PUBLIC DISCLOSURE STATEMENT

HOLCIM

CARBON NEUTRAL PRODUCT
2020

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY: Holcim Australia Pty. Ltd.

REPORTING PERIOD: 1 January 2020 – 31 December 2020

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	**16 September 2021**
Name of Signatory	**Cyril Giraud**		
Position of Signatory	**National Development and Sustainability Manager**		

Australian Government
Department of Industry, Science, Energy and Resources

Version number February 2021

1. CARBON NEUTRAL INFORMATION

Description of certification

This carbon neutral certification covers Holcim's range of ViroDecs™ ready-mix concrete sold in Australia, which includes both normal and special class concrete (refer to Table 1).

Through the EPD pathway for carbon neutral certification, Holcim is addressing the global warming impact of its ready-mix concrete as quantified in the Holcim ViroDecs™ EPD.

The functional unit for this certification is *1 m^3 of ready-mix concrete*.

Table 1 – Features of Holcim ViroDecs™ ready-mix concrete range

	ViroDecs - Normal class concrete mixes	ViroDecs - Special class concrete mixes
Specification	Typically specified by: • State • Strength grade • Blend • Developed for residential applications, low rise buildings, paving and driveways, etc. Its specification and ordering have been simplified as far as practicable.	Typically specified by: • Project • Strength grade OR prescription mix • Prescription mixes are based on aggregate to cement ratios (with no set water to cement ratios). There is no strength guarantee for some prescription mixes. • High strength designations above 50 MPa are also class as special class concrete, e.g. 65 MPa, 80 MPa and 100 MPa.
Geographic scope	Australia-wide	Australia-wide / Project site-specific
Typical function	Designed for residential applications, low rise buildings, paving and driveways etc. Its specification and ordering have been simplified as far as practicable.	High strength or high-performance concrete, architectural off-form finishes and other decorative applications. Special-class concrete is designed and specified based on a wide range of technical and other requirements.

Organisation description

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.

"Together with our customers and partners, we are creating a greener, smarter world – because the future's not written, it's built."

Originally published in 2019, the ViroDecs™ ready-mix concrete Environmental Product Declaration (EPD) (https://epd-australasia.com) is a product of Holcim's drive to comprehensively analyse and communicate to customers the embodied environmental impacts of Holcim's ready-mix concrete mixes. The development of a ready-mix concrete EPD was the critical "missing" piece to having all key infrastructure and building products represented by an EPD in Australia. Its publication supports designers and developers to drive improved sustainable procurement and materials selection. Holcim's ViroDecs™ also assists in challenging common beliefs of environmental sustainability, by supporting the standardisation and transparency of environmental claims.

The carbon accounting in Holcim's ViroDecs™ is based on data collected from across Holcim's Australian operations, including over 190 concrete batching plant sites and 46 quarries. 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 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.

Holcim ViroDecs™ ready-mix concrete process diagram

Figure 1 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.

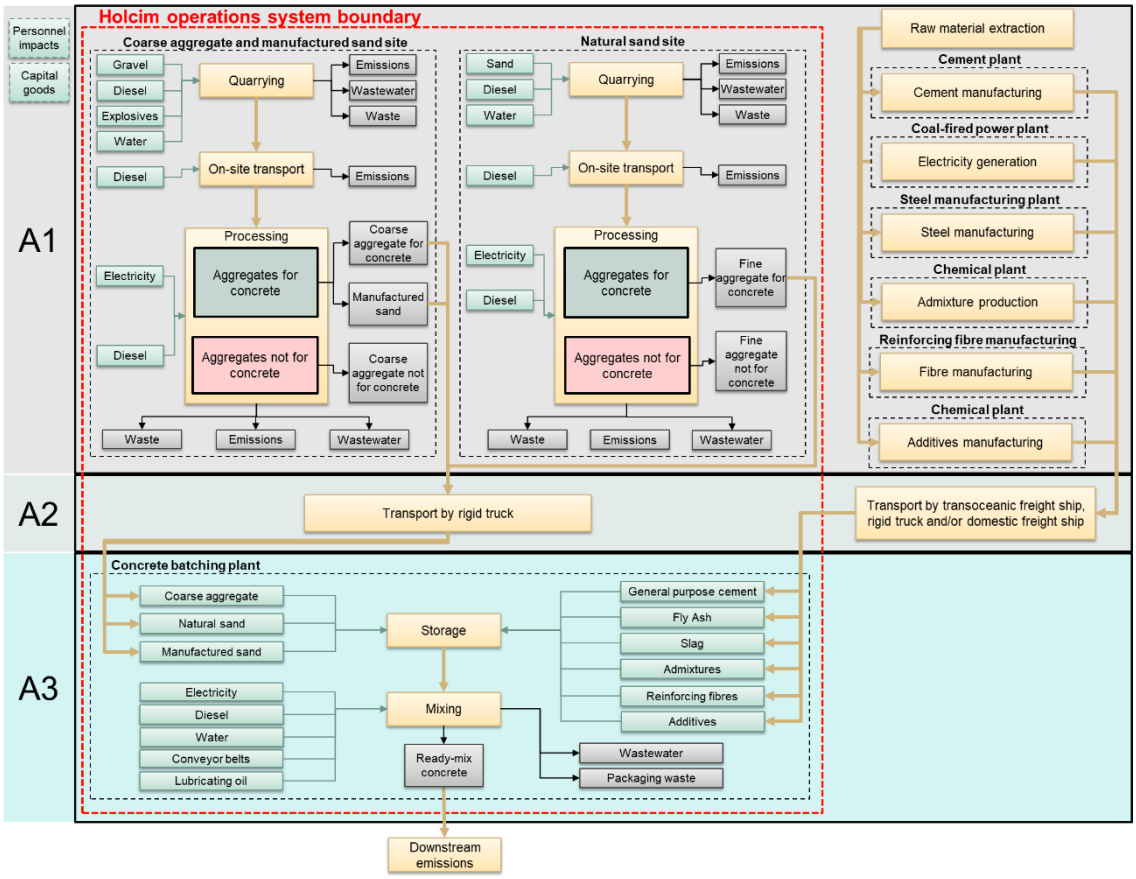

Figure 1: Holcim ViroDecs™ ready-mix Concrete manufacturing Process diagram (cradle to gate, note that gate to grave emissions are excluded)

2. EMISSION BOUNDARY

Diagram of the certification boundary

Quantified

Raw Material Supply

- Quarry operations for aggregates, natural and manufactured sand
- Production of other raw materials for concrete manufacturing by third parties including, cement, admixtures, SCM[1]
- Direct emissions reported in NPI[2]

Transport of raw materials

- Holcim produced raw materials to concrete batching plants: Truck
- Third-party raw materials to concrete batching plants: Truck/ Ship

Manufacturing (Concrete plant resources)

- Electricity
- Diesel
- Mains water
- Lubricating oil
- Conveyor belts
- Wastewater treatment
- Direct emissions reported in NPI

Non-quantified

None

Excluded

- Personnel
- Infrastructure & capital goods
- Production equipment not directly consumed in the process

Non-attributable

Downstream life cycle stages (i.e., gate to grave).

The key non attributable emission sources are:

- Transport to construction site
- Construction stage
- Maintenance and refurbishment inputs
- Carbonation of concrete leading to CO_2 absorption during residence time in building
- Deconstruction and disposal/recycling

Figure 2: Certification boundary for Holcim ViroDecs™ ready-mix concrete

1. Supplementary Cementitious Materials | 2. National Pollutant Inventory

Attributable processes and emission sources (within certification boundary)

The certification boundary follows a cradle-to-gate scope and encompasses the following EPD life cycle stages (Red box in Figure 3):

- Raw material supply – EPD module A1
- Transport of raw materials – EPD module A2
- Manufacturing – EPD module A3

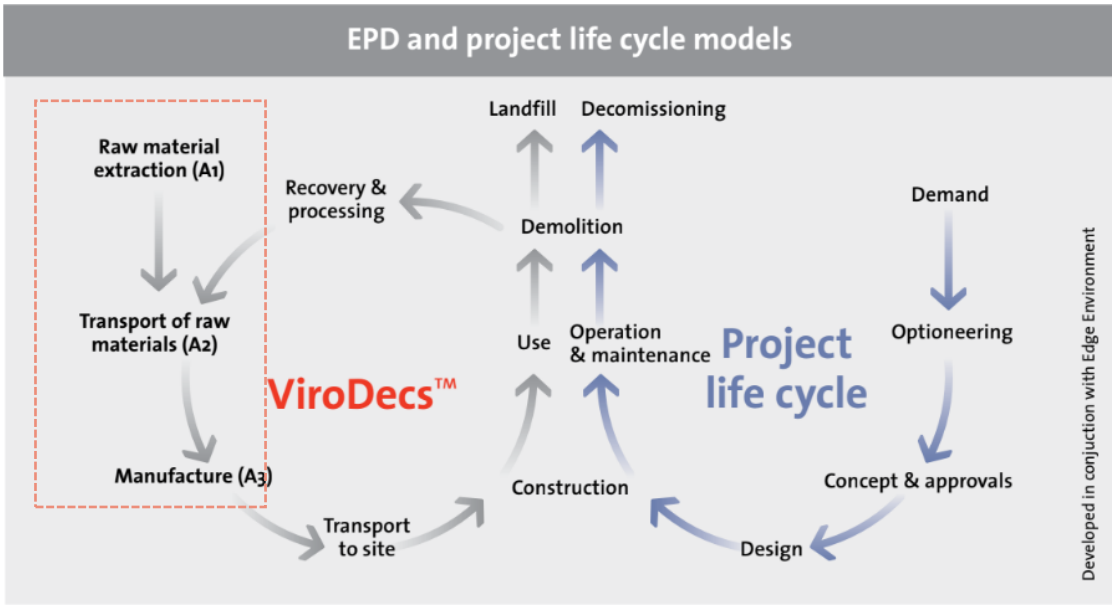

Figure 3 – Scope of this certification in the broader life cycle of construction and infrastructure projects.

Concrete is prepared by mixing cement, coarse and fine aggregates, and water, with or without the addition of auxiliary agents and additives. The fresh concrete is placed on the building site or prefabricated in factory moulds, compressed, and hardened in the desired shape by the hydration of cement to form a solid artificial stone. The cradle-to-gate certification boundary considers all processes from the extraction of raw materials to the batching of concrete (Figure 4).

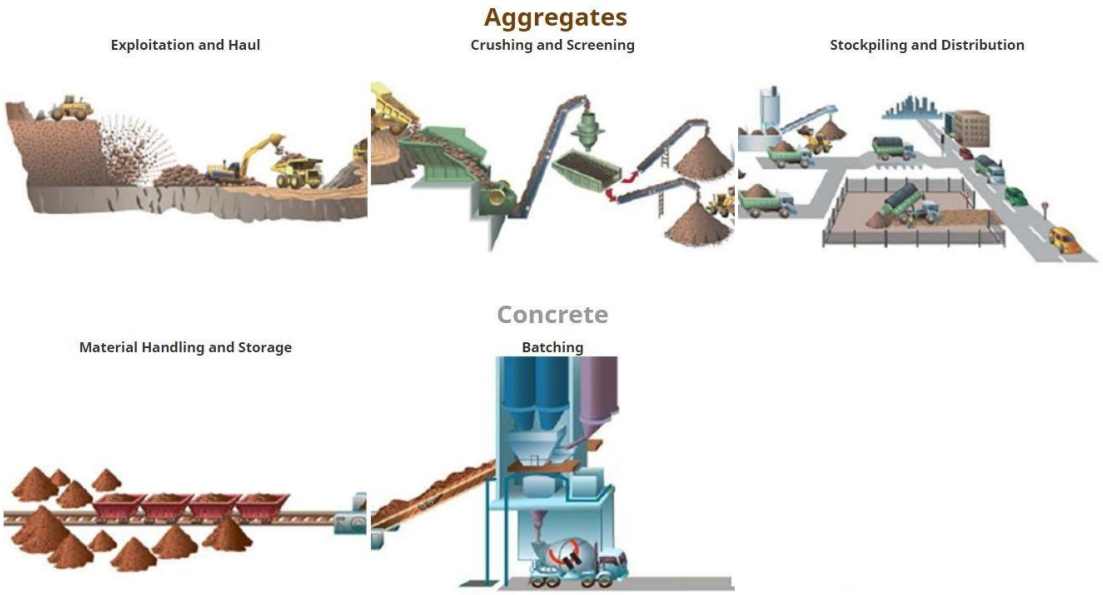

Figure 4 – Operations controlled by Holcim from quarry to batching.

The carbon account includes the following greenhouse gasses (GHGs), at minimum:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF_6)
- Nitrogen trifluoride (NF_3)

Please note that the EPD impact assessment method that informs this carbon account (Global Warming Potential category of the CML) considers more substances than the above list.

Attributable non-quantified sources

None

Data management plan

Not applicable.

Excluded sources (within certification boundary)

The following emission sources have been excluded in line with the provisions of the Climate Active Carbon Neutral Standard:

- Personnel.
- Infrastructure & capital goods; and
- Production equipment not directly consumed in the process.

The impact of excluding these sources is not expected to materially affect the overall total emissions.

"Supporting sustainability through meaningful action has never been more important. We are proud to make this positive contribution because we know that the time for change is now."

Non attributable sources (outside certification boundary)

Downstream life cycle stages (i.e., gate to grave) were not considered in the study and the impact of these stages (e.g. construction, use, disposal) shall not be considered zero. Downstream emissions were not quantified because ready-mix concrete is an intermediate product and the final product is highly variable (e.g. can range from a building column to a pavement). The activity data for the downstream life cycle stages is therefore difficult to quantify and highly variable.

The key non-attributable emission sources are:

- Transport to site.
- Construction stage.
- Maintenance and refurbishment inputs.
- Carbonation of concrete leading to CO_2 absorption during residence time in building.
- Deconstruction and disposal/recycling.

3. EMISSIONS SUMMARY

Emissions reduction strategy

Holcim Australia, as a member of LafargeHolcim, is reinventing how the world builds for people and the planet. On our way to becoming a net zero company, we are accelerating green construction by joining the net zero pledge with science-based targets.

Walking the talk on our commitment, we are:

- Setting ourselves ambitious 2030 climate targets that are validated by the Science-Based Targets initiative
- Accelerating our reduction in CO2 intensity to exceed 20% (compared to our 2018 baseline)
- Partnering with SBTi looking beyond 2030, to support the development of the first climate targets for a 1.5°C future in the cement sector

Supply of low-carbon materials and solutions is key to reducing the carbon intensity of the ready-mix 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 with higher SCM replacement.
- Promoting the specification of higher SCM replacement (or lower CO_2-e concrete) on Infrastructure Sustainability (IS) or Green Star rated projects.
- Improving internal systems and processes for product development to drive innovation and customised design of mixes.

Holcim's ViroDecs™ 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).
- Detailed information regarding emissions hotspots.

For more information on our Emissions Reduction plan, please refer to this link.

Emissions over time

Table 2: Emissions over time.

Emissions since base year		
	Base year: 2019	Year 1 (Current year) : 2020
Emissions per functional unit (tCO_2-e)	0.245	0.245

Emissions reduction actions

The previous application (2019) was done to initiate Holcim's carbon neutral certification. There was no carbon neutral concrete sold in 2019 and hence no emissions were offset during that period. The emissions provided in 2019 PDS were an estimate based on a hypothetical small-scale project. 2020 is the first year of selling the carbon neutral concrete. In case of Holcim's Climate Active certification, the emissions per year depend on the amount of carbon neutral concrete sold. Although the total emissions may increase year-on-year depending on the sales, it also means that an equivalent quantity of emissions will be offset. Additionally, Holcim's Emissions Reduction Strategy (see above) outlines key measures implemented by

Holcim to further reduce the carbon footprint of for all concrete mixes, which can result in reduced emissions per functional unit.

Functional units

Table 3: Functional units sold and forward offset.

	Number of functional units
a) Number of functional units sold this period	520
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)	3,559

Emissions summary (inventory)

Holcim's ViroDecs™ ready-mix concrete is sold as a carbon neutral product on an 'opt-in' basis. This means that customers can elect to purchase any ViroDecs™ ready-mix concrete from Holcim as a carbon neutral product. Table 4 provides a summary of the materials included in Holcim ViroDecs™ ready-mix concrete and their relative composition by weight.

Table 4 – Key materials and typical compositional breakdown for Holcim's ViroDecs™ ready-mix concrete.

Materials	Typical % (by weight)
General purpose cement	5 - 21%
Aggregate	67 - 84%
Supplementary cementitious materials	0 - 11%
Water	11.6 - 12%
Admixtures	0.01 - 0.02%

The emissions summary below pertains to 520 m^3 of ViroDecs™ ready-mix concrete sold in 2019.

Table 5 – Emissions summary

Emission source category	tonnes CO_2-e
Aggregates	10.6
General Purpose Cement	111
Supplementary Cementitious Materials	2.91
Admixtures	1.85
Additives	-
Manufacturing (Concrete plant resources)	0.874
1. Total inventory emissions	128
a. Number of functional units represented by the inventory emissions	520
2. Emissions per functional unit (based on the number of functional units represented by the inventory)	0.245

	Total tCO2-e divided by the number of functional units in 1a.	
3.	*Carbon footprint* *(Emissions per functional unit (2)* number of functional units (a or b from table 2))*	128

Carbon neutral products

No carbon neutral products used.

4. CARBON OFFSETS

Offsets strategy

Table 6 – Offset strategy

Offset purchasing strategy: Forward purchasing on yearly basis	
1. Total offsets previously forward purchased and banked for this report	*zero*
2. Total emissions liability to offset for this report	*128 t CO_2-e*
3. Net offset balance for this reporting period	*zero*
4. Total offsets to be forward purchased to offset the next reporting period	*872 t CO_2-e*
5. Total offsets required for this report	*128 t CO_2-e*

Offsets summary

Proof of cancellation of offset units

Table 7 – Offset summary

Offsets cancelled for Climate Active Carbon Neutral Certification										
Project description	**Type of offset units**	**Registry**	**Date retired**	**Serial number (and hyperlink to registry transaction record)**	**Vintage**	**Eligible Quantity (TCO2-e)**	**Quantity used for previous reporting periods**	**Quantity banked for future reporting periods**	**Quantity used for this reporting period claim**	**Percentage of total (%)**
Bundled Wind Power Project in Tamilnadu, India, co-ordinated by Tamilnadu Spinning Mills Association (TASMA-V2)	VCUs	VERRA	22 April 2021	9064-65068243-65069242-VCS-VCU-508-VER-IN-1-1353-01012017-31122017-0	2017	1000	0	872	128	12.8%
								Total offsets retired this report and used in this report	128	

Type of offset units	**Quantity (used for this reporting period claim)**	**Percentage of Total**
Verified Carbon Units (VCUs)	128	12.8%

Co-benefits

The wind energy project activity (Project) involves installation of 396 Wind Turbine Generators (WTGs) with a total cumulative installed capacity of 236 MW. Apart from generation of renewable electricity and associated environmental benefits, the project has also been conceived to contribute towards sustainable development of the region - socially, technologically, and economically. The participants' view on the contribution of this Project towards sustainable development follows these indicators:

Social well-being:

- Improves electricity availability in the region and reduces electricity deficit situation in the local region.
- Creation of employment opportunities for the local people during the erection and commissioning of the WTGs.
- Promoting infrastructural development like approach roads in the areas where the Project is located.

Technological well-being:

- Increased investment in wind energy projects will further push R&D efforts by technology providers to develop more efficient and better machinery in future.

Economic well-being:

- The project activity results in generation of additional employment opportunities directly and indirectly which helps improve the standard of living of the people in and around the project activity location.
- The generation of the offsets provides financial incentives, which encourage channelling more investment into cleaner energy projects and also result in improved returns to the project stakeholders.
- Promotes industrial growth by catering to the energy needs arising out of the supply-demand gap of electricity.
- Infrastructural development from implementation of project activity leads to the economic development of the local people.

5. USE OF TRADE MARK

Table 8 – Use of trademark

Description where trademark used	Logo type
Sustainability reports	Certified carbon neutral product
Website	Certified carbon neutral product
Media reports	Certified carbon neutral product
Conferences and presentations	Certified carbon neutral product

APPENDIX 1

Non-attributable emissions for products and services

This carbon neutral certification is based on Holcim's ViroDecs™ EPD range with a cradle to gate scope that excludes all downstream life cycle stages (i.e., gate to grave) from the certification boundary.

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 8

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.*
Downstream life cycle stages (i.e., gate to grave).	No	No	Yes	No	No

APPENDIX 2

Non-quantified emissions for products/services

Not applicable for this certification.