

The Heavy Construction Materials Industry and Australia's Transition to a Low-Carbon Future

VIC Major Projects Conference
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About CCAA

Cement Concrete & Aggregates Australia is the voice of the heavy construction materials industry in Australia.

CCA membership supply around 90% Australia's cement, concrete & aggregates used to build infrastructure.

The industry generates approximately \$15 Billion in annual revenues and employs approximately 30,000 Australians directly and a further 80,000 indirectly.





Strategic Summary

OUR ROLE

- Influencing the political, regulatory and market environment to ensure growth of the industry
- Supporting the industry's licence to operate
- Leading the understanding of our industry and its vital role in society

STRATEGIC PRIORITIES

- Advocacy & Reputation
- Resource Access, Security & Efficient Logistics
- Sustainability & Decarbonisation

Foundation Members



Members





Associate Members



Summary

The Australian Cement and Concrete Sector – Key Facts

5 Integrated cement plants in Australia which produce clinker and cement as a continuous process.

60% of the cement manufactured in Australia is produced in integrated manufacturing plants

40% of cement involves the use of clinker which is imported and manufactured into cement at grinding facilities located around Australia's coastline

30 million m³ ready-mixed concrete produced annually in more than 1,500 batching plants across Australia

40% of all concrete is used for infrastructure projects

30% of all concrete is used for commercial and non-residential buildings

30% of all concrete is used for housing

80,000 people are indirectly employed in the whole cement, concrete and aggregate sector, compared to 30,000 who are directly employed

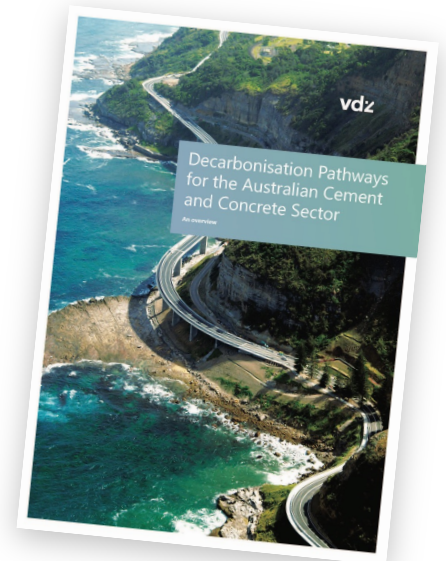
A\$15 billion revenue is generated by the cement and concrete sector

Background

In 2021, the Cement and Concrete industry declared its ambition to deliver net zero carbon cement and concrete to Australian society by 2050.

Decarbonisation Pathways for the Australian Cement and Concrete Sector (2021) has enabled a better understanding of the technologies and practices necessary to decarbonise Australian cement and concrete.

Eight Decarbonisation Pathways were identified.



Decarbonisation Pathways for the Australian Cement and Concrete Sector Report (2021)



EIGHT DECARBONISATION PATHWAYS HAVE BEEN IDENTIFIED



Zero emission electricity and transport

Innovation through design and construction

Continue to further innovate concrete

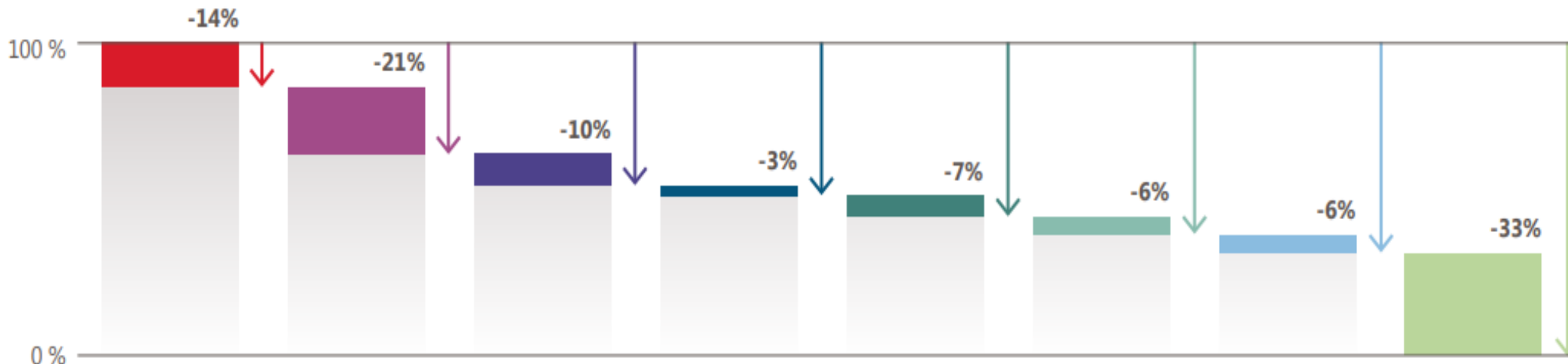
Use of supplementary cementitious materials in concrete

New CO₂ efficient cements

Use of alternative fuels and green hydrogen

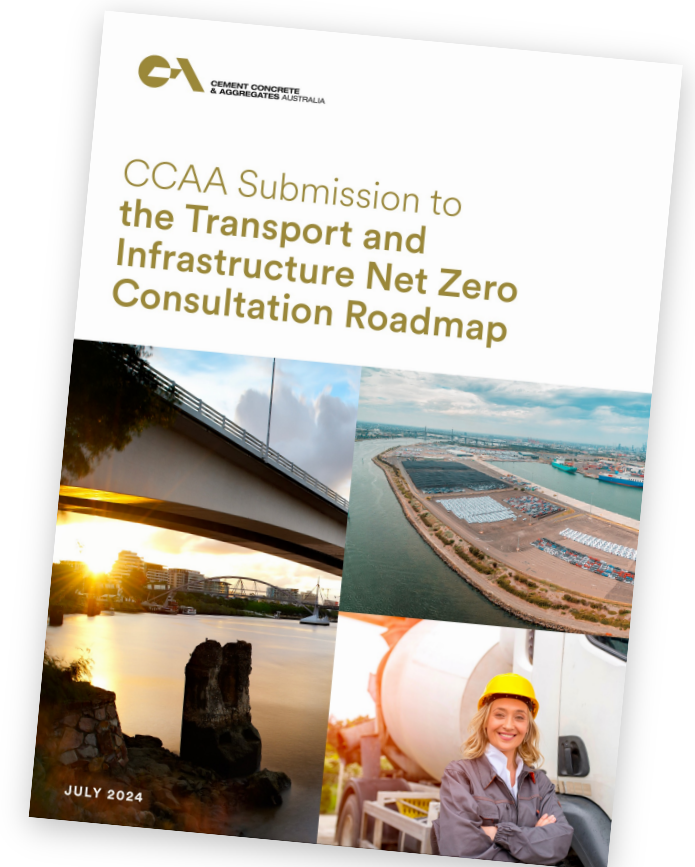
Account for concrete to uptake CO₂

Capture remaining CO₂



CCAA's submission on the Transport and Infrastructure Net Zero Consultation Roadmap

- Whole-of-Life Carbon Approach
- Revised Standards
- Adopting Global Practices
- Material Efficiency
- Supplementary Cementitious Materials
- Supporting EPDs
- Training and Information
- Support for zero-emission vehicles (ZEVs) in the concrete supply chain, incentivise industry adoption of ZEVs, and upgrade road infrastructure to accommodate these vehicles.



Whole-of-life approach



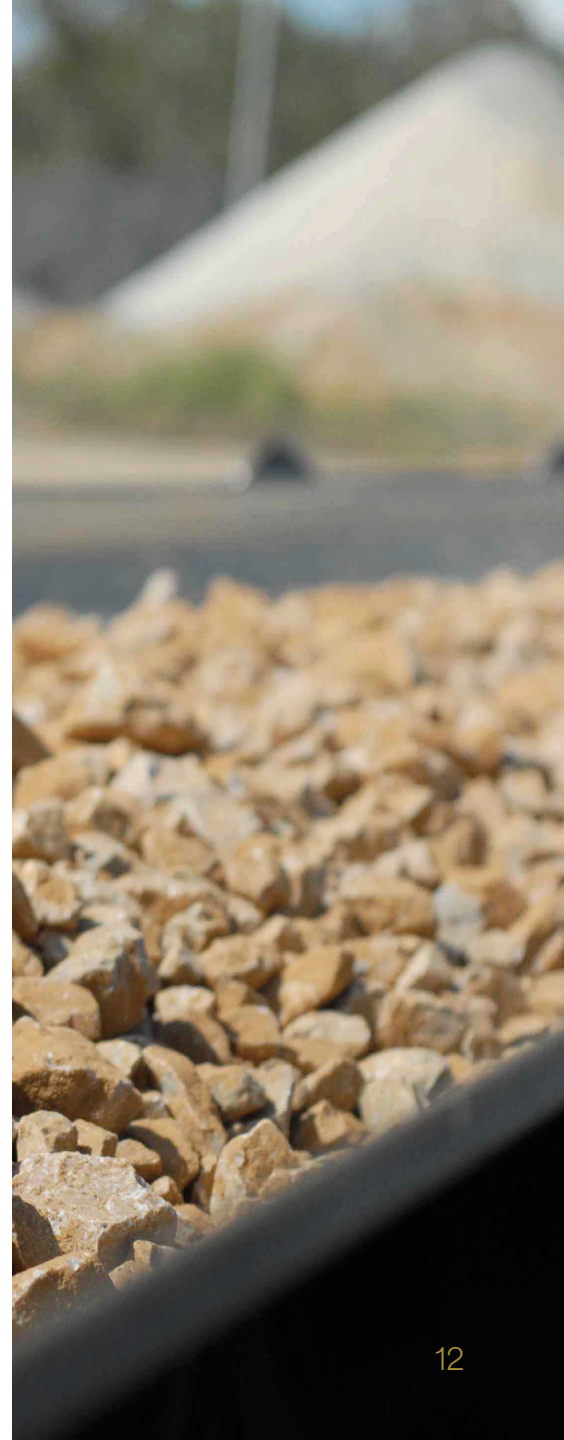
That all Government projects take a whole-of-life approach to planning, design and carbon estimates to ensure a more accurate representation of carbon, in the same way whole of life financial accounting is used today.



Redesign of standards



That the Federal Government encourage state and territory jurisdictions to support the redesign of standards that facilitate decarbonisation, such as changes to AS3972-2010 (General Purpose and blended cements). Without substantive changes to these Australian Standards and to State transport agency specifications, decarbonising of transport infrastructure will be limited more than the technology allows.



Overseas best practice



That the Infrastructure and Transport Ministers Meeting mandate the fast tracking of standards and specification changes by adopting standards and practices from the US and Europe.



Design



That all governments promote the design of building and infrastructure that includes a clear focus on material efficiency, specifying lower carbon concrete and improved construction technologies.



Performance-based specifications

That state/territory governments work towards performance-based specifications, away from specifying minimum amounts of Portland cement, and therefore promote the greater uptake of Supplementary Cementitious Materials (SCM) such as Fly Ash and Blast Furnace Slag.



Environmental Product Declarations



That the Federal Government introduce a national grant program, similar to the USA Environmental Protection Agency Scheme to support businesses that manufacture concrete to develop and verify Environmental Product Declarations (EPDs).



Education and training



That the Federal Government in conjunction with State and Territory governments provide training and information across the supply chain on how to use lower carbon concrete, as lower carbon concretes do not respond exactly the same as traditional concretes and pushback from project managers, contractors and placers are regularly resulting in higher carbon concretes being substituted over those originally specified.



Tied Funding



That the Federal Government financially incentivise State and Territory Governments for their “as built” infrastructure to meet their carbon targets for Federally funded infrastructure projects, to discourage alternative higher carbon concretes from being substituted by designers, project managers, contractors and sub-contractors;



Case studies



That the Department of Infrastructure, Transport, Regional Development, Communications and the Arts in conjunction with their state counterparts promote and provide case studies for projects that have used lower carbon cements, low carbon concretes and recycled materials;



Circular economy



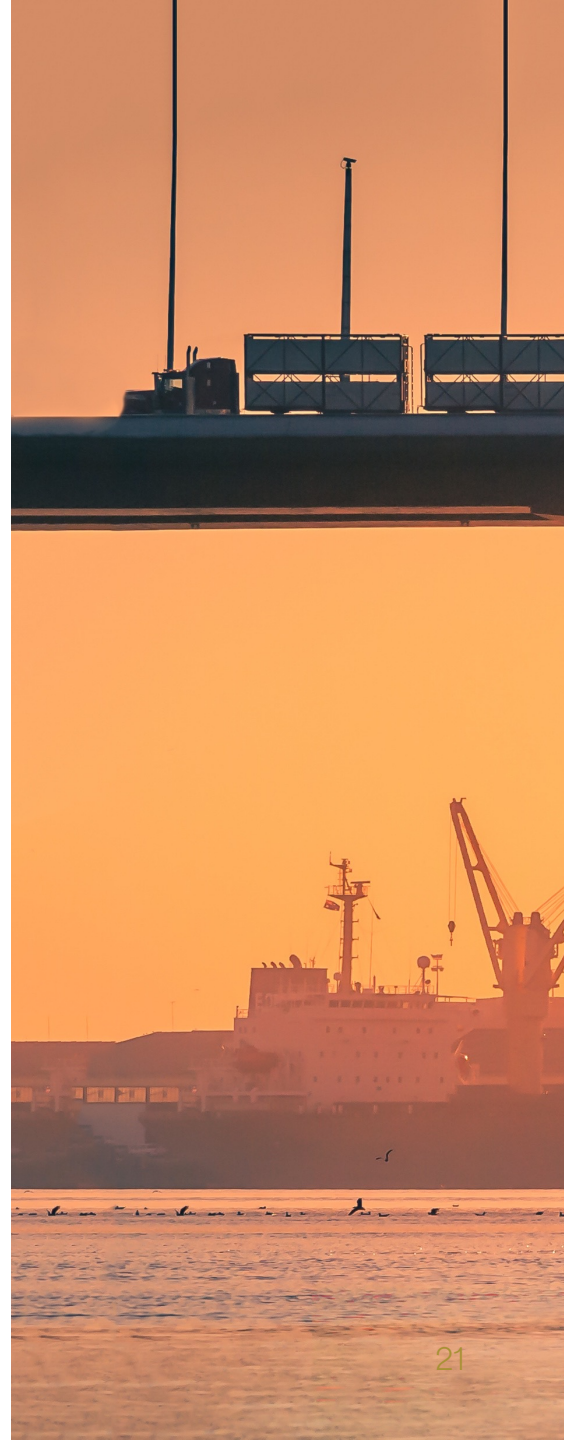
That the appropriate Government agencies measure more categories of construction and demolition waste to landfill and so allow for a better understanding of how much concrete is being disposed of rather than being reused or recycled.



Infrastructure upgrades



That the Department of Infrastructure, Transport, Regional Development, Communications and the Arts identify the extent of road infrastructure upgrades that are required to meet the needs (particularly higher axle loadings) of different types of low and zero emission vehicles.



Heavy vehicle access



That Infrastructure and Transport Ministers determine policy settings for allowing heavier zero emission concrete and aggregate delivery trucks on to every residential street in Australia, to give a clear investment signal to industry as to what types of low and zero emission heavy vehicles will be viable in the medium and long term.



Zero Emissions Vehicles



That the Federal Government set out a plan and timetable for rolling out the infrastructure that would conveniently permit the refuelling of ZEVs, irrespective of whether they are electric or FCEV (hydrogen powered) vehicles throughout the entire Australian road network.



Incentivise ZEVs



That the Federal Government develop incentives for industry to take up ZEVs for use in the concrete and concrete related product supply chain.



Biodiesel



That the Federal Government investigate the viability for biodiesel to be a transitional fuel to ZEV, given it is compatible with existing plant while potentially delivering a 60% reduction in CO₂; and



Heavy Construction Materials Supply Plans



That the Federal Government encourage State Governments to establish Heavy Construction Materials Supply Plans and appropriate protections to ensure aggregate and sand resources close to demand can be protected, to minimise transport distances and associated emissions.



Thank You!

For more information go to [cca.com](https://www.ccaa.com)