Going beyond 'direct control'

World Green Building Council (WorldGBC) is looking to build upon the core ambitions of the Net Zero Carbon Buildings Commitment (the Commitment) by supporting signatories in tackling emissions outside of their 'direct control'.

Introduction

The Net Zero Carbon Buildings Commitment challenges companies, cities, states and regions to reach net zero operating emissions in their portfolios by 2030 and to advocate for all buildings to be net zero in operation by 2050. WorldGBC is looking to provide signatories with additional guidance on how they can further encourage and influence emissions reductions for activities beyond their direct control, including scope 3 emissions. This is intended to stimulate further action across the building value chain and help in building collaborative approaches to decarbonisation.

This factsheet is a primer to the additional guidance that is provisionally scheduled for release in November 2020.

Current scope

The Commitment currently requires signatories to achieve net zero operating emissions for all building areas under their direct control by 2030. This means significantly reducing the energy demand at the asset and portfolio level and procuring 100% renewable energy by 2030[1].

Looking beyond direct control, the advocacy requirements of the Commitment ask signatories to "demonstrate leadership to support the transition towards net zero carbon buildings," and to "catalyse action…that will facilitate greater momentum towards a net zero carbon built environment by 2050".

The advocacy requirements are intentionally flexible to enable signatories to maximise their efforts based on their specific role within the building value chain. As more signatories look to what they can influence across the lifecycle of a building and throughout their supply chains, there is an opportunity for WorldGBC to support signatories' efforts by providing additional prescriptive guidance.

Extending the scope

Each signatory's role within the building value chain is unique in supporting the transition to net zero. Besides direct control, there will be emissions relevant to their activities which they either have indirect control over or the ability to influence. These emissions are currently out of scope for the Commitment but are encouraged to be addressed through the advocacy requirements.

Some common examples of these emissions are:

- scope 1 emissions:
  - fuel used in company vehicles
  - construction emissions from temporary construction site buildings, construction vehicles and plant
  - refrigerants used in building systems
- scope 2 emissions:
  - energy procured for manufacturing processes
- scope 3 emissions:
  - business travel
  - energy procured for tenants
  - embodied carbon for new buildings
  - supply chain

Collectively, these emissions are potentially greater in magnitude than what's currently included within the scope of the Commitment and, crucially, will need to be addressed to achieve a net zero carbon built environment as shown below in **Figure 1.** By highlighting these sources of emissions to signatories with new additional guidance, WorldGBC aims to encourage greater awareness and action to drive their mitigation.

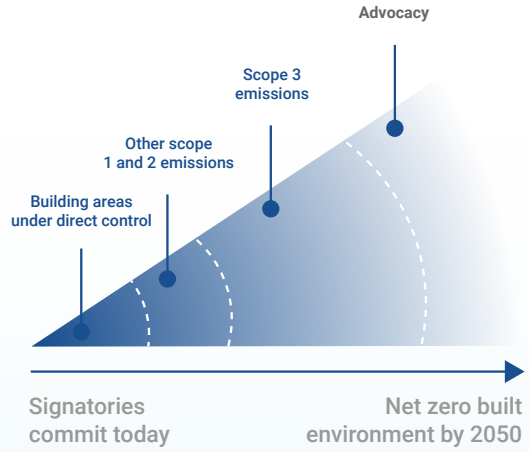


Figure 1 – Theoretical magnitude for the different scopes of emissions in relation to achieving a net zero built environment

[1]Where procurement and generation of 100% renewable energy (i.e. on-site and off-site) is not possible, offsets are allowed. Please see Appendix B: Guidance for Procurement of Renewables and Offsets in the Detailed Guidance document for more information.

What are scope 3 emissions?

For **businesses and organisations,** greenhouse gas emissions that occur directly due to an entity's activities or indirectly from its use of energy are known as scope 1 and scope 2 emissions, respectively. All other greenhouse gas emissions that occur due to its activities, but which it has no direct ownership or control over, are known as scope 3 emissions[2].

Some examples relevant to the building sector include:

- A **building developer** reporting the emissions from construction and building materials used in a new building
- A **building owner** (lessor) reporting the emissions from energy use of a tenant (lessee)
- An **employer** reporting the emissions from employees commuting to work

In all these examples, an entity would not directly own or control these sources of emissions but would have some level of influence over them. Accordingly, it is important for entities to understand the complete footprint from their activities and undertake efforts to influence mitigation of these relevant emissions. Often, this will involve engaging with supply chains and working collaboratively to reduce emission sources.

The Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard is the internationally accepted method for business and organisations to account for scope 3 emissions. From the standard, **Figure 2** below is widely accepted as an accurate breakdown of scopes of emissions across an entity's value chain.

For cities, states and regions, the scopes of emissions are classified differently. They are generally classified by geographic boundary. More information on this can be found in GHG Protocol's Global Protocol for Community-Scale Greenhouse Gas Emission Inventories on page 5.

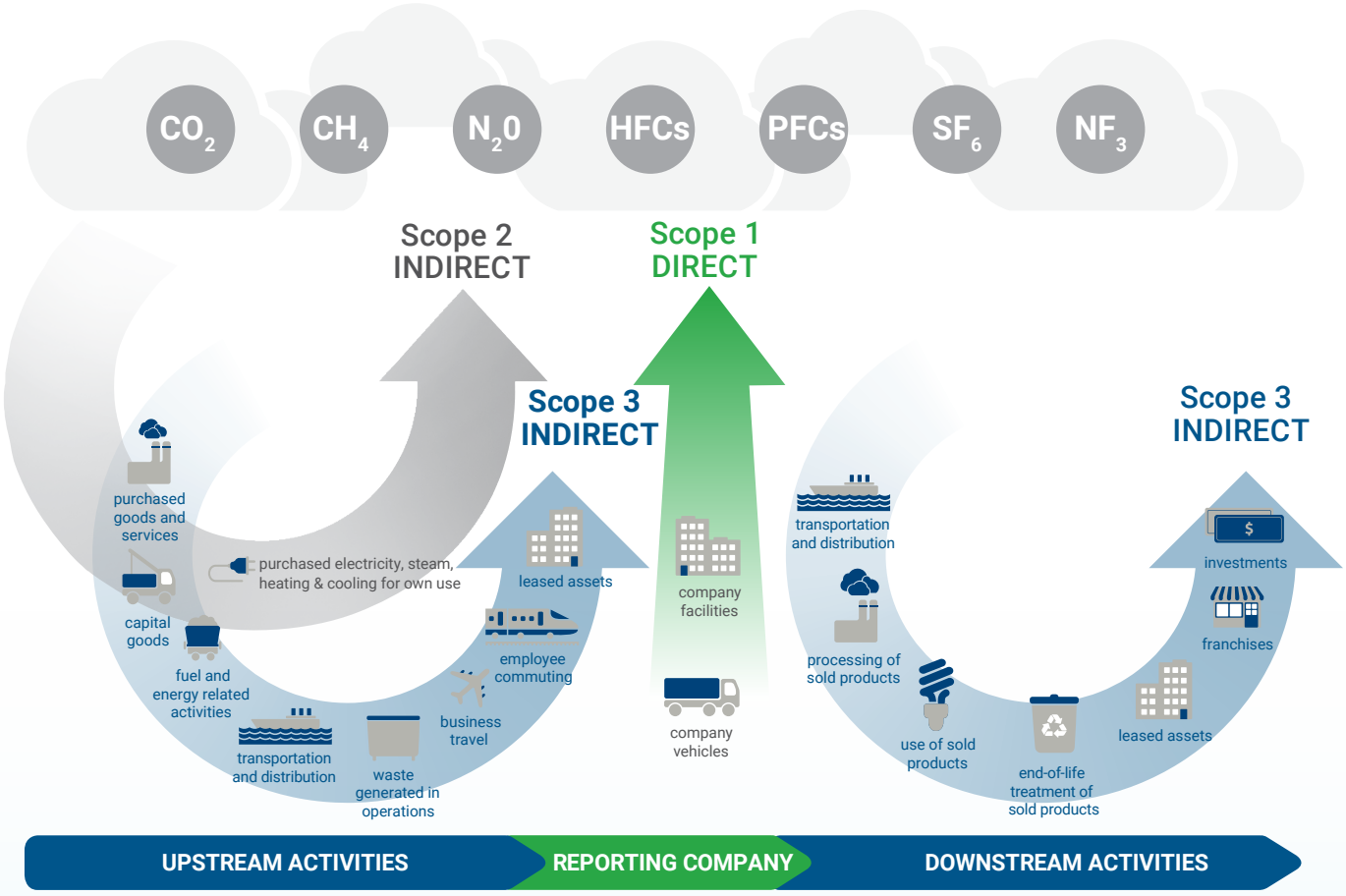


Figure 2 - Overview of GHG Protocol scopes and emissions across the value chain (Image: World Resources Institute)

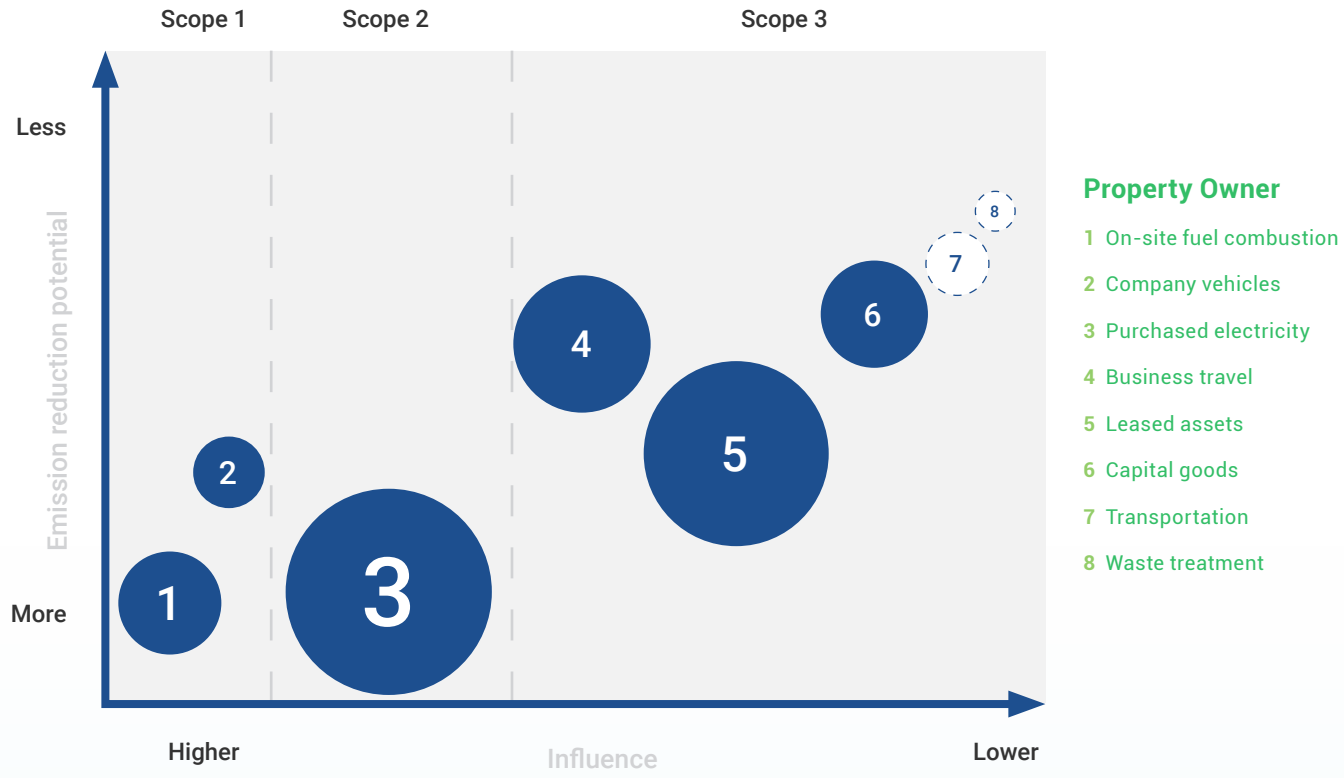
[2]As per the Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2013), available at: https://ghgprotocol.org/standards/scope-3-standard

Upcoming guidance

WorldGBC is aiming to support signatories' efforts in tackling scope 3 emissions by providing additional guidance, tailored to specific sub-sectors. This should encourage signatories who want to take active steps to reduce emissions outside of their direct control and catalyse greater action within their value chain.

The future guidance will cover the following aspects of scope 3 emissions for specific sub-sectors:

Emissions hotspots	The most important activities where mitigation strategies should be prioritised, typically undertaken by stakeholders, based on emission reduction potential and level of influence. For example, circles 4 to 6 in **Figure 3** below.
Mitigation strategies	Best practice strategies for reducing emissions hotspots.
Data collection	Typical sources for collecting primary data to quantify scope 3 emissions.
GHG Protocol category	The relevant category that emissions should be reported under.
Further information	A list of different publications, programmes or initiatives that provide further detail on addressing specific emissions hotspots.



Note: size of circles represents relative scale of emissions. The numbering denotes different hypothetical emissions sources of a Property Owners GHG inventory. The solid circles which are the biggest and have the highest level of influence would be identified as emissions hotspots for prioritising action. The dashed circles represent hard to mitigate emissions sources with low influence potential.

Figure 3 – Emission hotspots across the different scopes of an entity's greenhouse gas inventory.

The guidance is being developed for specific sub-sectors given scope 3 emissions profiles vary between sectors (e.g. architects different to developers), however, will generally be similar within sectors (e.g. architect A similar to architect B). UKGBC has already developed this level of guidance for property developers and property owners/investors in its Guide to Scope 3 Reporting in Commercial Real Estate and signatories are encouraged to review this for a preview of what's to come.

Future guidance will cover the following sub-sectors:

Architects	**Construction product manufacturers**	**Property owners and investors[3]**
Engineers	**Contractors**	**Property managers, agents and advisors**
Cities, states and regional authorities	**Property developers[3]**	**Tenants/occupiers**

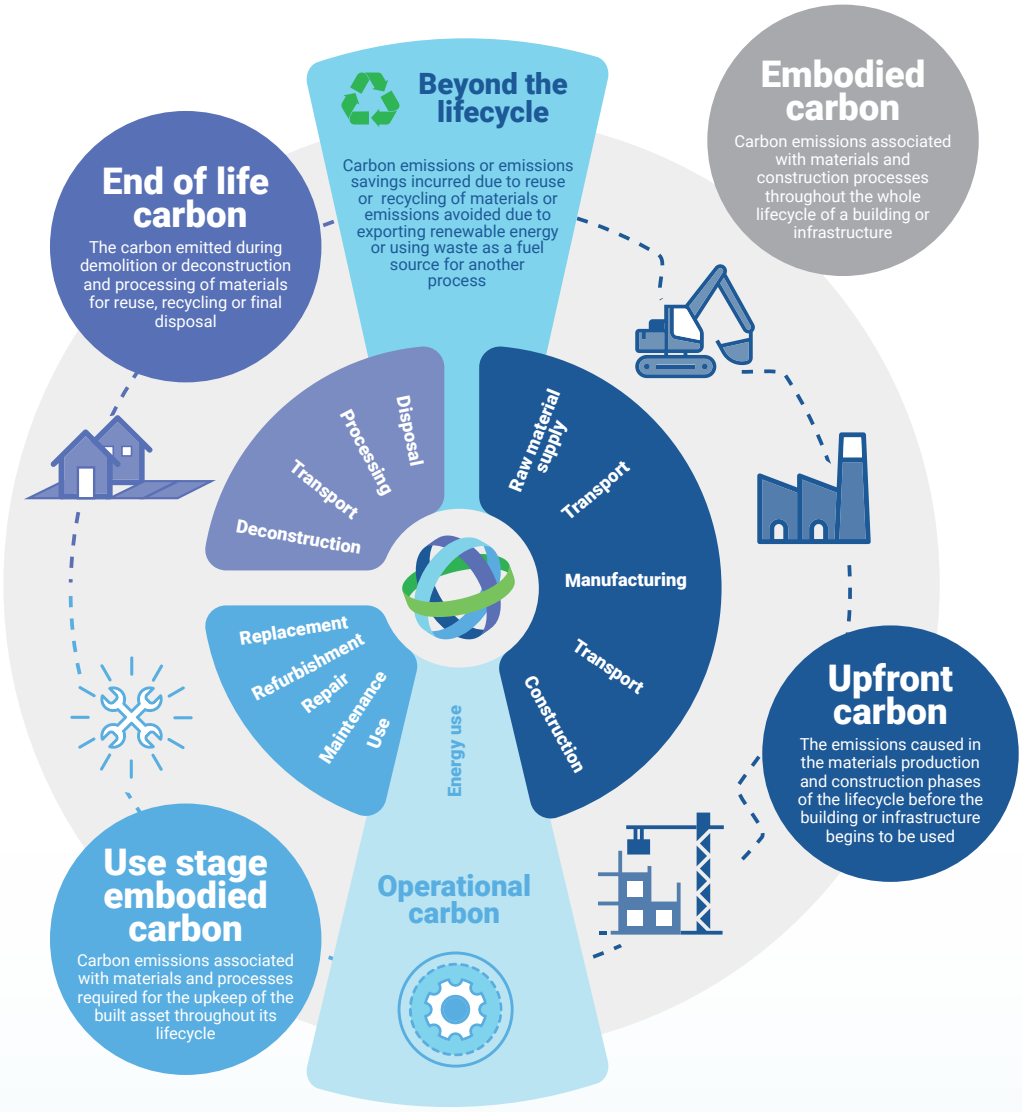


Figure 4 - Lifecycle stages of a building and different scopes of carbon that make up whole life carbon (WorldGBC, Bringing Embodied Carbon Upfront report, 2019)

Simplified example: whole life carbon

Whilst the detailed guidance will analyse emissions hotspots according to different sub-sectors, **a current simplified approach is to examine which sectors have the most influence over the whole life carbon of a building.**

In this example, the whole lifecycle of a building has been split up into different stages and sources of emissions as shown in **Figure 4.** Importantly, this should provide stakeholders with a more accurate understanding of how their activities contribute to the whole life carbon impacts of buildings.

[3]See UKGBC's Guide to Scope 3 Reporting in Commercial Real Estate

Figure 5 and **Figure 6** show the results of this approach for the main stakeholders involved in building design and delivery. **Figure 5** provides stakeholders with a basic understanding of the influence they have over a building's whole life carbon which could sit outside of their direct control (i.e. their scope 3 emissions). **Figure 6** provides a summary of measures that can be used to reduce emissions through these areas of influence for some common stakeholder types.

When reviewing the diagram, please consider:

- **Double-counting** – it is recognised that some emissions can be accounted for twice, due to overlap between different stakeholders. An example of this in the diagram is a developer mitigating operational carbon in design (their scope 3 emissions) and the occupier actually incurring this in operation (their scope 1 and 2 emissions). This is intrinsic in carbon accounting and raising awareness of a stakeholder's scope 3 emissions will serve to drive low carbon outcomes at the earliest possible stage of intervention.
- **Designer's influence** – stakeholders will influence some emissions which will not meet the technical definition of a scope 3 emission. An example of this is shown in **Figure 6** whereby an architect's design of a project significantly influences a building's whole life carbon. These emissions are not part of their scope 3 emissions, however, can still be influenced through their design work and so are included in the diagram.

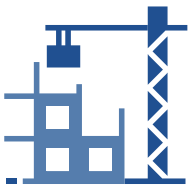
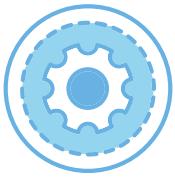
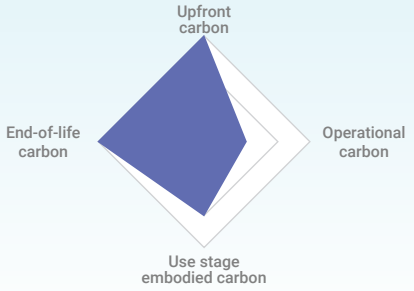
	Construction	Use stage		End of life
				
	Upfront carbon	Operational carbon	Use stage embodied carbon	End of life carbon
Architects	High	Low	Medium	High
Engineers	Low	High	Medium	Low
Cities, States and Regional Authorities	Low	High	Low	Low
Construction Product Manufacturers	High	Low	Low	High
Contractors	High	Low	Low	Low
Property Developers[4]	High	Low	Low	Medium
Property Owners and Investors[4]	Low	High	High	Low
Property Managers, Agents and Advisors[4]		Medium	High	
Tenants/Occupiers		High	Medium	

Figure 5 - Influence of stakeholders across the building lifecycle (new construction and renovation)

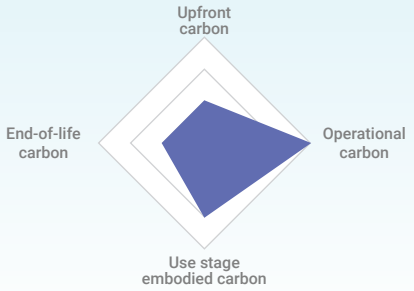
[4]Private or public sector

ARCHITECTS



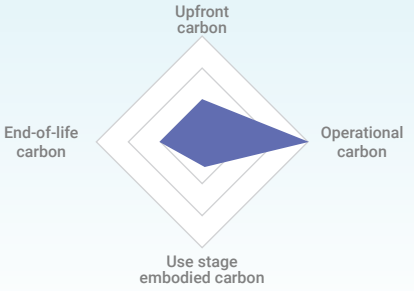
Reduce whole life carbon through early-stage design decisions and holistic systems thinking, including building orientation/massing, prioritising passive design, specifying low carbon materials, and designing for disassembly.

ENGINEERS



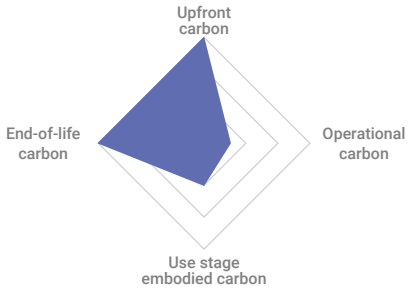
Reduce whole life carbon through designing high-performance buildings, including appropriately-sized building systems (limiting over-engineering), efficient structural design, providing sub-metering, and encouraging in-use energy monitoring and management.

CITIES, STATES AND REGIONAL AUTHORITIES



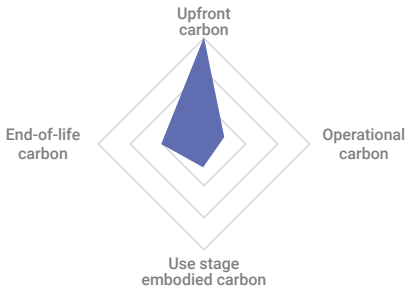
Exert significant influence in reducing whole life carbon through planning policy and regulation. Traditionally, authorities focus on improving building energy efficiency, however, a whole life carbon approach is critical to addressing emissions throughout a building's lifecycle.

CONSTRUCTION PRODUCT MANUFACTURERS



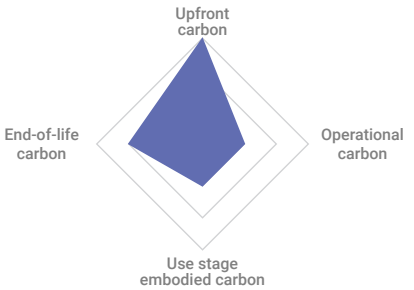
Reduce embodied carbon in their materials, including through reuse of existing materials, sourcing local materials, reducing processing loads, and designing for long-life, adaptability or reuse at end-of-life.

CONTRACTORS



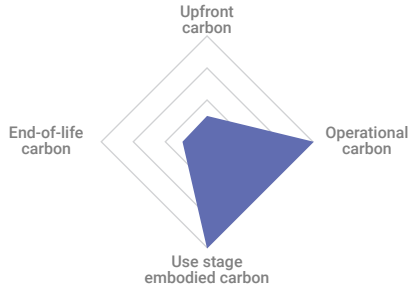
Reduce upfront carbon, including through use of electric construction vehicles and plant powered by renewable energy, procuring low carbon building products and materials, and engaging with their supply chain (including sub-contractors) to reduce emissions from their operations.

PROPERTY DEVELOPERS



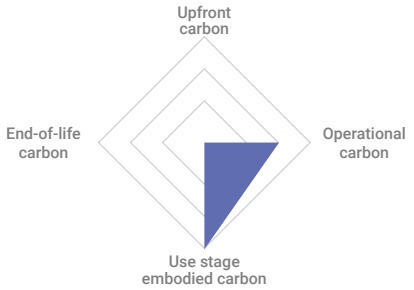
Reduce whole life carbon by briefing project teams, including specifying net zero carbon buildings and using a 'retrofit first' approach to reduce upfront carbon. Also consider climate adaptation measures for potential sites and connectivity to reduce end-users' transport emissions.

PROPERTY OWNERS AND INVESTORS



Reduce use stage carbon by engaging with their tenants, including monitoring, reporting and helping to improve their energy use (e.g. through green leases); specifying low carbon materials for building maintenance and refurbishment (e.g. through tenant fitout guides); and engaging with suppliers to reduce their emissions. Also consider strategies to reduce transport emissions of customers' travel (e.g. green travel plan).

PROPERTY MANAGERS, AGENTS AND ADVISORS



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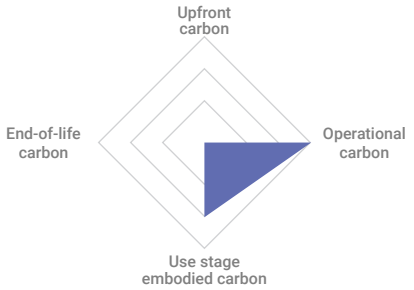
TENANTS / OCCUPIERS



Reduce use stage and operational carbon by monitoring, reporting and improving their energy use and specifying low carbon materials for building maintenance and refurbishment. Also consider strategies to reduce transport emissions of employees/customers' travel (e.g. green travel plan).

Level of influence

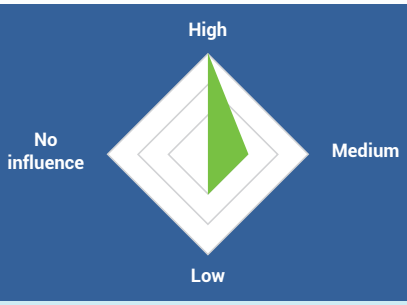


Figure 6 - Summary of measures across different lifecycle stages that can be implemented by stakeholders to reduce whole life carbon emissions of a building.

With thanks

This factsheet and the upcoming detailed guidance was made possible thanks to members of WorldGBC's Net Zero Carbon Buildings Commitment Taskforce – Scope 3 Working Group, including UK Green Building Council as lead contributor, and C40, World Resources Institute and Kingspan as supporting contributors.

Have your say

Further guidance on this topic is due to be developed in the second half of 2020 to support signatories in their efforts to tackle emissions outside of their direct control.

We welcome any interested NZCB Commitment Signatory or relevant stakeholder that would like to provide feedback or be involved in the development of this guidance to email anzproject@worldgbc.org.