2026-27 Pre- Budget Submission

Concrete Sustainability Alliance is seeking Commonwealth investment of $27m per year for 4 years to address systemic sector-wide barriers to decarbonising concrete in Australia

1.Snapshot

The Opportunity: Concrete is essential to Australia's built environment but remains carbon intensive at scale. While Australia's average concrete emissions are comparatively low when compared to other building and construction materials such as steel, the demand for concrete at approximately 30 million cubic metres per annum results in more than 8.4 million tonnes of associated CO_2-e emissions per year. Through its key ingredient, cement, the Australian concrete sector is highly trade exposed with imports, primarily sourced from Asia, accounting for approximately 10% of cement and 38% of cement clinker used in Australia.

Through decades of research and development, many of the technical innovations enabling decarbonisation of concrete have been identified but have not been adopted at scale. Without Government support, the market has failed to address the commercial, regulatory and skills requirements necessary for broad-scale adoption.

Targeted intervention is required now: To align with **Australia's Paris Agreement commitments** and the Government's **Net Zero Sector Plans**, the built environment sector must cut carbon embodied in construction materials and processes by at least 60% by 2035.

Without the creation of a sympathetic regulatory environment, clear market signals, including carbon pricing mechanisms, and development of appropriate logistics frameworks, risk sharing mechanisms, knowledge dissemination and supply chain skills, the built environment sector will not meet its decarbonisation targets.

Full and equitable engagement of the entire concrete construction supply chain is essential to facilitate the development of these market wide decarbonisation mechanisms.

Without sector wide decarbonisation, Australia will increasingly rely on costly offsets to indirectly impact emissions. It will also increase reliance on imported products and technologies which may not be aligned with Australia's economic or sovereign interests or its construction technologies and processes – **undermining the objectives of Future Made in Australia** to build clean, domestic manufacturing.

Programs such as the **Powering the Regions Fund** and the establishment of the **Net Zero Economy Authority** recognise the need for industry-led, regionally grounded transition pathways. However, without targeted intervention in hard-to-abate materials such as concrete, Australia faces an erosion of competitiveness, sovereign capabilities and productivity.

Targeted decarbonisation now is the most efficient and effective path available.

Australia's primary innovation program to address concrete-based emissions is the SmartCrete CRC. It has encountered substantial inertia in accelerating scalable technological solutions to decarbonisation. Systemic market, regulatory and skills barriers impede adoption of innovative

decarbonisation solutions at scale and can only be addressed through engagement of all the parties in the supply chain with control and influence over decisions to adopt low/no carbon solutions.

Solution: Investment in engaging and empowering the full supply chain to work together to recognise and perform its critical role in decarbonising concrete construction.

This can be achieved by establishing the **Concrete Sustainability Alliance (CSA)**, a world first, systems-based innovation program to break barriers to market effectiveness, accelerating at-scale adoption of existing emissions reduction solutions.

CSA will enable full supply chain collaboration, support evidence-based policy and regulatory reform, and deliver targeted skills, capability uplift and knowledge sharing to unlock the adoption of lower carbon solutions at scale.

Commonwealth funding of $27m per year over an initial four-year period is sought which will be matched with $40.25m of industry funding made up of $13.75m cash and $26.5m in-kind per year to deliver a total annual program budget of $67.25m. The program breakdown of this investment is detailed in Appendix 2 of this submission.

2. The Foundation: SmartCrete Cooperative Research Centre

CSA is an initiative arising from SmartCrete Cooperative Research Centre. Since its inception in 2020, SmartCrete CRC has successfully connected Australia's concrete ecosystem, creating impactful research collaborations and beneficial cross-sector partnerships that accelerate material change, develop new technologies and promote best practice to decarbonise concrete.

By collaborating with material manufacturers, trades, designers, engineers, constructors, asset owners, regulators and financiers, SmartCrete has established a robust network of over 90 formal partners and more than 120 participants across the concrete supply chain.

The program has leveraged $21m in Commonwealth investment to secure $22.4m in partner cash and $31.1m in partner in-kind to deliver a program valued at $74.5m. SmartCrete's important work is due to complete in June 2027, leaving a void in support for the concrete ecosystem to innovate towards net-zero construction materials.

SmartCrete CRC's work has been constrained by its purely technical focus: its research outcomes highlighted that technical solutions to net zero are feasible but will not achieve scaled adoption without subsequently addressing other enablers of change. Establishing the Concrete Sustainability Alliance in FY2026 will enable a seamless transition and reposition Australia's concrete ecosystem to tackle the systemic—rather than purely technical—barriers to decarbonisation.

3. The Concrete Sustainability Alliance (CSA)

CSA is a **world-first, systems-based innovation program** designed to accelerate decarbonisation across Australia's concrete sector by tackling systemic barriers to adoption. CSA has been designed through extensive sector consultation to provide a high-impact, low-cost innovation program to break systemic barriers and accelerate decarbonisation of

Australian concrete. The program has broad sectoral support. Formal endorsement has been received from 28 organisations as listed in Appendix 1 of this submission.

Core elements of this program design have been trialled through the SmartCrete CRC program, with key innovation partnerships and demonstration projects established to innovate regulatory systems such as standards and state government procurement systems.

The CSA program creates a platform for collaboration between all parts of the concrete ecosystem to address market barriers to decarbonisation.

CSA provides a direct pathway to:

1. Accelerate economically viable decarbonisation of concrete.
2. Enable the targeted 60% reduction in upfront carbon in concrete structures by 2035.
3. Facilitate efficient adoption of low carbon products in Australia's critically challenged housing sector.
4. Establish a world-first, replicable innovation framework to decarbonise other hard-to-abate sectors, such as steel.
5. Improve the concrete value chain's speed and capacity to meet future regulatory and market requirements.

CSA leverages SmartCrete CRC's research legacy and proposes a comprehensive framework to catalyse decarbonisation of the Australian concrete ecosystem, serving as a pilot for a new government supported innovation model that empowers the economy to address strategic challenges and positions Australia as a global leader in decarbonising heavy industries. The outcomes of this program will have direct relevance to other similarly hard-to-abate sectors including steel.

4. Impact and Benefits to Australia

An investment of $108 million will unlock over $160 million in industry co-investment, enable economy-wide abatement at a cost well below offsets, reduce future housing and infrastructure cost pressures, and permanently lift productivity and competitiveness across a $15-billion-per-year construction materials market.

CSA aligns with the **2025 National Climate Risk Assessment** and supports the **2035 climate target**, enabling a planned transition that can create jobs, reduce structural cost pressures on housing and infrastructure, boost the economy, build sovereign resilience, and leverage Australia's strengths in renewables.

CSA will create direct, indirect and induced employment across a range of sectors by accelerating investment in low-carbon construction materials and practices at scale.

The transition to low-carbon concrete will create jobs across the full construction and industrial value chain, including manufacturing plant upgrades, advanced production of low-carbon materials, and skilled roles in construction and infrastructure delivery supported by engineers and quality assurance professionals. It will also drive demand for research, standards and certification services, digital and lifecycle assessment expertise, and jobs linked to renewable energy integration and the circular economy through waste recovery and resource processing.

Unlike many climate programs, CSA focuses on **transforming existing domestic industries**, not offshoring emissions or jobs. This protects Australia's industrial capability while creating high-skill, future-ready roles, including in regional areas where heavy industry is concentrated.

CSA will enable more affordable housing and infrastructure through market coordination, introduction of innovative designs, effective carbon pricing structures and enhanced regulatory frameworks. Concrete is a major input cost in housing.

CSA will accelerate access to economically viable low-carbon concrete materials and methods, reduce volatility in carbon exposure and streamline approvals and regulatory frameworks to reduce delays and financing costs. By acting early and systemically, CSA will help prevent future carbon-related price shocks that would otherwise be passed directly to households as Australia moves towards net zero.

CSA will ensure the cement and concrete sector aligns with and enables a renewable energy future in Australia. Cement production is highly energy-intensive and conversion of traditional energy sources such as thermal power generated by coal combustion is both technically challenging and expensive. CSA will support innovation in market systems, logistical enhancement including mapping co-location opportunities and sector-coordinated planning to avoid fragmentation and align industrial energy demand with Australia's renewable build-out.

By addressing systemic constraints and enabling at-scale adoption, CSA will safeguard affordability and resilience across infrastructure and housing, and position Australia as a global leader in decarbonising hard-to-abate sectors.

A full list of impact metrics for CSA is provided in Appendix 3.

5. Implementation Plan

Timeline: It is recommended that CSA be established in early FY27 to ensure alignment with the carbon reduction schedule outlined in **Australia's nationally determined contributions**.

Governance: CSA will leverage the efficient, high-performing and fit-for-purpose governance and program management processes established and proved through the SmartCrete CRC. It will deliver an **independent national platform engaging the whole supply chain** (industry, research, government, asset owners), with transparent reporting against embodied carbon KPIs and regulatory outcomes.

An overview of the program structure is provided in Appendix 2. Full details of the program delivery structure and governance are outlined in the full Concrete Sustainability Alliance proposal.

6. It is imperative that we act now

Unless action is taken to engage the full supply chain in decarbonising the concrete construction ecosystem, it is unlikely that the industry's and indeed the Government's net-zero emissions objectives will be achieved.

Australia's infrastructure pipeline and associated demand for concrete is projected to increase by **>14%** by **2030** to meet the housing and infrastructure needs of a rising population[1].

Failing to act on decarbonisation in cement and concrete won't preserve the status quo, it will lead to:

- lost competitiveness
- increased exposure to economic risk
- higher future costs.

Without coordinated action, emissions reduction will be deferred and require more costly last-minute measures of carbon offsets.

Australian materials risk being priced out of export markets that have adjusted to carbon trade measures, with Australia becoming a price-taker rather than a technology leader.

Without a planned transition, the Government will face greater pressure for remedial action.

7. Conclusion

Australia's economy and communities depend on affordable, durable concrete infrastructure.

CSA offers a **low-risk**, **high-impact**, **nationally strategic** pathway to accelerate decarbonisation, addressing systemic barriers, reducing long-term costs, and strengthening resilience.

With Commonwealth support, Australia can lead the world in transforming a critical heavy industry.

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CSA will be registered as a member-based organisation limited by guarantee. This proposal has been developed by SmartCrete CRC with the support of participants listed in Appendix 1.

[1] Infrastructure Australia - 2025 Infrastructure Market Capacity Report

Appendix 1: Sector Support for the Concrete Sustainability Alliance Proposal

This proposal is formally supported by all sectors of the concrete construction eco-system.

Letters of support can be found at https://www.concretesustainabilityalliance.com/

"Standards Australia is collaborating with industry experts and government stakeholders to systematically identify and mitigate obstacles to the adoption of low-carbon concretes within the national standards framework. A structured program of work has commenced across priority technical committees to resolve technical inconsistencies and barriers in current standards. While this initiative provides a strong foundation, further market assessment and sustained stakeholder engagement will be essential to address broader policy and supply-chain impediments. We welcome the CSA proposal, which we view as a critical enabler for accelerating the adoption of established low-carbon materials and advancing whole-of-sector decarbonisation."

-Rod Balding, CEO Standards Australia

Formal endorsement has been received from:

Materials:
Cement Concrete and Aggregates Australia, Concrete Institute of Australia, Concrete Masonry Association of Australia, Concrete Pipe Association of Australasia, Hallet, National Precast Association.

Design and Engineering:
Australian Institute of Building Surveyors, Engineers Australia, GHD.

Constructors:
Australian Constructors Association, Consult Australia, Fire Protection Association Australia, Laing O'Rourke,

Asset Owners:
ACT State Government, Austroads, Department of Transport and Major Infrastructure WA, Facility Management Association of Australia, Infrastructure Partnerships Australia, National Transport Research Organisation, Victorian Infrastructure Delivery Authority (VIDA Rail), Victorian Infrastructure Delivery Authority (VIDA Roads).

Regulation, Rating and Compliance:
Green Building Council Australia, Infrastructure Sustainability Council, NSW Department of Climate Change, Energy, Environment and Water, Standards Australia,

Broader Ecosystem:
Australian Sustainable Built Environment Council, Australian Council of Recycling, Materials and Embodied Carbon Leaders Alliance,

"Concrete 3D printing has the potential to radically accelerate the Australian construction sector's ability to build new houses. Our 3D printer can erect a 3-bedroom home in less than a week with 2 – 3 specialists on site, compared to a traditional build that might take 3 – 4 months and require a team of bricklayers, carpenters and plasterers. In the long term, this will lower the costs and increase the speed and scale of housing construction. Our biggest challenge to date

has been working within the current regulatory frameworks. The National Construction Code doesn't recognise 3DCP dwellings, which means we've had to employ a performance approach with direct engineer certification on every build. This is a major barrier to broad-scale adoption and roll out of this technology. Just having great technology doesn't guarantee we'll be able to push it to market. The construction sector is conservative and complex. We need a program like the Concrete Sustainability Alliance to tackle market barriers to improve speed to market for innovative technologies.

-Ash Quiddington, Founder Dune Build

Appendix 2: Program Structure

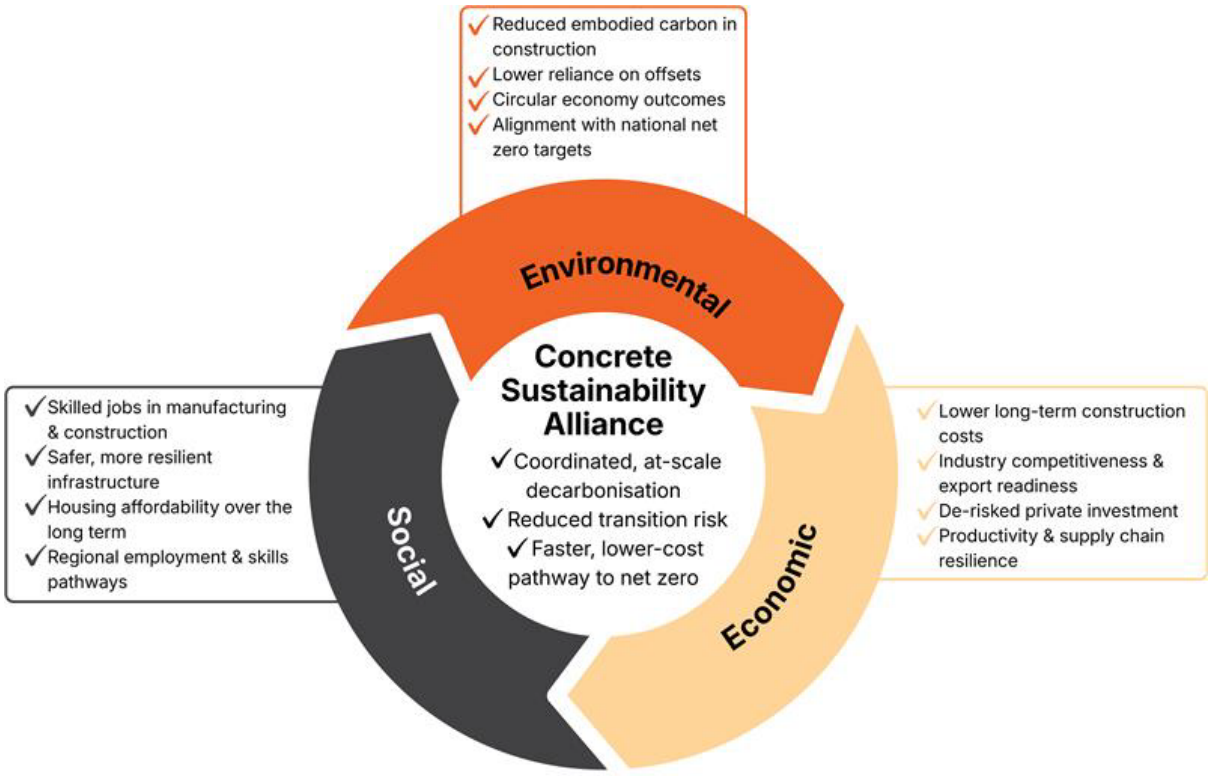
Program	Key Deliverables	Cwlth Funding ($m)	Industry Cash ($m)	Industry In-Kind ($m)
Getting the Numbers Right	Develop more effective carbon management accounting, reporting and communication systems and address challenges in implementation across a complex supply chain. Activities will include: ● Develop and implement clear guides, classifications and ratings for low-carbon products. ● Establish and maintain a database of uniform, accurate and verifiable data. ● Establish and embed sector-agree classifications for "low-carbon" and "sustainable" materials. ● Trace supply chain material use to improve lifecycle. emissions modelling to improve business and government decision making. ● Develop financial tools to incentivise low-carbon material selection by recognising energy and cost payback periods. ● Evaluate and report on the impact of legislative incentives to facilitate sectoral emissions reduction.	$2.50	$1.25	$2.50
Next Generation Cement	Investigate pathways to reduce cement-based carbon through innovative strategies, leveraging global developments and investing in world-leading Australian innovations. Assess the economic drivers to ensure effective measurement and reporting of cement and binder emissions reduction, encouraging sector-wide adoption of lower carbon cement and binder products. Activities will include: ● Develop mitigation measures of emissions that cannot be mitigated by conventional means to inform evidence-based policy and long-term business investment strategies. ● Map geographic and economic availability of current and future supplementary cementitious materials (SCM) to report on market pathways for cement substitution. ● Develop and implement rapid new-product assessment and adoption framework.	$4.00	$2.00	$4.00
Carbon Smart Concrete	Deliver innovative low-carbon concrete mixes aligned with Australia's resource availability, along with enhanced accelerated performance testing to	$3.50	$1.75	$3.50

	demonstrate efficacy of new sustainable concrete products. Support the development of innovative concrete production processes and encourage greater sectoral confidence and market adoption. Activities will include: ● Create and disseminate market insights on embodied carbon in concrete construction to create a market pull for low carbon concretes. ● Enhance standards and building codes to reflect benefits of low-carbon concrete. ● Work with State and Federal Governments to develop an appropriate balance between performance and prescriptive-based procurement.			
Designing for Decarbonisation	Promote buildings and infrastructure design that includes a clear focus on material efficiency, specifying lower carbon concrete and improved construction technologies while ensuring structural optimisation that allows for lifetime extension, repair and reuse. Activities will include: ● Innovation in structural optimisation to release the same load bearing capacity with less material. ● Develop and promote new supply chain risk-sharing frameworks to accelerate adoption of sustainable practices and products. ● Establish financial modelling to highlight the economic impact of low carbon and circular practices. ● In collaboration with established ratings providers, develop clear, transparent and fair green certifications.	$6.00	$3.00	$6.00
Powering the Transition	Future-proof the Australian concrete sector to adopt alternative fuels, renewable technology, low-carbon transport and carbon capture technologies as they are developed. Measure and report on demand for low-carbon energy-related products and support development of government regulatory mandates to encourage the adoption of decarbonised infrastructure. Activities will include: ● Assessing and reporting on the efficacy of alternative fuels, renewable and carbon capture technologies. ● Analyse and report on the economic and logistical feasibility of new technologies.	$2.50	$1.75	$2.50

	● Facilitate cross-sector engagement with other industries to maximise energy and carbon capture hub opportunities. ● Provide evidence to support enhancement of carbon pricing legislation. ● Report on demand signals and support government regulatory mandates to catalyse market adoption of lower carbon energy and transport solutions.			
Demonstratio Projects	Competitive Grants between $100k - $500k up to a total value of $4m each year will be offered to demonstrate new sustainable concrete solutions to progress TRL and accelerate market adoption. ● Demonstrate market demand. ● Commercially de-risk innovation. ● Encourage investment. ● Accelerate adoption.	$4.00	$4.00	$4.00
Sectoral Capacity Building	● Develop standardised, sector-wide training and education on design, performance and acceptance criteria for sustainable cement, binder systems and concrete. ● Accelerate the evolution and development of Standards. ● Knowledge transfer and sectoral engagement. ● Industry education and capacity building program. ● Industry publications.	$1.25	-	$2.50
Program Operations	● Governance. ● Salaries. ● Systems. ● Infrastructure.	$3.25	-	$1.5
Annual Budget ($m)		$27.00	$13.70	$26.50
Total Annual Budget ($m)				**$67.25**
Four Year Program July 2026 – June 2030 ($m)		$108.00	$54.80	$106.00
Total four-year program($m)				**$269.0**

Appendix 3: Concrete Sustainability Alliance – Return on Investment (ROI) Framework

Commonwealth Investment: $108 million over 4 years ($27m p.a.)
Total Program Value: $269 million over 4 years
Purpose: Enable at-scale adoption of low-carbon concrete by removing systemic market, regulatory and skills barriers.



ROI	Metric	What Will Be Measured
Leverage of Public Investment	**Private co-investment ratio**	Industry cash and in-kind contributions leveraged per $1 of Commonwealth funding (baseline 2.5:1)
Lower carbon intensity for concrete construction	**CO_2-e per tonne of construction material**	Reduction in average embodied carbon intensity (kg CO_2-e per tonne) of concrete construction materials used in CSA-enabled projects, benchmarked against current industry baselines and tracked over time.
Emissions Abatement Efficiency	**Cost per tonne of CO_2-e abated enabled**	Tonnes of embodied CO_2-e avoided through CSA-enabled adoption of low-carbon concrete, benchmarked against Commonwealth funding
Cost Avoidance (Housing & Infrastructure)	**Future cost escalation avoided**	Avoided carbon compliance costs, offsets, redesign, delays and financing premiums associated with late or uncoordinated decarbonisation
Productivity & Speed to Market	**Approval and delivery time reduction**	Reduction in approval time for new low-carbon materials and construction methods through streamlined standards, codes and procurement
Private Capital Mobilisation	**Follow-on investment unlocked**	Additional private investment in manufacturing upgrades, materials production and deployment enabled by CSA market certainty
Sovereign Capability & Trade Exposure	**Import reliance reduced**	Increased domestic use of supplementary cementitious materials and alternative binders; reduced reliance on imported clinker

Market Coverage & Adoption	**Share of national concrete production enabled**	Proportion of Australia's concrete market covered by CSA-enabled standards, procurement pathways and classifications
Workforce & Capability Uplift	**Skills and capacity developed**	Number of professionals trained, accredited or operating under CSA-enabled low-carbon frameworks
Demonstration & Commercialisation	**Innovations de-risked and adopted**	Number of demonstration projects progressing to commercial adoption and market uptake