

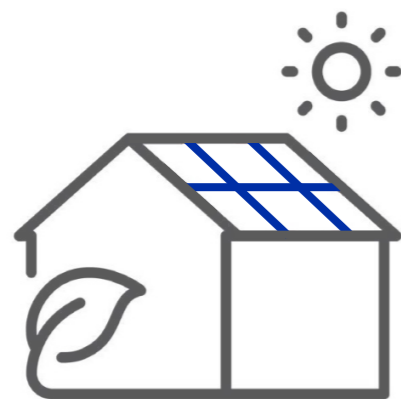
The new UK Net Zero Carbon Building Standard (NZCBS) is here. It is challenging, and rightly so. Are we ready for it? Is it achievable? And what impacts does it bring?

Our approach to net zero

With the emergence of the UK Net Zero Carbon Building Standard in late 2024, we came together with Buttress and Max Fordham to collaborate on a study focusing on the embodied carbon impact on the residential sector and the means by which compliance with the standard could be achieved.

We conducted a demonstrator project to provide a complete view of the upfront embodied carbon impact associated with the building case study to establish which 'target year' set by the UK NZCBS could realistically be met using currently available materials, methods and assessment frameworks.

The Embodied Carbon assessment was calculated using a range of tools and indices, varying between disciplines. **One Click LCA** was used as the primary assessment tool. The software offered a comprehensive framework for assessing the building's upfront embodied carbon footprint.



The construction industry is responsible for 38% of carbon emissions in the UK.

Our findings

The total embodied carbon for the building study excluding sequestered carbon comes to **429.3 kgCO₂e/m²**. When measured against the limits set within the UK NZCBS this figure meets the 2028 target which is set at **450 kgCO₂e/m²**.

There are varying opportunities for reducing embodied carbon as laid out in our report.

Why?

The aim of the study was to establish the extent to which the targets set for embodied carbon in the UK NZCBS can be applied to a typical multi-storey residential development under 18m in height.

We wanted to test the boundaries of what is achievable - and how far we could go in meeting the targets of the Standard using the tools available:

- 1 What a realistic Embodied Carbon figure is utilising today's technology, materials and methods for construction.
- 2 How this figure sits against the limits set by the standard and which year projected by the standard is currently achievable.
- 3 How much headway this gives the wider construction industry in aligning to the future limits and whether the targets are aspirational without a fundamental shift in material technology, specification and manufacturing processes.

Looking forward

There is no 'magic bullet' to resolve the environmental issues facing the construction industry. It will take time and effort, and the process will not be linear.

However, progress is being made and implementing the UK NZCBS is a step in the right direction. There are likely to be opportunities arising from new building technologies, innovation and amendments to legislation that will make it easier to achieve our goals as an industry.