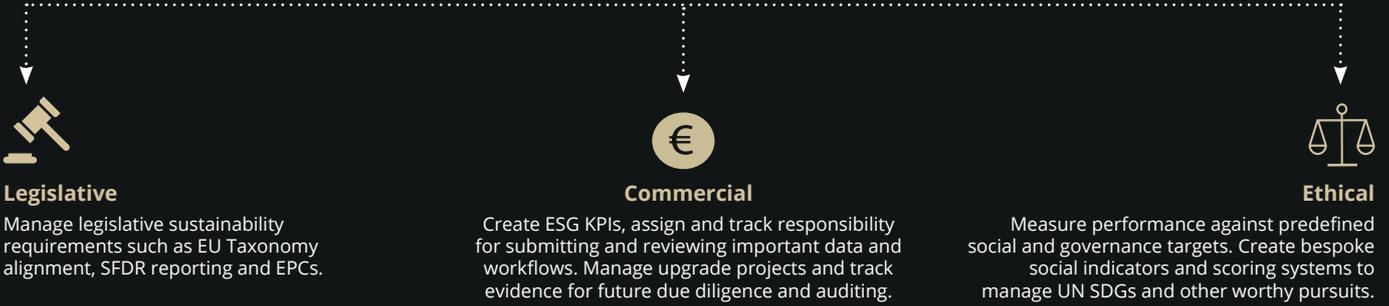


ESG - 3 Pillars



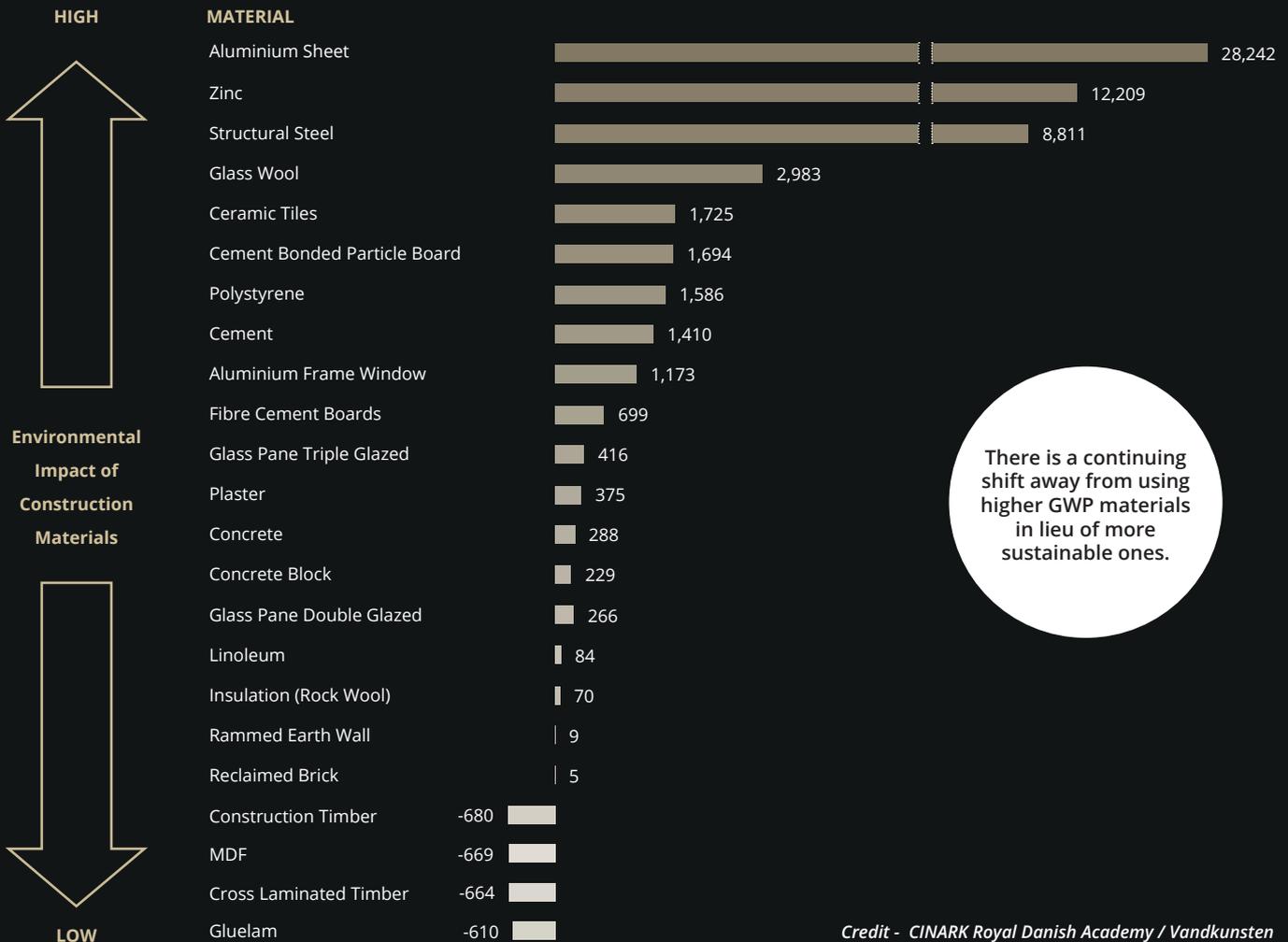
Credit - i3pt

CARBON IN CONSTRUCTION - WHAT IS IT?



Embodied Carbon refers to the greenhouse gas emissions (GHG) associated with all the activities involved in the creation and demolition of a building. It is the total life cycle carbon less the operational carbon impact.

Calculated as Global Warming Potential (GWP) and expressed in carbon dioxide equivalent units.



There is a continuing shift away from using higher GWP materials in lieu of more sustainable ones.

Credit - CINARK Royal Danish Academy / Vandkunsten

SOME THINGS TO LOOK OUT FOR IN 2025...

- Mandatory Whole Life Carbon Reporting
- Repurposing Existing Stock
- Changing Legislation
- Cost of Sustainability
- Carbon Reporting / Audits
- Exploring Modern Methods of Construction

WHAT ARE THE KEY FACTORS FOR ANALYSING EMBODIED CARBON COUNTING?



Level of Design and Specification



Accurate Measurement

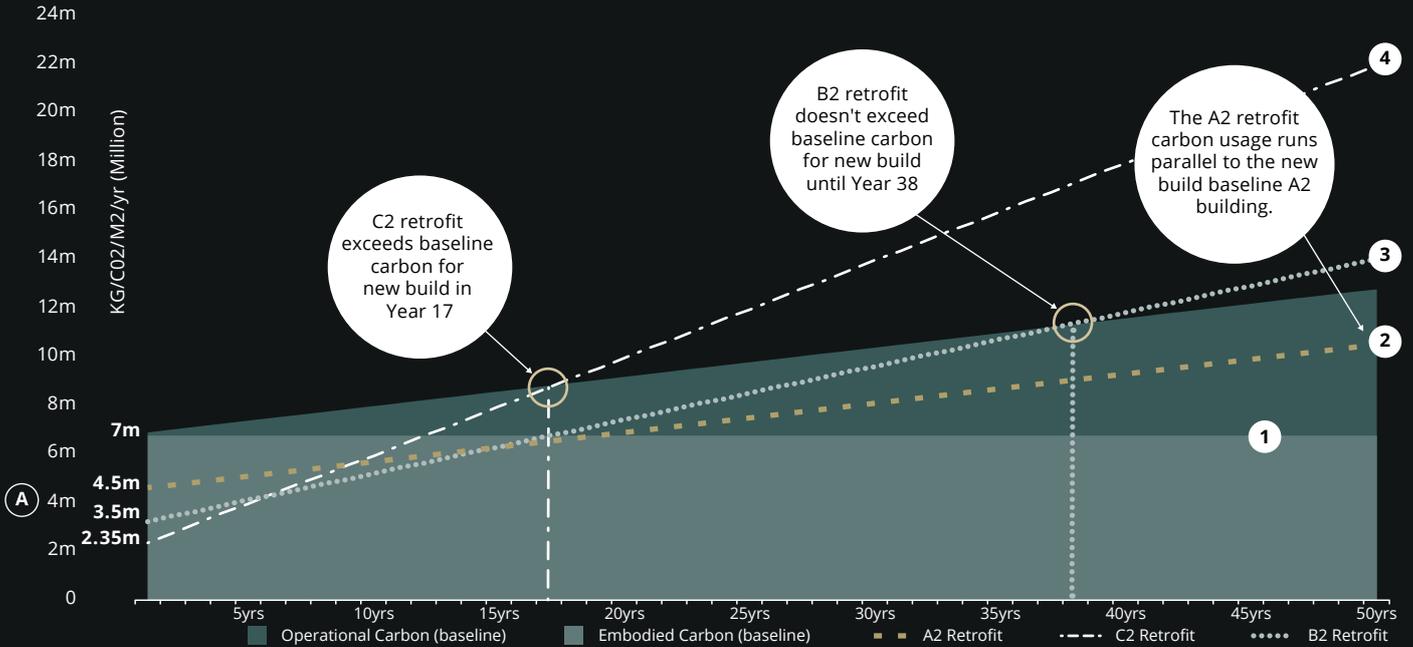


Environmental Product Declaration Availability

CARBON CASE STUDY: Demolition And Re-Construction Of Office Building - Versus - Retrofitting.

Carbon Analysis

*each model assumes replacement costs will be required for both schemes in the same year.



(A) Embodied Carbon for Each Model. ○ The point in which the proposed retro-fit exceeds the baseline and operates at a higher rate of carbon.

BASELINE 1	OPTION 2	OPTION 3	OPTION 4
New Build Office	Retrofit Existing	Retrofit Existing	Retrofit Existing
BER A2	BER A2	BER B2	BER C2
Baseline option that looks at demolishing the existing building and re-constructing a new, modern office block.	Increase BER rating from G to A2. This graph shows the combined embodied and operational carbon.	Increase BER rating from G to B2. This graph shows the combined embodied and operational carbon.	Increase BER rating from G to C2. This graph shows the combined embodied and operational carbon.
Total Carbon (Yr. 50)	Total Carbon (Yr. 50)	Total Carbon (Yr. 50)	Total Carbon (Yr. 50)
12.75m Kg/Co2	10.5m Kg/Co2	14m Kg/Co2	22m Kg/Co2
	Exceeds Baseline:	Exceeds Baseline:	Exceeds Baseline:
	N/A	Year 38	Year 17
Cost	Cost	Cost	Cost
€€€€€	€€€€	€€€	€€



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