

9 April 2025

NSW Environment Protection Authority  
New South Wales Government

Via email: [sustainableconstructionpep@epa.nsw.gov.au](mailto:sustainableconstructionpep@epa.nsw.gov.au)

### **Re: Protection of the Environment Policy (PEP) – Sustainable Construction**

Green Building Council of Australia (GBCA) welcomes the opportunity to provide feedback on the draft Protection of the Environment Policy (PEP) – Sustainable Construction. We commend the New South Wales Environment Protection Agency (NSW EPA) for its leadership in driving sustainability in public infrastructure delivery and for recognising the need to address embodied carbon, promote circular economy principles, and improve reporting mechanisms across the construction sector.

The following submission provides detailed responses to the consultation questions, with recommendations to further strengthen the policy's effectiveness.

The focus on decarbonising public infrastructure aligns with our [Every Building Counts](#)<sup>1</sup> recommendations for adopting credible frameworks for measuring embodied carbon and embedding sustainability into government procurement and planning. We work closely with all levels of governments to integrate sustainability into the built environment, and we strongly support the actions identified within the discussion paper to reduce embodied carbon from the very earliest stages of project planning and design.

GBCA is an industry association with more than 650 member organisations, including many that work on infrastructure delivery projects across Australia. GBCA's purpose is to lead the sustainable transformation of the built environment. We do this primarily through our core functions:

- We advocate policies and programs that support our vision and purpose.
- We educate industry, government practitioners and decision-makers, and promote green building programs, technologies, design practices and operations.
- We collaborate with our members and other stakeholders to achieve our mission and strategic objectives.
- We rate the sustainability of buildings, fitouts and communities through Australia's largest national, voluntary, holistic rating system – Green Star.

### **Why GBCA is best placed to comment on this submission**

Green Star is Australia's most widely used sustainability rating system for the design, construction and performance of buildings – including social infrastructure – fitouts and communities. Green Star aims to transform the built environment by:

---

<sup>1</sup> [https://www.propertycouncil.com.au/wp-content/uploads/2023/12/GBCA\\_EBC-StateandTerritory-2023-PolicyDoc\\_FA\\_18Aug\\_Digital\\_LR-6.pdf](https://www.propertycouncil.com.au/wp-content/uploads/2023/12/GBCA_EBC-StateandTerritory-2023-PolicyDoc_FA_18Aug_Digital_LR-6.pdf)

- reducing the impact of climate change
- enhancing our health and quality of life
- restoring and protecting our planet's biodiversity and ecosystems
- driving resilient outcomes for buildings, fitouts, and communities
- contributing to market transformation and a sustainable economy.

Green Star has always recognised and rewarded projects which consider reuse of existing structure, façade and materials, and the use of responsible/recycled materials. In 2021, GBCA updated [A climate positive roadmap](#)<sup>2</sup> for the built environment, which sets a trajectory for Green Star to ensure that all buildings and communities certified with the rating tool will ultimately become climate positive. The targets for embodied carbon in new buildings are a 40% reduction in embodied carbon by 2030, and zero embodied carbon by 2050. Green Star Buildings was the first Green Star rating tool to be updated and redesigned in line with the roadmap, but new versions of all Green Star rating tools will be released over the next several years.

The Green Star Buildings tool (v1) has a dedicated Upfront Carbon Emissions credit. The Reference Project method is used to calculate reductions of the building design. Projects seeking a rating under Green Star Buildings must reduce upfront carbon by at least 10% (Minimum Expectation). Those seeking higher ratings must achieve at least a 20% reduction (Credit Achievement, worth 3 points). Requirements will increase in the future to meet a 40% reduction (Exceptional Performance, worth an additional 3 points).

In 2024, GBCA partnered with the National Australian Built Environment Rating (NABERS) to develop the NABERS Embodied Carbon rating tool. The Embodied Carbon rating tool enables eligible new buildings and partial rebuilds to measure, verify, and compare their upfront embodied carbon with similar buildings. As an endorsement of the partnership forged between GBCA and NABERS, the Embodied Carbon rating tool will be accepted for the Upfront Carbon Emissions credit under the Green Star Buildings tool.

According to the recently released [Our Upfront Opportunity: Australia's policy roadmap to reduce upfront embodied carbon in the built environment](#)<sup>3</sup> report by the Australian Sustainable Built Environment Council (ASBEC):

*Australia's commitment to decarbonise the built environment will be greatly enhanced by measuring the size of the changes needed, and monitoring progress against the goal of net zero over time. Requiring embodied carbon measurement and reduction through government policy significantly impacts the market. Manufacturers receive a demand signal to develop low-carbon materials. Designers and builders receive a signal to prioritise materials and methods that minimise environmental impact from the start. This drives innovation in both design, construction practices and manufacturing.*

Some of the biggest leaps in decarbonising our supply chains will occur when demand for low-embodied carbon materials and products is generated at scale via infrastructure projects and coordinated infrastructure policy. We encourage the government to continue to work with built environment stakeholders on a national approach to developing policies that will accelerate the establishment of a market for products and materials to support the delivery of the PEP's goals.

To arrange further discussion or for clarification of the points made above, please do not hesitate to contact Shay Singh, Senior Manager Policy and Government Relations, via email at [shay.singh@gbca.org.au](mailto:shay.singh@gbca.org.au).

---

<sup>2</sup> <https://gbca-web.s3.amazonaws.com/media/documents/gbca-feedback-re-insw-decarbonising-infrastructure-delivery-disussion-paper.pdf>

<sup>3</sup> <https://www.asbec.asn.au/wordpress/wp-content/uploads/2025/03/250323-ASBEC-Our-Upfront-Opportunity.pdf>

Yours sincerely

A handwritten signature in dark ink, appearing to read "D. Rooney", followed by a small dot.

Davina Rooney  
Chief Executive  
Green Building Council of Australia

GBCA offers feedback for the questions in the Sustainable Construction PEP Questions Guide:

Question	GBCA Response													
Draft PEP														
1. Do you agree that the PEP will have a beneficial impact on NSW, providing net environmental and economic benefits as outlined in the PEP Impact Statement?	Yes, we note that Australia’s Infrastructure and Transport Ministers Meeting agreed to a nationally consistent approach for measuring embodied carbon for use in transport infrastructure projects, called the <a href="#">Embodied Carbon Measurement for Infrastructure: Technical Guidance</a> . <sup>4</sup> We encourage the NSW Government to develop an aligned, nationally-consistent policy approach for the infrastructure sector.													
2. Do you agree with the scope of requirements in the draft PEP?	We agree with the scope, however it could be beneficially extended to include reuse as a first order.													
3. Do you support the proposed scope of agency infrastructure projects to be captured by the PEP requirements?	<p>Yes, GBCA supports capturing a broad range of agency infrastructure projects, ensuring that government-led developments set a strong precedent for the industry. We note that the <a href="#">Net Zero in Government Operations Policy</a> requires all new buildings and fit-outs above \$10 million must achieve the minimum Green Star ratings (as outlined in the table below), as such, projects below \$50 million will be providing information on upfront carbon to meet Green Star requirements.</p> <table><tr><td>Green Star</td><td>Location</td><td>Star Rating</td></tr><tr><td rowspan="2">Buildings</td><td>Sydney, Wollongong, Newcastle</td><td>4</td></tr><tr><td>Rest of NSW</td><td>5</td></tr><tr><td rowspan="2">Interiors/ Fit-outs</td><td>Sydney, Wollongong, Newcastle</td><td>4</td></tr><tr><td>Rest of NSW</td><td>5</td></tr></table>	Green Star	Location	Star Rating	Buildings	Sydney, Wollongong, Newcastle	4	Rest of NSW	5	Interiors/ Fit-outs	Sydney, Wollongong, Newcastle	4	Rest of NSW	5
Green Star	Location	Star Rating												
Buildings	Sydney, Wollongong, Newcastle	4												
	Rest of NSW	5												
Interiors/ Fit-outs	Sydney, Wollongong, Newcastle	4												
	Rest of NSW	5												
4. Are there any other matters that the PEP should cover to promote the sustainable construction of public infrastructure projects?	<p>Yes, see below:</p> <ul style="list-style-type: none"><li>• <b>Embodied Carbon:</b> Set clear reduction targets for embodied carbon in materials and construction processes.</li><li>• <b>Electrification &amp; Renewables:</b> Require fully electric, renewables-powered public infrastructure where feasible.</li><li>• <b>Sustainable Design Standards:</b> Encourage projects to meet best-practice benchmarks for sustainable infrastructure and achieve certification under third party verification schemes.</li><li>• <b>Circular Economy &amp; Materials:</b> Prioritise reuse and recycling by integrating minimum content requirements for recycled materials in government projects.</li></ul>													

<sup>4</sup> <https://www.infrastructure.gov.au/sites/default/files/documents/embodied-carbon-measurement-for-infrastructure.pdf>

5. Do you have any other suggestions for improving the draft PEP?	Prioritise a re-use, repurpose, or “retrofit-first” approach through brownfield development projects, infrastructure renewals, and major retrofits of existing structures. This includes reforming and aligning planning policies and development strategies. <sup>5</sup>
<b>PEP reporting guidelines – upfront carbon</b>	
6. Do you support the proposed approach for agencies to report on their compliance with the Decarbonising Infrastructure Delivery Policy?	Yes
7. Do you support the proposed frequency and timing of reporting for upfront carbon?	Yes
8. Would it be feasible and appropriate to collect as-built data on upfront carbon annually during construction (rather than only at project completion) as is proposed for the use of recycled materials?	Yes, GBCA supports annual as-built data collection, as this enables better tracking of actual carbon performance, rather than relying solely on design-phase estimates.
9. Do you think that there is further guidance needed to support upfront carbon reporting? If yes, please describe what else is required.	Links to NABERS emissions factors (buildings). It would be good to use them as factors where no Environmental Product Disclosure (EPD) exists. Provide assistance for organisations seeking to develop EPDs.
<b>PEP reporting guidelines – recycled materials</b>	
10. Do you support the proposed approach for agencies to report on how they will preference recycled materials in public infrastructure projects?	Yes
11. Do you support the proposed approach for agencies to report on their use of recycled materials in public infrastructure projects?	Yes
12. Do you support the proposed approach for agencies to report on the reuse of materials in public infrastructure projects?	Yes
13. Do you support the proposed frequency and timing of reporting for reused and recycled materials?	Broadly, yes. Though the frequency should be checked with project teams and contractors.
14. Table 5 in the draft Sustainable Construction PEP Reporting Guidelines provides a list of	GBCA recommends starting with those mentioned. The other list could be added as the 'innovation' - so additional weighting applied to them to assist in decision making about the approach

<sup>5</sup> <https://www.asbec.asn.au/wordpress/wp-content/uploads/2025/03/250323-ASBEC-Our-Upfront-Opportunity.pdf>

<p>product groups containing recycled materials for the purpose of reporting. Should we include the following additional product categories containing –</p> <ol style="list-style-type: none"> <li>recycled plastics (e.g. piping, conduits, floor coverings, retaining walls)?</li> <li>tyres/crumbed rubber (e.g. drainage systems, retaining walls, tile adhesives)?</li> <li>organics (e.g. compost, mulch)?</li> <li>textiles (e.g. soft furnishings)?</li> </ol>	<p>i.e. options including the secondary materials here would be deemed to provide a "higher net benefit".</p> <p>Once the data is collected from this first iteration, additional materials could be added to the next version of the PEP</p>
<p>15. Are there any other product groups we should include for the purpose of reporting, and why do you think they should be included?</p>	<p>Yes, include:</p> <ul style="list-style-type: none"> <li>Low-carbon cement &amp; concrete substitutes (e.g., geopolymer concrete).</li> <li>Sustainably sourced timber &amp; bamboo (e.g., FSC-certified wood).</li> <li>Reused structural steel.</li> </ul>
<p>16. Do you know of any publicly available sources, other than Environmental Product Declarations, that provide information on the recycled content of construction materials? If yes, what are they and where can they be found?</p>	<p>There is a potential opportunity for the NSW government to create a public database for these items as there is more local, federal and state policies requiring this level of information.</p> <p>GBCA is currently in the process of creating a materials database within Green Star. We will be happy to meet with the NSW Government to share information about the database and how we could assist in raising awareness across industries. Such an initiative could support projects using Green Star to comply with the Net Zero in Government Operations Policy.</p>
<p>17. What further guidance is needed to support recycled materials reporting?</p>	<p>It is important to provide clarity on how to balance the trade-offs between recycling, embodied carbon and reuse when sourcing construction materials. GBCA tries to do this through the Responsible Products Values where we rate these individually and provide an overall score.</p> <p>Please refer to the GBCA <a href="#">Responsible Products Program</a>. The program recognises third party initiatives or product certification initiatives that certify products available for use in the built environment.</p> <p>The <a href="#">Responsible Products Guidelines</a> set out the criteria for all product certification schemes or similar initiatives (together referred to as 'initiatives') to be assessed against if they wish to be recognised by Green Star.</p>
<p><b>Support to implement the PEP</b></p>	
<p>18. What support will be needed to meet the proposed PEP requirements?</p>	<p>Complimentary policies may be needed to generate enough supply and demand to ensure there is a functioning market to provide enough recycled content to meet the intent of the PEP, including the infrastructure required to recycle the materials.</p> <p>Furthermore, to ensure compliance:</p>

	<ul style="list-style-type: none"> <li>• training for agencies &amp; contractors on sustainable materials and reporting.</li> <li>• digital reporting tools to integrate with existing procurement platforms.</li> <li>• data-sharing mechanisms to align reporting across infrastructure sectors.</li> </ul>
19. What support will agencies' contractors in the construction sector need so they can provide the information for agencies to meet the draft PEP reporting guidelines?	<p>They will need support to understand if their suppliers can provide the information, support could include:</p> <ul style="list-style-type: none"> <li>• industry-wide training programs on embodied carbon and circular economy principles.</li> <li>• templates &amp; software tools to streamline reporting processes.</li> </ul>
<b>Other feedback</b>	
20. Do you have any other feedback regarding the draft PEP, reporting guidelines, and/or impact statement?	As stated above, we will be happy to provide a briefing of the GBCA Responsible Products Program, including the Responsible Products calculator.