PUBLIC DISCLOSURE STATEMENT

BORAL CONSTRUCTION MATERIALS LTD

PRODUCT CERTIFICATION
2020-21 (PROJECTED)

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY: Boral Construction Materials Ltd

REPORTING PERIOD: 1 July 2020 – 30 June 2021 (projected)

Declaration

To the best of my knowledge, the information provided in this Public Disclosure Statement is true and correct and meets the requirements of the Climate Active Carbon Neutral Standard.

Signature  Date 28 May 2021

Name of Signatory Rod Wallace

Position of Signatory National Environment & Sustainability Manager

Australian Government
Department of Industry, Science, Energy and Resources

1. CARBON NEUTRAL INFORMATION

Description of certification

As part of Boral's commitment to sustainability, Boral has obtained an opt-in Carbon Neutral product certification for its pre-mixed concrete products produced in NSW/ACT. This product certification aligns with the Boral Australia Pre-Mix Concrete Environmental Product Declaration (EPD). Released in 2021, our range of EPDs captures a large number of product variations (i.e. mix designs) including some of Boral's lower carbon, high performance pre-mixed concrete products such as ENVISIA. This is also complemented with some more conventional mix designs produced at key Boral concrete batch plants across New South Wales (NSW) and the Australian Capital Territory (ACT).

"Boral is committed to continually improve our processes to minimize, and where possible eliminate, environmental risks to achieve our goal of Zero Harm Today."

The EPDs help us support our customers in delivering on their sustainability goals by providing externally verified transparent and comparable information about life-cycle environmental impact of a range of our pre-mix concrete products. The life cycle assessment (LCA) from the EPD is also being built into a carbon calculator, which can be used to determine the life cycle greenhouse gas emissions of any given concrete product type and of any quantity. The EPD and carbon calculator LCA methodology is in accordance with the international standards ISO 14025, ISO 14040 and ISO 14044 and has been verified to be compliant with EN 15804. As such, the carbon accounting within the EPD and carbon calculator closely aligns with those principles set out in the Climate Active Product and Services Standards. The streamlined EPD certification pathway with Climate Active has therefore been adopted to cover the scope of this carbon neutral certification.

Carbon neutral products are available to Boral customers on an opt-in basis. This will allow carbon neutral certification to be applied on a project and/or client basis. The type and quantity of concrete products supplied to a project and/or client can be negotiated with carbon offset requirements determined using the EPDs or carbon calculator. The total carbon emissions inventory to be offset will be assessed annually based on the quantity of carbon neutral certified products sold.

The baseline emissions reported in this document are for FY2021, which is the first year of certification.

The functional unit is defined as *1 cubic metre (m^3) of pre-mix concrete (as ordered by client) with a given strength grade and identifying characteristics*.

Organisation description

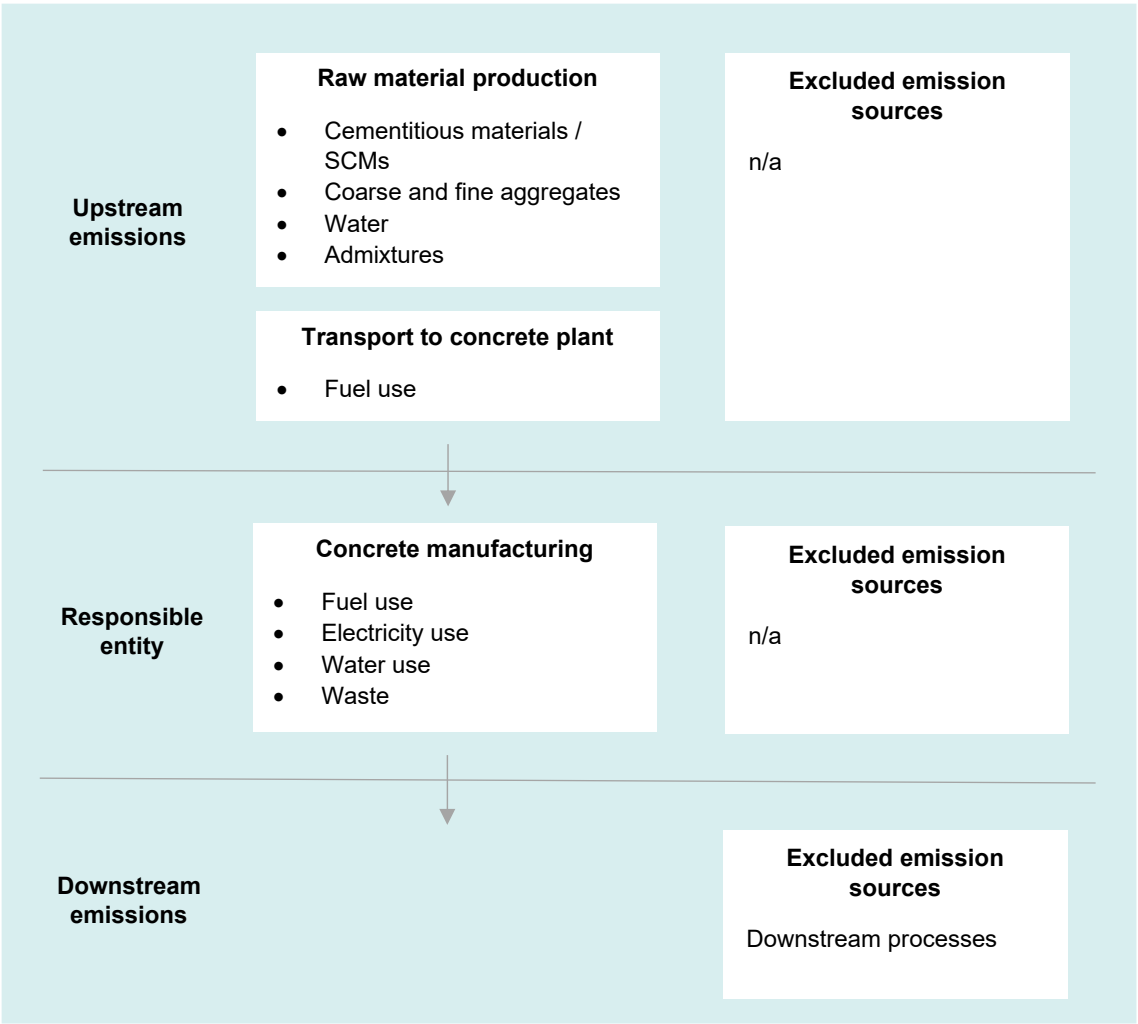
Boral is the largest integrated construction materials company in Australia, with a leading position underpinned by strategically located quarry reserves and an extensive network of operating sites. We also manufacture and supply a range of building products.

Boral Concrete is a supplier to industrial, commercial and residential building projects combining technical expertise and on-site capability. Boral Concrete has over 230 pre-mix concrete plants around Australia (of which 96 in NSW/ACT) producing a wide range of concrete mixes in metropolitan and country areas.

Boral's focus is on reducing the environmental footprint of our operations as well as meeting the needs of our customers who are increasingly looking to use more sustainable products. We are increasing our investment in innovation to enable us to expand our products and solutions that have a lower carbon footprint and thereby positively contribute to an effective transition to a lower carbon economy. Boral's ENVISIA® and Envirocrete® products underpin this improved sustainable concrete range. These products contain Supplementary Cementitious Materials (SCM) to reduce the high emissions associated with cement content in the manufacturing process. These products, however, do not compromise on performance outperforming conventional concretes in terms of shrinkage and creep. These products are captured within the scope of Boral Australia's range of Pre-Mix Concrete EPDs and subsequently this carbon neutral certification.

Product/service process diagram

The following diagram covers the cradle-to-gate life cycle stages of concrete. Downstream life cycle stages are not included as the concrete can be used for a large number of potential applications in infrastructure projects or industrial, commercial and residential building projects. Furthermore, full life cycle LCAs show that downstream stages typically contribute only marginally to pre-mix concrete's GHG emissions.[1]



The contribution of capital goods (production equipment and infrastructure) and personnel is outside the scope of the LCA, in line with the Product Category Rules.[2]

[1] For example, see figure 2 in: R Frischknecht et al 2019 IOP Conf. Ser.: Earth Environ. Sci. 323 012037
[2] International EPD System PCR2012:01 (version 2.33), Product category rules according to ISO 14025 and EN 15804, Combined PCR and PCR Basic Module for Construction products and Construction services, registration number 2012:01, published on 18 September 2020.

2. EMISSION BOUNDARY

Diagram of the certification boundary

The following diagram shows an overview of emission sources considered.

Quantified

Electricity

Stationary energy used in production

Fuels used in equipment

Fuels used in materials transport

Process emissions (clinker production)

Explosives (quarries)

Water

Waste

Non-quantified

n/a

Excluded

Downstream life cycle stages

Non-attributable

Capital goods

Personnel

Attributable non-quantified sources

All attributable sources have been quantified.

Data management plan

All attributable sources have been quantified. Therefore, a data management plan for non-quantified sources is not relevant.

Excluded sources (within certification boundary)

Downstream life cycle stages (i.e. gate-to-grave) are outside the scope of the EPD and therefore this carbon account. The impact of downstream life cycle stages (e.g. transport to construction site, construction, use, disposal) is relatively minor, but shall not be considered zero.

Non attributable sources (outside certification boundary)

The contribution of capital goods (production equipment and infrastructure) and personnel is outside the scope of the LCA, in line with the Product Category Rules.[2]

This is consistent with EPDs of construction products and has been verified by a qualified technical professional: Rob Rouwette, start2see (registered consultant).

"We are progressing strategies to leverage the opportunities of a lower carbon economy and to further mitigate our climate change risks."

3. EMISSIONS SUMMARY

Emissions reduction strategy

Boral is committed to continually improve our processes to minimize, and where possible eliminate, environmental risks to achieve our goal of Zero Harm Today. Boral is making progress towards full alignment with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We are also progressing strategies to leverage the opportunities of a lower carbon economy and to further mitigate our climate change risks. Our approach to addressing climate change is focused on three interrelated priorities:

- Reduce the carbon footprint of our operations and value chain
- Grow revenue from lower carbon construction materials and building products
- Strengthen resilience by mitigating our climate change risks.

In FY2018, we set three climate-related goals:

- Reduce our GHG emissions intensity (tonnes GHG/$m revenue) by 10-20% by FY2023
- Deliver annual growth in share of revenue from lower carbon, high-recycled-content products, and
- Reduce CO_2-e in the supply chain by 1.1-1.5 million tonnes by increasing fly ash supply by FY2022.

Replacing general purpose cement with supplementary cementitious materials to produce lower carbon high performance pre-mix concrete products is key to Boral's emissions reduction strategy. Boral Australia's Pre-Mix Concrete EPDs and carbon neutral certification supports this strategy through providing externally verified transparent and comparable information about our range of pre-mix concrete products. This assists with the sustainable procurement of construction materials supplies and enables our customers to deliver on their sustainability goals.

Functional units

Boral estimates that concrete supplied to a single project in Canberra will make up the total volume of carbon neutral concrete sold in FY21. To demonstrate commitment to carbon neutrality for FY22, Boral has purchased offsets in advance to cover an additional 3,000 m^3 of concrete to be sold in NSW/ACT as carbon neutral.

Table 1

	Number of functional units
a) Number of functional units sold this period	634 m^3
b) Number of functional units to be forward offset demonstrating commitment to carbon neutrality (true-up to be conducted at the end of the reporting period)	

Emissions summary (inventory)

Boral has undertaken a comprehensive life cycle assessment of a wide range of our pre-mix concrete products, allowing us to calculate the emissions intensity of each product individually (based on product mix designs and the concrete plant where it is manufactured). Table 3 shows the cradle-to-gate emission factors per m^3 of pre-mix concrete for a range of normal and low-carbon products produced in Sydney, Newcastle, Wollongong and Canberra as examples. A complete list of products (including Concrete for Special Applications) is available in our NSW/ACT pre-mix concrete EPD. When determining the emissions associated with concrete supplied to a client or project, we will use the actual product intensity and volume of concrete product(s) supplied to arrive at an accurate carbon footprint for the consignment. Note: in line with our NGER reporting, we have applied a location-based approach to electricity in the LCA. As the breakdown below shows, concrete production makes up only 1-3% of the GHG emissions of pre-mix concrete (mainly electricity and diesel use on-site) and a further breakdown of emission sources was considered trivial. The vast majority of emissions are coming from the raw materials (especially cement) used to make concrete. The emissions vary per product (with mix designs) and hence a typical percentage breakdown is provided across concrete products.

Table 2

Emission source category	**tonnes CO_2-e ***
Raw materials (cement, slag, fly-ash, ZEP®, aggregates, admixtures, water)	90-95%
Transport of raw materials to the concrete plant	5-10%
Concrete production process	1-3%
1. *Total inventory emissions (based on total production volume in NSW/ACT per year)***	500,000 - 1,000,000 t CO_2e
2. *Emissions per functional unit*	~0.280 t CO_2e***
3. *Carbon footprint (based on the number of functional units and mixes represented by the forecast inventory for FY21)*	160 t CO_2e

* The contribution of emission sources is provided in percentages to indicate the varying contribution depending on concrete mix designs.

** The exact value is unknown as it will depend on the volume and type of concrete sold within the reporting period. As the sales volume is confidential, a wide range is provided.

*** 0.280 t CO_2e/m^3 is an estimate across our range of products. The actual footprint is based on mix designs of the products sold as carbon neutral (average of 0.250 t CO_2e/m^3 for products sold in FY21).

Table 3 Default emissions per functional unit (t CO_2e/m^3) for concrete produced in NSW/ACT

Type of concrete	Sydney	Newcastle	Wollongong	Canberra
NORMAL CLASS GP BLEND 20MPA	0.271	0.263	0.268	0.270
NORMAL CLASS GP BLEND 25MPA	0.288	0.280	0.285	0.288
NORMAL CLASS GP BLEND 32MPA	0.314	0.306	0.310	0.314
NORMAL CLASS GP BLEND 40MPA	0.357	0.349	0.354	0.358
NORMAL CLASS GP BLEND 50MPA	0.454	0.444	0.449	0.454
NORMAL CLASS GP/FA BLEND 20MPA	0.209	0.199	0.205	0.210
NORMAL CLASS GP/FA BLEND 25MPA	0.230	0.220	0.227	0.231
NORMAL CLASS GP/FA BLEND 32MPA	0.260	0.250	0.257	0.262
NORMAL CLASS GP/FA BLEND 40MPA	0.333	0.324	0.330	0.336
NORMAL CLASS GP/FA BLEND 50MPA	0.421	0.410	0.417	0.424
NORMAL CLASS GP/GGBFS BLEND 20MPA	0.192	0.188	0.188	0.194
NORMAL CLASS GP/GGBFS BLEND 25MPA	0.204	0.200	0.199	0.206
NORMAL CLASS GP/GGBFS BLEND 32MPA	0.221	0.218	0.216	0.224
NORMAL CLASS GP/GGBFS BLEND 40MPA	0.250	0.247	0.245	0.254
NORMAL CLASS GP/GGBFS BLEND 50MPA	0.316	0.313	0.309	0.321
NORMAL CLASS GP/GGBFS/FA BLEND 20MPA	0.159		0.148	
NORMAL CLASS GP/GGBFS/FA BLEND 25MPA	0.175		0.162	
NORMAL CLASS GP/GGBFS/FA BLEND 32MPA	0.207	n/a	0.185	n/a
NORMAL CLASS GP/GGBFS/FA BLEND 40MPA	0.246		0.256	
NORMAL CLASS GP/GGBFS/FA BLEND 50MPA	0.378		0.376	
ENVIROCRETE® 30% 20MPA	0.209	0.199	0.205	0.210
ENVIROCRETE® 30% 25MPA	0.230	0.220	0.227	0.231
ENVIROCRETE® 30% 32MPA	0.260	0.250	0.257	0.262
ENVIROCRETE® 30% 40MPA	0.312	0.304	0.310	0.316
ENVIROCRETE® 30% 50MPA	0.393	0.385	0.388	0.397
ENVIROCRETE® 40% 20MPA	0.191	0.183	0.186	0.193
ENVIROCRETE® 40% 25MPA	0.209	0.200	0.203	0.210
ENVIROCRETE® 40% 32MPA	0.238	0.232	0.233	0.240
ENVIROCRETE® 40% 40MPA	0.282	0.276	0.278	0.286
ENVIROCRETE® 40% 50MPA	0.348	0.345	0.345	0.355
ENVIROCRETE® PLUS 20MPA	0.186	0.179	0.181	0.186
ENVIROCRETE® PLUS 25MPA	0.202	0.194	0.198	0.202
ENVIROCRETE® PLUS 32MPA	0.229	0.220	0.224	0.228
ENVIROCRETE® PLUS 40MPA	0.272	0.265	0.268	0.271
ENVIROCRETE® PLUS 50MPA	0.337	0.333	0.334	0.341
ENVISIA® 20MPA	0.176	0.175	0.173	0.177
ENVISIA® 25MPA	0.184	0.183	0.180	0.184
ENVISIA® 32MPA	0.198	0.197	0.193	0.197
ENVISIA® 40MPA	0.249	0.250	0.247	0.251
ENVISIA® 50MPA	0.324	0.325	0.321	0.327
ENVISIA® 65MPA	0.343	0.332	0.327	0.333
ENVISIA® 80MPA	0.422	0.427	0.426	0.433

Uplift factors

No uplift factors have been applied.

Carbon neutral products

Boral does not claim to have used any Climate Active certified carbon neutral products in the reporting period.

4. CARBON OFFSETS

Offset purchasing strategy: forward purchasing

Boral will apply a forward purchasing strategy. We estimate the volume of concrete that will be sold in an upcoming reporting period and purchase and retire offsets accordingly. At the end of the reporting period, we will true-up our offsets and update our estimate for the following reporting period.

Offsets summary

Table 4

1. Total offsets required for this report	160
2. Offsets retired in previous reports and used in this report	0
3. Net offsets required for this report	160

Project description	Type of offset units	Registry	Date retired	Serial number (and hyperlink to registry transaction record)	Vintage	Quantity (tonnes CO2-e)	Quantity used in previous report	Quantity banked for future years	Quantity used in this report
Blinky Forest Carbon Project (This project establishes permanent native forests through assisted regeneration from in-situ seed sources (including rootstock and lignotubers) on land that was cleared of vegetation and where regrowth was suppressed for at least 10 years prior to the project having commenced.)	ACCUs	ANREU	5 May 2021	3,778,000,186 – 3,778,001,185 (A hyperlink is not available; instead evidence of the retired offsets has been provided to Climate Active)	2018/19	1,000	0	840	160

Total offsets retired this report and used in this report	160
Total offsets retired this report and banked for future reports	840

5. USE OF TRADE MARK

Boral intends to use the Certified Product trademark in the following places:

Table 5

Description where trademark used	Logo type
Boral Limited FY21 Sustainability Report	Certified product
Boral's Website (case studies)	Certified product
Boral's social media platforms	Certified product

6. ADDITIONAL INFORMATION

n/a

APPENDIX 1

Non-attributable emissions for products and services

To be deemed attributable an emission must meet two of the five relevance criteria. Non-attributable emissions are detailed below against each of the five criteria.

Table 6

Relevance test					
Non-attributable emission	*The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions*	*The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.*	*Key stakeholders deem the emissions from a particular source are relevant.*	*The responsible entity has the potential to influence the reduction of emissions from a particular source.*	*The emissions are from outsourced activities previously undertaken within the organisation's boundary, or from outsourced activities typically undertaken within the boundary for comparable organisations.*
Capital goods	No	No	No	Limited	No
Personnel	No	No	No	No	No

APPENDIX 2

Non-quantified emissions for products/services

There are no non-quantified emission sources within this product LCA.

Table 7

Non-quantification test				
Relevant-non-quantified emission sources	*Immaterial <1% for individual items and no more than 5% collectively*	*Quantification is not cost effective relative to the size of the emission but uplift applied.*	*Data unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.*	*Initial emissions non-quantified but repairs and replacements quantified*
n/a				