



**CEMENT INDUSTRY
FEDERATION**



**CEMENT INDUSTRY FEDERATION
SUBMISSION**

Tasmania's Draft Climate Change Action Plan 2023-25

6 April 2023



BORAL™



1. INTRODUCTION

Thank you for the opportunity to provide comment on *Tasmania's Draft Climate Change Action Plan 2023-25*. The Cement Industry Federation (CIF) is the peak national body representing all Australian integrated cement manufacturers and comprises the three major Australian cement producers - Adbri Ltd, Boral Cement Ltd and Cement Australia Pty Ltd.

Australian cement production is a **critical manufacturing industry of national importance**, supporting over 1,200 employees in high paid positions as well as hundreds of apprentices, contractors and transport operators. The cement and concrete value chain supports over 15,000 jobs in Australia.

Since 1990 the emissions arising from the Australian cement sector have reduced by over 25 per cent. To achieve this outcome, CIF members have and continue to invest in significant capital for new processing technology - as well as supply chain components - to ensure market supply is secure and reliable. Notably, during the Covid 19 pandemic, reliable cement supply was maintained due to the robust nature of the domestic supply system.

These strategic investments are contemplated on the basis of long payback periods. A fundamental question within each investment decision is the degree of certainty associated with key elements such as demand and relevant regulatory settings.

Despite cement being classified as one of the most difficult-to-abate sectors, CIF members are committed to decarbonising their products by 2050 as demonstrated in the VDZ publication [Decarbonisation Pathways for the Australian Cement and Concrete Sector \(2021\)](#).

From a policy perspective, strong, consistent and considered action by all levels of government will be required to reduce greenhouse gas emissions while maintaining a strong economy and maintaining the international competitiveness of key manufacturing industries such as cement.

As such, governments should actively work to promote a consistent and integrated approach to climate and energy policy across all Australian jurisdictions. Such an approach would help to provide certainty and stability of the economy and underpin the competitiveness of Australian industry.

Cement Australia's Railton Plant has been operating in the Kentish Council area of Northwest Tasmania since 1923 providing productive high-quality jobs for many generations. Both the CIF and Cement Australia look forward to engaging with the Tasmanian Government during the development and implementation of the various Emissions Reduction and Resilience Plans relevant to our sector.

This submission should be read in conjunction with Cement Australia's submission.

2. CONSULTATION QUESTIONS

1. Do you agree with the proposed vision and goals for the action plan? Which goals are you most supportive of? Are there any other goals that should be considered?

The proposed vision to reduce emissions and build resilience to the impacts of a changing climate is pragmatic and effective in that it captures, in a few words, the key elements critical to the development of climate policy and measures – that is the requirement to reduce emissions whilst at the same time ensuring that the impacts of climate-related affects are minimised wherever possible.

The goals, as listed, cover many of the required elements of good climate policy in terms of reducing emissions, adapting to the impacts of climate change and strengthening the transition to a low emissions economy.

Ensuring a strong policy framework to consider climate change risks and opportunities in the formation of government policies and strategies should be a key focus, given the role that a robust and dynamic framework will play in delivering policies and measures required during the transition without jeopardising critical manufacturing industries such as cement.

Additional goals that should be considered include:

- ensuring that there is policy alignment wherever possible with other jurisdictions, including at the federal level, to provide certainty for both industry and the community as well as to minimise potential regulatory duplication. Consistency across jurisdictions on key elements of climate policy and measures will be a critical aspect of the transition to a low emissions economy – and will help to ensure that nationally significant industries such as cement manufacturing can continue to domestically manufacture critical materials.
- a focus on the development, acceptance and increased use of lower carbon products, including lower carbon cements and concrete – specifically in terms of public procurement – as a key element of the transition to a lower carbon economy.
- recognition of hard-to-abate sectors where the required emissions reduction technology may not be at the required technology readiness levels until 2030-35 and a focus on identifying and enabling the research and development needed to realise the required emissions reductions. Examples include carbon capture technology for currently unavoidable process emissions from cement manufacture, as well as the associated transport and storage/use infrastructure for the captured emissions.

2. Will the three priority areas, (1) information and knowledge, (2) transition and innovation and (3) adaptation and resilience, help Tasmania achieve its legislated 2030 emissions reduction target and its vision for action on climate change? Are there other issues not covered by the three priority areas?

The three priority areas are a logical extension of the overall vision and goals of the draft action plan and should help Tasmania achieve its climate change goals.

A focus on transition and innovation will be key from a hard-to-abate manufacturing perspective, where industry and government will need to work hand-in-hand to ensure that critical manufacturing sectors such as cement can successfully navigate the required transition pathways.

This will include focussing on the identified decarbonisation pathways and the steps required to achieve the required emissions reductions whilst maintaining a strong and internationally competitive industry. Such an approach will be critical to ensuring the continued supply critical supplies of cementitious products out to 2030 and beyond.

Examples of decarbonisation pathways for the cement industry and their approximate technology readiness levels (TRLs) are included in **Attachment 1**.

Ensuring alignment with other Australian jurisdictions across the priority areas will also be essential to the success of the action plan and should therefore be a key focus.

3. Will the key actions under Priority area 1 help support decision making for you and your community or organisation? What types of projects should be supported under the final action plan?

The key actions listed under Priority Area 1 aimed at improving information and knowledge on our future climate will assist decision making for the cement sector.

Understanding climate projections at the macro and micro level will support investment decisions into the future and build resilience.

Developing a whole-of-government framework to embed climate change into Tasmanian Government decision making should lead to an increased focus on the increased use of lower carbon materials, including lower carbon cement and concrete.

This could be achieved through a greater focus on sustainability in areas such as government procurement to support the increased uptake of lower carbon materials, which would be supported by changes to the relevant standards, codes and specifications where necessary.

Alignment with other Australian jurisdictions on sustainability in procurement as well as making changes to standards, codes and specifications should also be a priority.

The Government should also consider partnering with industry on key research aimed at bringing forward the technology readiness levels of emissions reduction technologies, including (but not limited to) alternative fuels to offset fossil fuel use (including green hydrogen), as well as the various elements of carbon capture, transport, storage and/or use.

4. Will the key actions under Priority area 2 support Tasmania to achieve its 2030 emissions reduction target and continued emissions reduction across Tasmania? What types of projects should be supported under the final action plan?

As mentioned above, transition and innovation are key priority areas from a cement industry perspective, particularly given the hard-to-abate nature of our sector.

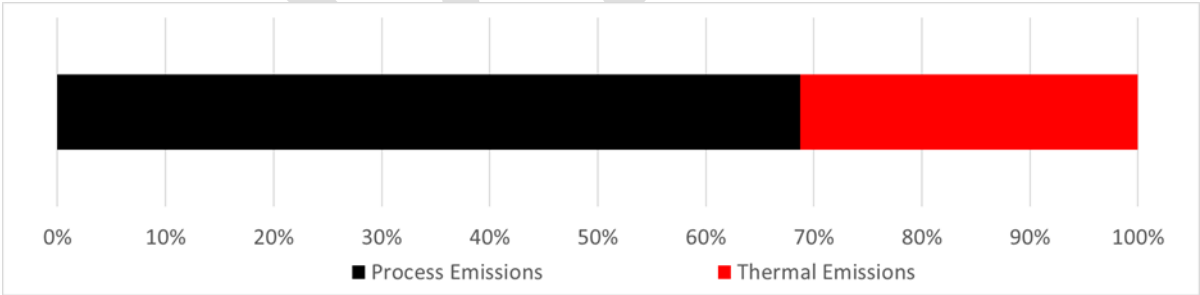
The number of decarbonisation pathways available over the next decade presents a challenge as around two thirds of our Scope 1 emissions cannot be addressed until key technologies such as carbon capture, transport, use and storage (CCUS), become viable in Australia.

With significant public and private investment over the next two decades, these technologies will support the cement industry to fully decarbonise.

This means that the Australian cement industry will be focussed on reducing emissions by approximately 10 per cent between 2023-30 using the following two pathways:

- Co-processing of alternative waste fuels to reduce fossil fuel usage.
- Substituting clinker in cement with supplementary cementitious materials (SCMs) - mainly waste materials from the steel and power sector. As these resources will be limited in the future it is critical that CCUS investment in the Australian industry begins as soon as possible.

The typical direct (Scope 1) emissions profile for cement is depicted below:



The proposed action to develop Emissions Reduction and Resilience Plans (ERRP) for key sectors will be a key step in terms of identifying the required government and industry activity to support the stated vision and goals.

The development of the transport sector ERRP will provide key learnings and we look forward to contributing to the development of the Industrial Processes & Product Use (IPPU) ERRP.

In terms of supporting business and industry, the CIF welcomes the Government’s commitment to projects, programs and other activities that enable a sensible transition to a low emissions economy. This is particularly important given the technological hurdles that currently exist for hardest-to-abate sectors such as cement.

The cement industry will be working hard to reduce emissions as quickly as possible, however this will require the support of governments, the community and the entire value chain to ensure an orderly transition.

Supportive legislative and policy settings, as well as capability building and enabling infrastructure (e.g. CCUS), will be critical to achieving timely emissions reductions whilst maintaining the international competitiveness of our sector.

This includes taking steps to identify and address regulatory processes (at all levels of government) that are becoming more complex to navigate, more protracted and more uncertain – for little if any improvement in regulated outcomes. This should be a key focus of the sector-based Emissions Reduction and Resilience Plans (ERRP) development process.

Importantly, state-based legislation and measures should be cognisant of and, where possible, aligned with federal climate policy and measures – specifically the safeguard mechanism, which recognises the importance of nationally strategic, hard-to-abate industries such as cement and has taken steps to minimise the impact until such time as the required emissions reduction technologies are available.

5. Will the key actions under Priority area 3 build resilience and support adaptation planning across Tasmania? What types of projects should be supported under the final action plan?

The key actions, namely a state-wide risk assessment and support for business, industry and government, will be critical to achieving the stated goals of the action plan.

Developing and maintaining an understanding the risks associated with climate change makes sense from a community, business, industry and government perspective, and will support adaptation planning and resilience building across the state.

FURTHER COMMENTS

Thank you for the opportunity to provide the above comments. For further information relating to this submission please contact Margie Thomson, Chief Executive Officer.

Margie Thomson
Chief Executive Officer, Cement Industry Federation

Examples of decarbonisation pathways for the cement industry and their approximate technology readiness levels (TRLs).

Measure	Technology/Project	TRL	Relative Long-term Emissions Reduction Impact
Process & Energy Efficiency Improvements	All CIF members seek actively seek process and energy efficiency improvements on a day-to-day basis.	9	LOW
Replacing Fossil Fuels	CIF members reported alternative fuel (AF) use at around 18% in 2020-21. All members have projects aimed at increasing AF usage up to technical limits, including biomass options.	9	LOW-MEDIUM
Increase the Use of SCMs	While currently outside of the scope SGM, CIF members are investigating options to increase the proportion of SCMs as a proportion of final lower carbon) cementitious product. Changes to standards and procurement practices are required.	9	MEDIUM
CO₂ Capture	Tail-end calcium looping	6-7	HIGH
	Membrane-assisted CO ₂ liquefaction	5-6	
	Oxyfuel	6	
	Integrated calcium looping	6	
	Calix ®	6	
CO₂ Utilisation	Fuels such as methane, methanol, gasoline, diesel, aviation fuels	9	MEDIUM-HIGH
	Carbonates and building materials	6-9	
CO₂ Transport	Inland by pipeline (300km)	--	HIGH
	Inland by train (300km)	--	
	Offshore by ship (<1,000km)	--	
CO₂ Storage	Intermediate for liquefaction	--	HIGH
	Offshore storage	--	

Technology Readiness Levels

TRL 1: Basic principles observed	TRL 6: Tech demonstrated in relevant environment
TRL 2: Technology concept formulated	TRL 7: System prototype demonstration in operational environment
TRL 3: Experimental proof of concept	TRL 8: System complete and qualified
TRL 4: Technology validated in lab	TRL 9: Actual system proven in operational environment
TRL 5: Technology validated in relevant environment	

Source: VDZ, CIF