ITMM Carbon Measurement for Infrastructure – Technical Guidance

Feedback Form

This form seeks stakeholder feedback on the following drafts developed by Infrastructure NSW:

- the Infrastructure and Transport Ministers' Meetings (ITMM) Carbon Measurement for Infrastructure Guidance (Measurement Guidance) developed by Infrastructure NSW
- the additional inputs to the National Embodied Carbon Databook to cover whole life carbon
- the carbon reporting template covering whole life carbon.

Your feedback will inform the final version of these documents.

Please complete and return the form to industry@infrastructure.nsw.gov.au by **Friday 26 June 2026**.

We kindly request one response per organisation.

Thank you for taking the time to share your feedback.

Feedback questions

General feedback

1. Which phase of the project lifecycle are you or your organisation most involved in? (*Check all that apply*)

   ☒ Business cases

   ☒ Design

   ☒ Construction

2. Are the minimum expectations to meet the methodology set out in the Measurement Guidance clear?

   ☐ Strongly agree

   ☒ Agree

   ☐ Neutral

   ☐ Disagree

   ☐ Strongly disagree

   ☐ Unsure or no opinion

   Optional - please provide any specific feedback.

CCAA supports the prioritisation of verified EPDs where available. The guidance should further emphasise the importance of like-for-like comparison when assessing EPDs or other carbon emission measurement tools, particularly for high-volume construction.

The draft currently places PCFs alongside product-specific EPDs in the highest tier of the emission factor hierarchy, but elsewhere describes EPDs as independently verified and comparable documents. The placement of PCFs alongside EPDs creates a risk that PCFs could be treated as equivalent

substitutes, even where they may not follow the same product category rules, system boundaries, verification requirements, or declared/functional units. This would not support transparency and consistency in the measurement of product related carbon emissions.

Clarify the relationship between "must", "should", "may" and "consider". The definitions are useful, but because the document combines mandatory requirements, recommended practice and optional stretch scope, a summary table would help users distinguish minimum compliance from best practice.

3. Are there any additional support resources that would assist with carbon measurement (optional – please detail below)?

CCAA has launched The Australian Adoption of the GCCA Global Ratings for Low Carbon and Near Zero Concrete , marking an important step in providing transparent, comparable benchmarks for embodied carbon in Australian concrete mixes. This framework can be embedded into market processes and practices to support the comparative measurement of carbon across options under consideration.

Measurement scope feedback

4. Do you agree with the categorisation of life cycle modules as foundational and stretch/optional (Section 2.1), intended to help focus efforts on the most significant sources of carbon?

☐ Strongly agree

☒ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Unsure or no opinion

Optional - please provide any specific feedback.

CCAA supports carbon emissions being measured on a whole-of-life basis. CCAA supports whole-of-life carbon measurement because it provides a more complete, balanced, and technically robust basis for assessing infrastructure carbon outcomes. For heavy construction materials, carbon performance should not be assessed through upfront embodied carbon alone, but across the full asset life, including durability, service life, maintenance, replacement, operational performance, resilience, reuse, recycling, and end-of-life outcomes.

CCAA appreciates however that it is most vital that carbon measurement comparisons are done in a way that ensures consistency between options being assessed.

It is not adverse to the decision taken to include the proposed categorisation of life cycle modules into foundational and stretch/optional scope. This is a practical and proportionate approach that will help agencies, designers, contractors, and suppliers focus effort on the life cycle stages and emissions sources that are most significant and most capable of being influenced through design, procurement, and construction decisions.

CCAA formally requests the inclusion of Module B1.1 (Concrete Carbonation) as a foundational requirement rather than a "stretch" goal in the final Technical Guidance.

Further, the final Guidance should make clear that “stretch/optional” does not mean “not relevant”. Where these modules are material, within the project’s control or influence, or important to comparing options on a whole-of-life basis, they should be considered and, where practical, assessed. This is especially relevant for durable, recyclable, and long-life materials such as concrete, where end-of-life recovery, reuse, recycling, and carbonation are relevant.

5. Is the guidance on how to consider control and influence on different projects and across project stages clear and appropriate (Section 2.5)?

   ☐ Strongly agree

   ☒ Agree

   ☐ Neutral

   ☐ Disagree (*please specify in the text box*)

   ☐ Strongly disagree

   ☐ Unsure or no opinion

   Optional - please provide any specific feedback.

CCAA supports the guidance on considering control and influence across different projects and project stages. The distinction between emissions sources within a project team’s direct control and those it can influence is practical and aligns with the need to focus assessment and reduction effort where it can have the greatest impact.

CCAA also supports the principle that projects should focus measurement effort on significant emissions sources and carbon hotspots, rather than requiring detailed assessment of emissions that are outside the project’s control or influence.

6. Are there any emission sources that would benefit from clearer or more detailed guidance to support carbon assessment? (*Check all that apply*)

   ☐ Upfront embodied carbon (A1-A5)

   ☐ In-use embodied carbon (B1.1, B2-B5)

   ☐ In-use operational carbon (B1.2, B6, B7)

   ☐ User carbon (B8)

   ☐ End-of-life carbon (C1-C4, D1, D2)

   ☒ Unsure or no opinion

   Optional - please provide any specific feedback.

Overall, CCAA supports the Guidance’s whole-of-life approach but recommends additional worked examples and decision rules to support consistent “apples for apples” assessment across products, materials, and asset types.

7. Are minimum inclusions (Section 2.4 and Appendix 4) detailing the most significant carbon sources for each asset type (aiming for 80% coverage of emissions) appropriate?

☐ Strongly agree

☒ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Unsure or no opinion

Optional - please provide any specific feedback.

CCAA considers that the minimum inclusions are broadly appropriate and provide a useful basis for identifying the most significant carbon sources across major infrastructure asset types. The 80% coverage approach is practical and proportionate, particularly where project teams are working with varying levels of data availability across business case, design, procurement, and construction stages.

For construction materials, CCAA recommends that the Guidance reinforce the use of robust, comparable, and third-party verified product-level data where available, particularly Environmental Product Declarations. This will support more accurate assessment of key materials and help ensure consistent, like-for-like comparison across products and asset types.

Feedback on inputs to carbon measurement

8. Is the guidance on qualitative assessment (Section 3.6) sufficient and practical to support decision making, when data is limited and measurement not feasible?

☐ Strongly agree

☒ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Unsure or no opinion

Optional - please provide any specific feedback.

Overall, CCAA supports the inclusion of qualitative assessment as a practical decision-support tool, provided it is clearly documented, evidence-based, proportionate to the decision being made, and progressively replaced by quantitative assessment as project information and product-specific data become available.

Feedback on interpreting carbon results

9. Is the guidance on defining a base case or baseline and options (Section 4.2.2), intended to support fair comparisons, clear and appropriate?

☐ Strongly agree

☒ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Unsure or no opinion

Optional - please provide any specific feedback.

CCAA considers the guidance on defining a base case or baseline and options to be broadly clear and appropriate. The distinction between a base case for options assessment and a baseline for measuring performance against a carbon reduction target is useful and supports more consistent decision-making.

10. Is the guidance on measuring performance against targets (Section 4.3) clear and appropriate?

☐ Strongly agree

☒ Agree

☐ Neutral

☐ Disagree

☐ Strongly disagree

☐ Unsure or no opinion

Optional - please provide any specific feedback.

CCAA considers the guidance on measuring performance against targets to be broadly clear and appropriate. The distinction between carbon reduction targets against a baseline, carbon budgets and carbon intensity thresholds is useful and provides a practical framework for project teams to measure and track performance across different project stages.

Other feedback

11. Do you have any other feedback or suggestions on how the Measurement Guidance could be improved?

CCAA supports the intent of the Measurement Guidance and the move toward nationally consistent whole-of-life carbon measurement for infrastructure.

To improve the final Guidance, CCAA recommends clearer prioritisation of third-party verified EPDs as the preferred source of product-specific data.

The Guidance should also reinforce whole-of-life performance, including durability, design life, maintenance, replacement, resilience, reuse, recycling, and end-of-life outcomes.

Further decision pathways, checklists and worked examples would support consistent application of the 80% completeness threshold, minimum inclusions, stretch modules and qualitative assessment.

Comparisons between products and materials should be based on equivalent function, construction type, application, performance and declared or functional units to ensure genuine “apples for apples” assessment.

All draft notes, placeholder references and broken cross-references that are evident will no doubt be resolved before publication.

We would suggest considering including examples with typical values and not such high reduction targets which could then be picked up as a target for procurement that is sometimes unrealistic. For example – Table 4.1 lists a case at 32MPa with a maximum emissions value of <200kg e-CO_2/m^3, whereas typical (e.g. DoTP Victorian 32MPa) CR330 EPDs are well over 250kg e-CO_2/m^3.

We are aware that GBCA and NABERS are working on Typical concrete carbon emission values per strength grade, and there is the CCAA Australian Adoption Concrete Rating system that could be utilised to assess third party verified EPDs emissions, to determine typical concrete emission ratings, in order to support more 'typical' values.

As noted earlier, CCAA formally request the inclusion of Module B1.1 (Concrete Carbonation) as a foundational requirement rather than a "stretch" goal in the final Technical Guidance.

CCAA also notes a discrepancy in this regard between Table 2-2 which shows module B1.1 (Concrete Carbonation) is in scope, compared to Section 2.2.2 which states it is treated as stretch (out of scope). CCAA is seeking Concrete Carbonation as a foundational inclusion.