbon reporting, and carbon literacy
3. **Better management** of forests and timber supply chain
4. More circular **design**, **building management** and **EOL actions**

Such best practice by forest owners, manufacturers, designers, clients, can lead to realisation of **the full benefit of sequestered CO_2** in structural timber buildings

A final thought

THANK YOU
www.part-z.uk/support

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