Submission form: Victoria's draft 30-year infrastructure strategy

Your details

Name:	Katy Dean
Organisation (if applicable):	Green Building Council of Australia
Position (if applicable):	Senior Policy Adviser
Email:	Katy.dean@gbca.org.au
Phone:	02 8239 6200

About you

Please tell us which best describes you:

- ☐ Victorian resident
- ☐ Victorian business owner/operator
- ☐ Industry professional
- ☐ Community organisation representative
- ☐ Local government representative
- ☐ State government representative
- ☐ Researcher
- ☒ Other (please specify): Industry association

Your focus areas

Select the topics or regions you are providing feedback on (select all that apply):

Topics	Regions
☒ Across sectors	☒ Regional Victoria
☐ Circular economy	☒ Urban growth areas
☐ Cities	☒ Melbourne
☐ Climate change	
☐ Community infrastructure	
☐ Education	
☐ Energy	
☐ Freight	
☐ Health	
☐ Housing	
☐ Infrastructure for Victoria's First Peoples	
☐ Transport	
☐ Water	

Your feedback

Add as many sections as you need to provide all your feedback in this submission.

Topic/area:	**Victoria has a thriving natural environment**
Recommendation name:	**Reduce greenhouse gas emissions from infrastructure** Adopt carbon values and measure carbon in infrastructure projects to reduce emissions.
Recommendation number:	24
1. Do you support this topic or recommendation?	☒ Yes ☐ No ☐ In part
2. Tell us why	Currently, operating and embodied emissions from buildings and infrastructure (together, known as the 'built environment') make up almost one third of Australia's total carbon emissions, and if you include the emissions that buildings and infrastructure are indirectly responsible for, it is over half of the country's total emissions.[1] GBCA agrees with Infrastructure Victoria's advice to the Victorian Government that it should adopt the national approach to valuing carbon and calculate carbon values that will meet Victoria's target of net zero emissions by 2045. GBCA urges Infrastructure Victoria to consider the recently released report from Infrastructure Net Zero, A solid foundation: A common definition for net zero infrastructure and how to get there. This paper: • provides a common definition for net zero • summarises best practice carbon measurement and management standards • provides guidance on when to adopt relevant best practice carbon measurement and management standards • discusses the benefits of adopting consistent standards and approaches to carbon measurement and reporting. As Victoria strengthens its commitment to decarbonising the built environment, addressing embodied carbon in buildings and infrastructure must be an essential next step. While substantial progress has been made in reducing operational emissions—particularly through the decarbonisation of the electricity grid—embodied carbon now represents a growing share of the sector's overall emissions profile. When considering embodied carbon, upfront carbon is of particular concern. Upfront carbon emissions are produced during a building's material production and construction activities before its use (including raw materials,

[1] Infrastructure Australia. 2024. Embodied Carbon Projections for Australian Infrastructure and Buildings. https://www.infrastructureaustralia.gov.au/sites/default/files/2024-08/IA24_Embodied%20Carbon%20Report_09-08-24.pdf

	transport and manufacturing) and the construction process itself. These are locked in at the point of construction – once a building is complete, these emissions can never be reduced. Upfront emissions account for approximately 70% of total embodied carbon. Nationally, upfront embodied carbon from construction represents around 5 to 10% of Australia's annual emissions—making it a critical but often overlooked priority. ASBEC's issues paper Embodied carbon emissions in Australia's built environment outlines the scale and urgency of this challenge. In conjunction with this paper, ASBEC has released a practical framework for government and industry collaboration to reduce these emissions - Our upfront opportunity: Australia's policy roadmap to reduce upfront embodied carbon in the built environment. This roadmap supports the growing national momentum, including the development of a consistent embodied carbon measurement methodology by NABERS and increased industry capacity for low-carbon construction. GBCA has also undertaken extensive work, including engagement with a wide range of stakeholders from industry, government and academia, to develop the discussion papers, A nature roadmap for the built environment, and A nature roadmap for the supply chain. These papers evaluate environmental risks and opportunities, explore innovative concepts for nature regeneration, and underscore the collaborative roles required for success, and we encourage Infrastructure Victoria to consider how the concepts outlined in these papers can support the role of infrastructure in ensuring a thriving natural environment for Victoria.
3. Share any supporting evidence or examples	GBCA. 2023. A practical guide to upfront carbon reductions: For new buildings and major refurbishments GBCA & thinkstep anz. 2021. Embodied carbon and embodied energy in Australia's buildings GBCA. 2023. Building with nature 2.0 GBCA. 2018. Building with nature
4. Include proposed changes and improvements	We agree with Infrastructure Victoria's recommendations that the Victorian Government should value carbon in infrastructure cost benefit analyses to encourage decision-makers to reduce carbon at the project planning stage when it has the greatest influence on outcomes. ASBEC's Our upfront opportunity report includes eight recommendations for government and industry to reduce upfront carbon in buildings and infrastructure: 1. Update the Trajectory for Low Energy Buildings policy to include upfront embodied carbon measurement and reporting, and a staged approach to mandating minimum standards. Develop an aligned, nationally-consistent policy approach for the infrastructure sector. 2. Increase and continue investment in aligned national framework and tools to baseline, measure, benchmark, disclose, and reduce embodied carbon through a unified methodology and common database. These need to be consistent across commercial property, residential and infrastructure

	3. Support Australian manufacturers and provide market drivers to: > Reduce the embodied carbon of their materials and products via support for technology transitions and low-emissions manufacturing practices. > Understand and disclose the embodied carbon of their materials and products through trusted and verified processes such as Environmental Product Declarations (EPDs). 4. 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. 5. Demonstrate leadership by updating government funding, tender and procurement requirements or processes to include embodied carbon minimum standards, and transition towards fossil-fuel free transport and construction processes. 6. Build capability, awareness and skills by developing aligned training and education materials, and professional development, across the construction sector and its value chain, including practical guidance for reducing embodied carbon and achieving more with fewer resources. 7. Resource the inclusion of a minimum standard for upfront carbon for all new commercial buildings in NCC 2028 using NABERS methodology, with increases to minimum standards over time. Start collecting aligned data on residential buildings and consider a simplified calculator to assist residential design decisions. 8. Implement policies that secure a level playing field for Australian manufacturers of building and construction products, underpinned by consistent and comparable emissions data in line with international standards, and incentivise low carbon products made or re-made, in Australia.

Topic/area:	**Victoria is resilient to climate change and other future risks**
Recommendation name:	**Better prepare infrastructure for climate change** Fund high-priority, cost-effective infrastructure adaptation actions when climate adaptation action plans are updated in 2026. Produce an energy sector adaptation plan.
Recommendation number:	27
5. Do you support this topic or recommendation?	☒ Yes ☐ No ☐ In part
6. Tell us why	GBCA supports the development of high-priority, cost-effective infrastructure adaptation actions and an energy sector adaptation plan. GBCA is committed to encouraging greater resilience across the built environment through our advocacy, partnerships with industry and government and rating tools. The Green Star Buildings and Green Star Communities v2 rating tools require projects to undertake analysis of climate risks and make a plan for adaptation. The guidance within the rating tools is based on a range of leading international tools, frameworks and guidelines

	which can also be used to support appropriate actions for infrastructure adaptation.
7. Share any supporting evidence or examples	GBCA. 2021. Resilience in the built environment GBCA and Property Council of Australia. 2023. Every Building Counts: For state and territory government
8. Include proposed changes and improvements	Additionally, GBCA makes the following recommendations for government action: From **Every Building Counts - Recommendation 2.1: Set a long-term strategy for climate resilient buildings.** State and Territory Governments should collaborate with the Federal Government to establish a comprehensive national plan towards a climate-resilient, healthy built environment. The plan should encompass a range of measures that establish best practice technical requirements for building construction to ensure occupant safety and preserve buildings (where appropriate and cost-effective) in the face of a changing climate. Initially, a nationally agreed set of future climate scenarios data and a risk assessment would be required to determine structural and resilience requirements in new buildings. The use of this dataset should underpin a comprehensive framework of scheduled updates to regulations, targeted retrofits and land-use planning requirements. Complementing the above, GBCA urges the ongoing support of the Victorian Government for the joint directive from the Building Minister's Meeting held June 2024, at which: > Ministers collectively recognised the need to make Australia's buildings more resilient to extreme weather events driven by climate change. As a first step, Ministers agreed to include climate resilience as a specific objective of the Australian Building Codes Board (ABCB) from 2025. This will give the ABCB a clear mandate to develop future National Construction Code (NCC) requirements that reduce the impact of natural disasters on housing and other critical community facilities. This is in response to a recommendation from the Royal Commission into National Natural Disaster Arrangements.

Topic/area:	**Victoria is resilient to climate change and other future risks**
Recommendation name:	**Speed up household energy efficiency and electrification** Require efficient electric space heating and hot water when people replace their heaters at end-of life and support low-income households to go all-electric. Complete social housing energy upgrades, including electrification. Require Victorian homeowners to disclose the energy efficiency of their homes at the time of sale or lease
Recommendation number:	34

9. Do you support this topic or recommendation?	☒ Yes ☐ No ☐ In part
10. Tell us why	The built environment accounts for over 50% of electricity use and nearly a quarter of Australia's emissions. It represents a crucial and cost-effective opportunity for rapid decarbonisation while enhancing health, comfort, and resilience for all Victorians. The Australian Sustainable Built Environment Council (ASBEC) report, Unlocking the pathway: Why electrification is the key to net zero buildings confirms 100% electrification is the lowest cost, fastest emissions reduction pathway for Australia's built environment. Electrification of Australia's built environment will not be achieved at the speed and scale we need without government action. In Every Building Counts: For state and territory governments, GBCA and the Property Council of Australia recommend a range of actions, across eight themes. These include the following which directly support Recommendation 34: 2.2 Support a nationally harmonised approach to phase out fossil gas in existing buildings and appliances 2.3 Create a strategy and incentives for quality retrofits for existing commercial and residential buildings to support a just transition 3.5 Incentivise deep energy efficiency and electrification retrofits for existing homes (with government to prioritise trial/pilot programs in social housing) 6.1 Commit to achieving zero-carbon-ready new and existing government-owned and leased buildings by 2030 – including social housing. 7.1 Empower owners, buyers and renters with a single national rating scheme for home energy performance 7.2 Support mandatory performance disclosure for homes at the point of sale or lease While GBCA does not offer specific comment on Recommendations **31 - Invest in home, neighbourhood and big batteries for more energy storage**; **32 - Determine long duration energy storage needs**; and **33 - Develop regional energy plans, guide transition from fossil gas and maintain reliable gas supply**, we support these as actions that will be critical to improving Victoria's energy resilience and ensuring a timely and just transition to an all-electric, net zero built environment.
11. Share any supporting evidence or examples	Please also see GBCA's submission to the Victorian Government's recent consultation on the Building Electrification – Regulatory Impact Statement and our submission to Victoria's 2026-30 Climate Change Strategy.
12. Include proposed changes and improvements	Click or tap here to enter text.

Topic/area:	**Victoria has a high productivity and circular economy**
Recommendation name:	35. **Prepare and publish infrastructure sector plans to shape Victoria's cities** Agree a set of assumptions for future population, jobs and land use for more compact cities. Require each department that owns infrastructure to develop an infrastructure sector plan as soon as possible, based on these assumptions, and publish strategic-level plans. Use the finished sector plans to decide infrastructure project funding **37. Improve asset management of all government infrastructure** Fund asset managers to better understand the condition, use and performance standards of all government infrastructure. Use this information to develop asset management strategies and prioritise funding. **38. Prepare for more recycling and waste infrastructure** Identify places for new recycling and waste infrastructure and publish them in the next update to the Victorian recycling infrastructure plan. Plan for waste and recycling sites together with other commercial and industrial land. Make changes to planning controls to allow for facilities where they are needed. **39. Use digital technologies to better design, build, operate and maintain government infrastructure** Pilot digital technologies on government infrastructure projects and report on their progress. Use building information modelling on major infrastructure and housing projects. Improve capabilities in government agencies and review procurement processes to promote greater use of digital technologies.
Recommendation number:	35, 37, 38, 39
13. Do you support this topic or recommendation?	☒ Yes ☐ No ☐ In part
14. Tell us why	GBCA makes comment on these recommendations jointly as better whole-of-sector, statewide planning will make a significant progress towards a more productive and circular economy. Globally, the built environment is a major contributor to land use change and resource consumption, with construction and demolition processes responsible for nearly 100 million tonnes of raw materials annually.[2] The construction industry is responsible for the consumption of 40-50% of raw materials globally, including housing, construction and infrastructure.[3] Of this, it's been estimated that only 30% of materials are currently recycled.[4] 35 - If we can improve our approach to planning for infrastructure, in more compact cities, we can be more efficient in what we build and use less land and less materials overall.

[2] 2050 Materials. 2024. Constructing a More Sustainable Future for the UK Economy. https://2050-materials.com/blog/constructing-a-more-sustainable-future-for-the-uk-economy/

[3] Ellen Macarthur Foundation. 2021. Building a world free from waste and pollution. https://www.ellenmacarthurfoundation.org/articles/building-a-world-free-from-waste-and-pollution

[4] Australian Government. 2025. National waste and resource recovery report 2024. https://www.dcceew.gov.au/sites/default/files/documents/national-waste-and-resource-recovery-report-2024.pdf

	37 - By better understanding the condition, use and performance standards of all government infrastructure and by developing asset management strategies, we can ensure we get the best use out of our existing assets and maximise opportunities for repair, reuse and efficient improvements. 38 - Recycling and waste will both continue to play a significant role in the value chain of infrastructure and the built environment. GBCA supports better planning for waste and recycling sites but emphasises that this should be considered in the context of minimising waste and maximising reuse and recycling opportunities. In GBCA's recent submission to the Productivity Commission, regarding its Interim report - Australia's circular economy: Unlocking the opportunities, we noted that anecdotal feedback from industry stakeholders indicates that timing is a challenge when project teams look at opportunities to disassemble, salvage, or reuse building materials and components. Access to government-funded, supplied or subsidised storage facilities could encourage greater uptake of these opportunities. 39 - GBCA agrees that digital technologies will have a critical role to play in better design, construction, operating and maintenance of government infrastructure. We support improving the capabilities in government agencies and review procurement processes to promote greater use of digital technologies. GBCA recently released A practical guide to circular procurement: For new buildings and major refurbishments. This includes guidance and examples of how digital technologies can support more circular outcomes.
15. Share any supporting evidence or examples	Click or tap here to enter text.
16. Include proposed changes and improvements	GBCA encourages Infrastructure Victoria to consider how government infrastructure procurement can further support circular outcomes beyond what is currently captured in the recommendations within Victoria's draft 30-year infrastructure strategy. Government leadership through procurement will be a crucial lever for building capacity and innovation in the supply chain for circular products, services and practices. Building in targets for circularity, valuing circular outcomes in project tender decision-making and providing incentives for tenders to include circular outcomes will be a critical way for governments to drive change.

More feedback (optional)

Tell us about infrastructure challenges, gaps or opportunities not covered by the draft strategy. This can include things you think we should add to an existing recommendation, or suggestions for a new recommendation.

Please provide evidence for your suggestions. This can include data, specific examples, cost benefit analyses, surveys, or program evaluations. Also, explain how your suggestions align with the objectives of our draft strategy (see page 11 of the draft strategy).

Suggestions for new recommendations should point towards infrastructure opportunities that can deliver long-term benefits for Victorians. They should also be areas where the Victorian Government has a leading role.

Click or tap here to enter text.

Declaration

☒ I agree to Infrastructure Victoria's privacy collection statement.

☒ I give permission for Infrastructure Victoria to publish my submission on its website:

☒ with my name **or**

☐ anonymously (identifying personal information will be redacted).

☐ I do not give permission for Infrastructure Victoria to publish my submission.

☒ I would like to receive updates from Infrastructure Victoria about the strategy and our research program (about 6 emails a year).

Signature:	
Date:	5/05/2025

Need help?

Contact us on 03 7005 9500 or email enquiries@infrastructurevictoria.com.au.