

10 May 2019

The Secretary
Legislative Council Environment and Planning Committee
Parliament House
Spring Street
East Melbourne
VIC 3002

Via email to recyclinginquiry@parliament.vic.gov.au

Dear Secretary

SUBJECT: INQUIRY INTO RECYCLING AND WASTE MANAGEMENT

Cement Concrete & Aggregates Australia (CCAA) welcomes the opportunity to provide a submission to the Environment and Planning Committee's Inquiry into Recycling and Waste Management.

CCAA is the peak industry body for the heavy construction materials industry in Australia including the cement, pre-mixed concrete and extractive industries. Our members operate cement distribution facilities, concrete batching plants, hard rock quarries and sand and gravel extraction operations throughout Victoria. For your information, a list of CCAA Victoria's members is provided in Appendix 1.

CCAA members nationally account for 80% of total industry output, with the industry generating \$15 billion per annum in revenue, employing 30,000 Australians directly and supporting the employment of a further 80,000 people. CCAA members produce and supply the heavy construction materials that are used to construct Victoria's infrastructure. Providing both the raw material and finished product, heavy construction materials contribute to the construction of our roads, railways, bridges, ports, airports, hospitals and schools.

CCAA's members service local, regional and national building, construction and infrastructure markets. The reliable and cost-effective supply to these markets is fundamental to sustainable growth and it is CCAA's aim to promote policies that recognise the importance of these materials to Australia's sustainable future.

The industries represented by CCAA have a significant stake in relation to waste resource recovery, and is keen to be closely involved in government reform in this area. The industry has a vital role in waste recovery strategies as a major consumer of other industries' waste and by-products which can be used as fuel and supplementary materials in the production process.

About the heavy construction materials industry – waste recovery

Compared to other industries, the cement, concrete and extractive industries are not significant waste generators. However, the industry is making a strong effort to reduce waste and increase waste material usage. This is evident through the manufacturing and production processes for cement, concrete and aggregates which relies heavily on the re-use of waste materials including:

- **An increasing use of by-products from other industries (such as blast furnace slag from steel production and fly ash from electricity generation) in the cement manufacturing process.** The use of fly ash as a supplementary cementitious material is a very effective use of a waste material, and reduces both the energy and raw materials required per tonne of cement produced. Fly ash is used as a supplementary input in the production of cement clinker, as well as an addition to ground clinker in cement production, thereby replacing some of the clinker required for cement production. This has the effect of reducing the overall embodied energy in cement and concrete. Blast Furnace Slag, a non-metallic by-product from the production of iron in a blast furnace is generally incorporated as an addition to ground clinker in the production of blended cements. As a result, it replaces some of the clinker required for cement production, again reducing the embodied energy and embodied carbon in cement and concrete.
- **Reusing waste in the production of recycled construction materials.** For example, some quarries utilise returned concrete waste for recycled quarry products, thus preserving primary resources.
- **Water recycling at quarries.** Water storage reservoirs at many quarries allow water to be reused for dust washing and suppression. Similarly, rainwater is harvested from water tanks at many of our concrete plants and then redistributed for use in other parts of the plant.

As well, concrete has an unmatched range of uses and combines a low environmental impact with affordability. It is durable, resilient, energy efficient and recyclable making it the most sustainable construction material over the lifecycle.

CCAA is supportive of efforts to improve waste and resource management and increase recycling in the state and taking an integrated approach to this issue. We also believe that there are a number of possibilities for Government and this industry to contribute to the growth of the resource recovery and recycling sector in Victoria including:

- **Innovation and Research:** The industry has the capacity to conduct and support research into alternative material usage. For example, in February 2019, the Victorian Government announced the provision of grants through Sustainability Victoria worth over \$1.5 million for innovative road surface projects including research into development of a premix concrete that uses recycled plastics and rubber, and a demonstration project trialling a permeable pavement using recycled concrete, brick, glass, plastics and rubber, under real traffic conditions. CCAA supports the ongoing research and development grants and would welcome the expansion of these grants downstream to the infield demonstration phase, and believe our members would play a role in the expansion of innovative and broader use of alternative and recycled materials.

Such innovation and research could be further strengthened through industry/government sponsored PhD studies with relevant industry work experience to further the understanding and acceptance of 'fit for purpose' use of alternative and recycled materials.

- **Fit for purpose use of materials:** CCAA supports the use of fit for purpose heavy construction materials in road pavements to improve resource utilisation, increase use of recycled materials and reduce costs of construction.

It is recognized that over specification or 'gold plating' of non-VicRoads assets with inappropriate, over restrictive specifications does occur. CCAA estimates that between 70-95 per cent of the pavement market uses VicRoads specifications for non-VicRoads projects such as local suburban streets.

Improving quarry resource utilization, using high quality resource for high quality product only, is of increasing concern for the extractive industry as viable locations for future quarries are becoming increasingly constrained as urban development and rising environmental constraints sterilize some known resources close to market.

This is recognised by the Government's 2018 *Helping Victoria Grow, Extractive Resources Strategy* that commits to supporting the recycling of recovered construction materials where feasible.

Fit for purpose materials is about using the right materials in the right location and includes quality raw quarry materials, recycled construction materials and marginal quarry materials.

VicRoads has recently amended a range of road construction specifications to allow for the inclusion of recycled products such as crushed concrete and brick, glass fines and reclaimed asphalt but only in specific, certain circumstances.

Sustainability Victoria supports the use of fit for purpose use of recycled materials¹. The cost of transport and distance from source of materials to market is a key consideration in deciding between using recycled versus virgin quarry materials.

The latest Sustainability Victoria figures² indicate that 83 per cent of construction and demolition waste is recycled, providing about 3.6 million tonnes of material or 6 per cent of the virgin quarry market. Austroads, the peak organisation of Australasian road transport and traffic agencies, has also recently released a guide³ to encourage the wider use of marginal quarry materials in fit for purpose sealed pavements.

VicRoads have developed robust material specifications for major roads and freeways that provide for long life assets. Such high quality material is not required for many local suburban roads due to the lower road traffic and lack of heavy freight transport. Yet many local council engineers are risk adverse and lack a wide skill set and due to a lack of readily available alternatives, often copy VicRoads specifications for use in local suburban roads. Such 'gold plating' may provide for long life assets, but at additional upfront construction costs.⁴

Compromising the performance of quality materials by specifying low grade alternatives may qualify for incentives initially, but may affect the durability and performance of the road during its design life, leading to costly remediation or the need to re-build. Similarly, specifying very-high grade materials for an element that has low performance requirements,

¹ Recycled products in pavement construction. A business case for councils to use in local recycled products in pavement construction. Sustainability Victoria. 2015.

² Victorian Market Development Strategy for Recovered Resources, Sustainability Victoria, 2016

³ Appropriate Use of Marginal and Non-standard Materials in Road Construction and Maintenance, Austroads June 2018

⁴ CCAA Briefing 19, Sustainable Use of Aggregates, Cement Concrete & Aggregates Australia, 2013

- such as footpaths, will lead to unnecessary depletion of valuable resources when a lower grade virgin or recycled 'fit for purpose' alternative would be adequate.
- **Whole of Government Approach to Performance Based Specifications:** CCAA believes that any waste resource and recycling strategy must include the whole of Government including working with the Department of Transport, Major Transport Infrastructure Authority, Office of Projects Victoria, Sustainability Victoria and VicRoads. These bodies together can consider the increased use of alternate and recycled materials in specifications and road infrastructure under a 'fit for purpose' paradigm. An increased emphasis on performance based specifications rather than the current prescriptive road pavement material specifications would help to increase market demand. As well, a whole-of-government and consistent approach will give confidence in the quality and safety of these products.
 - **Robust and well informed policy:** A successful waste recovery and recycling strategy needs to be underpinned by policy that has clarity and certainty, if there is to be investment made by industry. The policy should be well informed, practical and acknowledge current industry and international practice. As well, policy support should be provided in respect of streamlining the approvals process/requirements for allowing aggregate recycling (including concrete and reclaimed aggregate pavement) to be undertaken at existing and future quarry operations and potentially some concrete batching plants where the infrastructure is already (or could be) established. Such operations are generally well located to transport infrastructure, well buffered from urban development and generally part of the integrated heavy construction materials supply chain. In addition, any legislation, policy or codes should support and facilitate industry in relation to waste management – for example, re-use of concrete waste.

Victoria's regulatory environment needs to be internationally competitive to continue to attract capital to invest into Victoria to ensure a sustainable and competitive heavy construction materials industry. This in turn facilitates Victoria's improved productivity, housing affordability and lower infrastructure costs.

The provision of affordable heavy construction materials through an efficient supply chain helps to facilitate the delivery of affordable infrastructure, contributing to the completion of Victoria's Big Build within budget.

Please do not hesitate to contact me to discuss any of these issues in more detail.

Yours sincerely



BRIAN HAUSER
State Director Vic/Tas

APPENDIX 1**CEMENT CONCRETE & AGGREGATES AUSTRALIA****MEMBERSHIP****FOUNDATION MEMBERS**

 <i>Adelaide Brighton Ltd</i>	 Boral Construction Materials	 Boral Cement Limited
 Cement Australia Pty Ltd	 Hanson Australia Pty Ltd	 Holcim (Australia) Pty Ltd

VICTORIA**ORDINARY MEMBERS**

Alsafe Pre-Mix Concrete Pty Ltd Barossa Quarries Pty Ltd Barro Group Pty Ltd Baxters Concrete Pty Ltd Broadway & Frame Premix Concrete Pty Ltd	Fulton Hogan Industries Hillview Quarries Pty Ltd Hymix Australia Pty Ltd Independent Cement & Lime Pty Ltd Kennedy Haulage Pty Ltd	Mentone Pre Mix Metro Quarry Group Pty Ltd Premier Resources T/A Hy-Tec Industries Pty Ltd Volumetric Concrete Australia Pty Ltd
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ASSOCIATE MEMBERS

Agi-Kleen Pty Ltd BASF Australia Pty Ltd BHS-Sonthofen (Aust) Pty Ltd Concrete Colour Systems	Concrete Waterproofing Manufacturing Pty Ltd T/a Xypex Australia GCP Applied Technologies	Sika Australia Pty Ltd WAM Australia
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