

B&NES Local Plan Partial Update Examination Hearing Statement

Policy SCR8 - Embodied Carbon

Summarised submitted response

- 1.1 BPT welcomes all CP and SCR policies (responding to climate change) augmented by the new SPD. The SCR policies are positively prepared and justified by the threats posed by climate change, since they will meet the local and national climate emergency obligations to achieve net zero emissions by 2030 and 2050 respectively. According to the global scientific consensus, for the residents of B&NES to not suffer catastrophic climate change, it requires staying within 1.5 degrees of global heating. **Unless embodied carbon in new buildings is brought down, this target will be missed.**
- 1.2 From a sustainability and historic environment angle, a ratcheted up embodied carbon policy SCR8 is strongly supported in principle, as it will prioritise retention rather than demolition of existing buildings, which is the big "elephant in the room" for decarbonisation.
- 1.3 However, the SCR8 policy is limited to developments greater than 5000 m² or 50 dwellings. A lower minimum of 500 m² and 10 dwellings should be set. The policy should define a reduction in embodied carbon of developments over time, so higher standards are met as developers get gradually more used to the new standards.

Updated BPT response

Policy SCR8 is not fully addressing the issue, and the need to lower embodied carbon. The evidence base is not robust or accurate enough to support the minimum standard set by the policy. BPT calls for this policy to go further.

- 1.4 The NPPF paragraph 152 states that the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

- 1.5 NPPT paragraph 153 goes on to state that Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.
- 1.6 It is understood that the proposal to introduce a new policy requiring Whole Life Cycle carbon emissions, as proposed via the options consultation in January 2021, has been dropped in favour of new policy SCR8 which requires large scale new-build developments (a minimum of 50 dwellings or a minimum of 5000m² of commercial floor space) to submit an Embodied Carbon Assessment that demonstrates a score of less than 900kg/sqm of carbon can be achieved within the development for the substructure, superstructure and finishes.
- 1.7 It is not clear in evidence why the policy applies only to developments comprising over 50 dwellings or a minimum of 5000m² of commercial floor space, and why these thresholds are appropriate in the context of **maximising emissions reductions** (for the purposes of compliance with paras 152-153 of the NPPF and s. 19(1A) of the Planning and Compulsory Purchase Act 2004).
- 1.8 There has been a lack of transparency on how the 900kg/sqm threshold has been met, or the numerous other considerations including fire, access, and structural considerations and material selection. The WoE evidence study for embodied carbon (link below) was not published in support of the LPPU consultation. Representations previously submitted have not had the benefit of this evidence.
https://beta.bathnes.gov.uk/sites/default/files/CD-RCC008%20WOE%20NZB_Evidence%20Base_Embodied%20Carbon%20study_FINAL.pdf
- 1.9 It is not clear in evidence that a more demanding standard than the proposed 900kg/sqm would be unachievable, particularly given that other councils and the RIBA, and the LETI Climate Emergency Design Guide / UKGBC (“A” life stage-upfront only) have identified significantly lower embodied carbon benchmarks such as 500kg/sqm (as referenced in the WoE Evidence Base for Net Zero Building Policy and the Zero Carbon Construction Topic Paper).
- 1.10 The policy context provides a missed opportunity to encourage retrofit and renovation which generally has a substantially lower embodied carbon. The policy provides a lack of incentive for developers (targets can already be met with new build practice), as the policy is not actually fully addressing the need to *lower* embodied carbon.
- 1.11 The cost analysis to support the policy is unviable because it does not consider costs and inflation, and the data on costs is outdated.
- 1.12 We question whether greater clarity between operational and embodied carbon is required?

1.13 There is no mention of BIM (building information modelling), BIM is the most developed current and future proofing system in construction to measure and monitor whole life carbon*. SCR8 feels like an obvious opportunity to link with Government guidelines for BIM however there is no mention of it.

* see [this](#) link the Government aimed to have BIM level 2 mandatory across all UK major (?) construction sites by 2020, therefore should be a given, if not then it should be recommended in this policy?

1.14 Further evidence and guidance should be provided on strategy, with support material and sources generally eg. from [this](#) website. However, it should be noted that the policy does not cover the full embodied carbon elements or lifecycle - likely because there wasn't sufficient cost data on elements other than substructure, superstructure and finishes.

1.15 The policy does not consider the end of life of buildings and reuse of materials. We refer to growing European markets for digital databases of demolition plans and their corresponding construction materials available to use by other developers/home-builders.

1.16 The policy should make provision for contractors to prove sustainability (sourcing/whole life carbon etc) in the supply chain (as per BREEAM).

Test of soundness

1.17 The policy does not meet the test for soundness in the NPPF (para 35) to 'meet the area's objectively assessed needs', since there is a strong need for the residents of B&NES to not suffer catastrophic climate change. Whilst SCR8 is a good starting place in addressing embodied energy, **the climate crisis requires a more urgent and rapid move from the current SCR8 requirement** which aims to familiarise industry with the issue, to a requirement to actually **bring down embodied carbon emissions more rapidly and effectively within the plan period.**

1.18 There is insufficient evidence that the need to meet targets for remaining globally within 1.5 degrees of pre-industrial temperatures (IPCC report 2018), and local targets for net zero emissions and bringing embodied carbon down will be met by the standards set by this policy. Nor is there a strategy to ratchet the policy further, and increase effectiveness within the plan period (ahead of 2025) if evidence supports it.

1.19 The requirement in SCR8 can be met with current new build practice, so is not in itself an incentive to retain and retrofit existing buildings instead of demolition and rebuild which is usually has a significantly higher lifecycle carbon impact. Resultantly, this section of the policy does not meet the test for soundness in the NPPF (para 35).

1.20 It is not clear why the policy applies only to developments comprising over 50 dwellings or a minimum of 5000m² of commercial floor space, and why these thresholds are appropriate in the context of maximising emissions reductions (for the purposes of compliance with paras 152-153 of the NPPF and s. 19(1A) of the Planning and Compulsory Purchase Act 2004).

Conclusion

1.21 To make the policy effective the proposed 900kg/sqm standard should be set at as demanding a level as possible (500kg/sqm as referenced as referenced in the WoE Evidence Base for Net Zero Building Policy and the Zero Carbon Construction Topic Paper) and apply to as wide a category of development as possible (with the level differentiated between categories of development where necessary).

1.22 A lower minimum of 500 m² and 10 dwellings should be set to make the policy more effective and more rapidly meet objectively assessed need. To make the policy sound it should be extended to apply to most developments, not just the largest ones.

1.22 To make the policy sound it should define a reduction in embodied carbon of developments over time, so higher standards are met as developers get gradually more used to the new standards. Adoption of the RiBA or LETI target reductions cited in the *WoE Evidence Base for Net Zero Building Policy* would demonstrate greater ambition and commitment to reduce embodied carbon in new buildings.

1.23 Policy SCR8 should be modified, and strengthened as stated in 1.21-1.22. In doing so the policy will become effective and positively prepared.

Inspector's Questions

Q.96 What is the justification for the size thresholds for the application of the Policy, and the requirement that an Embodied Carbon Assessment that demonstrates a score of less than 900kg/sqm of carbon can be achieved within the development for the substructure, superstructure and finishes?

The study that should be used is the WSP Study EVIDENCE BASE FOR WOE NET ZERO BUILDING POLICY
https://beta.bathnes.gov.uk/sites/default/files/CD-RCC008%20WOE%20NZB_Evidence%20Base_Embodied%20Carbon%20study_FINAL.pdf

The justification for both the size and kg/sqm requirements are the same - they are intended to be cost neutral so developers retain the ability to utilise existing construction techniques.

This study clearly shows that the threshold of 900kg/sq.m is deliverable using only current building techniques. It will however prevent schemes that are proposing an exceptionally high level of

embodied carbon. See Figures 3.14 to 3.17 in the WSP study to show how 900kg/sqm is higher than that of the baseline 'Scenario 1' (the bar labelled S1 on the chart). The baseline ONLY reflects existing building practices.

Q.97 What effect would policy SCR8 have on the delivery of new buildings?

Policy SCR8 would not impede delivery of new buildings nor increase the cost of building. That is, unless the proposed building has an exceptionally high embodied carbon design.

The policy will for the first time regulate a large portion of the buildings carbon footprint - [11% of global carbon emissions](#) are estimated to come from the construction industry.

Towards the middle of the century, as the world's population approaches 10 billion, the global building stock is expected to double in size. Carbon emissions released before the built asset is used, what is referred to as 'upfront carbon', will be responsible for half of the entire carbon footprint of new construction between now and 2050, threatening to consume a large part of our remaining carbon budget.

The intention of this policy is

(a) to discourage buildings that have an exceptionally high embodied carbon design

(b) to familiarise industry with a crucial part of the carbon footprint that has hitherto been unregulated. If only an assessment is required with no standard, there would be no need for developers to engage with the outcome of that assessment, simply outsourcing it to consultants. The 900kg/m² threshold will stimulate greater engagement with the outcome of the assessment since the project team will have to engage with the findings to verify compliance with the threshold.