



UK Net Zero Carbon Buildings Standard

Technical Update & Consultation

14 June 2023

BBP BETTER BUILDINGS PARTNERSHIP



The Institution of **StructuralEngineers**



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Hello!

Through the determination and hard work of members of our task groups, sectors groups, and data providers we have been able to meet our next important milestone. On behalf of the team, I am delighted to report that we are now at the stage where we can provide you with a Technical Update & Consultation, which forms our second Quarterly Update.

This consultation document describes the technical fundamentals behind the Standard, sharing the metrics that buildings will be assessed against to demonstrate that they are aligned with what is required for the UK built environment to achieve Net Zero Carbon.

It then describes the work that has been undertaken to gain an understanding of the current operational energy and embodied carbon performance levels that will provide the context of technical feasibility for various sectors. This is the main focus of the consultation.

Finally, the consultation outlines the approach being taken to determine relevant budgets for carbon and energy, which inform the limits that will follow in later stages of work.

I also wanted to take the time to thank you for being involved in our consultation – and helping to shape the future definition of a Net Zero Carbon building.

This is an extremely important initiative that I am hugely passionate about. We have a lot of people giving up their time on this and I am grateful for all their hard work.

By completing our questionnaire, you can make a real difference to sustainability across the built environment, so I ask that you take the time to do so.

Thank you again for being a part of our consultation and I hope you find our Technical Update useful.



Clara Bagenal George
Chair, Technical Steering Group



**UK Net Zero Carbon
Buildings Standard**

Purpose of this Technical Update & Consultation



We want your views on:

- **The overall technical proposals for the Standard**
- **The achievability of the new build performance levels**
 - These levels will be used to inform the final NZC limits

Aims

The team developing the Standard have spent the last 9 months developing its **technical basis**, and establishing **new build performance levels** for a wide range of sectors.

We are sharing this Technical Update & Consultation document to allow the wider industry to review the proposals and performance levels, and provide us with feedback.

The performance levels do not represent the energy and embodied carbon limits that buildings would have to meet. They provide the context of technical feasibility for the various sectors and provide a summary of the data received in the call for evidence.

Who should respond?

We are interested in the views from across all built environment stakeholders, and interested we have broken the consultation into various themes.

How to engage with the consultation

Responding to the consultation

There are a series of talking points raised within this document which are posed as questions in our [online survey](#). Please submit your responses to these for our consultation.

Given the technical nature of certain sections of the consultation document, it is expected that not all stakeholders will want to respond to all sections.

We are expecting a high volume of responses to this consultation. Please ensure you use the online survey for your comments to ensure we are able to process and incorporate your feedback.

The team will also be conducting a webinar at **12pm on Monday 10 July 2023** to provide industry with answers to pertinent issues raised throughout the consultation. You can sign up [here](#).

Consultation period

Please submit your views on the consultation between **Wednesday 14 June - Thursday 31 August 2023.**

Data and performance levels

We are particularly interested to get your feedback on the performance levels which have been provided in answer to our Call for Evidence, for both operational energy and embodied carbon, and we encourage responses from those who have an understanding of technical achievability for these levels.

Please also note that we are collecting more embodied carbon data – please refer to **6. New Build Embodied Carbon Performance Levels** for more information.

These levels provide technical evidence for what is currently being achieved by individual sectors within the built environment, based on benchmarking, case studies and modelling.

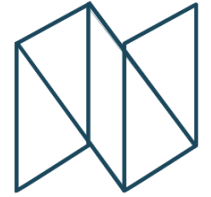
They are not intended to be limits or targets, but will be used to inform the NZC limits and targets in the next stage of our work.

4. Carbon Accounting



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Carbon Accounting



The following building related carbon emissions must be measured and reported:

Post Construction

applies to new construction and retrofit - **one off** measurement.

- **Embodied upfront carbon** - carbon emissions calculated from bills of quantities and LCA tools
- **Embodied life cycle carbon** - This includes upfront, in use and end of life carbon with operational energy use based on energy predictions. These embodied calculations take account of decarbonisation of the grid and construction products

Talking Points



42. Do you agree with the approach to carbon accounting?

Do you have any comments on the proposed approach?

In use

applies to all buildings - annual measurement.

- **Operational energy** - calculated from measured consumption data and calculated using the most recent UK Government conversion factors for the relevant fuels for annual data
 - For electricity, where time of use metering data is available, national time of use emission factors may be used instead of annual factors
 - For district heating and cooling and cogeneration, system specific carbon emission factors should be used
- **Operational water** - calculated from measured consumption data and calculated using the most recent UK Government conversion factors for the relevant fuels for annual data.
- **Operational refrigerants** - calculated from refrigerant leakage and refrigerant GWP (global warming potential)
- **In-use embodied carbon** - This does not cover legacy embodied carbon, but is limited to reportable carbon impacts from in-use works and maintenance e.g., fit out, HVAC system replacement carbon emissions calculated from bills of quantities and LCA tools