CEMENT CONCRETE & AGGREGATES AUSTRALIA

Affordable & Sustainable Infrastructure for Western Australia

WA Major Projects Conference

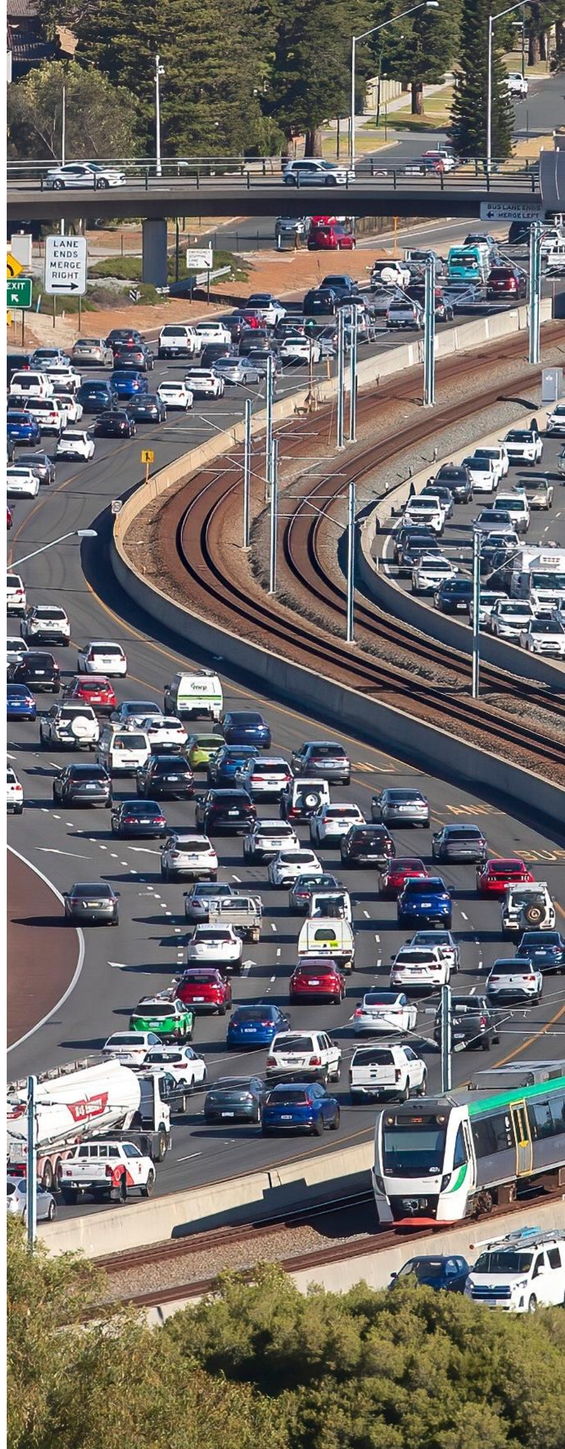
Jason Kuchel | CCAA State Director WA, SA, NT &
National Director Technical Policy

About CCAA

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

CCAA 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.



Foundation Members

Members


ADBRI Quarries
ALSAFE PRE-MIX CONCRETE
B&J Catalano
BAROSSA QUARRIES
BARRO GROUP
BAXTERS
BENEDICT
BRACALBA QUARRY
Broadway & Frame
BYRNE BROS. CONCRETE
CAMM GROUP
CCS GROUP
CQ
CLAY & MINERAL
CB CLEARY BROS
CoastalSands
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DARACON Group
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DUGGANS
ElvinGroup
ENTIRE CONCRETE
EZIWAY CONCRETE
flyash AUSTRALIA
Fulton Hogan
GADTECH
Quarry - Concrete - Crush - Haul
GUNLAKE CONCRETE
HALLETT GROUP
hazellbros
HILLVIEW QUARRIES
Hymix
HY-TEC
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KAYASAND
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Get Exposed with...
Mentone PRE MIX
Metromix
MSD CONSTRUCTIONS PTY LTD
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P.E. FORMATION
Pilatti Bros Transport
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Concrete
PILCHERS CONCRETE
For professional service.....
PNQ
Pioneer North Queensland Pty Ltd
Q-crete pavers
QUARRICO
Queanbeyan PRE-MIX CONCRETE
RIVERSIDE INDUSTRIAL SANDS
RNB TRADING PTY LTD
rmc
SANTOS READY MIXED CONCRETE
southern cross cement
Southern Pacific Sands
QUALITY SANDS & CONCRETE
STONEY PINCH
QUARRY & EARTHMOVING
Sunstate Cement ltd
SMC CONCRETE QUARRIES
SUPERMIX CONCRETE & QUARRIES
Sydney MINICRETE
9624 4900
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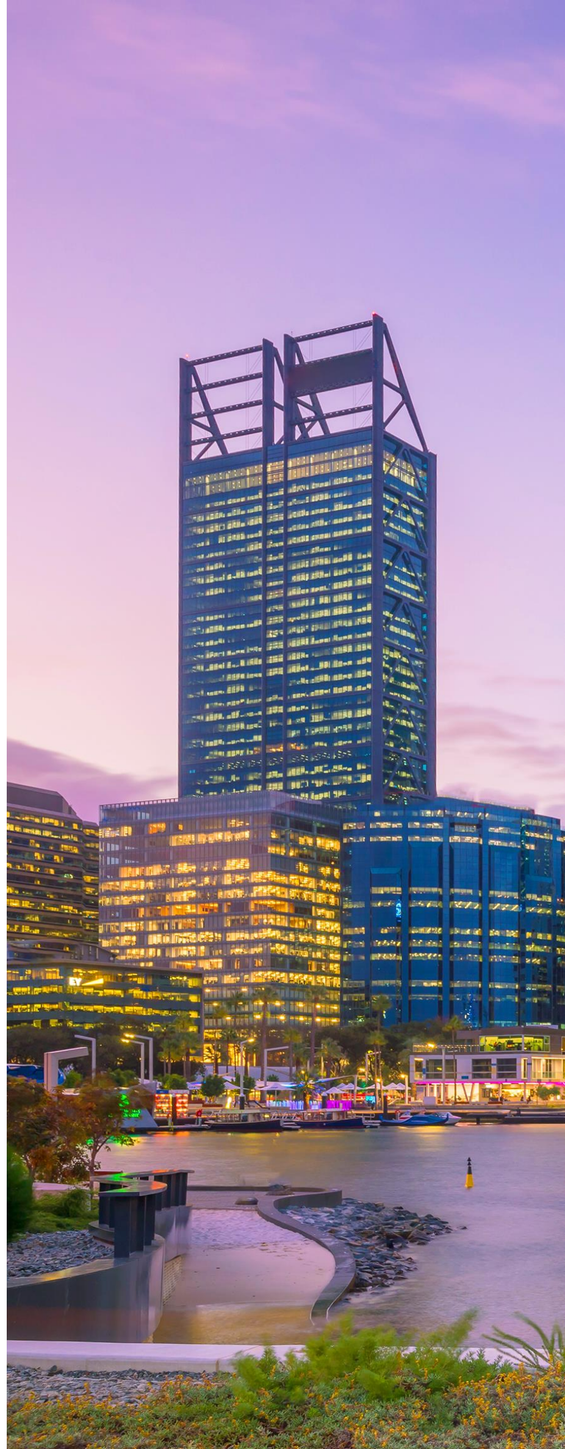
THE HOLT ESTATE
TRELOAR
Urban Resources
W.A. LIMESTONE
W.A. PREMIX
WAGNERS
CONTRACTING
WALLAROO
WSC
WESTERN SUBURBS CONCRETE

Associate Members

Infrastructure Australia Market Capacity Report

Key Metrics

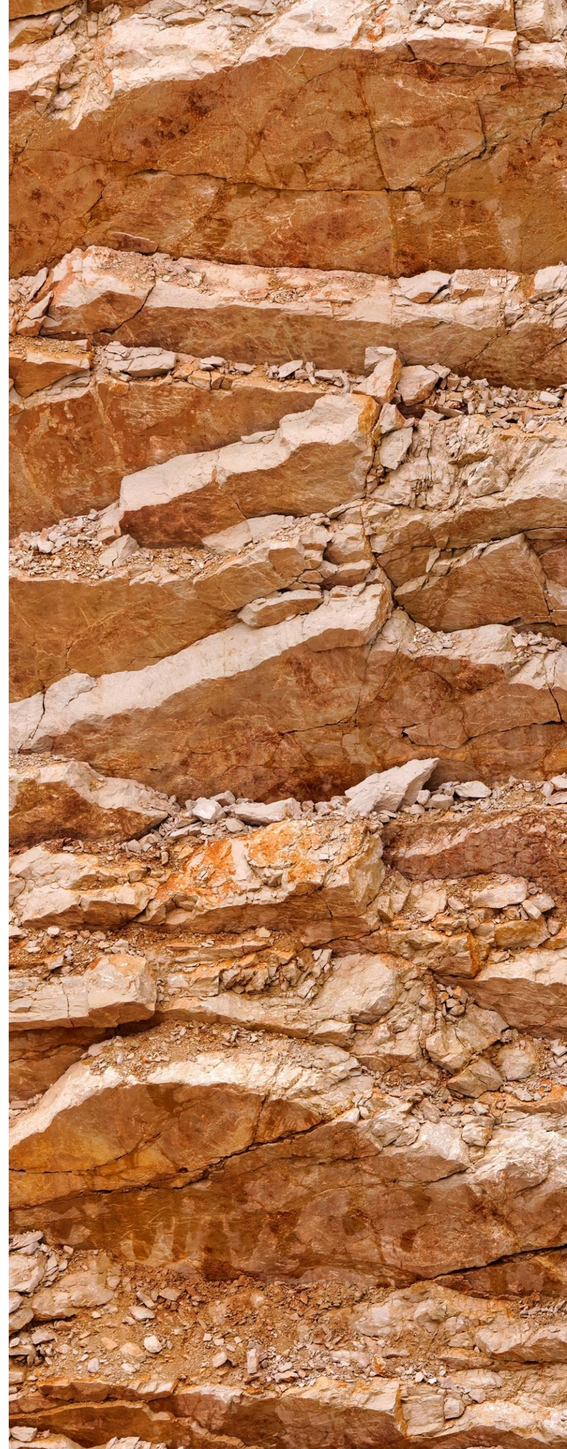
- $213bn in Infrastructure over next 5 years
- 1.2 million new homes by 2029
- Already 15,000 homes behind national housing target
- Energy sector to quadruple



Infrastructure Australia Market Capacity Report

IA’s Chief Executive Adam Copp said:

- “demand for building materials, skills, and labour is at a historic high”
- “increasingly difficult to source key building materials and workers”
- “limited access to local steel and cement, as well as localised shortages of quarry products is contributing to price uncertainty in the supply chain, leading to delays and cost overruns”
- “acute quarry shortages loom in Melbourne, NSW’s Mid North Coast and South East Queensland”



Extractives are critical to affordability…

EVERY AUSTRALIAN
needs **8 TONNES** per year of stone, sand, gravel and cement to build the roads, houses and other infrastructure

HIGH RISE BUILDINGS
use up to **1,000 TONNES** of aggregate per floor

HIGHWAYS use
14,000 TONNES
of aggregate per km

WIND FARMS
use up to **1000m3** of concrete per tower

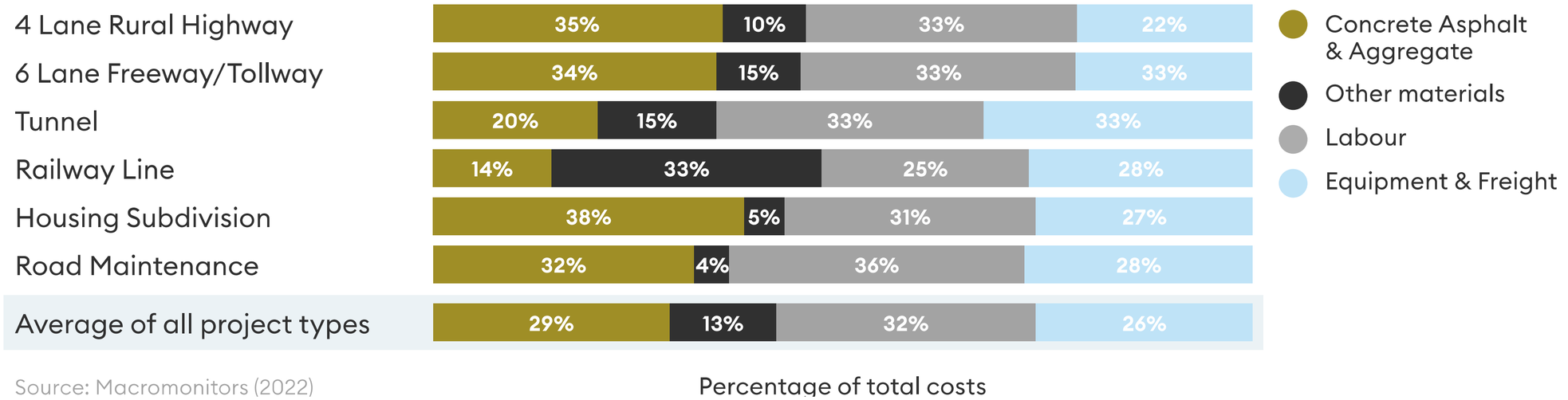
AVERAGE NEW HOME uses **110 TONNES** of aggregate and over **50m3** of concrete.

CAPABLE LOCAL SUPPLY CHAIN
Local industry, supporting local jobs on local projects in their local communities.

HEAVY CONSTRUCTION MATERIALS average
29% OF PROJECT COST

Extractives are critical to affordability…

ESTIMATED PROPORTIONS OF TOTAL PROJECT COSTS BY TYPE OF PROJECT

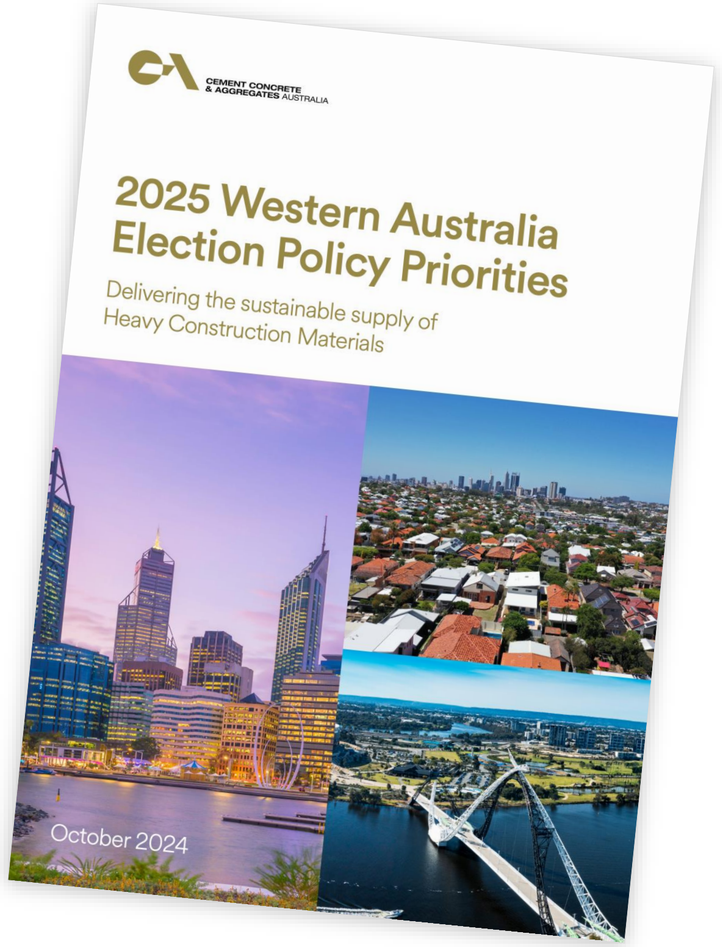


Source: Macromonitors (2022)

WA needs a Heavy Construction Materials Plan

Why?

- A long, slow, complex development approvals process across multiple government agencies
- Encroachment of state significant quarry resources and key concrete batch plants by incompatible land uses.
- Prescriptive standards and specifications acting as barriers to the increased use of innovative materials that will decarbonise the economy.
- Port and road access bottlenecks that potentially limit clinker imports & high quality silica sand exports.
- Natural sand reserves under pressure
- Risk of travel distances growing…. Increasing costs, embedded carbon & requiring more trucks and drivers



WA needs a Heavy Construction Materials Plan

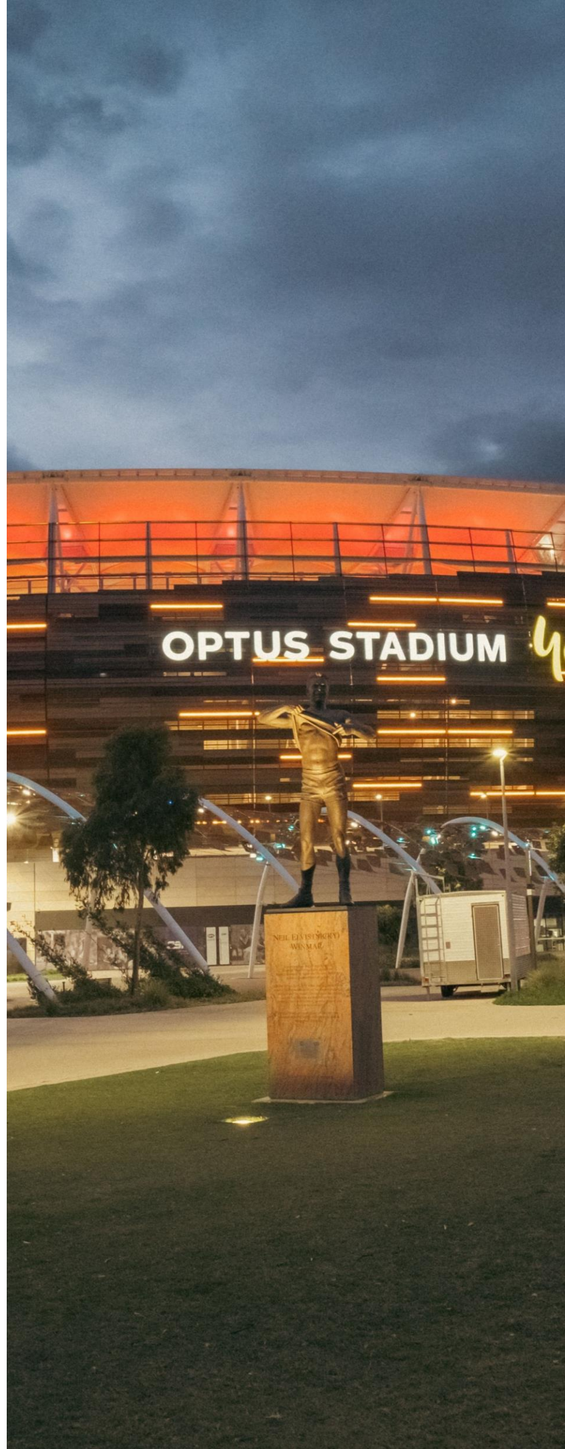
What?

- Establish a Quarry Approvals Coordinator to navigate joined up approvals and resolve approval roadblocks across State & Local Govt.
- Regular supply & demand data collection and analysis to better plan for efficient and economical infrastructure project delivery.
- Stronger planning protection for strategic extractive resources.
- Protect key concrete batch plants and quarries from encroachment.
- Fast track the introduction of the Recovered Materials Framework, including C&D, fly ash, lithium byproduct and incinerator bottom ash.
- Remove barriers for lower carbon concrete by moving from prescriptive to performance-based specifications.
- Enable a streamlined environmental and development approval process.
- Support the introduction of lower carbon cement standards.

Decarbonisation

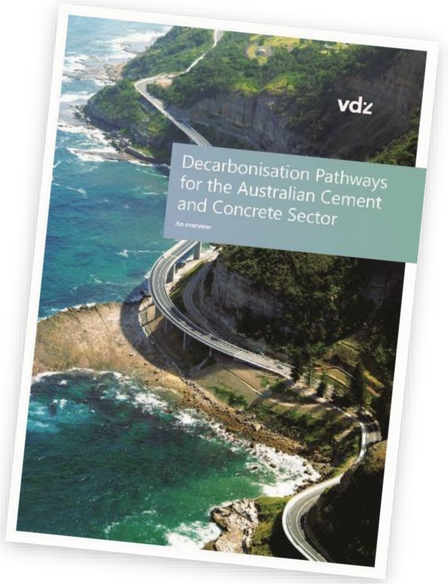
Key Ingredients

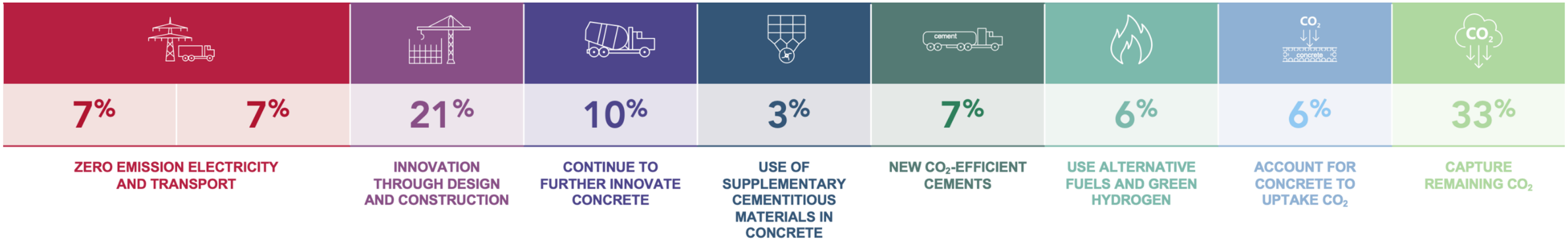
- Cement & Concrete Decarbonisation Pathways Report
- Industry Decarbonisation Facilitation Plan
- Govt. Sustainable Procurement Policies
- Changes to Australian Standards and agency specifications



Decarbonisation

Cement & Concrete Industry Decarbonisation Pathways Report





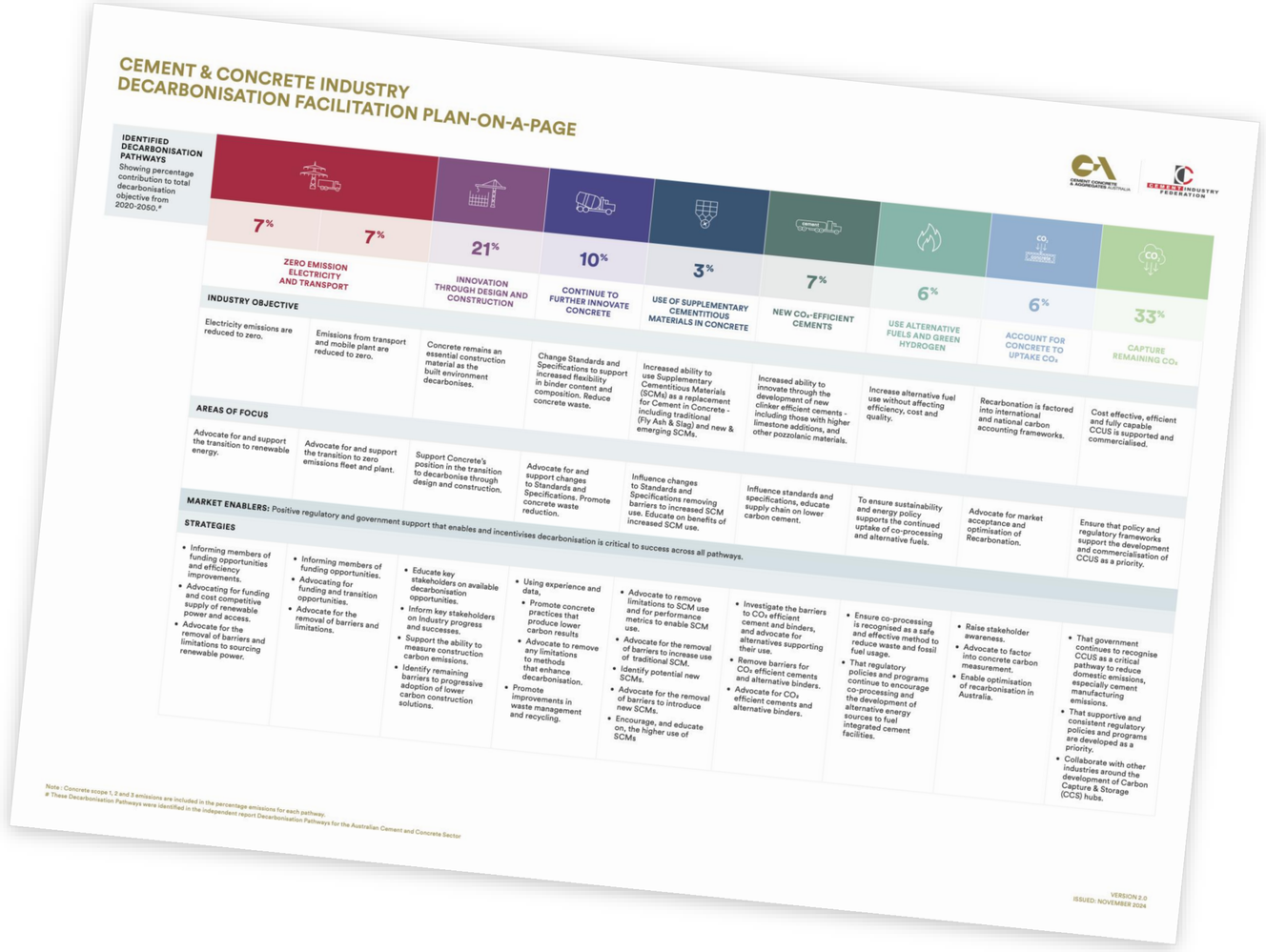
This independent report was released in 2021, following the Australian cement and concrete industry declaring its ambition to deliver net zero carbon cement & concrete by 2050.

The new report enables a better understanding of the technologies and practices necessary to decarbonise Australian cement and concrete, and identifies eight decarbonisation pathways and key future research requirements.

Decarbonisation

Industry Decarbonisation Facilitation Plan

- Released in late 2024, to support delivery of the Pathways Report
- Expands on the end-to-end value chain strategies needed by Pathway to decarbonise



CEMENT & CONCRETE INDUSTRY
DECARBONISATION FACILITATION PLAN-ON-A-PAGE

IDENTIFIED DECARBONISATION PATHWAYS Showing percentage contribution to total decarbonisation objective from 2020-2050.#	7% ZERO EMISSION ELECTRICITY AND TRANSPORT	7%	21% INNOVATION THROUGH DESIGN AND CONSTRUCTION	10% CONTINUE TO FURTHER INNOVATE CONCRETE	3% USE OF SUPPLEMENTARY CEMENTITIOUS MATERIALS IN CONCRETE	7% NEW CO_2-EFFICIENT CEMENTS	6% USE ALTERNATIVE FUELS AND GREEN HYDROGEN	6% ACCOUNT FOR CONCRETE TO UPTAKE CO_2	33% CAPTURE REMAINING CO_2
INDUSTRY OBJECTIVE	Electricity emissions are reduced to zero.	Emissions from transport and mobile plant are reduced to zero.	Concrete remains an essential construction material as the built environment decarbonises.	Change Standards and Specifications to support increased flexibility in binder content and composition. Reduce concrete waste.	Increased ability to use Supplementary Cementitious Materials (SCMs) as a replacement for Cement in Concrete - including traditional (Fly Ash & Slag) and new & emerging SCMs.	Increased ability to innovate through the development of new clinker efficient cements - including those with higher limestone additions, and other pozzolanic materials.	Increase alternative fuel use without affecting efficiency, cost and quality.	Recarbonation is factored into international and national carbon accounting frameworks.	Cost effective, efficient and fully capable CCUS is supported and commercialised.
AREAS OF FOCUS	Advocate for and support the transition to renewable energy.	Advocate for and support the transition to zero emissions fleet and plant.	Support Concrete's position in the transition to decarbonise through design and construction.	Advocate for and support changes to Standards and Specifications. Promote concrete waste reduction.	Influence changes to Standards and Specifications removing barriers to increased SCM use. Educate on benefits of increased SCM use.	Influence standards and specifications, educate supply chain on lower carbon cement.	To ensure sustainability and energy policy supports the continued uptake of co-processing and alternative fuels.	Advocate for market acceptance and optimisation of Recarbonation.	Ensure that policy and regulatory frameworks support the development and commercialisation of CCUS as a priority.
MARKET ENABLERS: Positive regulatory and government support that enables and incentivises decarbonisation is critical to success across all pathways.									
STRATEGIES	• Informing members of funding opportunities and efficiency improvements. • Advocating for funding and cost competitive supply of renewable power and access. • Advocate for the removal of barriers and limitations to sourcing renewable power.	• Informing members of funding opportunities. • Advocating for funding and transition opportunities. • Advocate for the removal of barriers and limitations.	• Educate key stakeholders on available decarbonisation opportunities. • Inform key stakeholders on Industry progress and successes. • Support the ability to measure construction carbon emissions. • Identify remaining barriers to progressive adoption of lower carbon construction solutions.	• Using experience and data, • Promote concrete practices that produce lower carbon results • Advocate to remove any limitations to methods that enhance decarbonisation. • Promote improvements in waste management and recycling.	• Advocate to remove limitations to SCM use and for performance metrics to enable SCM use. • Advocate for the removal of barriers to increase use of traditional SCM. • Identify potential new SCMs. • Advocate for the removal of barriers to introduce new SCMs. • Encourage, and educate on, the higher use of SCMs	• Investigate the barriers to CO_2 efficient cement and binders, and advocate for alternatives supporting their use. • Remove barriers for CO_2 efficient cements and alternative binders. • Advocate for CO_2 efficient cements and alternative binders.	• Ensure co-processing is recognised as a safe and effective method to reduce waste and fossil fuel usage. • That regulatory policies and programs continue to encourage co-processing and the development of alternative energy sources to fuel integrated cement facilities.	• Raise stakeholder awareness. • Advocate to factor into concrete carbon measurement. • Enable optimisation of recarbonisation in Australia.	• That government continues to recognise CCUS as a critical pathway to reduce domestic emissions, especially cement manufacturing emissions. • That supportive and consistent regulatory policies and programs are developed as a priority. • Collaborate with other industries around the development of Carbon Capture & Storage (CCS) hubs.

Note : Concrete scope 1, 2 and 3 emissions are included in the percentage emissions for each pathway.
These Decarbonisation Pathways were identified in the independent report Decarbonisation Pathways for the Australian Cement and Concrete Sector

VERSION 2.0
ISSUED: NOVEMBER 2024

Decarbonisation

Government Sustainable Procurement Policies

- Lifecycle carbon approach must be embedded in procurement policies
- Recognition of need to change specifications
- Metrics to recognise EPDs

Decarbonisation

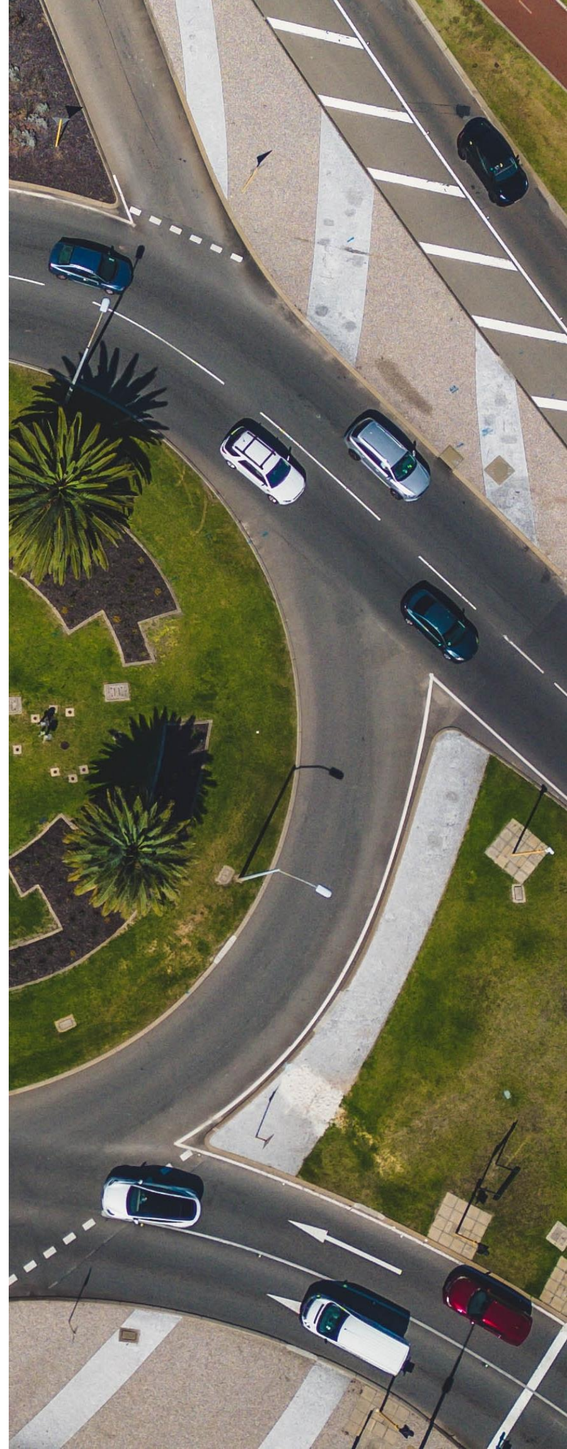
Changing Australian Standards and Concrete Specifications

- Time to change is years….. Must prioritise this work NOW!
- Many specs limit use of SCMs through testing regimes etc.
- Cement Standard AS3972, significantly limits lower carbon cement options for Type GP, GL and alternative binders

Key Messages

Collaboration is key to decarbonising the built environment and achieving our industry's climate ambition

- WA must have a Heavy Construction Materials Plan
- Sustainable Procurement Policies helps industry decarbonise
- Must always measure lifecycle carbon
- We must act now on Australian Standards & Specifications



Thank you!