

Application Form: Non-merger authorisation

Parties to the proposed conduct

1 Provide details of the applicants for authorisation, including:

1.1 name, registered office, telephone number and ACN

Boral Cement Limited
ACN 008 528 523
Level 18, 15 Blue Street, North Sydney NSW 2060
(02) 9220 6300
(**Boral Cement**)

This Application is to be read and determined together with the submission supporting the Application (the **Submission**), which is lodged with this form.

1.2 contact person's name, position, telephone number and email address

Louise Klamka
Special Counsel, Gilbert + Tobin (solicitors for Boral)

1.3 a description of business activities

Boral Australia is an integrated construction materials and building products manufacturer and supplier in Australia. Its cement and supplementary cementitious materials business is largely operated via its related entity, Boral Cement, which operates a network of cement manufacturing and distribution facilities in NSW, Victoria and Tasmania.

1.4 email address for service of documents in Australia

lklamka@gtlaw.com.au

2 Details of the other persons who also propose to engage, or become engaged, in the proposed conduct and on whose behalf, authorisation is sought

2.1 name, registered office, telephone number and ACN

Stanwell Corporation Limited
ACN 078 848 674
Level 2 180 Ann Street, Brisbane Qld 4000
(07) 3228 4333
(**Stanwell**)

2.2 contact person's name, telephone number and email address

Kathryn Finlayson
Partner, Minter Ellison (solicitors for Stanwell)

2.3 a description of business activities

Stanwell is a Queensland Government-owned corporation which owns coal fired power stations and sells electricity directly to large customers along the east coast as a participant in the National Electricity Market.

The proposed conduct

3 Provide details of the proposed conduct, including:

3.1 a description of the proposed conduct and any documents that detail the terms of the proposed conduct

Boral Cement and Stanwell have entered into an Offtake, Operation & Maintenance Agreement (**OOMA**) pursuant to which Boral Cement will have the exclusive right to take and purchase fly ash from Tarong Power Station (**Tarong PS**). Under a separate agreement, Boral Cement is designing and constructing a facility for this purpose (Design and Construct Contract, the **DCC**) and the exclusive rights under the OOMA are conditional on the practical completion of the facility. Together, the OOMA and DCC comprise the agreement between Boral Cement and Stanwell (**Agreement**).

The OOMA is also expressed as conditional upon ACCC authorisation.¹

See Section 3 of the Submission for further details of the Agreement.

Copies of the executed DCC and OOMA are set out in **Confidential Annexure A** of the Submission.

3.2 the relevant provisions of the *Competition and Consumer Act 2010* (Cth) (the Act) which might apply to the proposed conduct, ie:

The provisions on contracts, arrangements or understandings or concerted practices that affect competition (s45) and exclusive dealing (s47) may apply to the proposed conduct.

3.3 the rationale for the proposed conduct

See Section 4 of the Submission.

3.4 the term of authorisation sought and reasons for seeking this period. By default, the ACCC will assume you are seeking authorisation for five years. If a different period is being sought, please specify and explain why.

The Applicant seeks authorisation to give effect to the OOMA for 10 years commencing from the Offtake Commencement Date (which is when all the conditions have been satisfied or waived and is likely to coincide with the practical completion date under the DCC). The Offtake Commencement Date is anticipated to be 15 March 2021.

The OOMA has an initial term of 5 years with an option to extend for a further 5 years if certain conditions are met. A minimum authorisation period of 10 years is appropriate given the substantial contribution Boral Cement will make to the construction of the New Fly Ash Facility and the establishment of a significant fly ash supply business in SEQ.

¹ OOMA, clause 2.1.

- 4 Provide documents submitted to the applicant’s board or prepared by or for the applicant’s senior management for purposes of assessing or making a decision in relation to the proposed conduct and any minutes or record of the decision made.²**

Please see confidential enclosures.

- 5 Provide the names of persons, or classes of persons, who may be directly impacted by the proposed conduct (e.g. targets of a proposed collective bargaining arrangement; suppliers or acquirers of the relevant products or services) and detail how or why they might be impacted.**

The Agreement does not directly impact any persons other than Stanwell and Boral, although it may have an indirect impact on acquirers of fly ash and other fly ash suppliers in SEQ listed in section 9.1 below.

Once the facility is built and concrete grade fly ash is available from Tarong PS, all downstream industry participants would benefit from increased availability and security of fly ash.

Market information and concentration

- 6 Describe the products and/or services, and the geographic areas, supplied by the applicants. Identify all products and services in which two or more parties to the proposed conduct overlap (compete with each other) or have a vertical relationship (e.g. supplier-customer).**

Boral Cement provides various construction, cement and supplementary cementitious materials. Boral Cement has a 50 percent interest in Sunstate Cement Limited. While Boral Cement has two nominee-directors on Sunstate’s board, Sunstate is operated independently of Boral Cement. Boral Cement, and the broader Boral group, does not have a direct cement position in SEQ nor fly ash assets anywhere in Australia including in Central Queensland, Northern NSW or Victoria.

Stanwell owns and manages coal fired power stations. Stanwell also sells fly ash from both the Tarong North Power Station (South Burnett) and Stanwell Power Station (Rockhampton). The ash product from both sites is a run of station (unclassified) product.

As a result of the OOMA, Stanwell will become a supplier of fly ash to Boral Cement, subject to construction of a suitable facility by Boral Cement under the DCC.

- 7 Describe the relevant industry or industries. Where relevant, describe the sales process, the supply chains of any products or services involved, and the manufacturing process.**

See Section 6 of the Submission for an overview of the fly ash industry.

- 8 In respect of the overlapping products and/or services identified, provide estimated market shares for each of the parties where readily available.**

Not applicable. Stanwell and Boral Cement do not operate in the same market and do not compete.

- 9 In assessing an application for authorisation, the ACCC takes into account competition faced by the parties to the proposed conduct. Describe the factors that would limit or**

² Applicants are encouraged to consult with the ACCC prior to lodgement to discuss the scope and range of documents needed in the context of the proposed conduct for which authorisation is sought.

prevent any ability for the parties involved to raise prices, reduce quality or choice, reduce innovation, or coordinate rather than compete vigorously. For example, describe:

9.1 existing competitors

Boral Cement will be effectively a new entrant into the fly ash industry.

Existing suppliers of fly ash include:

- Independent Flyash Brokers;
- Cement Australia; and
- Sunstate.

For details, refer to Section 6.3 and Annexure B of the Submission.

9.2 likely entry by new competitors

Boral Cement will be effectively a new entrant into the fly ash industry. It is not aware of and cannot speak to the plans of future competitors.

9.3 any countervailing power of customers and/or suppliers

Boral Cement refers to Section 6.3 of the Submission. As indicated in Figure 1, many of the customers are vertically integrated with own sources of fly ash supply and therefore has strong countervailing power.

9.4 any other relevant factors.

See Section 8 of the Submission for Boral Cement's assessment in relation to the competitive effects of the Agreement.

Public benefit

10 Describe the benefits to the public that are likely to result from the proposed conduct. Provide information, data, documents or other evidence relevant to the ACCC's assessment of the public benefits.

See Section 9 of the Submission.

Public detriment (including likely competitive effects)

11 Describe any detriments to the public likely to result from the proposed conduct, including those likely to result from any lessening of competition. Provide information, data, documents, or other evidence relevant to the ACCC's assessment of the detriments.

No public detriments result from the Agreement. In particular, as set out in Section 7.3 of the Submission, there is no effect of substantial lessening of competition in the acquisition or supply of fly ash in SEQ given Boral Cement's new entry into the market and purpose in building a fly ash management and recycling business, all of which are likely to have the effect of increasing availability and security of supply of fly ash, as well as increasing choice to users (or potential users) of fly ash.

Contact details of relevant market participants

- 12 Identify and/or provide names and, where possible, contact details (phone number and email address) for likely interested parties such as actual or potential competitors, key customers and suppliers, trade or industry associations and regulators.**

Please see below relevant industry participants.

Company
Fly ash suppliers
Cement Australia Pty Limited
Independent Flyash Brokers Pty Ltd
Sunstate Cement Ltd
Fly ash users
Adelaide Brighton
Barro
Cordwells Concrete
Hanson PLC
Holcim Australia Pty Ltd
Neilsen's Concrete Pty Ltd
Nucon
Sunmix
Wagners Concrete

Additional information

- 13 Provide any other information or documents you consider relevant to the ACCC's assessment of the application.**


Please see Submission.

Declaration by the Applicant

The undersigned declare that, to the best of their knowledge and belief, the information given in response to questions in this form is true, correct and complete, that complete copies of documents required by this form have been supplied, that all estimates are identified as such and are their best estimates of the underlying facts, and that all the opinions expressed are sincere.

The undersigned undertakes to advise the ACCC immediately of any material change in circumstances relating to the application.

The undersigned are aware that giving false or misleading information is a serious offence and are aware of the provisions of section 137.1 and 149.1 of the Criminal Code (Cth).



Signature of authorised person

Legal representative of Boral authorised to sign this Declaration.

Office held

Louise Klamka

Name of authorised person

This 3 day of June 2020.

Boral fly ash offtake agreement at Tarong Power Station

Submission in support of application for
Authorisation

3 June 2020

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1 Executive summary

Authorisation sought

Boral Cement (the **Applicant**) and Stanwell have entered into an Offtake, Operation & Maintenance Agreement (**OOMA**) pursuant to which Boral Cement will have the exclusive right to take and purchase fly ash from Tarong Power Station (**Tarong PS**). Under a separate agreement, Boral Cement is designing and constructing a facility for this purpose (Design and Construct Contract, the **DCC**) and the exclusive rights under the OOMA are conditional on the practical completion of the facility. Together, the OOMA and DCC comprise the agreement between Boral Cement and Stanwell (**Agreement**). The OOMA is expressed as conditional upon ACCC authorisation.¹ Authorisation is sought for Boral Cement and Stanwell to give effect to the OOMA on the basis that:

- the Agreement will not result in any detriment and cannot result in a substantial lessening of competition in any market; and
- the Agreement will result in significant public benefits which outweigh any potential detriment.

The Agreement will not result in substantial lessening of competition

By virtue of the Agreement, Boral Cement will effectively become a new entrant into the market for the supply of fly ash, taking and supplying Tarong PS ash (which is not currently available to the market²) and thereby increasing the supply of fly ash within South East Queensland (**SEQ**), enhancing competition in this market as well as downstream markets.

Boral Cement's purpose in entering the Agreement is to develop a fly ash supply business and build towards an ash management and recycling business. Boral Cement will also be able to satisfy its own fly ash requirements through the OOMA and anticipates that a large proportion of the fly ash it takes will be on-supplied to third parties.

The Agreement results in Boral Cement's entry into the fly ash supply market in circumstances where it is:

- (a) capable and reasonably established to be able to become a viable competitor within SEQ and potentially beyond; and
- (b) strongly incentivised [**Restriction of publication claimed**] to maximise sales to third parties without discrimination, including because its own downstream requirements are below the minimum take or pay volumes contracted under the OOMA.

There is currently no fly ash facility at Tarong PS that enables fly ash to be taken or sold. Fly ash from Tarong PS is currently a waste product which is stored on site or at the adjacent Stanwell-owned Meandu Mine. New entry by Boral Cement will increase choice of fly ash sources and suppliers for fly ash users and is likely to increase the availability and security of fly ash supply within SEQ, and potentially beyond. The Agreement also provides Stanwell

¹ OOMA, clause 2.1.

² For completeness, we note that cenospheres, which are derived from Tarong PS fly ash, are currently sold by Stanwell to Envirospheres Pty Ltd. The current contract was the subject of notification to the ACCC on 25 May 2017 (reference N99687). Sunstate Cement Limited currently supplies fly ash sourced from Tarong North PS.

with its own classifier which, if the OOMA is terminated or expires, will give Stanwell the ability to switch off-takers or sell fly ash directly to third parties, entrenching long-term capacity within the market. These factors have the effect of promoting competition for the acquisition and supply of fly ash.

The Agreement therefore has no purpose, effect or likely effect of substantially lessening competition.

The Agreement results in significant public benefits

While the Agreement will not result in any detriment, it will deliver significant public benefits to the fly ash, concrete and construction industries, as well as the public at large, in the form of increased availability and security of fly ash. This will:

- (a) reduce the quantity of fly ash going to storage as a waste product;
- (b) promote further the use of fly ash in place of cement in the manufacture of concrete, generating considerable environmental benefits including avoiding producing cement and the better use of waste products;
- (c) encourage investment and greater offtake and use of fly ash more broadly, facilitating the realisation of cost efficiencies; and
- (d) if the OOMA is terminated or expires, provide Stanwell with the ability to switch off-takers or sell concrete-grade fly ash directly to customers on a competitive and demand-driven basis, securing the long-term efficient supply of fly ash to industry for reuse.

Term of authorisation

The OOMA has an initial term of 5 years with an option to extend for a further 5 years if certain commercial conditions are met. The Applicant therefore seeks authorisation to give effect to the OOMA for 10 years commencing from the Offtake Commencement Date (which is when all the conditions have been satisfied or waived and is likely to coincide with the practical completion date under the DCC). The Offtake Commencement Date is anticipated to be 15 March 2021.

2 Parties

2.1 Boral

Boral Limited is an international building products and construction materials group, listed on the ASX. Its major products include cement, aggregates, concrete, asphalt, bricks, roofing, masonry products and timber. Boral Limited comprises three main divisions:

- 1 Boral Australia, its Australian construction materials business;
- 2 Boral North America, a building products and fly ash business; and
- 3 USG Boral, a plasterboard joint venture with USG Corporation in Asia, Australia and the Middle East.³

³ Boral has reached an agreement with Knauf, the owner of USG Corporation, under which the USG Boral joint venture will acquire Knauf Asia Plasterboard and will sell its Middle East business to Knauf, and Boral will acquire Knauf's stake in USG

Boral Australia is an integrated, construction materials and building products manufacturer and supplier in Australia. Its cement and supplementary cementitious materials business is largely operated via a related entity, Boral Cement Limited (**Boral Cement**), which operates a network of cement manufacturing and distribution facilities in NSW, Victoria and Tasmania. In addition, the business produces lime and limestone products at its Marulan operations in Southern NSW. Boral Cement has no direct access to fly ash but has 50% interest in joint ventures in the form of Sunstate Cement Ltd (**Sunstate**) and Fly Ash Australia Pty Limited (**FAA**).

- Sunstate is a 50:50 incorporated joint venture between Adelaide Brighton Limited and Boral Cement. Sunstate is a cement manufacturer and distributor, with a capacity to produce over 1.5 million tonnes of cement a year. The company provides a range of bulk and bagged cement products and related cementitious materials, including various fly ash and slag blended cements, to commercial customers in Queensland and northern NSW.⁴ Sunstate is operated independently of its shareholders, with a separate management team headed by its General Manager. Each shareholder has 2 directors on Sunstate's board.
- FAA is a 50:50 incorporated joint venture between Boral Limited and Cement Australia Pty Ltd (**Cement Australia**) which focuses on the collection, processing, storage and distribution of quality fly ash products. FAA was formed in 1984 and has operations in NSW, South Australia and Western Australia and distributes its products throughout Australia.⁵ FAA is independently operated. It has 2 directors appointed by each shareholder and a General Manager.

2.2 Stanwell Corporation Limited

Stanwell is a Queensland Government-owned corporation. Stanwell owns coal fired power stations with a total generating capacity of more than 3,500 megawatts.⁶ It generates around one-quarter of Queensland's electricity supply and sells electricity directly to large customers along the east coast as a participant in the National Electricity Market. Stanwell's major electricity generating assets are the Stanwell Power Station near Rockhampton and the Tarong Power Station (**Tarong PS**) and Tarong North Power Station (**Tarong North PS**) in the South Burnett Region. The Tarong PS and Tarong North PS are both supplied with coal from the adjacent Stanwell-owned Meandu Mine. Boral Cement understands that Tarong PS and Tarong North PS are currently expected to close around 2037.⁷

(a) Tarong PS

Tarong PS is a 1,400 MW capacity coal-fired plant with 4 boiler units located approximately 180 km north-west of Brisbane.

When Tarong PS burns pulverised coal, fly ash is produced as a by-product. Fly ash leaves each boiler unit with the flue gas as exhaust, which is directed to one of four corresponding precipitator units. The majority of fly ash is captured in four precipitator passes where a mechanism causes fly ash to fall into precipitator ash hoppers at the base of each precipitator and it is at these hoppers that the collected fly ash can be

Boral Australia and New Zealand. See https://www.boral.com/sites/corporate/files/media/field_document/ASX-release-Boral-agreement-with-Knauf-re-USGBoral.pdf.

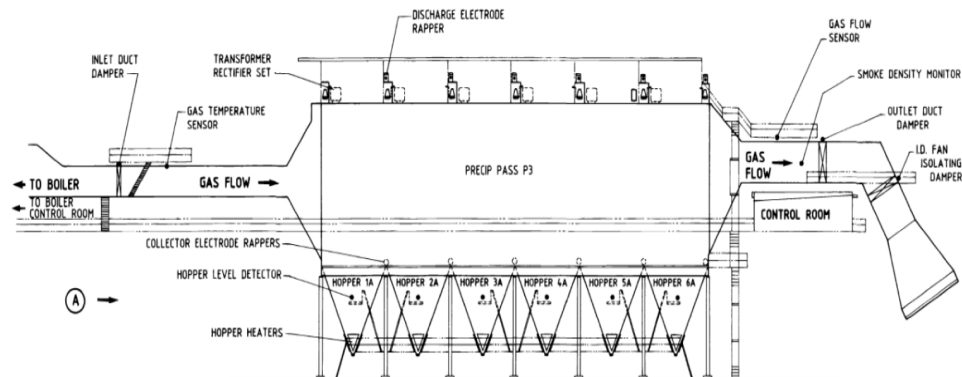
⁴ Sunstate, about us – shareholders, available at <https://sunstatecement.com.au/about-us/shareholders/>.

⁵ Flyash Australia – who we are, available at <http://www.flyashaustralia.com.au/WhoWeAre.aspx>.

⁶ Stanwell – About Stanwell, available at <https://www.stanwell.com/story/what-we-do/>.

⁷ AEMO, "Generating Unit Expected Closure Year" spreadsheet, available at <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information>.

removed. In Tarong PS, there are 48 hopper collection points on each precipitator unit, as shown in the following schematic:



Currently, fly ash is not being actively collected and removed at Tarong PS. Rather, when any of the precipitator ash hoppers detect a high level of fly ash, Stanwell's station control system will automatically convey collected fly ash to its wet ashing system which effectively washes out the hoppers with water and deposits the resulting fly ash slurry to a mine void at the adjacent Meandu Mine or onsite ash dam.

(b) Tarong North PS

Tarong North PS is an adjacent but separate power station a short distance from Tarong PS. Commissioned in 2003, Tarong North PS is a single 443 MW advanced cycle coal-fired unit, which uses supercritical boiler technology.

Tarong North PS uses a bag house to collect ungraded or "run of station" fly ash, which is then pumped to an ash silo with loadout facilities. Fly ash which is not taken by third party off-takers from Stanwell is further pumped to the mine void or ash dam in common with that currently produced by Tarong PS.

3 The Agreement between Boral Cement and Stanwell

3.1 Background

On 21 August 2019, Boral Cement and Stanwell entered into an Offtake, Operation & Maintenance Agreement (**OOMA**) which provides Boral Cement with the exclusive right to offtake fly ash from Tarong PS. This right is conditional upon Boral Cement designing and constructing a facility for this purpose, as provided for under a separate agreement, (Design and Construct Contract, the **DCC**). Together, the OOMA and DCC comprise the agreement between Boral Cement and Stanwell (**Agreement**).⁸ The OOMA is expressed as conditional upon ACCC authorisation.⁹

Copies of the executed OOMA and DCC and enclosed at **Confidential Annexure A**.

⁸ While the DCC is separate to, and independent of, the OOMA, Boral would not have entered the DCC but for the rights procured under the OOMA. Accordingly, the Agreement is treated as comprising both OOMA and DCC.

⁹ OOMA, clause 2.1.

3.2 Expression of Interest

The Agreement followed a competitive Expression of Interest process, which resulted in Boral Cement being selected to enter into the proposed arrangements.

The Expression of Interest process was conducted in May-September 2018 when Stanwell invited responses from companies with demonstrated financial and technical capability who may be interested in a strategic partnership with Stanwell for the engineering, construction and ongoing management of a new fly ash offtake facility (**New Fly Ash Facility**) at Tarong PS, and a commitment to purchase a minimum volume of fly ash.

Boral Cement does not know the number or identity of the other bidders that participated in this Expression of Interest process.

3.3 The DCC

Under the DCC, Boral Cement will design and install the New Fly Ash Facility to draw fly ash from zones 1-3 of Tarong PS's existing hoppers.¹⁰ The existing wet ashing system will remain in service to remove fly ash from zones that are not connected to the New Fly Ash Facility as well as to remove fly ash from zones where a high level of fly ash has been detected.¹¹

The New Fly Ash Facility will have a capacity of **[Restriction of publication claimed]** product tonnes per annum and will be able to handle output of fly ash from the boilers while each is operating at full 350MW generating capacity. It will include pneumatic raw feed collection from zones 1-3 of the precipitators of all four boiler units of Tarong PS, a classification mechanism to remove oversize material, and a mechanism to pneumatically convey fly ash to one of two fly ash storage silos over tanker loading and weighing capability for dispatch. Reject fly ash will be sent to the existing wet ashing system.¹²

The date for practical completion for the New Fly Ash Facility is 15 March 2021.¹³

3.4 The OOMA

(a) Exclusive right

The OOMA gives Boral Cement the exclusive right to take fly ash from the precipitator hoppers, using the product silos and transfer points it constructs under the DCC.¹⁴ Boral Cement does not have the right to take any other fly ash including surplus ash which is

¹⁰ DCC, Schedule 1, Specification for Works.

¹¹ DCC, Schedule 1, Specification for Works, 1.1, 6.2.

¹² DCC, Schedule 1, Specification for Works, 6.2.

¹³ DCC, Schedule 2.

¹⁴ OOMA, clause 1.1, definition of Equipment, and clause 4.1(a).

removed from the hoppers as part of the existing wet ash system (**Surplus Fly Ash**).¹⁵ Surplus Fly Ash will remain the property of Stanwell.¹⁶

(b) Minimum offtake

Boral Cement must use reasonable endeavours to take at least a defined minimum monthly tonnage of fly ash (**MMT**) **[Restriction of publication claimed]** This minimum requirement is supported by a 'take or pay' arrangement.¹⁷ That is, irrespective of whether Boral Cement takes the MMT in any given month, it must nonetheless pay the price set for that MMT.¹⁸

The fly ash Boral Cement will take under this arrangement will be transferred from Stanwell to Boral Cement, in relation to which the charge payable monthly is defined by a formula given in the OOMA as follows:

[Restriction of publication claimed]

(c) Third party sales

Under the OOMA, Boral Cement must each month make fly ash available for sale to third parties, subject to fly ash availability and the consumption requirements of Boral Cement and its related bodies corporate.¹⁹

In making fly ash available for sale to third parties, Boral Cement must offer the fly ash on a non-exclusive basis and on reasonable commercial terms and must use its best endeavours to maximise sales.²⁰ It must not unreasonably refuse to supply fly ash to third parties or discourage reasonable offers from third parties. Further, Boral Cement must disregard its participation, and the participation of its related bodies corporate, in any downstream market for fly ash.²¹

Boral Cement must include in third-party contracts for the sale of fly ash, terms for transport, audit, site access and use. Stanwell must approve these terms and must not withhold its approval where such terms are no less onerous than those applying to Boral Cement under the OOMA.²²

¹⁵ OOMA, clause 1.1, definition of Equipment, and clause 4.1(b).

¹⁶ OOMA, clause 4.4.

¹⁷ OOMA, clause 6.

¹⁸ OOMA, clause 4.2, **[Restriction of publication claimed]**

¹⁹ OOMA, clause 9.1(a).

²⁰ OOMA, clause 9.1(a).

²¹ OOMA, clause 9.1(a).

²² OOMA, clause 9.1(b).

(d) Maintenance of the New Fly Ash Facility

Additionally, under Part B of the OOMA, Boral Cement will provide Stanwell with operation and maintenance services in respect of the New Fly Ash Facility.

At all times, the New Fly Ash Facility will be the property of Stanwell.

(e) Term

The substantive obligations under the OOMA commence once all conditions (including ACCC authorisation and practical completion of the works under the DCC) have been satisfied or waived.²³ Once the OOMA commences, it runs for a 5-year period, renewable at the option of either party for a further 5 years **[Restriction of publication claimed]**

Thereafter, the parties may seek further extensions by agreement.²⁴

4 Boral Cement's commercial rationale for the Agreement

While Boral Australia is a user of fly ash (via Boral Concrete), it does not currently have access to a direct source of fly ash. Instead, Boral Concrete currently acquires fly ash largely from Boral Cement's joint ventures, Sunstate (in SEQ) and FAA (mainly in NSW and purchased via Boral Cement). Boral Concrete also acquires fly ash from Independent Flyash Brokers Pty Ltd (**IFB**) in SEQ.

Boral Cement's key rationale for bidding for and entering into the Agreement is to:

- take the first step in building a 'fly ash management' and 'recycling' business, as Boral North America has in other markets internationally. Boral Cement considers this to be a growth area that provides the opportunity for business growth; and
- ensure that it has a secure supply of classified fly ash for its own use.

As a waste product, fly ash can generate various environmental concerns, as discussed in section 9.3(a) below. However, Boral Cement considers fly ash to be a valuable resource that can be converted to reduce these environmental concerns and generate sustainable construction products for the benefit of the fly ash, concrete mix and construction industries and the public at large. The power generation and fly ash industries would each benefit from the reduction in waste production and the more efficient management and storage of fly ash, while the concrete mix and construction industries would benefit from the performance benefits and cost efficiencies that fly ash can deliver. These significant economic and environmental benefits would flow through to the public at large. These benefits are evident from Boral North America's heavy investment in supplementary cementitious material technology and successful fly ash business in the US.

Boral Australia hopes to build on the success and expertise of Boral North America and build a similar business in Australia. The initial steps to build national fly ash capability and a sustainable business are to (i) secure fly ash supply, (ii) develop a business to supply fly ash to its own downstream businesses and third parties in the concrete mix and

²³ OOMA, clause 2.1.

²⁴ OOMA, clause 3.3.

construction industries, and (iii) drive higher fly ash usage in those industries through developing innovative products, alternative uses and supplying fly ash more broadly.

5 Authorisation sought

The OOMA gives Boral Cement an exclusive right to acquire fly ash from the precipitator hoppers of Tarong PS on the condition that it meets its design and construction obligations under the DCC, and subject to ACCC authorisation. Therefore, under the OOMA, Boral Cement will acquire fly ash from Stanwell on the condition that Stanwell does not supply fly ash to any other parties (except possibly in relation to any Surplus Fly Ash). These arrangements do not have the purpose or effect of substantially lessening competition and, rather, are efficient and pro-competitive and therefore would not contravene section 47 or section 45 of the *Competition and Consumer Act 2010* (Cth) (CCA). Nevertheless, as part of the Agreement, Stanwell requires Boral Cement to obtain ACCC authorisation prior to giving effect to the OOMA.

Authorisation is therefore sought for Boral Cement and Stanwell to give effect to the OOMA from the Offtake Commencement Date (which is when all the Conditions Precedent have been satisfied or waived and is likely to coincide with the practical completion date for the New Fly Ash Facility) on the basis that:

- the Agreement will not result in any detriment and cannot result in a substantial lessening of competition in any market, and
- the Agreement will result in significant public benefits which outweigh any potential detriment.

Authorisation is sought for a period of 10 years to cover the Initial Term of 5 years and the option to extend the Agreement for a further 5 years. A minimum authorisation period of 10 years is appropriate given the substantial contribution Boral Cement will make to the construction of the New Fly Ash Facility and the establishment of a significant fly ash supply business in SEQ.

6 Industry overview

6.1 What is fly ash?

(a) What is fly ash?

As above, fly ash is a waste by-product of the coal burning process. It is primarily the non-combustible mineral component of black coal. Fly ash takes the form of a fine powder and can vary in colour.

Typically, about 85% of the coal combustion product exits the boiler of a coal-fired power plant as fly ash.²⁵

The quantity and quality of fly ash varies from power station to power station, as well as within a power station over time. Over time the volume and quality of fly ash available at a power station can be affected by a number of factors, including:

²⁵ L. Black, "Low clinker cement as a sustainable construction material" in *Sustainability of Construction Materials* (Second Edition), 2016 [17.3.1], available at <https://www.sciencedirect.com/topics/engineering/pulverised-fuel-ash>.

- changes to the coal source at a power station;
- changes in the power station load profile which can result in an ongoing change in fly ash quality;
- scheduled and unscheduled outages for the purposes of conducting maintenance at a power station; and
- changes in operating technology used by a power station.

(b) Regulation of fly ash

Fly ash is a "regulated waste" under the *Environmental Protection Regulation 2019* (Qld). This Regulation provides for how regulated wastes are to be handled and disposed of. Fly ash is treated as a "trackable waste" subject to obligations ensuring it is stored, transported and treated in an environmentally appropriate manner.

Chapters 8 and Chapter 8A of the *Waste Reduction and Recycling Act 2011* (Qld) provide for the making of end of waste codes (**EOWC**) which promote resource recovery opportunities for specified waste products.²⁶ EOWC ENEW07359717 covers coal combustion products including fly ash and slag and promotes the use of coal combustion products for uses including in cementitious mixes as a matter of Queensland government policy.

(c) Fly ash for use in concrete

When of suitable quality, fly ash can be used as a "supplementary cementitious material" to act as a partial substitute for Portland cement²⁷ or replacement for slag²⁸ in the manufacture of concrete. Such fly ash is referred to as 'concrete grade fly ash'.

One key factor to determining the quality of fly ash is the fineness of the fly ash. Processes such as classification and milling/grinding are therefore often used to increase the fineness of fly ash. Classification is a process where finer fly ash particles are separated from coarser fly ash particles using centrifugal force, to produce a higher average fineness fly ash. Milling or grinding of fly ash grinds the fly ash into a finer product.

Concrete grade fly ash is attractive as a partial substitute for Portland cement in concrete because it is cheaper and more readily available than Portland cement or other cement substitutes (including slag) and has comparable binding qualities. Fly ash can also improve properties of concrete such as strength, drying shrinkage, resistance to sulphate, chloride and alkali-silica reaction, and workability of the product.²⁹

(d) Alternative fly ash applications

Fly ash has a number of alternate uses, including:

²⁶ See <https://environment.des.qld.gov.au/management/waste/business/end-of-waste-classification>.

²⁷ Portland cement is obtained by quarrying limestone and other minerals, which are crushed and heated in a kiln. The resulting globular clinker is then ground to a fine powder.

²⁸ Slag (that is processed into ground granulated blast furnace slag (**GGBFS**)) can be used as a partial substitute to Portland cement and/or fly ash in concrete. Slag is produced by cooling blast furnace slag (an incombustible by-product collected from the bottom of furnaces) rapidly with water, drying and then grounding in a specialised ball mill to fineness.

²⁹ ACCC, Final Determination – Application for Authorisation lodged by Pozzolanic Enterprises, 14 July 2011, [2.13].

- *Asphalt filler*: Filler is a finely divided mineral powder. It is used to increase the stability of bituminous binder and to reduce the voids in a mix. Fillers in small concentrations have the effect of increasing the viscosity (thickness) of the binder. Fly ash can be used as a cost-effective mineral filler in hot mix asphalt paving applications;³⁰
- *Roller compacted concrete (RCC)*: RCC is a relatively dry concrete that is produced in a pugmill, placed with a paver and then rolled. It has some substantial benefits over conventional materials for the construction of major engineered structures such as dams and roads. Some projects use wet, recovered fly ash as a constituent of RCC to build safe and durable retention structures;³¹
- *Other construction materials such as bricks, construction blocks and lightweight aggregate*: bricks based on fly ash may be used as substitutes for clay bricks; bricks made from 100% fly ash are about 28% lighter and have 25% more compressive strength than clay bricks (among other benefits);³²
- *Other uses*: Fly ash may be used for soft soil stabilisation and solidification, raw feed for cement clinkers, mine reclamation, flowable fill and as soil ameliorant in agriculture.³³

Despite these alternative uses, the primary use of fly ash in Australia is as a partial substitute for Portland cement or slag in the manufacture of concrete.

6.2 Sources of fly ash in south east Queensland (SEQ) and adjacent regions

Tarong PS is located in SEQ. Sources (and approximate volumes) of fly ash within SEQ and adjacent regions are set out below.

(a) Tarong PS

Estimated annual fly ash production from Tarong PS based on expected normal generating activities in each of the zones is as follows:³⁴

[Restriction of publication claimed]

The above estimates equate to approximately [Restriction of publication claimed] tonnes of fly ash per year.

³⁰ US Department of Transportation, "Fly Ash Facts for Highway Engineers", available at <https://www.fhwa.dot.gov/pavement/recycling/fach08.cfm>.

³¹ Andrew B Aceves, "The Use of Non-Commercial Fly Ash in Roller Compacted Concrete Structures", paper for the World of Coal Ash Conference – 2011, available at <http://www.flyash.info/2011/088-Aceves-2011.pdf>.

³² Obada Kayali, "High Performance Bricks from Fly Ash", paper for the World of Coal Ash Conference – 2015, available at <http://www.flyash.info/2005/5kay.pdf>.

³³ Recycled Materials Resource Center, available at <https://rmrc.wisc.edu/coal-fly-ash/>.

³⁴ Stanwell expression of interest EOI No: SCL4511 – Fly Ash Strategic Partnership – Offtake, EPC and Management, Part 2, 1.3.

However, as noted above, fly ash is not currently being actively collected and removed. Rather, the fly ash is being deposited in mine voids at the adjacent Stanwell-owned Meandu Mine or in the onsite ash dam for storage.

(b) Tarong North PS

Estimated annual fly ash production from Tarong North PS based on expected normal generating activities is [Restriction of publication claimed].³⁵

Boral Cement believes Tarong North PS and Tarong PS provide similar quality ash.

Boral Cement understands that Sunstate takes the run of station fly ash from Tarong North PS and classifies as well as grinds it in its milling plant offsite.

(c) Millmerran Power Station (**Millmerran PS**)

Millmerran PS is near the town of Millmerran in the Darling Downs, approximately 215km west of Brisbane. Millmerran PS was commissioned around February 2003. It comprises two 425MW generating units. It was designed and operates as a base load power station. Millmerran Power Management Pty Ltd operates the Millmerran PS and coal mine for its parent company, InterGen Energy Group Holdings (Australia) Pty Ltd.

Fly ash from Millmerran PS is marketed by Millmerran Flyash Pty Ltd (**Millmerran**).

While Millmerran PS is a smaller power station, Boral Cement estimates that it has a similar rate of coal consumption and ash production as Tarong PS, with similar quality ash as Tarong PS.

Boral Cement understands that IFB, owned by a group of concrete producers and Millmerran (see **Annexure B**), has an offtake arrangement with Millmerran and estimates that IFB can supply up to [Restriction of publication claimed] of fly ash per year from Millmerran PS.

(d) Kogan Creek Power Station

Kogan Creek Power Station is operated by the other Queensland government-owned coal fired electricity generator, CS Energy. Commissioned in 2007 as a supercritical, low-environmental impact generator, Kogan Creek Power Station is in the western Darling Downs near Chinchilla and can generate up to 750MW of baseload electricity.

Currently, Boral Cement understands that coal combustion products including ash are discharged to the mine site rather than being actively taken and/or sold.

(e) Other sources

Other coal fired power plants are also sources of fly ash, including Stanwell Power Station in Rockhampton, Callide A, B and C Power Stations outside Biloela, and Gladstone Power Station at Callemondah, Gladstone.

Gladstone and Callide Power Stations produce a very high-quality fly ash (higher than Tarong PS) and have offtake arrangements with Cement Australia. The high quality of fly ash and the lower demand for fly ash in North Queensland have made it viable for

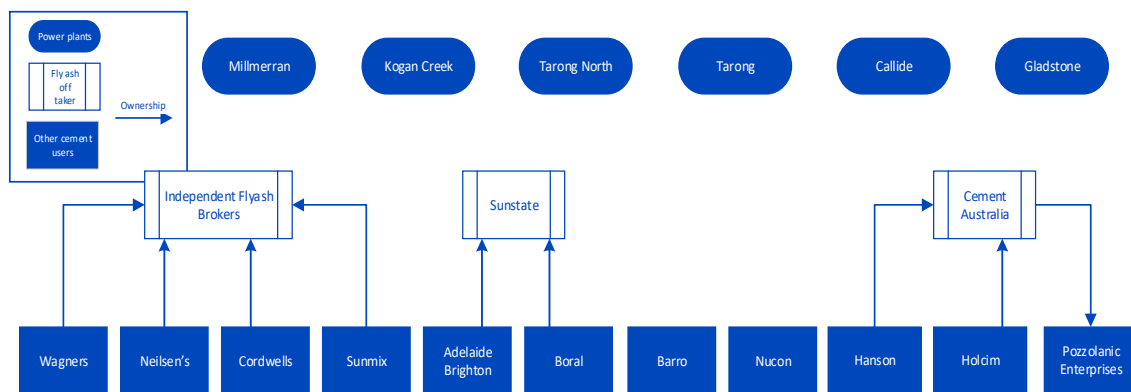
³⁵ Stanwell expression of interest EOI No: SCL4511 – Fly Ash Strategic Partnership – Offtake, EPC and Management, Part 2, 1.3.

Cement Australia to export fly ash to other areas of Australia. Boral Cement estimates that Cement Australia exports approximately [Restriction of publication claimed] of fly ash via ship to Victoria and NSW and approximately [Restriction of publication claimed] via rail and road to SEQ.

6.3 Industry participants

There are numerous participants across the supply chain. Many participants in the fly ash and cement industries are vertically integrated to varying degrees. The following diagram shows competitors in the acquisition and supply of fly ash, all of which have interests in either the downstream cement or concrete industries.

Figure 1 - SEQ industry participants



Further information on each of these industry participants is provided at **Annexure B**.

7 Framework for analysis of Agreement

7.1 Relevant market

The ACCC has previously considered the markets for the supply and acquisition of unprocessed fly ash and concrete grade fly ash in SEQ,³⁶ although it has also noted that the market may be broader than SEQ.³⁷

In the current context, in which Boral Cement is effectively a new entrant by virtue of the proposed offtake arrangement with a single power station, the distinction between unprocessed fly ash and concrete grade fly ash is not particularly meaningful in analysing the competitive effect of this Agreement. Boral Cement therefore considers the relevant product market to be 'acquisition and supply of fly ash'.

Further, Boral Cement considers that fly ash's geographical range of economic supply is related to transport costs, fly ash to cement replacement efficiency and the cost of local supply of cement, fly ash and slag.

For example, Boral Cement understands that Cement Australia is currently importing fly ash from North Queensland into SEQ, SA, Vic and NSW, and supply from SEQ into NSW

³⁶ ACCC, Final Determination – Application for Authorisation lodged by Pozzolanic Enterprises, 14 July 2011, [4.23].

³⁷ ACCC, Statement of Reasons – Coal Reuse Pty Limited – Notification – N97609, 26 November 2015, [5.7].

can be done and would commonly occur to Northern NSW. It is less likely to move into more southern areas of NSW (say Newcastle, Sydney) – many NSW participants would look to import fly ash from Asia (or North Queensland in the case of Cement Australia).

Boral Cement therefore considers that the relevant geographic market may be broader than SEQ but that it is not necessary to determine the precise geographic bounds of the market for an assessment of this Application.

These submissions therefore consider the competitive effects of the Agreement on the acquisition and supply of fly ash in SEQ.

7.2 Counterfactual

Tarong PS currently has no active off taker of fly ash. In 2014, an agreement between Stanwell and Coal Reuse Pty Limited (**Coal Reuse**) was the subject of an exclusive dealing notification to the ACCC. Under that agreement, Coal Reuse had the right to take coal combustion products (fly ash, slag and cenospheres) (**CCPs**) from Tarong PS, Tarong North PS, and Stanwell Power Station on an exclusive basis for the purpose of re-supply to third parties.

Coal Reuse was a special purpose vehicle established to operate the business of developing and managing markets for CCPs.³⁸ Coal Reuse had no interest in the concrete industry or any business which uses CCPs, but intended to act wholly as a reseller of the CCPs it acquired, and proposed to commence its business following the agreement with Stanwell.³⁹ During the notification process, concerns were expressed by industry participants that the agreement prevented other participants from direct access to the power station fly ash which would force them to rely on Coal Reuse, which had no proven ability to actually produce marketable coal combustion products. Ultimately, the notification was allowed to stand in November 2015.

However, Coal Reuse was placed in liquidation in September 2016 and the contract with Stanwell subsequently terminated.⁴⁰

Considering the above, Boral Cement considers there are three possible counterfactuals to the Agreement:

- first, the continuation of the status quo in which Tarong PS has no active off taker of its fly ash, resulting in a high degree of waste product and no increase in the supply of fly ash in the market. In this scenario, no new facility would be built, no fly ash would be taken, processed and commercialised, and Stanwell would continue to deposit fly ash via its wet ashing system.
- second, absent the Agreement, Stanwell could enter into an agreement for the construction of the facility and subsequent offtake with an alternative bidder, which may be less qualified than Boral Cement to enter the market, may require a higher volume of fly ash for self-consumption, thus reducing supply to third parties, or may have an existing fly ash business, resulting in some consolidation in this market.
- third, absent the Agreement, Stanwell could construct the fly ash offtake facility itself, and then enter into an agreement with a third party, or agreements with

³⁸ Annexure A – Submissions regarding Notification by Coal Reuse, s1.1.

³⁹ Annexure A – Submissions regarding Notification by Coal Reuse, s1.1.

⁴⁰ ASIC, Notice of meeting of members of committee of inspection, available at <<https://insolvencynotices.asic.gov.au/browsesearch-notices/notice-details/Coal-Reuse-Pty-Ltd-159537087/c9a05e3b-6608-4fcd-a28f-95a1d67d57c8>>.

multiple third parties, to take and purchase fly ash from the Tarong PS. This possible counterfactual is inconsistent with Stanwell's decision to go to market with its request for Expressions of Interest.

In any counterfactual, Boral Cement would be unlikely to enter the fly ash market as an active fly ash supplier within SEQ.

7.3 The test for authorisation

Following amendments to the CCA which came into effect on 6 November 2017, the ACCC is empowered to grant a single authorisation for conduct which may fall within a number of provisions of the CCA.

For conduct that may involve a contravention of the per se provisions of the CCA, the ACCC may grant authorisation if it is satisfied in all the circumstances:

- that the conduct would result, or be likely to result, in a benefit to the public; and
- the benefit would outweigh any detriment to the public that would result, or be likely to result, from the conduct (**net public benefits test**).

For conduct that may contravene other provisions of the CCA (as is the case for the Agreement), the ACCC may also grant authorisation if it is satisfied that the conduct would not have the effect, or be likely to have the effect, of substantially lessening competition in the relevant market(s).

“Public benefit” is not defined in the CCA but it is well established that the meaning of public benefit is broad and includes economic efficiency benefits, as well as “anything of value to the community in general”, applying a total welfare standard.⁴¹

Boral Cement submits there can, and will, be no detriment arising from the Agreement. In particular, there is no effect of substantial lessening of competition in the acquisition or supply of fly ash in SEQ given Boral Cement's effective new entry into the market and its purpose in building a fly ash management and recycling business, all of which are likely to have the effect of increasing availability and security of supply of fly ash, as well as increasing choice to users (or potential users) of fly ash.

Further, the Agreement will result in numerous and substantial public benefits, including environmental benefits, cost and efficiency benefits, and performance benefits to construction materials, which will flow through to the public at large.

The ACCC should therefore authorise the Agreement on the basis that:

- the conduct would not result in a substantial lessening of competition; and
- it satisfies the net public benefits test.

⁴¹ *Qantas Airways Limited* (2005), AcompT 9

8 The Agreement will not have an effect of substantially lessening competition in any market

8.1 Overview

The Agreement has no effect or likely effect of substantially lessening competition in any market.

The Agreement effectively results in a new entrant into the fly ash supply market, Boral Cement, that is:

- capable and reasonably established and experienced with knowledge of fly ash properties and use to be able to become a viable competitor within SEQ and potentially beyond; and
- strongly incentivised [Restriction of publication claimed] to maximise sales to third parties including because its own downstream requirements are below the minimum take or pay volumes under the OOMA. Boral does not therefore have the incentive or ability to stockpile fly ash.

Such new entry will increase choice of fly ash sources and suppliers for fly ash users and is likely to increase the availability, and thus security, of fly ash supply within SEQ and potentially beyond. The Agreement also provides Stanwell with its own classifier, which will give Stanwell the ability to switch off-takers or sell fly ash directly to third parties when the OOMA expires or terminates. These factors have the effect of promoting competition for the acquisition and supply of fly ash and can have no effect of substantially lessening competition.

This is a pro-competitive outcome compared to any of the counterfactuals described above, that is, where no arrangements are made at Tarong PS and Tarong PS fly ash continues to be a waste product that is not made available to the market, or where an alternative bidder is selected. This is because other bidders may be less qualified than Boral Cement to enter the market, may require a higher volume of fly ash for self-consumption, thus reducing supply to third parties, or may have an existing fly ash business, resulting in some consolidation in this market. Boral Cement considers that there are few companies that would be as well placed to offtake fly ash from Tarong PS, or as strongly incentivised to compete in the market for the supply of fly ash.

8.2 The Agreement results in new entry into the fly ash supply market

Boral Australia does not have a direct cement position in SEQ nor fly ash assets anywhere in Australia including Central Queensland, Northern NSW or Victoria. Its only participation in fly ash in SEQ is via Boral Cement's joint venture, Sunstate, which sources fly ash from a different power station, Tarong North PS. While Boral Cement has two nominee directors on Sunstate's board, Sunstate is operated independently of Boral Cement. Boral Australia's main interaction with Sunstate is via its related entities, collectively referred to as Boral Concrete, which acquire fly ash from Sunstate and Boral Cement, which buys significant quantities of cementitious products from Sunstate.

Currently, Boral Concrete acquires fly ash from Sunstate for its own use. From time to time, Boral Cement acquires small volumes of fly ash from Sunstate for on-supply to existing customers in SEQ as part of its broader offering of a complete East coast supply solution. [Restriction of publication claimed] once Boral Cement has its own direct fly ash source, it aims to build a fly ash management and recycling business and would

actively market the supply of fly ash in SEQ (and potentially beyond) as a standalone business proposition.

Boral Cement is therefore effectively a new entrant into the supply of fly ash in SEQ. As such, the Agreement results in a new competitor participating in the (i) acquisition of fly ash from power stations; and (ii) supply of fly ash to fly ash users. In addition, Boral Cement is an established and experienced business with knowledge of fly ash properties and use, given its participation in downstream industries. These qualities mean its entry will have a material pro-competitive effect within the market.

To the extent Boral Cement already re-supplies limited volumes of fly ash in SEQ, the Agreement would lower Boral Cement's costs of procurement and increase the efficiency and reliability of supply, as well as increase the quality of fly ash it is able to supply, to those third parties.

8.3 Boral Cement has no incentive (or ability) to withhold supply

At the time of modelling of this project in 2018, Boral Cement estimated that Greater SEQ fly ash demand was **[Restriction of publication claimed]**

[Restriction of publication claimed] There is therefore an excess supply of fly ash that far exceeds demand from existing sources within SEQ.

With fly ash demand being easily met by existing sources, there is no incentive for Boral Cement to withhold sale of Tarong PS fly ash. Conversely, as a new entrant (and given its purpose to develop a fly ash supply business), it would need to find users of fly ash to give effect to its business case and maximise its return on investment in the relationship with Stanwell.

As Boral Australia has no direct cement position in SEQ nor fly ash assets in Central Queensland, Northern NSW or Victoria, it also has limited (if any) ability to stockpile fly ash. This ability is further limited by the third-party sale provisions in the OOMA.

While Boral Cement does not know which other parties participated in the competitive process, Boral Cement is not aware of other likely bidders that would have a profile equal to it, that is, with no existing direct source of fly ash but with sufficient industry experience and resources to successfully develop a fly ash business. Other bidders may be companies that are less qualified than Boral Cement, may require a higher volume of fly ash for self-consumption or already have a direct source of fly ash in or around SEQ. Boral Cement therefore considers that the other bidders would be no better placed and/or incentivised than it is to compete to maximise the use and sale of fly ash given Boral Cement's profile (i) as effectively a new entrant in circumstances where demand is easily met by existing sources; and (ii) as a fly ash supplier **[Restriction of publication claimed]**

8.4 The Agreement requires Boral Cement to supply fly ash to third parties without discrimination

As set out above, the OOMA explicitly requires Boral Cement to use its best endeavours to maximise sales and make fly ash available for sale to third parties on a non-exclusive basis and on reasonable commercial terms. In particular, it must disregard its participation, and the participation of its related bodies corporate, in any downstream market for fly ash and not unreasonably refuse to supply fly ash to third parties or discourage reasonable offers from third parties. Certain terms of sale to third parties are also subject to approval by Stanwell.

The Agreement therefore contractually obliges Boral Cement to supply to third parties without discrimination, ensuring third party access to Tarong PS fly ash.

8.5 The Agreement strongly incentivises Boral Cement to supply fly ash to third parties

As set out above, the OOMA requires Boral Cement to take or pay [Restriction of publication claimed] fly ash [Restriction of publication claimed] Boral Cement is therefore incentivised to find uses and buyers for at least those minimum volumes.

[Restriction of publication claimed] The minimum volumes contracted under the OOMA therefore exceed Boral Concrete's own requirements.

This means that Boral Cement would need to find additional uses (e.g. via third party sales) for the remaining [Restriction of publication claimed] fly ash that it pays to take. [Restriction of publication claimed] would strongly incentivise Boral Cement to find additional users, including by actively marketing and selling to third parties, including competitors in the cement and concrete mix industries.

Boral Cement also has a strong logistics fleet in Australia, which will afford it a greater opportunity to sell Tarong PS fly ash both within SEQ and beyond. [Restriction of publication claimed]

The Agreement therefore strongly incentivises Boral Cement to maximise sales to third parties which will likely increase availability of fly ash within SEQ and potentially beyond.

8.6 Absent an arrangement of this kind, the fly ash would remain unused as a waste product

As noted above, Tarong PS currently has no active off taker for its fly ash (excluding cenospheres derived from fly ash) and Tarong PS fly ash is not being supplied into SEQ. Accordingly, absent an arrangement to sell the Tarong PS fly ash, that fly ash would remain unused and in storage as a waste product. Fly ash users in SEQ would therefore continue to largely acquire from:

- Sunstate,⁴² sourced from Tarong North PS;
- IFB, sourced from Millmerran Power Station; or
- Cement Australia, sourced from North Queensland power stations.

The Agreement with Boral Cement therefore provides the market with the additional choice and availability of Tarong PS fly ash for fly ash users, thereby increasing competition between fly ash suppliers.

8.7 The Agreement is likely to increase choice, availability and security of fly ash

The Agreement involves building the necessary equipment and facilitates the supply of Tarong PS fly ash into SEQ (and potentially beyond) and therefore increases (i) the volume of fly ash available in SEQ (and potentially beyond); (ii) the sources of fly ash available in SEQ (and potentially beyond); and (iii) the number of fly ash suppliers (with Boral Cement being effectively a new supplier of fly ash in SEQ in its own right and the

⁴²[Restriction of publication claimed]

opportunity for the facilities to be used by Stanwell or other parties in order to supply fly-ash following the expiration or termination of the OOMA.).

As noted above at section 6.1(a), the quantity and quality of fly ash varies from power station to power station, as well as within a power station over time. The increased choices and availability of fly ash would therefore also improve security of supply of fly ash to third parties.

The Agreement is therefore likely to increase competition given the improved choices as well as promote security and stability of supply, potentially encouraging further use of fly ash.

8.8 The Agreement increases competition in the medium to longer term by giving Stanwell greater bargaining power

The Agreement also has Boral Cement building a classifier that Stanwell will always own, including after termination or expiry of the OOMA. This will give Stanwell more bargaining power and ability to switch off-takers when the Agreement expires or terminates as well as the ability to sell fly ash directly to third parties when the OOMA expires or terminates. This will therefore likely encourage further competition in the future.

The Agreement therefore does not have the effect or likely effect of substantially lessening competition.

9 The Proposed Arrangements will result in significant public benefits

9.1 Overview

There are significant public benefits flowing from the Agreement.

The Agreement results in increased availability and security of fly ash for third parties that can:

- reduce the significant environmental and financial cost of fly ash going to storage as a hazardous waste product;
- promote further use of fly ash in place of cement in the manufacture of concrete generating considerable environmental benefits and underpinning investment to facilitate greater realisation of cost efficiencies;
- encourage investment and greater offtake and use of fly ash more broadly; and
- after the termination or expiry of the OOMA, provide Stanwell with the ability to sell concrete grade fly ash directly to customers on a competitive and demand-driven basis, and ultimately secure and strengthen the efficient supply of fly ash to industry for reuse.

The above provides significant benefits for the electricity generation, fly ash, concrete and construction industries as well as the public at large.

9.2 Increased availability and security of fly ash to third parties

As set out in section 8, Boral Cement is strongly incentivised (and contractually obliged) to utilise the framework in the OOMA to supply third parties with fly ash indiscriminately.

The Agreement's minimum offtake requirements and Boral Cement's existing position in and around SEQ strongly incentivises Boral Cement to maximise the use of fly ash as a replacement for cement (or slag) and sell it to all industry participants **[Restriction of publication claimed]**

The increased availability will also increase security of fly ash to third parties given the variability in quality of fly ash that can occur between and within power stations over time.

Further, due to Boral Concrete's concrete operations in SEQ and NSW, Boral Cement has access to deep product testing infrastructure to ensure that its products (including any fly ash that Boral Cement will supply to itself and third parties) meet its own technical needs and the needs of its customers and Australia Standards.

The Agreement is therefore likely to increase choice, availability and security of high-quality fly ash to third parties in SEQ (and potentially beyond), and increase competition, which will be a significant public benefit for all downstream industries.

9.3 Environmental and cost benefits from reducing fly ash going into storage

(a) Environmental benefits

Fly ash typically contains high concentrations of heavy metals like arsenic, lead and selenium that are known to cause cancer and other health problems. While mixing it with water and storing it in ash dams is an accepted method for storing fly ash, there are risks of dams overflowing in heavy rain or the wet ash mixture seeping into soil, and containment dams continue to grow each day.⁴³

As a base load power station, Tarong PS is used to meet significant levels of energy demand throughout the region at a constant rate, and therefore produces significant volumes of fly ash.⁴⁴ However, as noted above, at present, fly ash from Tarong PS is pumped to the Meandu Mine void and an on-site ash dam for storage rather than use. The satellite image below provides an indication of the size of ash dam and ash that is being stored at present.

⁴³ ABC News, "Coal ash has become one of Australia's biggest waste problems — and a solution is being ignored", 10 March 2019, available at <https://www.abc.net.au/news/2019-03-10/coal-ash-has-become-one-of-australias-biggest-waste-problems/10886866>.

⁴⁴ Stanwell, Tarong Fact Sheet, available at <http://www.stanwell.com/wp-content/uploads/Tarong-fact-sheet-August-2016.pdf>.

Figure 2: Satellite image of Tarong PS and the ash dam⁴⁵



The Agreement between Boral Cement and Stanwell will likely shift a significant proportion of the fly ash that would otherwise go to storage to being recycled and used in the construction industry (and thereby reducing the environment concerns with fly ash being in storage). The ACCC has previously recognised that reduced need to dispose of waste fly ash has substantial environmental benefits.⁴⁶

The environmental benefits facilitated by the Agreement will ultimately extend, either directly or indirectly, to the broader Queensland community, through reduction in the volume of regulated waste that is disposed of in ash dams or other landfill waste disposal sites.

(b) Cost benefits

In addition, the removal of fly ash assists coal fired power stations in the removal of a waste product and relieves powers stations from the cost and burden of arranging their own removal of this waste. It also supplies power stations with an additional supplementary income source.

9.4 Environmental and cost benefits from using fly ash in place of cement

The likelihood that the Agreement will have the effect of increasing the availability and consumption of fly ash, together with Boral Cement's investment in supplementary cementitious materials technology and industry innovation, may also promote further use of fly ash in place of cement in the manufacture of concrete.

This reduces environmental costs related to the production of concrete as well as promotes cost efficiencies.

(a) Environmental benefits

The availability and security of fly ash may encourage more suppliers to use fly ash (or existing suppliers to use more fly ash), given it can be cheaper than cement and/or slag while providing performance benefits. Certain applications also favour the use of fly ash

⁴⁵ Taken 22 November 2019.

⁴⁶ ACCC, Final Determination – Application for Authorisation lodged by Pozzolanica Enterprises, 14 July 2011 [4.115].

over other supplementary cementitious materials (e.g., concrete mixes used in road surfacing), and the availability and security of fly ash may encourage suppliers to expand to or focus more on those applications.

Boral Cement also has a strong innovative culture, having invested in its own Innovation Factory in 2012. It is heavily invested in supplementary cementitious materials technology and through these technology and innovations, may drive further applications with higher fly ash proportions, and in turn drive demand for fly ash use (in concrete or otherwise).

Environment benefits of increasing use of fly ash in place of cement are considerable.

Fly ash may be substituted for Portland cement at rates varying between 1:1 (1 tonne of Portland cement for 1 tonne of fly ash) to 2:3 (2 tonnes of Portland cement for 3 tonnes of fly ash) depending on the quality and properties of the fly ash. Boral Cement estimates production of 1 tonne of Portland cement produces 1 tonne of carbon emissions, and the production of Portland cement contributes about 8% of world carbon dioxide emissions.⁴⁷ By contrast, the emissions associated with the production of fly ash are already and unavoidably made in electricity generation by coal-fired power plants, and the subsequent collection and grading of the fly ash produces only minimal emissions. Accordingly, every tonne of fly ash used as a substitute for Portland cement in Boral Cement, or in cement marketed by competitors using fly ash sold by Boral Cement under the OOMA, will save between 1 and 0.67 tonnes of carbon emissions.⁴⁸

Effectively utilising fly ash is also energy efficient, to a degree estimated as 0.7% energy reduction per 1% substitution of fly ash for Portland cement.⁴⁹ This has additional environmental public benefits in electricity savings.

Finally, by using less cement in concrete, natural inputs into cement such as limestone, which is a finite resource, can be reduced and conserved.

(b) Cost benefits

To the extent the Agreement will increase the use of fly ash as a partial substitute for cement, it will also reduce the costs associated with the manufacture of concrete.

Cement is a highly capital-intensive product to manufacture.

In SEQ, clinker (used for Portland Cement), some cement⁵⁰ and slag are imported. As a rough estimate, Boral Cement considers the differentiation between cement, slag and fly ash selling prices before transport costs would be approximately **[Restriction of publication claimed]** respectively.

⁴⁷ Beyond Zero Emissions, "Rethinking Cement", available at <https://bze.org.au/research/manufacturing-industrial-processes/rethinking-cement/>.

⁴⁸ Boral 2019 Review, incorporating Boral's 2019 Sustainability Report, page 34, available at https://www.boral.com/sites/corporate/files/media/field_document/3758-BOR-Review-2019-FINALWEB-sml.pdf.

⁴⁹ Portland Cement Association, R&D Serial No. 2137a "Environmental Life Cycle Inventory of Portland Cement Concrete", July 2002, page 21. http://www.nrmca.org/taskforce/item_2_talkingpoints/sustainability/sustainability/sn2137a.pdf.

⁵⁰ Eg, Southern Cross Cement imports cement.

As such, using fly ash as a partial substitute for cement will decrease the overall cost of production, enabling concrete mix suppliers to compete more vigorously, which may lead to further price reductions downstream.

The ACCC has also previously noted that increased security of access to fly ash may underpin investment in the assets required to process fly ash for use in concrete, and thereby promote greater realisation of such cost efficiencies and which is likely to result in public benefits.⁵¹

9.5 Benefits from broader use of fly ash

The availability (and security) of fly ash, Boral Cement's innovative culture and its existing know-how from its Boral North America fly ash business may also promote further uses of fly ash.

As above, Boral Cement is heavily invested in supplementary cementitious material technology and has a strong innovation culture, having developed additives that beneficiate fly ash. Innovation and development into alternative uses of fly ash (beyond being a partial substitute to cement) could further increase the use of fly ash more generally into the industry, further reducing fly ash going into storage (and the associated environmental concerns). It is Boral Cement's intention to commercialise new products that utilise high volumes of fly ash into the future. It is also Boral Cement's intention to export fly ash out of the SEQ region and increase fly ash usage via new demand-based innovation that may allow for an increase in the total proportion of fly ash (as a percentage of total supplementary cementitious material).

The ACCC has previously accepted that certainty of availability of fly ash may encourage investment and greater offtake of fly ash, and that such certainty provides a public benefit.⁵²

9.6 Efficient acquisition of assets

At all times during the term of the Agreement, Stanwell will own the New Fly Ash Facility. From the conclusion of the OOMA, it will additionally be able to operate the New Fly Ash Facility and will no longer be reliant on the cooperation of a commercial off taker or service provider. It will instead be able to sell concrete grade fly ash directly to customers on a competitive and demand-driven basis. It could alternatively issue a new tender for the operation and maintenance of the New Fly Ash Facility. This will ultimately secure and strengthen the efficient supply of fly ash to industry for reuse.

10 Conclusion

For the reasons set out in this submission, Boral Cement submits that the Agreement:

- will not have the effect, and would not be likely to have the effect of substantially lessening competition in any market, including the SEQ market for supply of fly ash; and
- will result, or be likely to result, in a benefit to the public, and the benefit would outweigh the detriment to the public that would result, or be likely to result, from the

⁵¹ ACCC, Final Determination – Application for Authorisation lodged by Pozzolanic Enterprises, 14 July 2011, [4.127].

⁵² ACCC, Final Determination – Application for Authorisation lodged by Pozzolanic Enterprises, 14 July 2011, [4.119].

conduct (because the Agreement will generate significant public benefits without any public detriments),

and should therefore be granted authorisation for a period of 10 years.

Confidential Annexure A: Executed copies of the OOMA and DCC

[Restriction of publication claimed]

Annexure B: Industry Participants

1 Independent Flyash Brokers Pty Ltd (IFB)

IFB is an independent processor and marketer of coal combustion products including graded fly ash and bottom ash, operating out of Millmerran PS. Boral Cement understands IFB was established in about November 2005 to be a joint commercial venture between several concrete producers, namely:

- Wagners Flyash Pty Ltd (which holds about 60%);
- Neilsen's Concrete Pty Ltd (which holds about 27%);
- Ailort Pty Ltd, trading as Cordwells Concrete (which holds about 7%);
- Sunmix Concrete Pty Ltd (which holds about 6%); and
- Millmerran Flyash Pty Ltd (as marketer, which holds about 1%).

IFB owns and operates a fly ash and slag processing facility located on the site of Millmerran PS. This facility pneumatically pumps fly ash to classifiers and 4,200t silos for loading into tanker trucks for conveyance to market.⁵³ The system was designed to facilitate 24-hour collection of fly ash, with truck drivers able to take on loads automatically through a key card access system.⁵⁴

Boral estimates IFB can produce around [Restriction of publication claimed] of saleable fly ash each year.

2 Wagners

Wagners is a leading producer of construction materials and services for both Australian and international markets. The company was established in 1989 in Toowoomba, Queensland and is now an ASX-listed business.⁵⁵

The Wagners' business model has two main business units – New Generation Building Materials (NGBM) and Construction Materials and Services (CMS).⁵⁶

The NGBM division specialises in high-strength, lightweight, low-carbon alternatives to traditional construction materials. The CMS division manufactures and sells cement, concrete, fly ash, reinforcing steel and aggregates. Its expanding network of concrete plants gives it a convenient source of pre-mixed concrete for projects.⁵⁷

⁵³ The AsianCAA Blog, "China and Australian Coal Combustion Products Exchange: Millmerran Power Station and Independent Fly Ash Brokers", 15 December 2016, available at <http://www.asiancoalah.org/news/2016/12/15/china-and-australian-coal-combustion-products-exchange-millmerran-power-station-and-independent-fly-ash-brokers>.

⁵⁴ Ash Development Association of Australia, "Fly Ash Classifying & Load Out Facility at Millmerran P.S.", December 2008, available at http://www.adaa.asn.au/uploads/default/files/adaa-coal_ash_matters_dec_08.pdf.

⁵⁵ Wagners 2019 Annual Report, <https://investors.wagner.com.au/media/1080/2019-annual-report-final-version.pdf>.

⁵⁶ Wagners 2019 Annual Report, <https://investors.wagner.com.au/media/1080/2019-annual-report-final-version.pdf>.

⁵⁷ Wagners 2019 Annual Report, <https://investors.wagner.com.au/media/1080/2019-annual-report-final-version.pdf>.

Boral Cement understands Wagners has 6 concrete plants in and around Brisbane and Toowoomba⁵⁸ and a cement grinding facility at Pinkenba, Brisbane, with a capacity of 1.3 MTPA.⁵⁹ This facility is part of a 62,000 square metre site on the Brisbane River, less than 5km from the Port of Brisbane. The facility is the largest, independently owned cement production facility in SEQ and in 2017 could grind around 0.5Mtpa of cement, with a capacity to expand to 0.8Mtpa.⁶⁰ Boral Cement understands Wagners also has a grinding plant at its Pinkenba facility which has the capacity to produce GGBFS, and which it uses to produce GGBFS for its own blended cement products.

Wagners, through Wagners Flyash Pty Ltd, holds 60% of IFB.

3 Neilsen's

Neilsen's Concrete Pty Ltd (**Neilsen's**) began trading in 1993. It produces and supplies premixed concrete, concrete aggregate, quarry products and fly ash, and has internal capacity to transport and deliver each of these products. It owns 5 batching plants, at Brendale, Carole Park, Windsor, Stapylton and Beaudesert,⁶¹ all in SEQ. Further, Neilsen's, through its Southern Cross Cement joint venture with Brickworks and Neumann Group, recently announced a new cement terminal at the Port of Brisbane. The terminal will have a capacity of 200,000tpa up to 400,000tpa and will receive imports from southeast Asia. The joint venture announced it would have the capacity to serve 10% of the SEQ market.⁶² The terminal has been up and running since October 2019.

Neilsen's is part of the Neilsen Group, which also contains 3 other main entities: Neilsen's Quality Gravels Pty Ltd, Neilsen's Transport Pty Ltd, and Alberton Investments Pty Ltd.

4 Cordwells

Cordwells Concrete is based at Yandina in Queensland. It has operated since 1965 and supplies a range of ready mixed concretes, sand, aggregates and landscaping products and services to the Sunshine Coast and surrounding areas.⁶³ It supplies concrete aggregates and sands to the civil construction industry as well as a wide variety of very good fill and blended road base materials.⁶⁴

Cordwells has services offerings ancillary to cement. It offers a NATA accredited laboratory in the field of construction materials testing which offers testing in accordance with Australian Standards and Queensland Department of Transport and Main Roads test methods and specifications. It also offers site supervision and geo-technical technicians.⁶⁵

⁵⁸ <https://www.wagner.com.au/main/what-we-do/concrete-site-batch-plants/concrete-site-batch-plants-home>.

⁵⁹ <https://www.wagner.com.au/main/what-we-do/cement,-flyash-lime/about-us>.

⁶⁰ Wagners Ltd, Prospectus on an Initial Public Offering of 72.6 million ordinary shares, November 2017, available at <https://www.asx.com.au/asxpdf/20171208/pdf/43q0b0sb8d4sfm.pdf>.

⁶¹ Neilsens, "Introducing our newest Concrete Batching Plant", 13 March 2017, available at <https://neilsens.com.au/introducing-newest-concrete-batching-plant/>.

⁶² CemNet, "Southern Cross Cement plans new terminal in Brisbane", 15 July 2019, available at <https://www.cemnet.com/News/story/166952/southern-cross-cement-plans-new-terminal-in-brisbane.html>.

⁶³ https://cordwells.com.au/?page_id=10.

⁶⁴ https://cordwells.com.au/?page_id=400.

⁶⁵ <https://hipages.com.au/connect/cordwells>.

5 Sunmix

Sunmix Concrete Pty Ltd (**Sunmix**) is a small independent pre-mixed concrete manufacturer operating in SEQ, servicing southside Brisbane, Logan and Beaudesert areas.⁶⁶ Sunmix operates a fleet of Mack trucks to deliver pre-mix concrete from two batching plants, at Kingston and Beaudesert. Sunmix supplies and delivers a wide and varied range of pre-mixed concrete throughout SEQ, catering to customer's individual projects including: Commercial, Industrial, Civil, Domestic, Exposed concrete, Coloured concrete, and State and Local Government Projects.

6 Cement Australia

Formed from a merger of Queensland Cement Ltd and Australian Cement Holdings, Cement Australia Holdings Pty Ltd is a large manufacturer and distributor of bulk and packaged cement products including aggregates, pre-blended and bulk cement, mortar and render, sands and additives, fly ash, lime and slag. It is jointly owned by subsidiaries of the Switzerland-based LafargeHolcim Ltd and the Germany-based Heidelberg Cement AG.

Its subsidiary, Cement Australia Pty Limited (**Cement Australia**), manufactures general purpose cement and general blended cements including customised blends for special applications. In addition, it supplies concrete-grade fly ash and GGBFS along with high-grade lime products.

Cement Australia operates two cement plants and a grinding station on the east coast and in Tasmania, with a total annual capacity in 2013 of 4.2 million tonnes of cement.⁶⁷ Further, a grinding station in Port Kembla with an annual capacity of 1.1 million tonnes.

It also provides supplementary products through the following subsidiaries:

- **Geocycle**, which provides industrial waste management services with a focus on sustainability;
- **Cornwall Coal Company**, which operates a coal processing plant, underground and open cut coal mines in Tasmania; and
- **Pozzolanic Enterprises**, which processes and distributes fine grade fly ash and related products.

Cement Australia is owned by LafargeHolcim and Hanson in equal shares.

Boral Cement believes Cement Australia receives its fly ash from the Callide and Gladstone power plants.

7 Holcim

Holcim Australia Pty Ltd (Holcim) is the local subsidiary of Swiss multinational LafargeHolcim AG. LafargeHolcim AG was created through a \$US50bn merger of

⁶⁶ <http://sunmix.com.au/>.

⁶⁷ <https://www.lafargeholcim.com/holcim-and-heidelbergcement-intend-joint-control-cement-australia>.

Lafarge and Holcim in 2014 and has been delivering construction materials since 1901, being the world's largest cement producer. It operates a network of more than 150 concrete plants, 900 mixer trucks and mobile and on-site facilities across Australia. It also operates 12 precast concrete factories and 65 quarry operations to source material, and an extensive range of technical and testing services through its own laboratory facilities in all major centres.

Holcim further provides contracting operations include mobile crushing, screening and quarrying equipment.⁶⁸ Holcim's sites around SEQ number more than 50, including 25 in the Brisbane area.⁶⁹ It produced an estimated revenue from sales in 2018 of over \$1.7b.⁷⁰

LafargeHolcim AG holds 50% of Cement Australia.

8 Hanson Australia

Hanson Australia is part of the multinational HeidelbergCement Group. HeidelbergCement describes itself as a global leader in aggregates and has leading positions in cement, concrete and heavy building products. Hanson Australia provides concrete and aggregate products across Australia.⁷¹

Hanson Australia operates, through joint ventures (including Cement Australia), 2 cement plants, 2 grinding plants and 5 cement terminals, and either singly or through joint ventures 75 aggregate plants and 228 ready-mix concrete plants.⁷² It has around 30 locations in SEQ.⁷³

Hanson Australia holds 50% of Cement Australia.

9 Nucon Concrete

Part of the Nucrush Companies owned by the Neumann Group, Nucon Concrete supplies concrete to residential, commercial, governmental and infrastructure projects in and around SEQ and northern NSW. It has been operating since the 1960s and has eight concrete plants,⁷⁴ as well as 9 locations in SEQ, including at Burleigh Heads, Southport, Oxenford, Carrara, Currumbin and Logan.⁷⁵

The broader Neumann Group includes businesses performing development and contracting functions and providing construction materials including steel, river and corridor sands.⁷⁶

⁶⁸ <https://www.holcim.com.au/about-us/at-a-glance>.

⁶⁹ <https://www.holcim.com.au/locations>.

⁷⁰ <https://www.ibisworld.com.au/australian-company-research-reports/manufacturing/holcim-australia-holdings-pty-ltd-company.html>.

⁷¹ <https://www.hanson.com.au/about-us/>.

⁷² <https://www.heidelbergcement.com/en/australia>.

⁷³ <https://www.hanson.com.au/about-us/locations/>.

⁷⁴ <https://www.nucrush.com.au/about-us>.

⁷⁵ <https://www.nucrush.com.au/locations>.

⁷⁶ <https://www.neumann.com.au/>.

10 Barro Group

Operating since 1946, Barro Group is a fully integrated resources, manufacturing and distribution organisation running over 45 operating sites. Barro Group manufactures, markets and distributes premixed concrete from various locations including Mount Cotton south of Brisbane, as well as Townsville, Gladstone and locations in NSW and Victoria.⁷⁷ It has several brands for the distribution of concrete in southern Australia, including Pronto Concrete and Geelong Premixed Concrete.

Barro Group is also a substantial shareholder in Adelaide Brighton Limited, holding around 43% of that company and is known to be considering a merger.⁷⁸

Barro Group also operates, with Adelaide Brighton Limited, the joint venture Independent Cement and Lime Pty Ltd, a specialist supplier of cement and cement blended products throughout Victoria and NSW and the exclusive distributor of cement for Adelaide Brighton Limited.⁷⁹

11 Adelaide Brighton Limited (Adelaide Brighton)

Adelaide Brighton is the second largest supplier of cement and clinker products in Australia and the largest importer of cement in Australia. It offers cementitious products nationwide. Established in 1882, Adelaide Brighton is now an ASX200 company with operations in every state and territory of Australia.

Adelaide Brighton's pre-mixed concrete and aggregates business now extends to SEQ, in addition to South Australia, Victoria, NSW and the Northern Territory. It maintains strategic reserves of aggregates, including in SEQ.

Adelaide Brighton, in its 2018 sustainability report, noted its use of by-products from industrial processes, including slag and fly ash, in substitution for cement, rose to over 25% in 2018. This was reported to correspond to a roughly 1,000,000 tonne greenhouse gas emission saving.⁸⁰

Adelaide Brighton participates in the following joint ventures relevant to fly ash:

- **Sunstate**, its cement distribution operation in Queensland, is operated as a joint venture with Boral Cement;⁸¹
- **Independent Cement and Lime** in NSW and Victoria with Barro;⁸²
- **Mawson Group**, the largest premixed concrete and quarry operator in northern regional Victoria;⁸³

⁷⁷ <https://barro.com.au/about/>

⁷⁸ Simon Evans, "ACCC probes Barro stake in Adelaide Brighton", 25 October 2019, available at <https://www.afr.com/companies/infrastructure/accc-probe-into-barro-stake-in-adelaide-brighton-20191025-p5344d>

⁷⁹ <https://barro.com.au/divisions/cement-2/>

⁸⁰ <https://adbri.com.au/-/adbri/lib/pdfs/2016/reports/AR%202018%20-%20Sustainability%20Report%20Complete.pdf>

⁸¹ <https://adbri.com.au/aboutus#profile-exp>.

⁸² <https://adbri.com.au/aboutus#profile-exp>.

⁸³ <http://www.mawsons.com.au/>.

- **Burrell Mining Services**, which manufactures a range of concrete products exclusively for the coal mining industry through operations in NSW and Queensland;⁸⁴
- **Aalborg Portland Malaysia Sdn Bhd**, which manufactures and sells white cement and clinker to the domestic Malaysian market and exports to markets throughout southeast Asia and Australia.⁸⁵

As well as its own name, Adelaide Brighton sells cement products under the following brands:

- **Cockburn Cement**, a major producer of cement and the only lime producer in Western Australia;⁸⁶
- **Northern Cement**, the largest local manufacturer and supplier of cement and quicklime to major resource and infrastructure projects in the Northern Territory and the Kimberley;⁸⁷
- **Swan Cement**, which works within the hardware retail, residential and commercial construction markets in Western Australia;⁸⁸
- **Morgan Cement**, a cement grinding facility that supplies a range of bulk cement products into the NSW building, construction and infrastructure markets, through its joint venture partner, Independent Cement and Lime;⁸⁹
- **The Hy-Tec Group**, suppliers of premixed concrete, aggregates and sands to the commercial, industrial, civil and residential construction sectors in the Darling Downs, Townsville and SEQ, Sydney and Melbourne metropolitan areas, northern New South Wales and the Northern Territory. The Hy-Tec Group is comprised of Hy-Tec Industries Pty Ltd (NSW), Aus10 Rhyolite Pty Ltd (Austen Quarry), Hurd Haulage Pty Ltd, Hy-Tec Industries (Queensland) Pty Ltd, Hy-Tec Industries (Victoria) Pty Ltd and Hy-Tec Industries (Northern Territory) Pty Ltd;⁹⁰
- **Direct Mix Concrete**, a South Australian ready-mix concrete supplier;⁹¹
- **Central Pre-Mix Concrete**, a Victorian concrete supplier;⁹²
- **Davalan Concrete**, an Adelaide based concrete business which operates four plants in the South Australian market;⁹³ and
- **Adbri Masonry**, a masonry manufacturer supplying quality concrete bricks, blocks, pavers, retaining walls, erosion control products, architectural masonry solutions and reconstituted stone veneers on the East Coast and South Australia.

⁸⁴ <https://adbri.com.au/ourbusinesses#joint-ventures-exp>.

⁸⁵ <http://www.aalborgportland.com/>.

⁸⁶ <http://cockburncement.com.au/about-us/>.

⁸⁷ <http://northerncement.com.au/>.

⁸⁸ <http://swancement.com.au/about-us/>.

⁸⁹ <https://www.morgancementcommunity.com.au/about-us>.

⁹⁰ <https://www.hy-tec.com.au/>.

⁹¹ <https://directmix.com.au/about-us/>.

⁹² http://www.centralpremix.com.au/html/about_us.html.

⁹³ <http://www.davalan.com.au/>.