

Royal Institute of British Architects

House of Commons Environmental Audit Committee:
Environmental sustainability and housing growth
December 2024

The Royal Institute of British Architects is a global professional membership body driving excellence in architecture. We serve our members and society in order to deliver better buildings and places, stronger communities and a sustainable environment. Being inclusive, ethical, environmentally aware and collaborative underpins all that we do.

The Royal Institute of British Architects (RIBA) welcomes the opportunity to respond to this inquiry. We have been clear that we must build high-quality homes at pace to meet the UK's housing need; however, this must not be done at the expense of our climate goals. Architects have a key role to play in meeting our net zero targets, and RIBA has taken a lead through initiatives such as the [RIBA 2030 Climate Challenge](#) and our role in the creation of the [UK Net Zero Carbon Building Standard](#) (UKNZCBS).

National planning policy, including reforms to the National Planning Policy Framework (NPPF), is crucial to ensuring that ambitions in these areas are aligned. Addressing the climate emergency aligns with our commitment to high-quality placemaking, ensuring that what we build meets the needs of both current and future generations.

RIBA recommends that the Government:

- Brings forward the planned consultation on the approach and interventions to mainstream the measurement and reduction of embodied carbon in the built environment without delay.
- Adopts and standardises construction reporting metrics in line with those in the UKNZCBS.
- Ensures that national planning policy promotes sustainability in the built environment, including prioritising public transport and active travel.
- Requires post-occupancy evaluation (POE) as standard in public sector capital funding programmes and all new homes built under the Future Homes Standard.
- Consults relevant stakeholders on setting a national target for increasing the area of urban green space.

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Question 1: What provisions will the National Policy Planning Framework, as revised under the Government's proposals, make for protection and enhancement of the environment? Are these provisions likely to be adequate?

The Government's recognition in the text of the July 2024 consultation on the NPPF that more must be done to reach net zero and tackle the climate emergency is welcome, including a shift towards renewable and low carbon energy options. In our response, we also noted that this should not be at the expense of reducing energy demand in buildings.

To do this, we must set appropriate metrics. Primary energy, the current principal metric for understanding energy use, is complex and will become less relevant as the electricity grid decarbonises. We recommend that the Government uses operational energy as the principal metric for measuring energy efficiency. Operational energy, or energy required for the day-to-day operational processes of buildings, captures the actual energy usage of a building.

Operational energy is well-known within the sector, as well as by building owners and occupiers. It is the metric used in [Passivhaus](#) homes and would also align with the UK Net Zero Carbon Buildings Standard (UKNZCBS).

However, to measure the full carbon impact of a building we must also consider the carbon emissions in the materials used to produce and maintain buildings. This is known as embodied carbon. As the grid continues to decarbonise a larger proportion of carbon emissions will come from embodied carbon, and as such we need to work to reduce these emissions. The embodied carbon footprint of the construction sector is large, with 63 million tonnes of construction and demolition waste being [generated](#) in England in 2022.

To do so, we recommend the Government sets out whole life carbon limits in regulations. Whole life carbon refers to carbon emissions of built assets from:

- up front carbon (including raw materials and product creation, transport and construction)
- in use carbon (including maintenance and operational energy related emissions)
- end of life carbon (including deconstruction and disposal) and
- circular economy carbon (the potential for reuse).

Whole life carbon limits (both operational energy and embodied carbon) should be aligned with those in the UKNZCBS.

In the first instance, the Government should bring forward a consultation on the approach and interventions to mainstream the measurement and reduction of embodied carbon in the built environment. This was committed to by the previous Government and should be actioned as soon as possible.

To further enhance environmental protection, we recommend that the Government requires post-occupancy evaluation (POE) as a condition of procurement for all public sector buildings, and for new homes under the Future Homes Standard (FHS).

POE is the process of obtaining feedback on a building's performance in use after it has been built and occupied, and it collects information on building and energy use and user satisfaction. It should be included as part of the Building Regulations and linked to the UKNZCBS for the verification of building performance.

POE informs building users if their building is energy efficient and reveals if it is being used as intended. Addressing these issues can help reduce operational costs and provide data to help understand how buildings are performing compared to their design intention. Without this data, the construction industry will unknowingly continue to make the same mistakes, wasting time and money.

At present, the lack of information about how well new buildings are performing is hindering improvements in sustainability. Completion of POE can drive up standards through "lessons learnt", fostering iterative design.

There is also a role in national planning policy, as well as through the Building Regulations, to promote climate mitigation. With rising temperatures, the role of green space, such as green roofs, pocket parks, vertical greening and green corridors are useful to reduce overheating. However, urban green space is declining, and decision makers need to reverse this trend.

Architects and designers can play an important role in supporting green spaces through creative and sustainable design. When designed well, green space can improve the image of open public spaces and promote community cohesion. Local residents can benefit from improved physical and mental wellbeing, as people living in areas with more green infrastructure are statistically more likely to live happier, longer lives.

Question 4: How will the revised NPPF work to deliver the social and environmental objectives of the planning system? To what extent will it promote outcomes which deliver sustainable social and environmental benefits together, such as access to essential amenities, to public transport and to active travel routes?

The delivery of new housing must be supplemented by the delivery of amenities, infrastructure and other social and commercial purposes. Not only is this vital for guaranteeing a good quality of life for residents and to ensure that areas are supported by local growth and investment, but also to reduce reliance on personal car use and improve sustainable transport options.

It is positive that the revised NPPF outlined a renewed focus on strategic planning and measures to support cross-boundary cooperation, promoting a holistic approach to development and delivery. It also proposed to move to a "vision-led" approach to transport planning, including joint working with residents, developers and local planning authorities (LPAs). We have highlighted that this approach should be clearly defined to ensure shared understanding. We therefore welcome the Government's decision to add the "vision-led" approach into the revised NPPF, alongside clear definitions.

Accessible public transport and improved integration of active travel into transport policy is vital for people to be able to fully participate in and benefit from their immediate, and wider, environments.

We continuously raise the need for transport infrastructure to be improved, allowing for greater access to green space, greater mobility for all demographics, and lesser reliance on personal car use. The facilitation of walking and cycling infrastructure on a much wider scale also has the potential to help create healthier communities across the country. Our [Engagement Overlay to the RIBA Plan of Work](#) is a useful tool to assist with engaging communities in transport planning, and the expertise of architects is valuable in ensuring best practice.

Question 5: What contribution can the NPPF make to meeting Government targets for the reduction of greenhouse gas emissions? What account does the NPPF take of advice from the Climate Change Committee on reducing the use of embodied carbon as well as operational carbon in the built environment?

Progress has been made on decarbonising the UK's building stock. National planning policy has a role to play, and amendments to give significant weight to the benefits associated with low-carbon energy generation included in the revised NPPF are positive.

A significant barrier to decarbonisation of buildings to date has been that there has been no single, agreed-upon methodology to verify net zero carbon buildings. This is recognised by the recent NPPF consultation, which notes that “the response to the NPPF consultation launched in December 2022 showed significant support in principle for the use of carbon assessments, but also raised questions about its delivery”. The UKNZCBS has changed this, providing a set of consistent rules to verify such claims.

The Standard is a single, robust methodology for defining the characteristics a building must meet to be considered “net zero aligned” and in line with the nation's carbon budget. It provides a clear and rigorous methodology for verifying that buildings are aligned with a 1.5°C decarbonisation pathway for the UK.

The Standard's mandatory requirements for building performance and construction quality are ambitious but achievable. They cover a range of topics such as upfront carbon, operational energy use, avoidance of fossil fuel use on site, renewables and refrigerants. It covers all major building sectors, from homes and offices, to healthcare and logistics.

The Standard is for anyone who wants to either fund, procure, design, or specify a net zero carbon aligned building. It can be used to inform investment, sustainable finance, lending and debt decision-making. For those buying or leasing buildings it can provide certainty and clarity that they are getting what they are promised.

It is an in-use Standard, meaning that buildings can only claim to be net zero carbon aligned once they have been occupied and in use for at least a year, with measured in-use building performance data.

Adopting and standardising construction reporting metrics in line with those in the UKNZCBS would be a hugely positive step towards reducing embodied and operational carbon, and we urge the Government to commit to this.