

Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:

August 6, 2024 at 4:32 PM GMT+10

Response ID:

sbm2fbc7c05717ddde9541a4

- 1 Confirm that you have read and understand this privacy notice.
Yes
- 2 Please indicate how and if you want your submission published.
Public
- 3 Published name
Materials & Embodied Carbon Leaders' Alliance
- 4 Confirm that you have read and understand this declaration.
Yes
- 5 First name
Not answered
- 6 Last name
Not answered
- 7 Email
Not answered

- 8 Phone
Not answered
- 9 Who are you answering on behalf of?
Organisation
- 10 Organisation name
Materials & Embodied Carbon Leaders' Alliance
- 11 What best describes you or your organisation?
Not answered
- 12 What sector do you represent?
Not answered
- 13 What state or territory do you live in?
New South Wales
- 14 Postcode
2000
- 15 What area best describes where you live?
City
- 16 1. Do you support the proposed guiding principles?
Not answered
- 17 1.1 Please add details to your response.
Not answered
- 18 2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?
Not answered

- 19** 2.1 Please add details to your response.
Not answered
- 20** 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?
Not answered
- 21** 3.1 Please add details to your response.
Not answered
- 22** 4. What should be included in a national policy framework for active and public transport and how should it be developed?
Not answered
- 23** 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?
Not answered
- 24** 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?
Not answered
- 25** 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?
Not answered
- 26** 7. Do you agree with the proposed net zero pathway for light road vehicles?
Not answered

- 27 7.1 Please add details to your response.
Not answered
- 28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?
Not answered
- 29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?
Not answered
- 30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?
Not answered
- 31 9.1 Please add details to your response
Not answered
- 32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.
Not answered
- 33 10.1 Please add details to your response. Why did you rank them in that order?
Not answered
- 34 11. What role should low carbon liquid fuels play in the heavy vehicle

decarbonisation?

Not answered

35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Not answered

36 13. Do you agree with the proposed net zero pathway for rail?

Not answered

37 13.1 Please add details to your response.

Not answered

38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels. Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

39 14.1 Please add details to your response. Why did you rank them in that order?

Not answered

40 15. What role should low carbon liquid fuels play in rail decarbonisation?

Not answered

41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?

Not answered

42 16.1 How would these actions address the identified challenges and

opportunities to reduce rail emissions?

Not answered

43 17. Do you agree with the proposed net zero pathway for maritime?

Not answered

44 17.1 Please add details to your response.

Not answered

45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?

Not answered

46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?

Not answered

47 19. Do you agree with the proposed net zero pathway for aviation?

Not answered

48 19.1 Please add details to your response.

Not answered

49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap and Action Plan.

Not answered

- 50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?
Not answered
- 51 21. Do you agree with the proposed net zero pathway for transport infrastructure?
Not answered
- 52 21.1 Please add details to your response.
Not answered
- 53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?
Not answered
- 54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?
Not answered
- 55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?
Not answered
- 56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised across different transport modes over time to achieve maximum abatement?
Not answered

- 57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?
Not answered
- 58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?
Not answered
- 59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?
Not answered
- 60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?
Not answered
- 61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?
Not answered
- 62 27. Do you have any feedback on the proposed review process?
Not answered
- 63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?
Not answered
- 64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?
Not answered

- 65 29. Is there any further information or documentation that you wish to be considered with your submission?
Not answered
- 66 Would you like to upload a document?
Yes
- 67 Have you removed any identifying information from your submission?
Yes
- 68 Upload a submission
MECLA_Submission_to_DITRD_Transport_Infrastructure_Net_Zero_Consultation_Roadmap_.1f6caef1_Redacted.pdf
- 69 Upload a submission
Not answered
- 70 Upload supporting file
Not answered
- 71 Upload supporting file
Not answered



Submission to Transport and Infrastructure Net Zero Consultation Roadmap

6 August 2024

Background to MECLA

The Materials and Embodied Carbon Leaders' Alliance ([MECLA](#)) takes a systems wide approach to decarbonising the building and construction industry with a focus on embodied carbon.

MECLA engages all parts of the supply chain ecosystem and now has 170 organisations across the industry. We help drive a market transition across industry and government by:

1. Demonstrating the demand and activating the supply of materials which meet the needs of net zero carbon goals.
2. Defining a best practice embodied carbon evaluation framework.
3. Knowledge sharing through best practice education, case studies, myth-busting, demonstrations, and supporting innovation in materials and processes as part of a precompetitive approach.
4. Developing common language for design specifications, procurement guidelines and tendering criteria as standard practice for government agencies and companies.
5. Helping to manage industry's climate transition risks, risks associated with adopting innovative materials and the required skills development while supporting materials such as steel, cement and concrete, and aluminium to reduce their carbon intensity and giving visibility to other low carbon and innovative materials.

MECLA operates in a pre-competitive environment with a [governance](#) framework and adopts the spirit of a 'do-tank'.

The problem at hand

This submission focuses on embodied carbon only. Infrastructure Australia's recent report¹ on embodied carbon for Australian infrastructure and buildings calculates that buildings and infrastructure are directly responsible for almost one third of Australia's total carbon emissions, and indirectly responsible for over half of all emissions. Embodied carbon from building activity contributed 10% of national carbon emissions in 2023, with upfront carbon contributing 7%. These emissions are expected to grow significantly unless action is taken. The report indicates that a 23% reduction in upfront carbon emissions is possible by 2026–27 by applying like-for-like decarbonisation strategies and design optimisation and less-build strategies. The MECLA network can assist the government in achieving its decarbonisation targets.

¹ <https://www.infrastructureaustralia.gov.au/embodied-carbon-projections>



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Sharing Insights

1. MECLA systems change approach enables intervening at different parts of the supply chain

MECLA was established over three years ago as a Leaders' Alliance. At the end of last year, the Project Control Group (PCG), made up of the chairs/co-chairs of the working groups and other invited members, agreed that we have achieved our initial objectives with Tier One contractors but that the job was incomplete. There was a recognition that other parts of industry supply chain are yet to understand embodied carbon and their role in helping to practically achieve decarbonisation targets.

What was also recognised was that Tier One contractors were well ahead of government on their decarbonisation journeys, and that they were looking for clear and consistent signals from government around targets, guidelines and procurement specifications. Many Tier One contractors and larger material suppliers also recognised that to achieve their targets, particularly around their Science Based Targets (SBTi) and Scope 3 value chain emissions, they would need to work across their supply chain and also work collaboratively with other contractors in a pre-competitive forum such as MECLA. Hence the extraordinary generosity of in-kind knowledge sharing and support from across the industry.

Just as safety is now a pre-competitive non-negotiable for building and construction projects, so too will become decarbonisation skills assisting every part of the supply chain to understand its role, capabilities, expectations, and how to deliver against carbon budgets and projects and specifications.

MECLA's demand side working group (WG1) has a series of sub-groups designed to increase demand for low carbon materials and create a better understanding of the early decision making required to design out unnecessary embodied carbon through better design and through material substitution. A number of the working group's ideas such as a pledge-prerequisite, show me how to deviate, and industry readiness index, are all ideas that have been, or are being, tested by government agencies across different jurisdictions. Further work on upfront decision making on designing out carbon, and the role of financial institutions, are being considered as both are important levers for making significant changes.

Industry feedback on the material supply side has been the need for consistency of application of targets, risk sharing for innovation and experimentation, and standardisation of procurement expectations across multiple projects not just one-off *hero* projects. And this level of consistency will, over time, allow companies to invest in innovation and allow for investment at scale.

I-NSW launched its pilot capability survey last month to have a clearer picture of the capability of supply chain who provide to NSW Government projects. MECLA members were engaged in supporting the roll out of this survey and making sure it was asking the right questions of industry. Once the results have been interpreted a similar survey rolled out nationally would be useful to consider.



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MECLA members came together for our first *Nutcracker* workshop on industrial warehouses, which are growing exponentially across Australia, with a desire to use low carbon concrete but there are a range of barriers including perceived risks, lack of knowledge, unwillingness to try different things, etc. The 70+ people from across the supply chain coming together to address these barriers and find solutions to them was a major step forward. We hope to do more such targeted and intensive problem-solving sessions in the future.

What role can government play?

Governments across all levels have two broad roles to play. Firstly, by setting the overarching policy landscape to help drive change. Having targets that align with the Paris Agreement and Net Zero pathways and medium-term targets that help to lift ambition across the board. Ensuring that government departments have cross functional supervision and coordination seems vital also.

And secondly as procurers of services. As agents that procure services for the private sector, the government can play a fundamental role in shifting behaviour. A good example of this is the recent [Environmentally Sustainable Procurement Policy](#) which sends a clear signal to organisations wishing to provide construction services for the federal government that they must demonstrate embodied carbon savings. Other jurisdictions have introduced other policies, and we hope over time that these will be applied consistently.

An area where government can also play a significant role is in supporting capability uplift across industry sectors with training and skills development programs for professionals and people on tools. This area requires urgent attention and the development of a skills package. [The Carbon Curriculum](#) developed by the Institute of Architects, paid for by the government and available in the public domain, is a perfect example of the kinds of training needs to be developed across the industry. A core value of MECLA is supporting the rest of industry to play a role in a decarbonising future. Helping to upskill industry across tier 2 and tier 3 contractors, materials suppliers and local councils etc. will also be helpful to build capability across the sector. This requires not just policy, and not just investment in skills development but also understanding behaviour change and how to provide the right incentives (carrots) to make change attractive.

Local councils have responsibility for civil infrastructure that cumulatively amounts to large spend and carbon impact. MECLA has a sub-group for local councils under the demand side group made up of a small representation of councils from around Australia, primarily from NSW. Early on in the life of the sub-group the councils identified the need-to-know emissions factors, something that the NABERS embodied carbon project has now solved. Greater support for local councils will be important to support their decarbonisation commitments. While sustainability people within council might understand the importance of procuring low carbon materials and setting incentives for design specifications, their influence is minimal if they cannot engage their procurement managers who set specifications and civil engineers who sign off on projects. The ability to build resources and enable capacity uplift will be important as well. The NSW government is investing in such a program for NSW based councils but rolling

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this out across the 500+ councils Australia-wide will be vital. Key to this is being able to support regional councils to have access to low carbon construction materials over time as well.

This table gives an understanding of the MECLA intervention points, what has been achieved so far and what else is needed. While not a comprehensive list, it provides some guidance as to the next areas of intervention, particularly over the next 12-18 months.

MECLA INTERVENTION POINTS	ACHIEVEMENTS SO FAR	WHAT ELSE IS NEEDED – EARLY INTERVENTIONS
1. Demand side activating the low carbon supply of materials.	<ul style="list-style-type: none"> - Development and promotion of <i>Pledge Prerequisite</i> – adoption by SA Dept Transport - Development of deviation case studies – - Co-development of I-NSW capability statement - Industry input into the ASBEC policy paper being developed 	<ul style="list-style-type: none"> - Further roll out and adoption if considered useful. - Deviation case studies to be finalised and promoted - Rollout of industry capability survey across different jurisdictions
2. Embodied carbon evaluation framework	<ul style="list-style-type: none"> - Active support for the NABERS & Transport for NSW embodied carbon tool development 	<ul style="list-style-type: none"> - Testing and refinement of the NABERS tool - Promotion and sharing of the Transport for NSW emissions factors - Input into creating and road-testing solutions for access to affordable EPD development
3. Knowledge sharing through best practice education, case studies, myth-busting, demonstrations, and supporting innovation in materials and processes as part of a precompetitive approach.	<ul style="list-style-type: none"> - MECLA Dictionary of Embodied Carbon - <i>Spotlight</i> events recorded and available on-demand - <i>Deep Dives</i> to industry facilities - WG guides and information booklets across materials supply chain - Delivery of first <i>Nutcracker</i> on industrial warehouses 	<ul style="list-style-type: none"> - Capability uplift including Tier 2/3 contractors includes regular Spotlight events: more guides forthcoming for engineered timber, other materials and composites - Nutcrackers – hard problems to solve – in person workshops - Case studies that share experience, build confidence and bust myths

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		- Completion of <i>Action Guide</i>
4. Developing common language for design specifications, procurement guidelines and tendering criteria as standard practice for government agencies and companies.	- Guides to procuring low carbon materials: <ul style="list-style-type: none"> o Aluminium o Steel o Concrete o Others 	- Refinement of these guides: e.g. <ul style="list-style-type: none"> - Special purpose concrete - Completion of <i>Action Guide</i>
5. Managing industry's climate transition risks and skills development for steel, concrete, aluminium, other low carbon and innovative materials.	- Guides to procuring low carbon materials: Aluminium Steel Concrete Engineered timber	Refinement of guides <ul style="list-style-type: none"> - Concrete - Asphalt - Other guides - Completion of the <i>Action Guide</i> - Skills development incl investment in TAFE-NSW and work with industry associations (eg Engineers Australia; ...) - Recycled aluminium facilities in Australia – engagement with Australian Aluminium Council - Steel and iron manufacturing – transforming the steel supply chain through Australia - Concrete and Cement and Supplementary Cementitious Materials (SCMs) – - Low carbon recycled materials – Victoria's EcologiQ style of program (must include both policy and behaviour change component including risk sharing)



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		<ul style="list-style-type: none">- Circular economy incl design for disassembly, and other interventions.- Innovations to be explored with CRC partners incl Smartcrete, Building 4.0, DBI, etc.
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MECLA demonstrates the value of system-wide collaboration across industry, government and the research community to cut embodied carbon emissions. We encourage the Department to continue its program of engagement in the development of the policy landscape that will enable on going and long-term action to reduce construction and infrastructure emissions to a level consistent with the Australian Government’s Paris Agreement commitment. Momentum for change is building, but the right procurement settings and support programs are now needed to further this and to see tier 2 and 3 contractors and suppliers also taking action to cut embodied and operational emissions.

Thank you for the opportunity to contribute via this submission. We look forward to further collaboration between MECLA and the Department as this policy is refined and implemented.

Yours sincerely,

[Redacted signature]

Project Director, MECLA

[Redacted signature]

[Redacted signature]

[Redacted signature]

Chair MECLA

[Redacted signature]

[Redacted signature]

Level 3/45 Clarence Street Sydney NSW 2000

We are comfortable having this submission made public