Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:
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Infrastructure Sustainability Council

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Yes

5 First name
Mike

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Kilburn

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9 Who are you answering on behalf of?

Organisation

10 Organisation name

Not answered

11 What best describes you or your organisation?

Industry

12 What sector do you represent?

Infrastructure

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?

Yes

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

ISC Submission to Transport Infrastructure Consultation Roadmap 2 Aug 2024.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

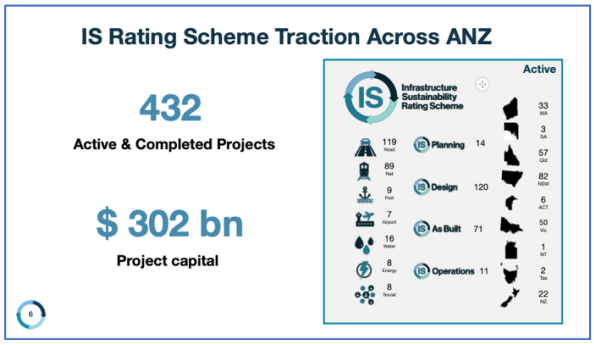
Department of Infrastructure, Transport, Regional Development, Communications and the Arts

Transport & Infrastructure Net Zero Consultation Roadmap
Submission of Infrastructure Sustainability Council

Introduction

The Infrastructure Sustainability Council (ISC) is a for-purpose organisation that has certified sustainability performance in infrastructure across Australia and New Zealand since 2012. We assess infrastructure assets across the full spectrum of the asset lifecycle and we measure impact across the quadruple bottom line of economic, environmental, social and governance. ISC is a member-based social enterprise that serves as the peak body for sustainable infrastructure.

The IS Ratings tools that certify infrastructure sustainability performance are widely recognised and mandated by jurisdictions and their associated delivery agencies ranging from States and Territories to municipal councils. ISC's direct contribution to improving the sustainability of infrastructure is reflected by the fact that ISC had registered 432 projects with a combined CAPEX of $308bn across Australia and New Zealand. Of these, the 74 completed projects since 2018 have delivered **verified and certified reductions in lifecycle carbon emissions of over 23 million tonnes.**



Resource Efficiencies

Resource Efficiencies across IS Certified As Built projects FY18-FY23 (74 projects)

	FY18	FY19	FY20	FY21	FY22	FY23	ALL	ALL
Lifecycle materials emissions avoided (tCO2e)	29%	7%	5%	10%	16%	30%	14%	1,209,214
Construction energy emissions avoided (tCO2e)[1]	-3%	-1%	-46%	24%	8%	31%	-0.28%	-9,002
Operating energy emissions avoided (tCO2e)	23%	9%	89%	5%	37%	44%	59%	22,107,606
Lifecycle energy emissions avoided (tCO2e)	22%	7%	85%	6%	27%	41%	54%	22,098,604
Construction energy use avoided (MJ)	6%	-7%	37%	40%	16%	16%	26%	4,381,767,066
Operating energy use avoided (MJ)	79%	8%	23%	4%	29%	37%	28%	74,519,235,739
Lifecycle energy use avoided (MJ)	74%	3%	23%	12%	28%	32%	28%	78,901,002,804
Construction water use avoided (ML)	0%	10%	47%	55%	18%	25%	35%	7,047
Operating water use avoided (ML)	47%	73%	49%	41%	25%	42%	38%	15,165
Lifecycle water use avoided (ML)	36%	52%	49%	49%	24%	36%	37%	22,212

[1] *Includes additional sources such as land use change and fugitive emissions*

The most recent recognition of the value of IS Ratings can be found in its inclusion in the Commonwealth Government's newly released Environmentally Sustainable Procurement Policy. Under that policy one of the metrics for suppliers to meet Australian best practice standards is to show they have achieved a verified IS Rating from the Infrastructure Sustainability Council.

The ISC has also led and/or collaborated in the development of a number of pieces of thought leadership that aim to establish the scale of infrastructure's carbon emissions, and identify pathways for addressing them. Most significantly, the widely referenced 2020 study by Climateworks, ISCA (now ISC) and ASBEC: *Reshaping Infrastructure for a Net Zero Emissions Future* notes that infrastructure accounts for some 70% of Australia's embodied, operational and enabled carbon emissions. As such Australia cannot reach Net Zero without addressing infrastructure. Other important papers that are relevant to this study and are available on the ISC website include: *A Net Zero future delivered through our infrastructure pipeline*, *Place-based Approach to Net Zero*, *Journey to Net Zero* and *Legacies that Last: Creating Social Value through Australia's Infrastructure and Built Environment*.

Q1. Do you agree with the proposed guiding principles

A qualified "yes". The five principles make sense, as far as they go, noting that:

Lack of key information for making informed recommendations

1 It is difficult to comment on the proposed actions to decarbonise the transport sector by 2050 when the document itself offers either limited or less accessible information on the following:

a) the Commonwealth Government's current understanding of the carbon footprint for transport in 2050 and the assumptions that underpin them. While there is some information in the reference documents and percentage estimates for various transport types, there is no single graphic in the report that shows the projected carbon footprint for transport in Australia out to 2050. Figure 8 maps vehicular emissions out to 2035, but not to 2050. Even if there is a low degree of certainty for the 2050 carbon footprint it would nonetheless be helpful to provide some indication along with the necessary caveats, ranges and assumptions.

b) There is no definition or pathway to net zero for infrastructure

c) It discloses almost no information on the actual or projected effectiveness of the current and committed measures to decarbonise transport. This is curious because where public resources have been allocated it is reasonable to assume that some assessment of the effectiveness (expected reductions, cost, co-benefits, assumptions, and therefore the value for money) of that public expenditure was part of the resource allocation process.

d) Without some indication of how the current programmes are performing against the five criteria, and how this affects progress against the baseline and towards the net zero target, it is difficult for respondents to determine which future programmes might be required or worth the investment required.

e) It does not disclose the expected effectiveness of the proposed measures to decarbonise transport. As above, it is difficult to comment on the proposed measures if the relevant information is not made available to the public in an easily digestible format.

f) Noting that each section of the consultation paper details a range of current and possible decarbonisation actions, it does not articulate how the measures proposed were selected for inclusion in the pathways as summarised in the table attached to the Executive Summary. More specifically there is no indication:
    i. Why there is no mention of avoidance in the pathway
    ii. Why the proposed pathway as outlined in the graphic accompanying the executive summary so heavily emphasises embodied carbon and technology-based solutions.
    iii. Why other existing Government, NGO and private sector initiatives that are referred to in the introduction of each section are not included in the pathway.

2 Without this information it is difficult to know how to respond both to Q. 1.1 and the follow-up questions in all of the following sections.

3 In summary it is hoped that the final version of the Net Zero Roadmap and Action Plan will:

a) Provide a projection of transport and infrastructure emissions out to 2050
b) Outline the contribution of the measures that are already being implemented in order to demonstrate what has been done, and how much more needs to be done to achieve net zero. It would be helpful to articulate the effectiveness of the current and committed measures according to the same five criteria proposed in this paper.
c) Provide an indication of the expected performance of the proposed measures against the same five criteria. ISC recognises that assessing the direct decarbonising impacts of certain

enabling measures may be problematic, but it would nonetheless be helpful to illustrate which of the principal measures the enabling measures are intended to support.

d) Present the proposed measures, especially avoidance measures, in the form of a marginal abatement cost curve, which would help the public to better understand the respective costs and opportunities of each of the proposed measures.

Q2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?

Yes, but ….

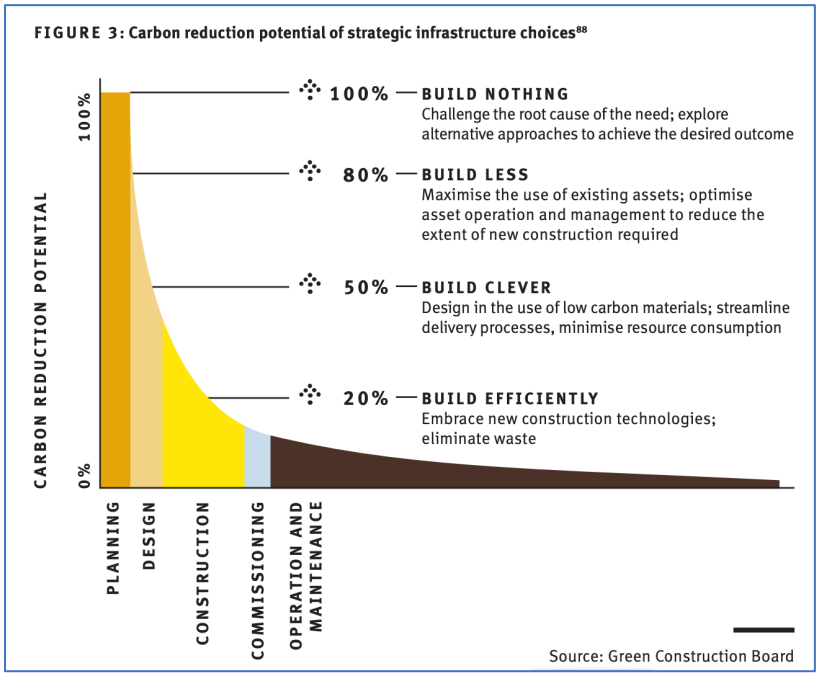
Limited emphasis on "Avoid"

Avoid-shift-improve is a standard approach for addressing environmental risk and as such is welcomed by the ISC.

It is curious therefore that so little emphasis is given in this paper to avoidance – specifically through policy development, demand management and behaviour change, national planning, and network, urban and precinct planning – especially since the paper acknowledges (p 73) that the early stages of the asset lifecycle offer the best opportunities for decarbonisation. ISC's thought leadership paper *Place-based Approach to Net Zero* articulates the key issue that might be considered.

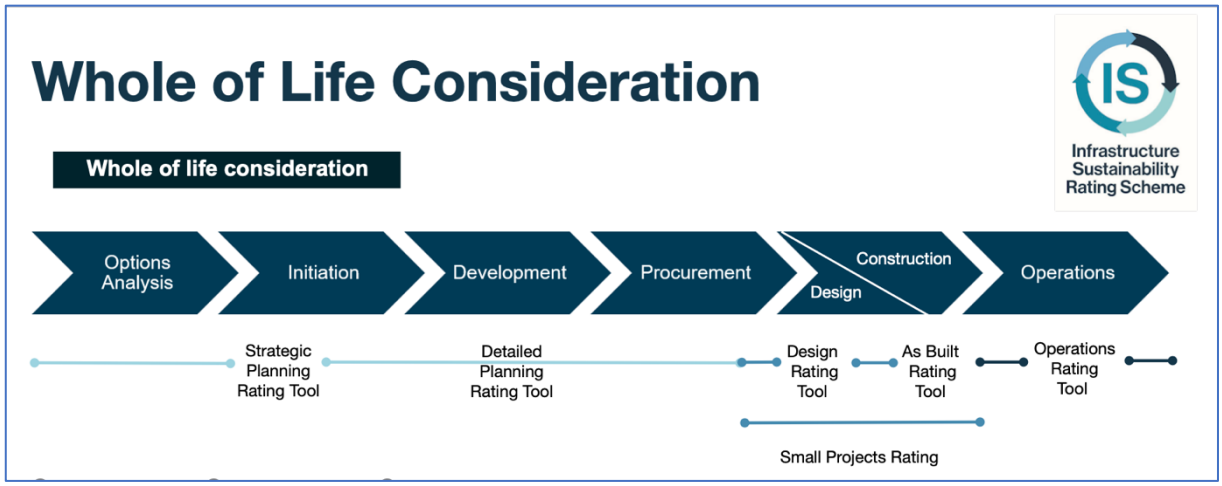
A structured approach to avoiding emissions

In particular we note that avoided infrastructure generates zero embodied, zero enabled and zero consumed emissions. It's also cheaper. This is why the ISC urges that measures addressing the earliest stages of infrastructure development should be explicitly included in the pathway.



We note that the ISC has recently launched IS Planning v2.1. This upgrade of IS Planning 2.0 (for which more than ten projects have already been completed) is specifically designed to support early-stage decision-making. By doing so organisations can seek smarter, more efficient solutions, and minimise project risks and costs whilst maximising asset returns and benefits. The IS Planning Rating also drives community and cultural engagement in project planning, guaranteeing assets are fit for purpose and meet local needs, enhancing organisational reputation and building stakeholder trust and support as required by a host of Commonwealth and State infrastructure development requirements – including the "five criteria" outlined in this consultation paper. Some of the specific benefits include:

1 Assesses project plans across the quadruple bottom line of infrastructure development: economic, social, environmental, and governance
2 Quantifies project opportunities and benefits, and identifies risks early in the project timeline
3 Empowers well-informed decision-making – whether to invest in or build an asset with consideration of whole-of-life impact
4 Stimulates a sustainable and innovative "beyond business as usual" project approach
5 Seamlessly transitions into project design and construction phases
6 Provides sustainability assurance across the entire infrastructure lifecycle
7 Builds the requirements for the tender phase and links planning with design to ensure clear articulation and handover of opportunities across the asset lifecycle
8 Provides a repeatable framework and sustainable structure for future projects



There are two components:

- ***Strategic Planning*** addresses demand identification and analysis, strategic options identification, assessment, and decisions. This component is particularly relevant to this consultation as it has been designed to align with Infrastructure Australia's business case assessment gateways, that now require embodied carbon to be priced in.
- ***Detailed Planning*** covers project options development and assessment, reference design development, scope definition, and procurement results in the strongest sustainability outcomes in the design, construction, and operational phases.

An IS Planning Rating can be applied to an individual asset or at a community or regional level. It can be applied to every infrastructure asset class and major works, including roads, pathways, rail, water, aviation, and maritime. Projects are scored through specific IS credits and achieve one of five performance ratings: Bronze, Silver, Gold, Diamond, or Platinum. Some of the jurisdictions and delivery agencies that have mandated use of the tool set a minimum expected performance rating.

ISC has recently launched and piloted IS Essentials for small infrastructure projects under $100m, with the specific intention of making it easier and more time and cost-effective for such projects to take advantage of the proven effectiveness of IS Ratings framework.

Recommendation:

Broaden consideration of the pathway measures to include proven and cost-effective enabling strategies that will support the initiatives that address clean fuels and low embodied carbon materials while remaining solutions agnostic by:

a) Mandating the use of IS Planning v2.1 for major infrastructure portfolios and for federally-funded infrastructure projects
b) Work with ASX and other financial regulators to extend the mandate to privately funded projects.

The ISC would be delighted to arrange a briefing to explain how this proposal might work in practice.

Q 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?

Yes

Q 4. What should be included in a national policy framework for active and public transport and how should it be developed?

Public and private transport infrastructure planning plays a key role in addressing demand for private car usage, and, by extension, private car emissions. The planning of public transport infrastructure (including shared use pathways and pedestrian zones, bus, ferry and train/tram/metro routes, stations and catchments can play an important role in cutting private car emissions, especially where this is made a priority in the development and re-development of towns and precincts. Such planning should also consider other behavioural incentives and disincentives such as provision and charging for private parking, park and ride facilities, low emission zones, bus lanes, and EV charging facilities.

Q 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?

It may be helpful to reframe the question to recognize that the movement of people serves the day-to-day interests of people, rather than emissions reduction. Answering instead the question "How can we decarbonise the way people move?" frames a more people-centred and place-based approach which is more likely to generate constructive dialogue and solutions that communities might welcome. Please refer to *Place-based Approach to Net Zero*

Q 6. The Australian Government has already engaged in consultation on the 2023 review of the National Freight and Supply Chain Strategy and those consultations will also inform the final Roadmap and Action Plan. 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?

6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?

Once again, the framing of the question is curious. It may be helpful to reframe the question to recognize that the movement of goods is an economic activity rather than an emissions reduction programme. Answering instead the question "How can we decarbonise the way we move goods?" frames an approach which is more likely to generate constructive dialogue and solutions.

Q 7. Do you agree with the proposed net zero pathway for light road vehicles?

Q 7 Answer: No. The pathway makes no reference to the role of transport infrastructure planning and other demand management tools which are important drivers of behaviour change.

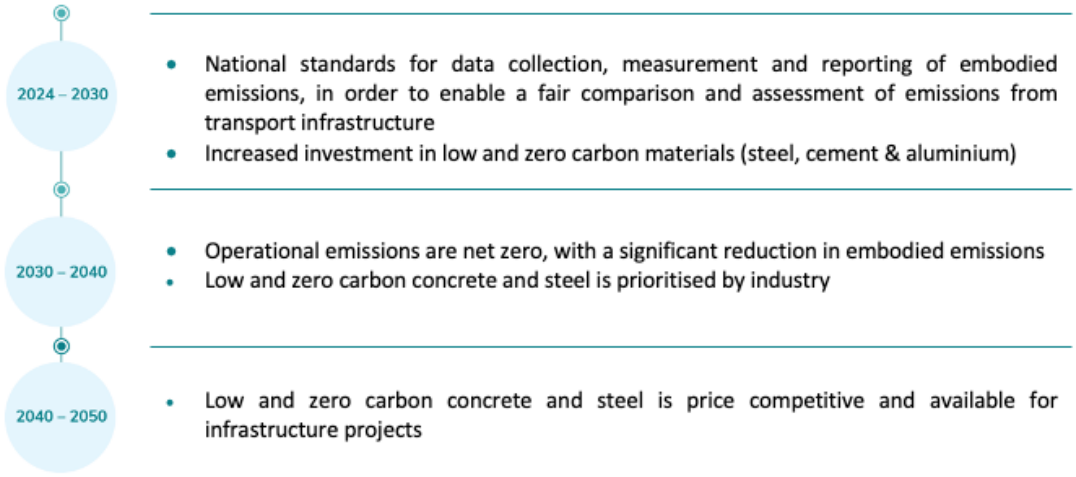
Q 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Q 12.1. How would these actions address the identified challenges and opportunities to reduce heavy vehicle emissions?

There is no mention in the paper of non-road mobile machinery (NRMM), which generates significant emissions during the construction phase of building and infrastructure projects. Insight into decarbonising NRMM can be found in Stepping Up the Pace: Fossil Fuel Free Construction, published by LendLease and the University of Queensland in 2022. This paper also provides useful detail on the preferred measures, expected rate, and challenges of transition.

21. Do you agree with the proposed net zero pathway for transport infrastructure?

Figure 20: A net zero pathway for transport infrastructure



Q 21 Answer: Yes, as far as it goes.

Q 21.1. Please add details to your response.

Q 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?

Lost opportunities in the focus on embodied emissions
The exclusive focus on reducing embodied emissions outlined in the pathway fails to recognise the importance of enabled and operational emissions and the opportunities to reduce all emissions through avoidance, "build nothing" options and early-stage planning.

1 Embodied emissions are an important component of the emissions associated with transport infrastructure. We note that a significant proportion of these emissions will be addressed by grid decarbonisation.
2 We further note that the IPCC is rapidly evolving its work to understand the capacity of concrete to re-absorb carbon from the atmosphere. Developing a better understanding of how this will affect the emission factors of different classes of concrete will be highly relevant for the decarbonisation pathways of both the buildings and infrastructure sectors.
3 Assessment of embodied emissions in the business case of major infrastructure projects as proposed by Infrastructure Australia, Infrastructure New South Wales and Infrastructure Victoria will support the process of decarbonising infrastructure. Such assessments are welcomed, but would support the decarbonisation objective more effectively if carbon was priced higher, as it is in a number of other jurisdictions.
4 Comparison of the embodied emissions in materials will not on its own be sufficient to decarbonise the materials required, nor will it help to address the wider emissions associated with transport infrastructure, including operational and enabled emissions.
5 There is insufficient detail on the measures proposed and their adequacy for achieving net zero and the other policy objectives for infrastructure to provide a properly informed response on the proposed measures (please refer to our response to Q1)

Rebalancing risk within delivery agencies and across the supply chain
While embedding carbon in business case evaluation will encourage project proponents to encourage the use of low embodied emissions materials, this will not necessarily ensure low carbon

materials are used in such projects because the tendering process of an approved project is not necessarily connected to the business case.

Leveraging the precedent established by VIDA, Recycled First and EcologiQ.

a) An example of how active investment in encouraging and enabling the use of low carbon materials in tenders can be found in the establishment of ecologiQ to support implementation of the "Recycled First" policy by the Victorian Infrastructure Delivery Agency (VIDA). While this is not explicitly a carbon reduction policy, it is well understood that recycled materials have lower embodied carbon than virgin materials.

> *"The Recycled First Policy supports the Victorian Government's circular economy strategy, Recycling Victoria – a 10-year plan to overhaul the state's recycling sector, grow domestic recycling capabilities and fuel innovation.*
>
> i. *Since March 2020, all tenderers on Victorian major transport projects have had to demonstrate within their bid how they will optimise the use of recycled and reused materials at the levels allowed under current standards and specifications.*
> ii. *Tenderers can also identify opportunities to trial new innovative products or opportunities to boost recycled and reused material quantities within existing standards and specifications.*
> iii. *Successful tenderers must report against their Recycled First commitments during delivery. This ensures recycled and reused materials are considered over virgin materials and will divert valuable materials from landfill.*
> iv. *The Recycled First Policy allows for continuous improvements to transport standards and specifications and research and development. It will develop new markets and create greener, more sustainable transport infrastructure outcomes."*

b) It should be noted that the participants in two ISC focus groups on recycled content and circularity in the infrastructure sector that were conducted in March 2024 were strongly supportive of the approach adopted by VIDA and ecologiQ. The ISC commends this approach to the Commonwealth Government as a proven effective strategy that has been embraced by the market and that could be rolled out in other jurisdictions.
c) Furthermore, the lessons of how the process was established to encourage the use of recycled materials might also be applied more widely to encouraging the use of low emissions materials and techniques in both the infrastructure and buildings sectors.
d) Noting the focus on different subsectors of this consultation paper ecologiQ also provides further specific guidance for roads, rail and ancillary infrastructure.

The underlying challenge that the VIDA/ecologiQ model addresses is the question of who carries the risk for the development, approval and use of innovative materials and techniques. This is not only a question of transferring risk from the construction sector to the delivery agency, but realigning the risk of supporting innovation for the frontline decision-makers in procurement teams within the delivery agency.

Recommendation:

a) ***Training and empowering delivery agencies' procurement teams to write and conduct tenders that encourage and properly evaluate materials with low and high emissions*** is essential to low emissions materials being used in transport infrastructure projects under their responsibility, and thereby reducing the embodied emissions in infrastructure projects.

b) This empowerment should include ***a structured review of the building codes and materials standards*** which are typically applied by procurement teams in the selection of materials and project designs such that they take into account technological advances which could lead to reduced quantities and improved methods being applied to infrastructure projects. Consultation with the infrastructure construction sector to identify and prioritise obsolete standards that would most benefit form review and updating has been recognised by the infrastructure sector as a clear opportunity to improve the take-up of low emissions materials and practices. We commend

this proposal to the administration for consideration. This review, and the anticipated modernisation of key standards that may follow, would:

i. empower tender drafting and assessment teams to encourage inclusion of low emissions materials and practices
ii. materially improve market conditions for the suppliers of low emission materials and practices procurers of the same, and thereby
iii. encourage further investment, availability and proficiency in their application.

Recognising that the core materials for infrastructure (steel and concrete) are also the most carbon-intensive materials used by the buildings sector, the benefits of this initiative would serve more than one sector pathway and its cost-effectiveness should be evaluated accordingly.

We further note that the ISC has recently connected the Australasian Procurement and Construction Council and the Commonwealth Sustainable Procurement Advocacy and Resource Centre, who have both expressed interest in exploring this recommendation further.

Q 22.1. How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?

We note the following challenges identified :

> **"Limited data.** The measurement of emissions from transport infrastructure projects is currently limited. There is no nationally consistent means to measure the emissions from infrastructure projects and no central body where emissions are reported to, to track and compare emissions across projects and jurisdictions. National standards should be set on data collection, measurement and reporting, in order to enable a fair comparison and assessment of emissions from transport infrastructure."
>
> **Greater harmonisation of approaches**. ATAP, Austroads, the National Transport Research Organisation (NTRO) and other national and state-based organisations have been developing standards and guidelines to support infrastructure decarbonisation. However, there is a need for greater national consistency to encourage industry and delivery partners to commence low emission infrastructure practices immediately. A nationally harmonised approach across sectors and jurisdictions would help provide industry with clarity and reduce costs."

The ISC has developed and manages the IS Ratings system as a nationally consistent means of measuring and reducing emissions and other impacts of infrastructure projects and the entire asset life cycle that is consistent across jurisdictions and subsectors. We further note that the Federal Government has mandated the use of IS Ratings for all projects Moreover, numerous jurisdictions, delivery agencies and large organisations have mandated the use of IS Ratings set out below:

ANZ Traction and Mandating

The most progressive government agencies, state-owned entities and private asset owners mandate IS based on capex thresholds ranging from $2m to $100m.

Location	Agency	Mandating thresholds / requirements
NZ	Waka Kotahi New Zealand Transport Agency	All capital works projects >$15m
	City Rail Link Ltd	ALL projects in program
NSW	*Dept of Planning Industry Environment*	ALL Critical state significant infrastructure
	Transport for NSW	Mandate Threshold Currently Under Review
	Queanbeyan Palerang Regional Council	ALL projects >$2m
QLD	State Infrastructure Plan	ALL projects >$100m
	Transport and Main Roads	ALL projects >$100m
	Dept State Development, Infrastructure Local Government and Planning	Stage 3: Detailed Business Case & Infrastructure Strategy
	Brisbane Olympics 2032	Mandated – Threshold under Review
WA	Main Roads WA	ALL projects >$100m
	Office of Major Transport Infrastructure Delivery	Metronet program (Select Projects)
	Infrastructure Western Australia	Infrastructure Strategy *all infrastructure over $100m*
ACT	State policy	ALL project > 10m
SA	Dept of Infrastructure and Transport	ALL projects >$100m
VIC	Major Roads Projects Victoria	ALL projects >$100m
	Level Crossings Removal Authority	ALL projects in program
	Rail Projects Victoria	ALL projects in Melbourne Metro program
	North East Link Project	All projects in program
	City of Casey	Capital works projects
NT	Department of Infrastructure Planning and Logistics	Infrastructure Strategy
AU	Transurban	All capital works projects >$100m

7

Source 2023 Impact Report, ISC

The first four lines of the table below sets out the verified avoided emissions from the materials and energy during consumed in the construction, operating and lifecycle components of 74 infrastructure project between FY2018 to FY2023.

Resource Efficiencies

Resource Efficiencies across IS Certified As Built projects FY18-FY23 (74 projects)

	FY18	FY19	FY20	FY21	FY22	FY23	ALL	ALL
Lifecycle materials emissions avoided (tCO2e)	29%	7%	5%	10%	16%	30%	14%	1,209,214
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Operating energy emissions avoided (tCO2e)	23%	9%	89%	5%	37%	44%	59%	22,107,606
Lifecycle energy emissions avoided (tCO2e)	22%	7%	85%	6%	27%	41%	54%	22,098,604
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Operating energy use avoided (MJ)	79%	8%	23%	4%	29%	37%	28%	74,519,235,739
Lifecycle energy use avoided (MJ)	74%	3%	23%	12%	28%	32%	28%	78,901,002,804
Construction water use avoided (ML)	0%	10%	47%	55%	18%	25%	35%	7,047
Operating water use avoided (ML)	47%	73%	49%	41%	25%	42%	38%	15,165
Lifecycle water use avoided (ML)	36%	52%	49%	49%	24%	36%	37%	22,212

[1] *Includes additional sources such as land use change and fugitive emissions*

Source 2023 Impact Report, ISC

Opportunities for materials emissions reductions are found through the initial choice of infrastructure type to address the identified social need, the design solution selected, innovations in construction processes and materials manufacturing processes, and use of recycled materials. It is also noteworthy, recognizing the need for trusted data to underpin any large-scale government policy initiative that a global review of sustainability ratings tools by Stanford University and WWF: State of the Practice: Sustainability Standards for Infrastructure Investors recognized the ISC Ratings as the most rigorous in its requirement for third party verification and assessment.

Figure 7: Assessment Verification Requirements and Result Aggregation

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