

Australian Government
Climate Active Public Disclosure Statement



NAME OF CERTIFIED ENTITY: Holcim (Australia) PTY LTD
REPORTING PERIOD: 1 July 2017 – 30 June 2020*

* The emissions covered by this PDS cover products manufactured by Humes Tamworth for the Inland Rail project over a three-year period.

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	01 April 2020
Name of Signatory	Cyril GIRAUD		
Position of Signatory	National Development & Sustainability Manager		



Australian Government
**Department of Industry, Science,
Energy and Resources**

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1. Carbon neutral information

About Holcim Australia

Holcim Australia (Holcim) is a leading supplier of construction materials in Australia, originally serving the industry under the well-known Readymix and Humes brands dating back to 1901. Today Holcim continues to supply essential construction materials including aggregates, sand, ready-mix concrete, engineered precast concrete and prestressed concrete solutions to a range of customers and projects throughout Australia.

Holcim operates across the Australian continent supplying concrete from a network of concrete plants, quarries, precast and concrete pipe plants, and mobile and on-site project facilities. As part of LafargeHolcim, Holcim Australia can be counted on for state-of-the-art product development, reliable service and advanced technical expertise for your next project.

Published in 2020, the Humes Tamworth precast concrete for infrastructure applications Environmental Product Declaration (EPD) (<https://www.environdec.com/Detail/?Epd=15370>) is a product of Holcim's drive to comprehensively analyse and communicate to customers the embodied environmental impacts of Holcim's precast concrete product. The development of a precast concrete EPD is a further step to having all key infrastructure and building products represented by an EPD in Australia following Holcim's development of ready-mix concrete and concrete pipe EPD's. Its publication will support designers and developers to drive improved sustainable procurement and materials selection. Holcim's multiple EPD's also have the potential to challenge common beliefs of environmental sustainability, by supporting the standardisation and transparency of environmental claims.

The carbon accounting published in the EPD was based on data collected from across Holcim's Tamworth manufacturing facility trading under the Humes brand. The resulting life cycle assessment (LCA) is compliant with ISO 14025 and EN 15804 and has been independently reviewed by an approved, third-party verifier under EPD Australasia. As such the carbon accounting in the EPD aligns with the Climate Active Products and Services Standard as well as the provisions in section 4.a of the Carbon Neutral Certification and Environmental Product Declaration product guidance.

Description of certification

The carbon account covers the cradle-to-gate life cycle stages (as shown in figure 1) for precast concrete products manufactured by Humes Tamworth and supplied to the Inland Rail Project, covering the FY18-20 period. Products include:

- Box culverts for rail applications, small (600 - 1200 mm)
- Box culverts for rail applications, large (>1200 mm)
- Head walls for rail applications
- Box culverts for road applications, small (600 - 1200 mm)
- Box culverts for road applications, large (>1200 mm)
- Head walls for road applications

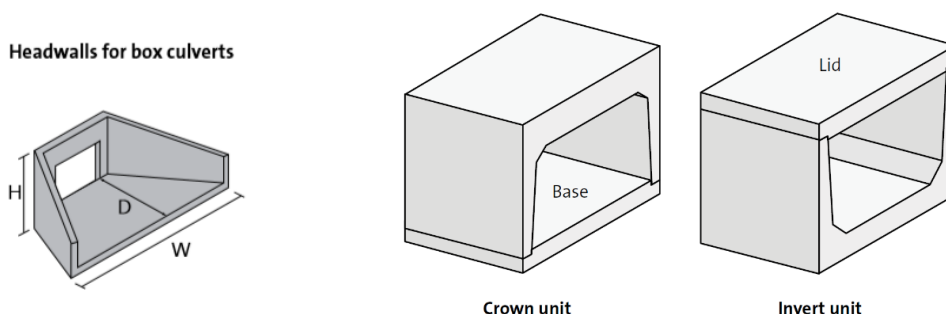




Figure 1 – Cradle-to-gate life cycle stages of precast concrete products



Figure 2 – Box culverts

Product composition breakdown

Table 1 provides a summary of the materials included in Humes’ precast concrete products. Reinforced concrete products are made from coarse and fine aggregates, cement, water, and steel reinforcement. Other material used can include supplementary cementitious materials (SCM) such as fly ash, and chemical admixtures, which have varied effects on the concrete depending on the admixture used.

Table 1. Key materials and typical compositional breakdown for precast concrete products	
Materials	Typical % (by weight)
General purpose (GP) cement	15-18%
Aggregates containing crystalline silica (quartz)	59-69%
Water	<10%
Fly Ash	5-6%
Steel reinforcement	2-10%
Admixtures	<1%

Functional Unit

Precast reinforced concrete products are available in numerous shapes and sizes. Multiple products can be presented collectively (grouped) if the variation between their environmental profiles is within ±10%.

A large number of permutations have been included based on the following declared unit:

1 tonne of precast reinforced concrete product, manufactured in Tamworth (NSW) for infrastructure applications

Product process diagram

Figure 3 presents the certification boundary for the carbon account. All processes indicated within the solid black line are considered within the certification boundary. Key cradle to gate, non-attributable emissions which have been excluded from the carbon account are also indicated outside the solid black line.

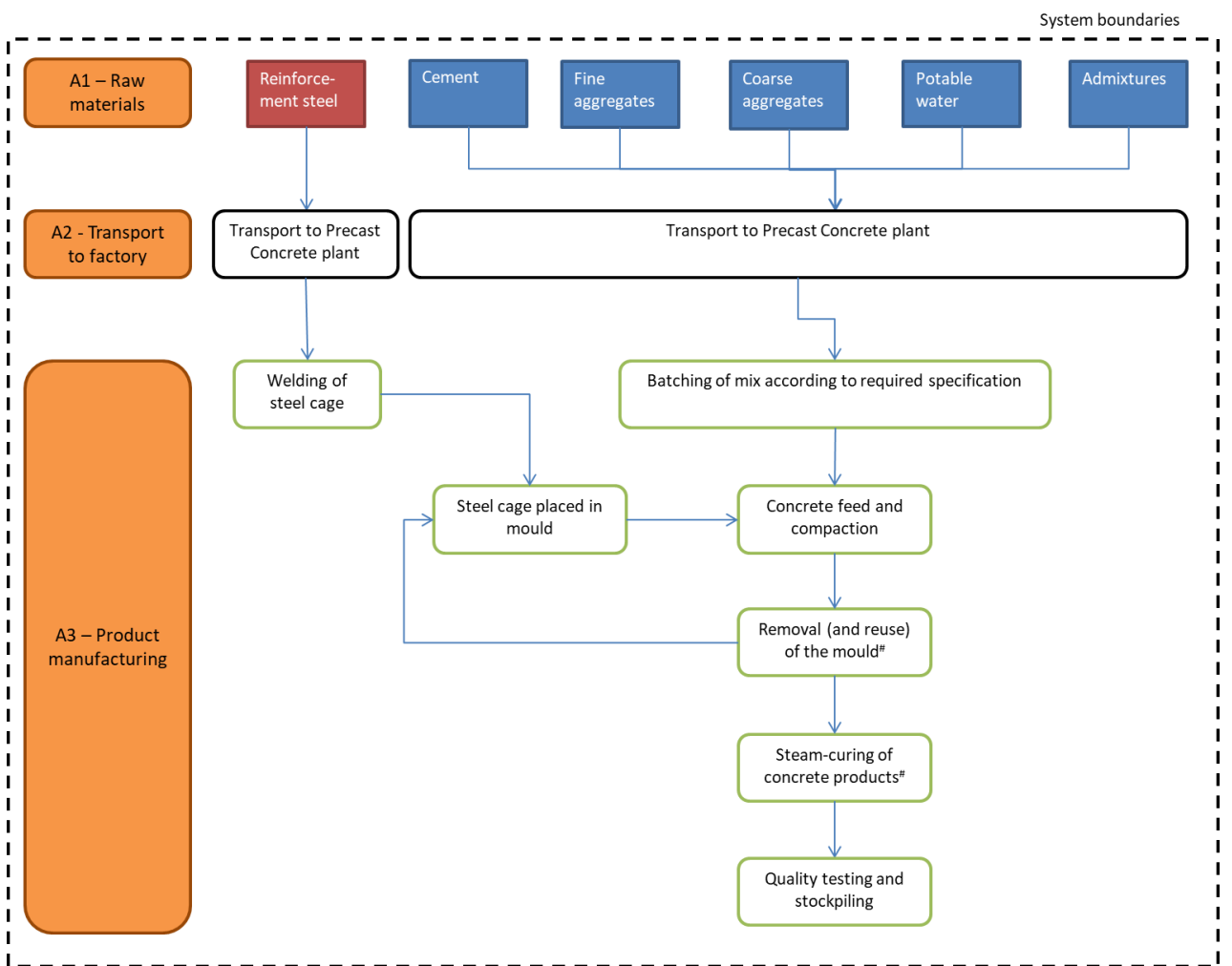


Figure 3 - Certification boundary (cradle to gate, note that gate to grave emissions are excluded)

Emissions reduction strategy

Holcim Australia, a member of LafargeHolcim, has carbon reduction targets aligned to the LafargeHolcim 2030 Sustainable Development Plan (“the 2030 Plan”). The 2030 Plan aims to generate one third of net sales from sustainable products and solutions. LafargeHolcim has also set targets to reduce net CO₂-e emissions per tonne of cementitious material and help customers avoid 10 million tonnes of CO₂-e from the construction of buildings and infrastructure each year.

Supply of low-carbon materials and solutions is key to reduce the carbon intensity of concrete. Holcim Australia’s carbon reduction strategy aims to increase the replacement of general-purpose cement with supplementary cementitious materials (SCM) such as fly ash, slag and silica fume. The strategy involves:

- Increasing the sale of ready-mix concrete and precast concrete products with higher SCM replacement;
- Promoting the specification of higher SCM replacement (or lower CO₂-e concrete) on Infrastructure Sustainability (IS) or Green Star rated projects; and
- Improving internal systems and processes for product development to drive innovation and customised design of mixes.

Humes precast concrete EPD supports the strategy by providing:

- Better communication of its environmental performance;
- Alignment with relevant industry rating schemes (the Infrastructure Sustainability rating and the Green Star rating); and
- Detailed information regarding emissions hotspots.

2. Emission Boundary

Diagram of the certification boundary

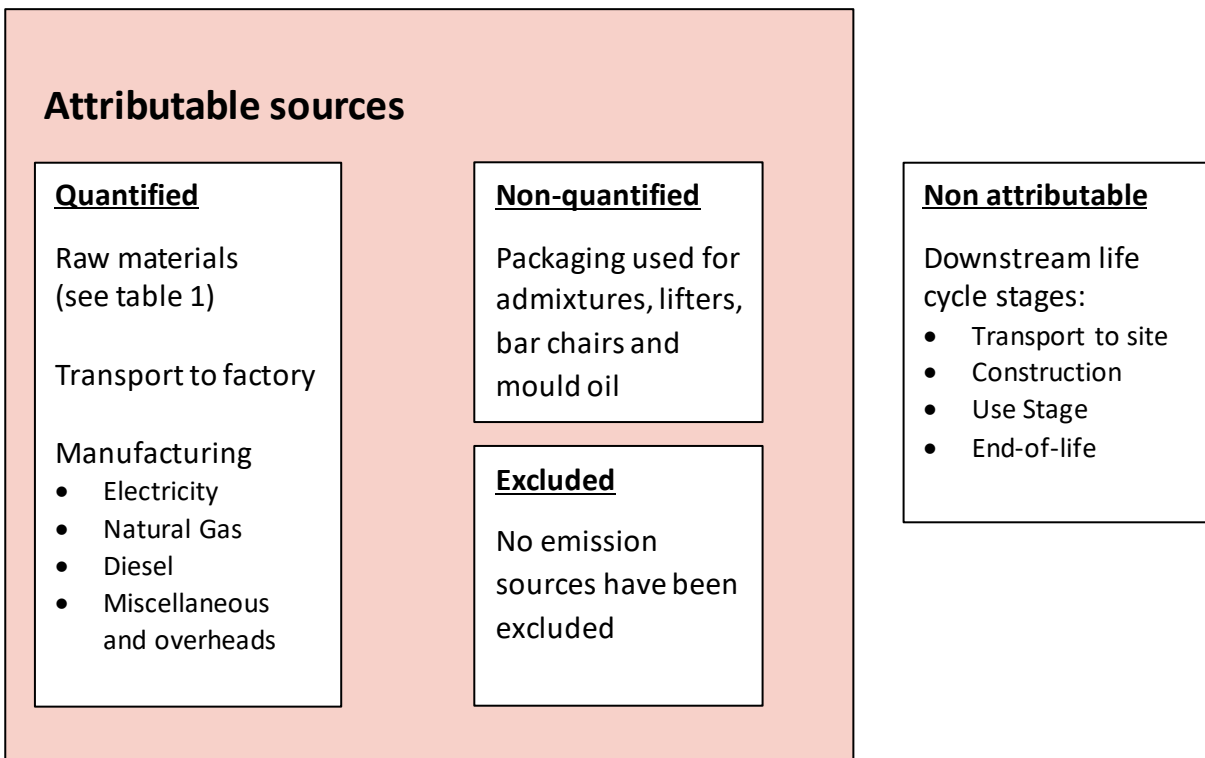


Figure 4 – Diagram of the Certification boundary

Attributable Non-quantified sources (within certification boundary)

The emissions associated with packaging used for admixtures and miscellaneous components (such as lifters, bar chairs and mould oil) are well below the materiality cut-off, so packaging materials and quantities have therefore been estimated only.

Excluded sources (within certification boundary)

No known emission sources within the boundary have been excluded.

Non-Attributable sources (outside certification boundary)

Downstream life cycle stages (i.e. gate-to-grave) are outside the scope of the carbon account as these are delivered by third-parties. The impact of these non-attributable emission sources (e.g. transport to construction site, construction, use, disposal) shall not be considered zero.

3. Emissions summary

This Public Disclosure Statement is provided to offset the Parkes to Narromine (P2N) section of the Inland Rail project greenhouse gas emissions generated. These emissions were generated between 2018 and 2020.

The cradle-to-gate emission factors and quantity of each product group for both rail and road applications for the P2N section of the Inland Rail project are shown in Table 2. The cradle-to-gate emission factors are expressed per tonne of average precast product for all products within that product group (application).

Table 3 shows the quantity of emissions generated by the carbon neutral precast concrete for the P2N section of the project broken down by emission source category.

Table 2. Emission Factor Summary			
Precast concrete products	Quantity (t)	EF (kg CO ₂ -e/t)	t CO ₂ -e
Box culverts for rail applications, small (600 - 1200 mm)	1,016.4	275	279.51
Box culverts for rail applications, large (> 1200 mm)	17,101.9	327	5,592.32
Head walls for rail applications	2,633.9	325	856.02
Box culverts for road applications, small (600 - 1200 mm)	615.6	252	155.13
Box culverts for road applications, large (> 1200 mm)	1,125.7	295	332.08
Head walls for road applications	132.0	274	36.17
Total	22,625.50		7,251.2

Table 3. Emissions Summary	
Emission source category	tonnes CO ₂ -e
Concrete (raw materials plus transport to plant)	3,793.8
Steel Reinforcement (raw materials plus transport to plant)	2,742.0
Production Process	715.4
Electricity	286.1
Natural Gas	178.8
Diesel	121.6
Miscellaneous and overhead	128.8
Total inventory emissions	7,251.2
Net emissions per declared unit (theoretical average based on number of tonnes represented by inventory)	0.320 t CO ₂ -e / t
Number of functional units sold as carbon neutral	22,625.5 tonnes
Total net emissions	7,251.2

Uplift factors

Table 4. Uplift factors	
Reason for uplift factor	tonnes CO ₂ -e
No uplift factors have been applied. Instead, conservative assumptions regarding life cycle inventory data were used to estimate non-quantified attributable emissions.	0
Total Footprint to offset (uplift factors + net emissions)	7,251.2

Carbon Neutral products

Holcim did not use any Climate Active carbon neutral certified products in the manufacture of the precast concrete products.

Electricity Summary

Electricity emissions were calculated in the EPD using a location-based approach.

The Climate Active team are consulting on the use of a market vs location-based approach for electricity accounting with a view to finalising a policy decision for the carbon neutral certification by July 2020. Given a decision is still pending on the accounting way forward, a summary of emissions using both measures has been provided for full disclosure and to ensure year on year comparisons can be made.

The emissions from electricity consumed by Humes Tamworth make up around 4% of the total cradle-to-gate emissions of the precast concrete products. Since we currently do not use or generate renewable or carbon neutral electricity, applying a market-based approach would not have a material impact on the carbon footprint of our products. If we had used a market-based approach for electricity used at the concrete plant, our carbon footprint would have been reduced by 0.1% (based on the Climate Active calculators distributed to Registered Consultants, version 17/02/2020). See tables 5 and 6 for further details related to the two accounting methods.

Table 5: Market-based approach electricity summary			
Electricity Inventory items	kWh	Full Emission factor (Scope 2+3)	Emissions (tonnes CO ₂ e)
Electricity Renewables	59,127	0	0
Electricity Carbon Neutral Power	0	0	0
Electricity Remaining	258,762	1.08	279.75
Renewable electricity percentage	18.6%		
Total net electricity emissions (Market based)			279.75

Table 6 Location-based electricity summary				
State/Territory	Electricity Inventory items	kWh	Full Emission factor (Scope 2+3)	Emissions (tonnes CO ₂ e)
NSW	Electricity Total	317,889	0.90	286.10
	Total net electricity emissions (Location based)			286.10

4. Carbon offsets

Tasman Environmental Markets Pty Ltd retired 7251 APX VCS Registry Verified Carbon Units (VCUs) on behalf of Holcim (Australia) Pty Ltd to meet its carbon neutral claim under the Climate Active standard for the Humes Tamworth pre-cast concrete product.

Offset purchasing strategy: forward purchasing.

Table 7 Forward purchasing summary	
Item	t CO ₂ e
1. Total offsets previously forward purchased for this reporting period	0
2. Total offsets required for this reporting period	7251.2
3. Net offset balance for this reporting period	7251.2
4. Total offsets to be forward purchased for next reporting period*	0

** The emissions covered by this PDS cover products manufactured by Humes Tamworth for the Inland Rail project for the Parkes to Narromine (P2N) section of the Inland Rail project.*

Table 8 Offsets Summary									
1. Total offsets required for this report					7,251				
2. Offsets retired in previous reports and used in this report					0				
3. Net offsets required for this report					7,251				
<i>Project description</i>	<i>Eligible offset units type</i>	<i>Registry unit retired in</i>	<i>Date retired</i>	<i>Serial number (including hyperlink to registry transaction record)</i>	<i>Vintage</i>	<i>Quantity (t CO₂e)</i>	<i>Quantity used for previous report</i>	<i>Quantity to be banked for future years</i>	<i>Quantity to be used this report</i>
Clean Energy Generation in Gurajat, India	VCUs	APX VCS	20 Mar 2020	7352-386337852-386345102-VCU-034-APX-IN-1-1081-01012014-31122014-0	2014	7,251	0	0	7,251
Total offsets retired this report and used in this report									7,251
Total offsets retired this report and banked for future reports									0

Co-benefits

Enercon Wind Resources Development Private Limited (EWRDPL) has developed a 12 MW wind power generation project in the state of Gujarat in India. The project involves installation of 15 Wind Energy Convertors (WECs) of Enercon make (E-53 type) of 800 KW of capacity each. The project supplies electricity to the regional electricity grid which is part of the NEWNE (Northern, Eastern, Western and North-Eastern) grid of India. The electricity generated by the project activity has contributed towards the sustainable development of the region. The project activity harnesses renewable resources in the region for electricity generation and thereby conserving non-renewable natural resources and ultimately leading to sustainable economic and environmental development of the region.

5. Use of trademark

Humes intends to use the trademark in the following ways:

Table 9. Use of Climate Active trademark	
Description where trademark is used	Logo type
Communication with the Inland Rail project stakeholders	Certified product
Holcim sustainability report	Certified product
Holcim/Humes product marketing materials: example of certified carbon neutral precast concrete products supplied to the Inland Rail project	Certified product