UK Net Zero Carbon Buildings Standard

Technical Update & Consultation

14 June 2023

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.

Glossary: *Performance levels: These levels provide the technical evidence on what can be achieved by the individual sectors, based on benchmarking, case studies and modelling. They are not limits or targets, but will be used to inform the NZC limits and targets in the next stage of work.*

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.

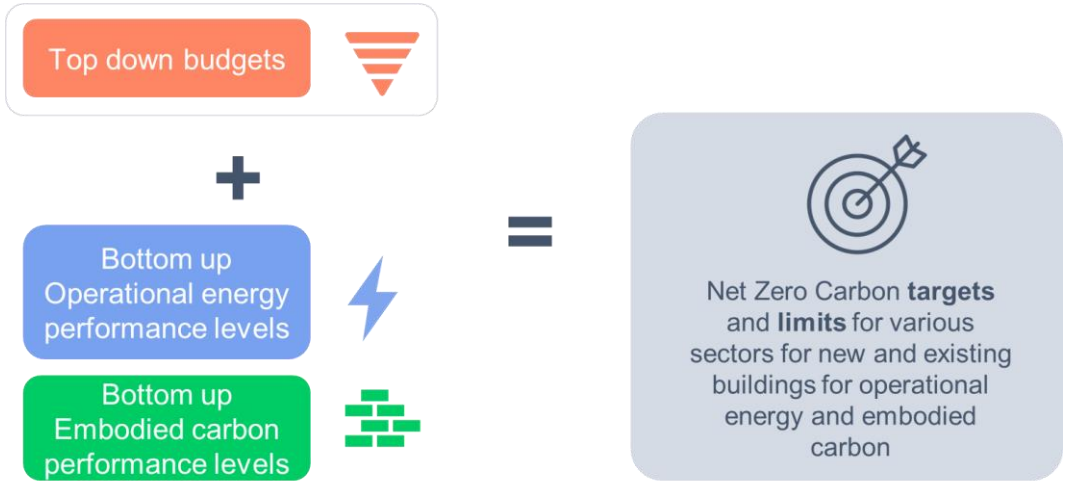
5. Bottom Up Performance Levels

UK Net Zero Carbon Buildings Standard

Bottom Up Performance Levels

Overview

The bottom-up workstream has been working over the last six months to use benchmarking, case studies and modelling to create Performance Levels that provide the context of technical feasibility for the various sectors. The next phase of work over the summer of 2023 will be for the top-down workstream to establish the relevant national carbon 'budgets' which show what the industry needs to achieve to play its part in a net zero carbon UK. The outputs from these workstreams will then be combined to create relevant limits and targets for the Standard.



The performance levels represent what can be achieved at the individual building level. **They do not represent the final NZCBS limits**, since these limits will be determined as part of the process of Bottom Up & Top Down analysis, to represent what is required to meet the UK's carbon budgets as well as what is expected to be achievable, taking account of:

- How much zero carbon energy is expected to be available
- How efforts are shared across sectors
- How efforts are shared between buildings in a sector e.g. to represent different types and levels of constraints on some buildings.

The performance levels are one part of the process for defining the net zero limits.

What the Performance Levels represent

Operational Energy

The operational energy performance levels result from the assessment of what can be achieved at the asset level in individual sectors and sub-sectors, based on benchmarking of the existing stock (median and best practice), metered data from case studies, and energy performance modelling. Two types of performance levels have been developed:

- Best Practice Today
- Future Exemplar.

The purpose of these 2 levels is to assist the balancing of carbon budgets: depending on how much effort is required across sectors to meet UK-wide carbon budgets, the Net Zero limits will be set more closely towards Best Practice Today or, if more efforts are required, towards Future Exemplar.

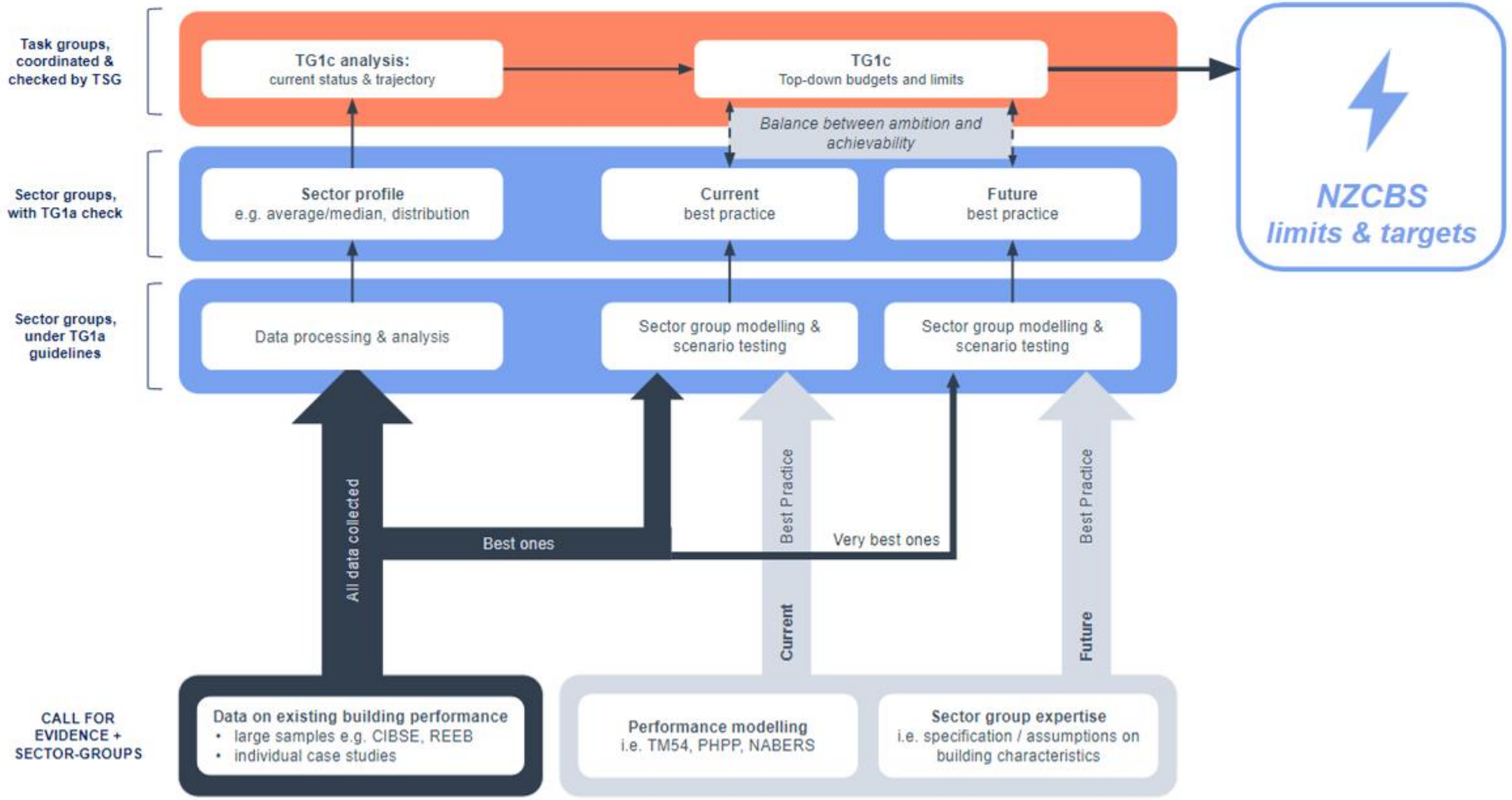
Embodied Carbon

For the embodied carbon performance levels, we are assuming that the data submitted lies somewhere between mean performance and current best practice, as embodied carbon calculations have historically only been undertaken on projects with strong sustainability agendas. We have also not yet differentiated between best practice and future exemplars, the latter of which is based largely on material decarbonisation and can only be driven a little by today's design decisions.

For that reason, embodied carbon performance levels are articulated solely in terms of the range of data received today - percentiles and median/mean values.

Creation of the Performance Levels

We have completed this step for new buildings



5. Bottom Up Performance Levels