

# Net Zero Carbon Buildings Commitment - FAQs

September 2021

- [1. What is the Net Zero Carbon Buildings Commitment?](#)
- [2. What does WorldGBC mean by net zero operational carbon?](#)
- [3. What does WorldGBC mean by net zero whole life carbon?](#)
- [4. Why carbon?](#)
- [5. What kinds \(scope\) of emissions are included?](#)
- [6. Are industrial and manufacturing process loads included?](#)
- [7. Are refrigerant emissions included?](#)
- [8. What are the new requirements for the Commitment?](#)
- [9. What does this update mean for existing signatories?](#)
- [10. What does this mean for existing building assets?](#)
- [11. What does this mean for new building assets?](#)
- [12. Are offsets included / allowed? If so, what type of offsets are allowed?](#)
- [13. At what point are entities expected to offset / compensate for residual embodied emissions?](#)
- [14. Why is offsetting residual emissions necessary?](#)
- [15. Are there minimum benchmarks or codes that need to be met for energy efficiency?](#)
- [16. Are there minimum benchmarks or clear percentage reduction targets associated with the new embodied carbon and whole life emissions requirements?](#)
- [17. What is considered a major renovation?](#)
- [18. How will the new requirements affect different stakeholders?](#)
- [19. When do I need to disclose by?](#)
- [20. Why do I need to disclose and what information is included?](#)
- [21. When is the reporting period?](#)
- [22. How do I verify progress / performance?](#)
- [23. Do all buildings need to be certified?](#)
- [24. What do you mean by advocacy?](#)
- [25. How does the Commitment's definition of net zero align with other definitions / initiatives?](#)
- [26. How does the Commitment align with the Science Based Targets?](#)
- [27. How does the Commitment align with the Race to Zero?](#)
- [28. Is there a fee associated with the Commitment?](#)
- [29. What is the relationship between the Commitment and EP100?](#)
- [30. Where can I find more information and guidance?](#)

## 1. What is the Net Zero Carbon Buildings Commitment?

WorldGBC's Net Zero Carbon Buildings Commitment calls on businesses, organisations, cities and subnational governments to reduce (and compensate where necessary) all operational and embodied carbon emissions within their portfolios by 2030, and to advocate for all buildings to be net zero whole life carbon by 2050.

It recognises leadership action to reduce the impacts of the sector, which is globally responsible for 36% of energy consumption, 38% of energy related carbon emissions, 50% of resource consumption, and expected to double in total footprint by 2060.

It promotes an outcomes based, action oriented approach based on best practice through the five components of the Commitment framework: COMMIT, DISCLOSE, ACT, VERIFY, ADVOCATE.

Through this framework, the Commitment ensures that all signatories can deliver against their targets, while driving real and tangible reductions and wider benefits. Signatories can refer to local GBC guidance and frameworks, and track their progress using GBC rating tools.

## 2. What does WorldGBC mean by net zero operational carbon?

When the amount of carbon dioxide emissions associated with building operations on an annual basis is reduced (highly energy efficient and fully powered from on-site and/or off-site renewable energy sources) to a level that is consistent with reaching net zero at the global or sector level in 1.5°C pathways. Any residual emissions that remain unfeasible to eliminate should be neutralised through carbon removals.<sup>1</sup>

## 3. What does WorldGBC mean by net zero whole life carbon?

When, in addition to net zero operational carbon, upfront carbon and other embodied carbon across the building lifecycle is reduced to a level that is consistent with reaching net zero at the global or sector level in 1.5°C pathways. Any residual emissions that remain unfeasible to eliminate should be neutralised through carbon removals.<sup>2</sup>

## 4. Why carbon?

WorldGBC recognises that, in most situations, net zero energy buildings (i.e. buildings that generate 100% of their energy needs on-site) are not feasible. However, buildings which are energy efficient, and energy needs are supplied from renewable sources, are a more appropriate target for the emissions reductions required to achieve the Paris Agreement.

By using energy as the only source of measurement, the full impact of emissions on the environment cannot be determined. Carbon (measured in Carbon Equivalent CO<sub>2</sub>e) is the

---

<sup>1</sup> Science Based Targets, 'Foundations for Science-based Net Zero Target Setting in the Corporate Sector' (2020)

<sup>2</sup> Science Based Targets, 'Foundations for Science-based Net Zero Target Setting in the Corporate Sector' (2020)

ultimate metric and a universal language to track the impact of greenhouse gas emissions of buildings and supply chains.

Net zero carbon should also be pursued as part of a holistic approach to sustainable buildings. Refer to national GBC guidance for more information.

While embodied carbon currently accounts for 10% of emissions globally, as operational carbon is reduced and development accelerates in parts of the world including China and Africa; it is estimated that more than half of total carbon emissions from all global new construction between 2020 and 2050 will be due to upfront emissions from new building construction and, to a lesser degree, from building renovations in Europe in particular.

## **5. What kinds (scope) of emissions are included?**

The Net Zero Carbon Buildings Commitment focuses on operational (Scope 1 and 2 energy related emissions including refrigerants and process loads) and embodied carbon emissions of building assets over which the entity has direct control (accounted for as part of Scope 3 emissions).

Together, these combine to cover the majority of whole life emissions of an asset across its lifecycle.

More information about defining the full scope of emissions covered by the commitment and the definition of direct control can be found in the forthcoming Detailed Guidance document.

## **6. Are industrial and manufacturing process loads included?**

Process loads cover a wide range of applications with varying degrees of energy consumption and carbon emissions. Overall, process loads are expected to grow to 35% of total commercial building energy use by 2025 and they can range from roughly 10% up to 60% of all energy use depending on the type of commercial asset, or other typology.

Therefore, all process loads associated with an asset must be considered and accounted for the purposes of the Commitment, provided they fall under the direct control of the entity.

## **7. Are refrigerant emissions included?**

Refrigerant emissions must now be considered as part of an entity's operational (Scope 1 & 2) emissions, they must be reduced to the greatest extent possible and then any residual emissions offset.

See forthcoming Detailed Guidance for further detail.

## 8. What are the new requirements for the Commitment?

The requirements for addressing embodied carbon and/or operational carbon are dependent on the portfolio profile of each entity. This is determined via direct control of the assets (operational and financial control):

- If an entity only has existing buildings to manage within its portfolio, the operational carbon requirements apply.
- When an entity is also responsible for the development of new buildings or major renovations within its portfolio, both the operational carbon and embodied carbon requirements apply.

Effective 1 January 2023, all new signatories to the Net Zero Carbon Buildings Commitment will be required to commit to the requirements relevant to their portfolio profile and activities.

The Commitment requires that by 2030:

- Existing buildings reduce their energy consumption and eliminate emissions from energy and refrigerants removing fossil fuel use as fast as practicable (where applicable). Where necessary, compensate for residual emissions.
- New developments and major renovations are built to be highly efficient, powered by renewables, with a maximum reduction in embodied carbon and compensation of all residual upfront emissions.

## 9. What does this update mean for existing signatories?

Existing signatories will be invited to consider the updated Commitment requirements, and then reconfirm their Commitment via a new joining form.

WorldGBC will work with existing signatories to help them understand what the requirements mean for their business or organisation, what actions they will need to undertake in order to achieve these goals, and the reporting requirements for embodied carbon.

For more information please contact [anzproject@worldgbc.org](mailto:anzproject@worldgbc.org)

## 10. What does this mean for existing building assets?

Existing building assets should be net zero operational carbon by 2030.

Where the entity is responsible for a significant renovation of that asset from 2030 or earlier, they should reduce and compensate (for residual upfront emissions) embodied carbon emissions associated with the renovation activities.

Entities must aim to achieve maximum possible emission reductions in upfront embodied carbon of materials and construction processes being used, and compensate for any residual emissions that remain.

## 11. What does this mean for new building assets?

Entities responsible for the development and construction of new assets must ensure that they are built to be highly efficient, powered by renewables and reduce (and compensate where necessary) all operational carbon emissions. Entities must also reduce and compensate (for residual upfront emissions) embodied carbon emissions by 2030.

Achieve maximum possible emission reductions in upfront embodied carbon (module A lifecycle stage as defined in EN 15978, with modules B - D measured, considered and planned for), and compensate for any residual emissions that remain.

This involves following the reduction first principles set out within the Commitment, and offsetting residual emissions at practical completion. Emissions occurring during building operations will be the responsibility of the building owner/tenant as appropriate.

These requirements must be observed at the latest by 2030. I.e. any asset that will complete post 2030 should have been designed and constructed with these requirements in consideration. WorldGBC strongly encourages all entities to implement strategies to measure and reduce embodied carbon as soon as possible before 2030.

## 12. Are offsets included / allowed? If so, what type of offsets are allowed?

The Commitment outlines a reduction first approach for both operational and embodied carbon, with offsetting only allowed for residual emissions that cannot be mitigated.

WorldGBC supports an approach to total decarbonisation of the building and construction sector that utilises offsets as a necessary part of the transition, in order to compensate for the impacts of the sector and facilitate the pursuit of overall net zero emissions.

Please refer to WorldGBC's position paper '[Advancing Net Zero Whole Life Carbon: Offsetting Residual Emissions from the Building and Construction Sector](#)' for more information, and local Green Building Council (GBC) guidance for market specific guidance and offsetting principles.

## 13. At what point are entities expected to offset / compensate for residual embodied emissions?

Signatories who undertake activities within their portfolio, such as developing a new asset or undergoing major renovation of an existing asset, will be required to measure and assess embodied carbon and whole life emissions across the whole lifecycle of the building by carrying out WLCAs or other appropriate methodologies.

Design, material and construction choices should aim to maximise the reduction of upfront embodied carbon emissions, but crucially, maintain a whole lifecycle outlook. Strategies to reduce upfront embodied emissions should not negatively impact operational performance or

other outcomes that would ultimately increase the overall whole lifecycle emissions associated with the asset.

Offsetting residual upfront embodied emissions should occur at point of completion. Upfront embodied carbon emissions resulting from renovations should be offset annually, at point of completion, as they occur.

#### **14. Why is offsetting residual emissions necessary?**

The recent IPCC report estimates the remaining global carbon budget between 2020 and 2050, if we are to reach the global net zero goal, is around 300 GtCO<sub>2</sub>. This would give us 83% likelihood of meeting the 1.5oC scenario.

For the built environment, this means we must use all of the tools at our disposal – in the right ways – to transition towards a net zero carbon, healthy, equitable and resilient built environment as soon as possible.

Offsetting the emissions we cannot avoid today will support acceleration of the decarbonisation agenda – critical to achieving the 1.5°C Paris climate goal.

For more information please see ['Advancing Net Zero Whole Life Carbon: Offsetting Residual Emissions from the Building and Construction Sector'](#).

#### **15. Are there minimum benchmarks or codes that need to be met for energy efficiency?**

Globally, energy efficiency measures could deliver a 48% reduction in global emissions by 2030, with 43% of those coming from buildings, resulting in cumulative savings of \$2.5 - \$2.8 trillion USD. [Source: [How Energy Efficiency Cuts Costs for a 2 Degree Future](#)]

In this context, the Commitment values energy efficiency as a fundamental requirement of reaching net zero carbon for buildings and as a necessary first step towards decarbonisation. Nevertheless, the chosen framework or evaluation metric is entirely up to the entity and based on its own strategic analysis of its business. The energy efficiency measures that the entity implements are expected to contribute significantly towards the goal of achieving net zero carbon emissions while reducing operational costs, limiting reliance on renewable energy, and minimising excessive loads on grid infrastructure.

In the absence of a specific benchmark for energy efficiency, common sources of reliable benchmarks for energy efficiency can be determined from third party green building certification schemes to ensure energy efficiency is addressed beyond local code levels. These are therefore a useful way to demonstrate action in this important area.

#### **16. Are there minimum benchmarks or clear percentage reduction targets associated with the new embodied carbon and whole life emissions requirements?**

As a global Commitment, it is difficult to set a benchmark or specific percentage reduction target for embodied carbon emissions as market maturity varies from country to country. Some countries will experience significantly less availability of low carbon materials, construction processes or even the required knowledge / professional services to achieve the same as others. Please refer to local GBC guidance where appropriate.

Hence, in relation to the new requirements, signatories must prove that they have undergone appropriate assessments to show they have pursued the most appropriate set of actions available to them within their local context to maximise upfront carbon reductions. Then must then show that they have an ongoing decarbonisation plan that will consider ongoing embodied carbon in-use and crucially, at end of life.

WorldGBC envisages that the new requirements on whole life emissions will engender increased measurement and action on embodied carbon emissions, which will in turn help the industry develop further benchmarks or appropriate reduction targets over time.

### **17. What is considered a major renovation?**

Please refer to full Detailed Guidance document for the updated Commitment, following consultation on an appropriate globally applicable definition for 'major renovation'.

### **18. How will the new requirements affect different stakeholders?**

In order to realise our shared goal of the total decarbonisation of the built environment, it is vital that all stakeholders from across the value chain take action, working collectively and collaboratively. Different stakeholder types will have varying ability and impact in directly influencing the reduction of whole life carbon emissions through their actions, but all have the potential to also influence indirect emissions.

The forthcoming updated Detailed Guidance document will include suggested actions for different stakeholders to pursue, to realise their Commitment and beyond, and fulfil requirements under the Advocate section.

### **19. When do I need to disclose by?**

Entities must complete initial reporting disclosure within two years of signing, in order to create transparent building performance metrics at asset and portfolio level on which to appropriately inform the other stages.

### **20. Why do I need to disclose and what information is included?**

Signatories are required to measure and assess annual asset and portfolio energy demand and operational carbon emissions, and whole life carbon emissions, and to disclose portfolio data publicly. This helps to create transparent building performance metrics through measurement and monitoring to compare and evaluate across asset and portfolio level.

This in turn, generates easily digestible and publicly available information (for consumers, employees etc), establishes the portfolio Commitment baseline, and identifies performance gaps and opportunities for improvements at asset and portfolio level.

Please refer to the 'Requirements' section of the Introduction document for more information.

## 21. When is the reporting period?

The reporting period for the Commitment will run annually from June - October.

It is to the entity's discretion to determine the relevant reporting data scope. It is suggested that it aligns within a few months either side of a chosen financial year, calendar year or aligned with other reporting timeframes. Importantly the reporting period must occur over a single continuous 12 month interval and be consistent every year to allow for year on year comparisons.

## 22. How do I verify progress / performance?

Signatories must verify their performance and emissions data at an asset and portfolio level, but only report portfolio level data to WorldGBC.

Entities should follow the verification requirements appropriate for their portfolio. Entities may pursue a combination of verification options, i.e. have some assets certified and undertake verification of data for the rest of their portfolio.

WorldGBC requires verification assurance to have achieved a 'limited' or 'reasonable' status.

These verification options are:

1. Entities carry out annual asset level third party certification for each asset within their portfolio, disclosing complete portfolio level data to WorldGBC.
2. Entities carry out annual third party verification of asset level energy consumption and carbon emissions data, disclosing complete portfolio level data to WorldGBC.
3. Entities carry out annual self-assessment via WorldGBC (only available for SMEs).

See the forthcoming Detailed Guidance for more information.

## 23. Do all buildings need to be certified?

Aligning with recognised and industry leading local third-party certification schemes/market mechanisms often removes the need for additional assurance processes, and provides geographically and climatically relevant prescriptive pathways which, in some cases, are able to meet the energy efficiency requirements of the Advancing Net Zero framework.

While encouraging entities to undergo this rigorous level of verification at both asset and portfolio levels, WorldGBC understands that this may not be possible due to financial, geographical, political or organisational constraints.

Mechanisms for ensuring the appropriate requirements for asset verification, portfolio assurance and reporting in respect of assets and portfolios are described in the Disclose section of the Detailed Guidance document.

## **24. What do you mean by advocacy?**

WorldGBC defines advocacy as the ability to influence and champion the need to decarbonise through business activities beyond the scope of the assets under an entity's direct control. All entities have the potential to influence projects, clients, supply chains and accelerate change

Advocacy sends the clearest and loudest message to wider industry to develop the key enablers to facilitate mass market transformation and to overcome specific technical challenges associated with transition towards a zero carbon emissions future.

Whilst the Commitment addresses an organisation's 'footprint' in terms of carbon emissions they can directly address from their portfolio, for many organisations the potential of their 'handprint', via the work they conduct as an organisation, can have far greater impact to further tackle indirect emissions. These actions help to reflect a holistic approach to decarbonising the built environment.

Signatories will be required to measure and report on the impact of their business activities on indirect reduction of embodied carbon as part of the updated requirements. WorldGBC will only publicly publish aggregated reported data for impact statistics.

## **25. How does the Commitment's definition of net zero align with other definitions / initiatives?**

The Commitment is designed to recognise leadership action towards decarbonising building portfolios, and the contribution of signatories to the wider industry transformation towards net zero, and ultimately, zero carbon.

In addressing residual emissions, WorldGBC recognises that definitions of net zero and approaches to achieve a net zero emissions balance vary. As set out in Advancing Net Zero Whole Life Carbon: Offsetting Residual Emissions from the Building and Construction Sector, WorldGBC recommends that signatories should pursue permanent removal offsets wherever possible, and consider compensation offsets in the short- and medium-term. Signatories should be aware of how various initiatives define net zero, and what actions are recognised under different initiatives, to ensure they are complementary and support a net zero claim.

Please refer to the 'Navigating net zero' section of the Introduction document for more information.

Due to the Commitment's flexible nature in scope, there is significant alignment and benefits in pursuing a combined approach with other global leading initiatives. To provide further guidance

on this, WorldGBC has developed 'Aligning Initiatives' documents for the following initiatives and will develop more moving forwards. Click on the link to find out more:

- [GRESB](#)

## 26. How does the Commitment align with the Science Based Targets?

WorldGBC views the Commitment and [Science Based Targets](#) as complementary climate initiatives. Entities who are pursuing targets outlined by SBTi in the '[Business Ambition for 1.5oc](#)' campaign or future Net Zero Framework/Standard can use the Commitment to inform their actions in terms of decarbonising the built environment assets over which they have direct control. Crucially, the Commitment 2030 targets align with and contribute towards SBT's call to halve emissions by 2030.

SBTi recently completed a public consultation on the proposed SBTi Net-Zero Criteria, with a view to produce a final net zero framework. The 'SBTi Net-Zero Standard' will include target setting guidance and target validation criteria, and is due for release in 2021.

The Commitment and SBTi align in our guidance towards entities seeking to decarbonise their organisation and their built environment assets. Entities should pursue a reduction first approach in all instances, reducing their emissions by the greatest extent possible as quickly as possible. Any remaining unabateable residual emissions should then be compensated for accordingly. In order to make a net zero claim recognised by SBTi, this should be achieved through carbon removal offsets only.

WorldGBC will monitor these developments and produce guidance on alignment accordingly. In regards to definitions of net zero and what types of offsets will be recognised under SBT's framework please refer to '[Advancing Net Zero Whole Life Carbon: Offsetting Residual Emissions from the Building and Construction Sector](#)' for more information.

WorldGBC and SBTi will work on an [Aligning Initiatives](#) document to be released at COP26.

## 27. How does the Commitment align with the Race to Zero?

The Race To Zero is the global campaign, organised by the High-Level Climate Champions for Climate Action to rally leadership and support from businesses, cities, regions, investors for a healthy, resilient, zero carbon recovery. The objective is to build momentum around the shift to a decarbonised economy ahead of COP26, where governments must strengthen their contributions to the Paris Agreement. This will send governments a resounding signal that business, cities, regions and investors are united in meeting the Paris goals and creating a more inclusive and resilient economy.

In the lead up to COP26 and beyond, WorldGBC is supporting the Race to Zero campaign, and calling on all organisations from across the building and construction sector to join this critical initiative. This presents an unprecedented opportunity to champion the leadership of GBC members to drive down emissions, and industry preparedness for regulation.

For the full list of ways to join the Race to Zero see [here](#).

The Net Zero Carbon Buildings Commitment has been recognised as a **‘frontrunner initiative’** within the Race To Zero. Signatories to the Commitment will also be recognised as **‘frontrunners’** within the Race To Zero, as they are taking action on their asset portfolios further and faster to achieve net zero operational or whole life carbon by 2030.

## 28. Is there a fee associated with the Commitment?

There are no fees from WorldGBC associated with the Commitment.

## 29. What is the relationship between the Commitment and EP100?

The Commitment is a recognised pathway to membership of the EP100 initiative.

EP100 is a global initiative by the [Climate Group](#), bringing together a growing group of energy-smart companies committed to doing more with less to improve their energy productivity. Members are driving tech innovation and reducing emissions while making substantial cost savings and improving competitiveness – inspiring others to follow their lead. EP100 is delivered in partnership with the [Alliance to Save Energy](#) and in association with the [World Green Building Council’s](#) Net Zero Carbon Buildings Commitment. #EP100

Signatories of the Net Zero Carbon Buildings Commitment also include leading state and regional governments in the [Under2 Coalition](#), of which the Climate Group is Secretariat.

There is a fee of \$2,500 per annum associated with EP100 membership, and therefore signatories must opt-in to membership, providing they meet the eligibility criteria.

For more information please see the ‘At a Glance - EP100’ overview document included in the Business & Organisations Information Pack or these [FAQs](#).

## 30. Where can I find more information and guidance?

Please contact your [local GBC](#) to find out more information and to determine the eligibility for the Commitment of your organisation. Your local GBC can arrange a workshop, meeting or phone call to discuss the Net Zero Carbon Buildings Commitment further, and to explore how the challenge of decarbonisation within our framework applies to your organisation.

For further resources and guidance for the Commitment see [here](#).

For more technical detail, please contact our Advancing Net Zero team here: [anzproject@worldgbc.org](mailto:anzproject@worldgbc.org).