



Purpose and objectives of the Report:

- Spark a **global conversation** around the **value and importance** of aiming for net zero embodied carbon (NZEK)
- **Communicate the urgency** and set goals and milestones for achieving NZEK
- **Stimulate demand** for NZEK and show it can be achieved through industry collaboration, transparency and immediate action
- **Advocate for policy and regulation** towards NZEK



Definition:

Net zero **embodied carbon** should be pursued as part of a whole lifecycle approach to carbon reduction that includes net zero **operational carbon**.

Our definition of net zero embodied carbon in practice:

A net zero **embodied carbon** building (new or renovated) or infrastructure asset is highly resource efficient with **upfront carbon** minimised to the greatest extent possible and all remaining **embodied carbon** reduced or, as a last resort, offset in order to achieve net zero across the lifecycle.



Principles:

1 Prevent

Avoid embodied carbon from the outset by considering alternative strategies to deliver the desired function

2 Reduce and optimise

Evaluate each design and construction choice in terms of the upfront carbon reductions and as part of a whole lifecycle approach

3 Plan for the future

Take steps to avoid future embodied carbon during and at end of life, maximising potential for maintenance, renovation, reuse and deconstruction

4 Offset

As a last resort, offset residual embodied carbon emissions within the project or organisational boundary where possible or if necessary through verified offset schemes.



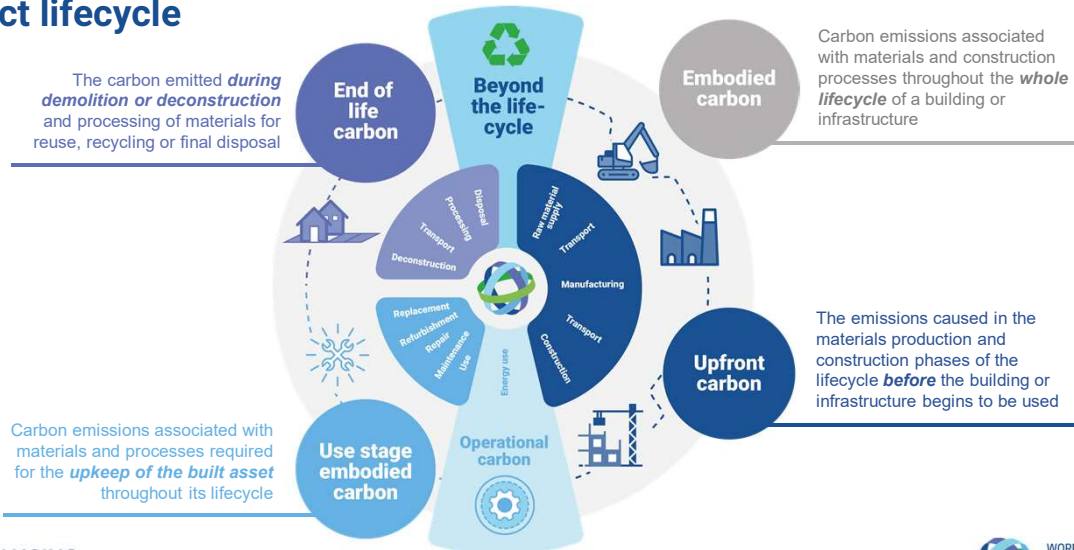
Vision:

By 2030, all new buildings, infrastructure and renovations will have at least 40% less **embodied carbon** with significant **upfront carbon** reduction, and all new buildings must be net zero **operational carbon**.

By 2050, new buildings, infrastructure and renovations will have net zero **embodied carbon**, and all buildings, including existing buildings, must be net zero **operational carbon**.



Project lifecycle



Summary of actions



Roadmaps



Data



Target setting



Policy



Disclosure



Build / develop



Leadership action



Tools



Certification

EPD

EPDs

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Finance

Renewable energy

Design



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Theory of change



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Act Now! Immediately, all stakeholders must:

- **COLLABORATE** to create action roadmaps
- **COMMUNICATE** ambitions, successes and research
- **ADVOCATE** for embodied carbon reduction policies at regional, national and international level
- **EDUCATE** all relevant members of the value chain



Confirmed endorsements

- | | | | |
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| <ul style="list-style-type: none"> • Aalto University, Department of Architecture • ABN AMRO Bank • AECOM • AESG • Akzonobel • Atelier Ten • Australian Sustainable Built Environment Council • Avison Young • B+H Architects • Barratt Developments PLC • Bennetts Associates • Building Research Establishment (BRE) • C40 Cities Climate Leadership Group • Canary Wharf Group • Carbon Leadership Forum • CEN/TC350, Sustainability of Construction Works • City Developments Limited • City of Melbourne • City of Sydney | <ul style="list-style-type: none"> • City of Vancouver • Climate Bonds Initiative • Climate Agency, City of Oslo • Cundall • Dalmia Cement (Bharat) Limited • Danish Building Research Institute, Aalborg University • EDGE ENVIRONMENT • EllisDon • Energy Research Institute @ Nanyang Technological University • Energy Transitions Commission • Entra ASA • European Bank for Reconstruction and Development • Frasers Property Australia • GECA: Sustainability & Environmental Certification Program • Global GreenTag International Pty Ltd • Global Infrastructure Basel Foundation • Google • Grosvenor • HeidelbergCement • Infrastructure Sustainability Council of Australia | <ul style="list-style-type: none"> • Integral Group • Interface • International Living Future Institute • JLL • Knauf Insulation • LafargeHolcim • Landsec • Lemay • Majid Al Futtaim Holding • Mantle • Microsoft • Ministry of the Environment, Finland • Morgan Sindall Group • Morrison Hershfield • Multiplex Global • New York City Mayor's Office of Sustainability • One Click LCA / Bionova Ltd • Pan-United Concrete Pty Ltd • Ramboll • RDT Pacific • RICS • Royal BAM Group • Royal Institute of British Architects • Ruukki Construction Oy | <ul style="list-style-type: none"> • Saint-Gobain • Schneider Electric • Signify • Skanska Group • Skidmore, Owings & Merrill LLP • SSAB AB • Stanhope PLC • Statsbygg (Norwegian Directorate of Public Construction and Property) • Stora Enso • Surbana Jurong Consultants Pte Ltd • The Carbon Trust • The Climate Group • thinkstep ANZ • Uponor Corporation • Urban Green Council • Volvo Construction Equipment • We Mean Business • Willmott Dixon • World Business Council for Sustainable Development • WSP |
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Endorsement Statement:

The following organisations endorse the vision and ambition of this report, recognising the need for coordinated action across the whole value chain to achieve this. Their endorsement is a call to others to join them and work together to fully decarbonise buildings and infrastructure by 2050.



“Bringing embodied carbon upfront”



