PUBLIC DISCLOSURE STATEMENT

HOLCIM AUSTRALIA PTY LTD

CARBON NEUTRAL VIRODECS™ READY-MIX CONCRETE (OPT-IN)

CY2021

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	Holcim Australia Pty Ltd
REPORTING PERIOD	1 January 2021 – 31 December 2021 Arrears Report
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.*  Cyril Giraud Head of Sustainability 25 May 2022

Australian Government
Department of Industry, Science, Energy and Resources

Version March 2022. To be used for FY20/21/CY2021 reporting onwards.

1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	3,420 tCO_2-e
THE OFFSETS BOUGHT	100% VCUs
RENEWABLE ELECTRICITY	N/A
TECHNICAL ASSESSMENT	Date: 28 April 2022 Name: Jonas Bengtsson Organisation: Edge Environment Next technical assessment due: 30 April 2023

Contents

2. CARBON NEUTRAL INFORMATION

Description of certification

This opt-in 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 ViroDecs™ EPD.

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

Product description

- The functional unit for this certification is 1 m^3 of ready-mix concrete sodlfor the period.
- Carbon neutral products are available to Holcim's customers on an opt-in basis. This allows 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 are different for each project and/or client. The total carbon emissions inventory to be offset will be assessed annually based on the quantity of carbon neutral certified products sold.
- Cradle-to-gate. Downstream emissions were not considered in the EPD 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.

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. Holcim Australia can be counted on for state-of-the-art product development, reliable service and advanced technical expertise for your next project.

Originally published in 2019, the ViroDecsTM 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.

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 classified 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.

Table 2 provides a summary of the materials included in Holcim ViroDecs™ ready-mix concrete and their relative composition by weight.

Table 2 – 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 certification boundary follows a cradle-to-gate score and encompasses the following EPD life cycle stages (Figure 1):

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

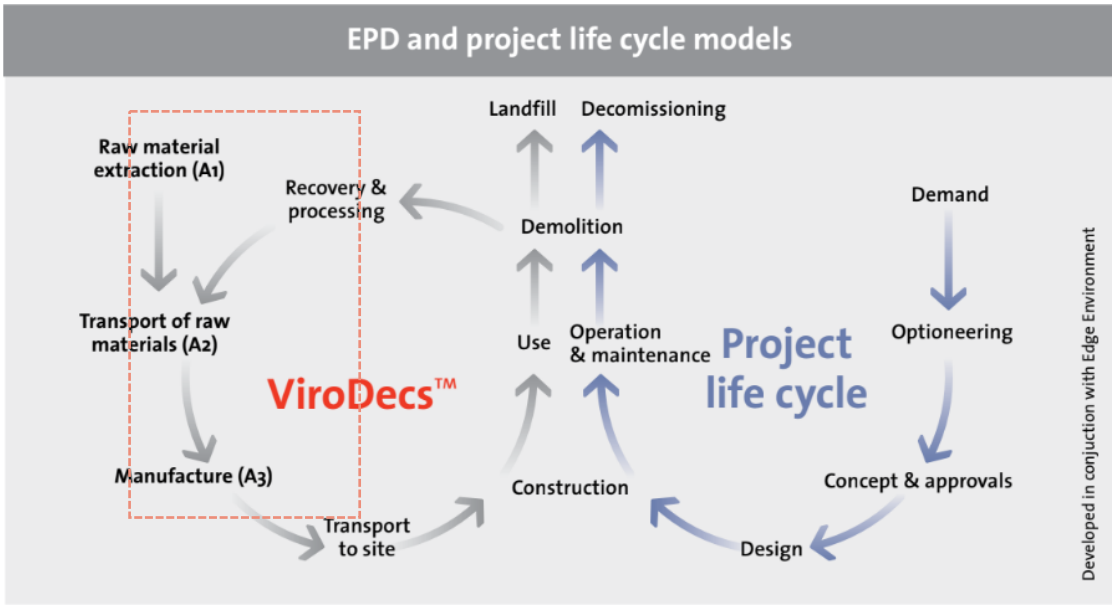


Figure 1 – Scope of this certification in the broader life cycle of construction and infrastructure projects.

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 2).

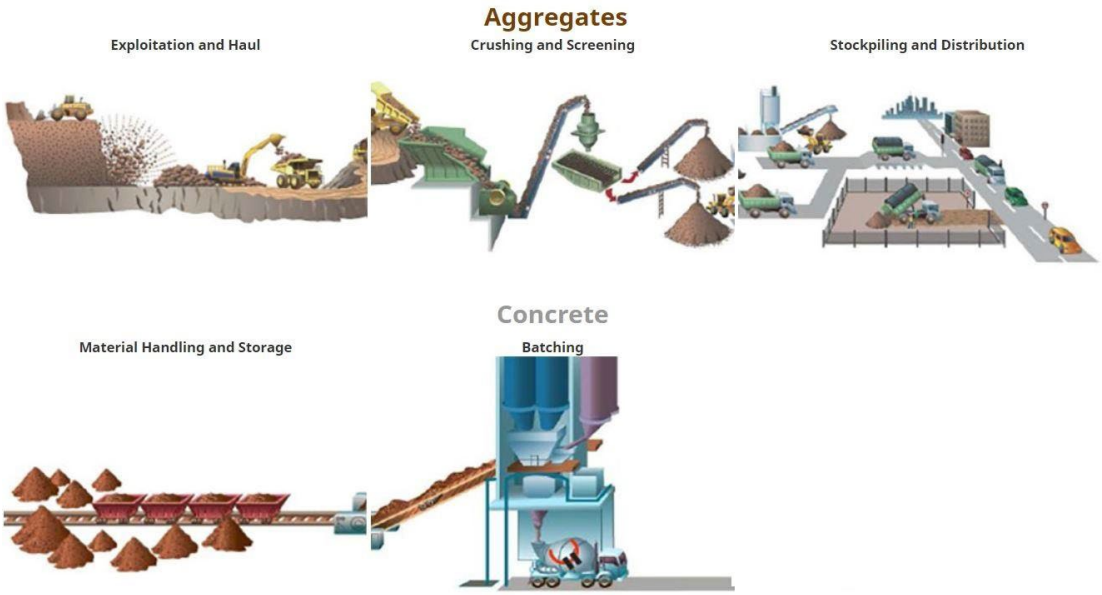


Figure 2 – Operations controlled by Holcim from quarry to batching.

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.

Raw material supply

This life cycle stage (EPD module A1) includes the following emission sources:

- Holcim's quarry operations for the extraction coarse aggregate, natural sand and manufactured sand;
- Production of other raw materials by third parties: cement, admixtures, fly ash, slag, reinforcing fibres and additives; and
- Direct emissions reported in the National Pollution Inventory.

Some emissions sources were modelled as co-products, in accordance with BS EN 16757:2017. These include:

- Fly ash;
- Ground granulated blast furnace slag; and
- Silica fume.

As such, the above materials are considered as co-products of their production process and the impacts for their production process are allocated according to PCR 2012:01 Construction Products and Construction Services (co-produced goods, multi-output allocation). Default background data from LCA databases was used to model the above co-products:

- Fly ash: the AusLCI process for fly ash treats it as a waste material and only includes transport impacts.
- Ground granulated blast furnace slag: the AusLCI process for slag is allocated based on economic value, as the product has significant economic value at the point of collection.
- Silica fume: the ecoinvent process for silica fume treats it as a waste material and only includes transport impacts.

Transport to concrete production plants

This stage includes:

- The transport by truck of Holcim-produced raw materials to concrete batching plants; and
- The transport by ship and/or truck of other raw materials from third-party supplier locations to the concrete batching plants.

Manufacturing

This stage includes the following emission sources:

- Electricity for all manufacturing operations;
- Diesel for manufacturing operations;
- Mains water consumption;
- Production of lubricating oil;
- Production of conveyor belts;
- Disposal of raw materials' packaging waste;
- Treatment of wastewater; and
- Direct emissions reported in the National Pollution Inventory.

Concrete manufacturing is undertaken primarily at Holcim branded concrete batching plants, with some manufacturing occurring at Holcim's subsidiary branded sites (e.g. Excel Concrete, Broadway and Frame Premix) to Holcim's mix design specifications. All sites regardless of the brand name are owned and operated by Holcim. Holcim ready-mix concrete is delivered in bulk to customers with no packaging.

3.EMISSIONS BOUNDARY

Inside the emissions boundary

All emission sources listed in the emissions boundary are part of the carbon neutral claim.

Quantified emissions have been assessed as 'attributable processes' that become the product, make the product and carry the product through its life cycle. These have been quantified in the carbon inventory.

Non-quantified emissions have been assessed as attributable and are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. All material emissions are accounted for through an uplift factor. Further detail is available at Appendix C.

Outside the emissions boundary

Non-attributable emissions have been assessed as not attributable to a product or service. They can be **optionally included** in the emissions boundary and therefore have been offset, or they can be listed as outside of the emissions boundary (and are therefore not part of the carbon neutral claim). Further detail is available at Appendix D.

The emission sources in the boundary diagram below are as per the emissions categories in the emission summary table (in section 4).

Inside emissions 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

n/a

Excluded

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

Outside emission boundary

Non-attributable

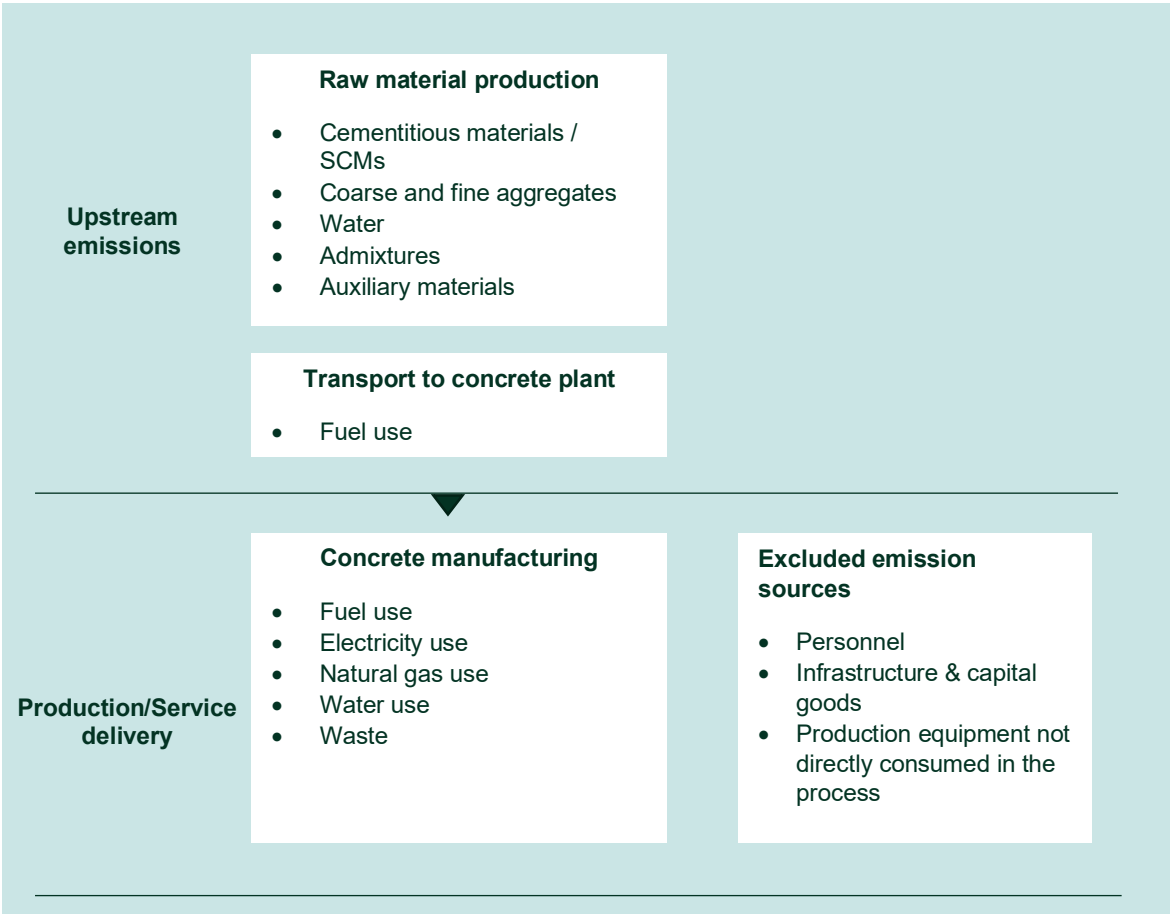
Downstream life cycle stages (i.e., gate to grave).

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

Note: 1. Supplementary Cementitious Materials | 2. National Pollutant Inventory

Product process diagram



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.[1]

Data management plan for non-quantified sources

There are no non-quantified sources in the emission boundary that require a data management plan.

[1] 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.

4. EMISSIONS REDUCTIONS

Emissions reduction strategy

Globally Holcim, 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.

With “Strategy 2025 – Accelerating Green Growth,” Holcim will become the global leader in innovative and sustainable building solutions, following the overachievement of “Strategy 2022” one year in advance. With “Accelerating Green Growth,” Holcim will achieve profitable growth across all our businesses, fueled by sustainability and innovation. We will accelerate the expansion of our Solutions & Products business to reach 30% of Group sales, positioning our company in the most attractive segments of the construction value chain with new technologies.

Sustainability is at the core of our strategy, with our industry’s first 2050 net-zero targets, endorsed by the Science Based Targets initiative (SBTi). Holcim will remain at the forefront of green building solutions, with at least 25% of ready-mix net sales coming from ECOPact, ranging from 30% to 100% lower CO2 footprint.

Leading the circular economy, we will recycle 75 million tons of materials across our business including 10 million tons of construction & demolition waste by 2025.

The strategy includes ambitious 2025 sustainability targets in line with our net-zero roadmap, validated by the SBTi:

- 25% of ready-mix sales from ECOPact, with 30% to 100% lower CO_2 footprint
- 10 million tons of construction & demolition waste recycled in its products and 75 million tons of recycled materials overall
- Green CAPEX of CHF 500 million
- >40% of financing agreements linked to sustainability goals

Walking the talk on our commitment, we are:

- We are setting ourselves ambitious near term and long term climate targets that are validated by the Science-Based Targets initiative (SBTi)
- Until 2030, we are accelerating our reduction in CO_2 intensity to exceed 20% (compared to our 2018 baseline)
- We partnered with SBTi looking beyond 2030, and established the first climate targets for a 1.5°C future in the cement sector
- By 2050, we commit to long term targets for the full scope of our emissions. We complement our net zero target for Scope 1+2 emissions with a 90%* reduction target for our Scope 3 emissions

  *vs 2020 on 90% of total absolute emissions, as per SBTi Net Zero requirements

Supply of low-carbon construction materails and solutions is key to reducing the carbon intensity of the built environment in Australia. Holcim Australia’s carbon reduction strategy includes:

- Decreasing the embodied carbon of ready-mix concrete by replacement of general-purpose cement with supplementary cementitious materials (SCM) from industrial by-products such as fly ash, slag and silica fume.:
- Increasing the sale of low carbon ready-mix such as ECOPact
- Promoting the specification of lower CO_2-e concrete
- Improving internal systems and processes for product development to drive innovation and customised design of mixes.

Holcim's ViroDecs™ EPD range supports the strategy by providing:

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

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

Emissions reduction actions

As an Australia first Holcim gained its carbon neutral certification in 2019. The first sales of carbon neutral ready-mix concrte occurred in 2020, with further sales in 2021. The total emissions offset each per year depend on the amount of carbon neutral concrete sold. Although the total emissions for the products sold may increase year-on-year depending on the sales, it also means that an equivalent quantity of emissions are being offset. 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.

5.EMISSIONS SUMMARY

Emissions over time

Table 2: Emissions over time.

Emissions since base year			
		Total tCO_2-e	**Emissions intensity of the functional unit**
Base year:	2019	0	0
Year 1:	2020	128	0.245
Year 2:	2021	3,420	0.275

Significant changes in emissions

Table 3 summaries the various emissions by key material for the ViroDecs™ ready-mix concrete sales in current year (2021) and the previous year (2020).

Table 3: Significant changes in emissions

Emission source name	Current year (tCO_2-e and/ or activity data)	Previous year (tCO_2-e and/ or activity data)	Detailed reason for change
Aggregates	250	10.6	Sales volume increased
General Purpose Cement	2,969	111	Sales volume increased
Supplementary Cementitious Materials	133	2.91	Sales volume increased
Admixtures	44	1.85	Sales volume increased
Additives	0	0	Sales volume increased
Concrete plant resources	24	0.874	Sales volume increased

Use of Climate Active carbon neutral products and services

No carbon neutral products used.

Product emissions summary

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.

Emission source category	tonnes CO_2-e
Aggregates	250
General Purpose Cement	2969
Supplementary Cementitious Materials	133
Admixtures	44
Additives	0
Concrete plant resources	24
Total inventory emissions	3420

Emissions intensity per functional unit	0.275 tCO2-e / m3
Number of functional units to be offset	12,409 m3
Total emissions to be offset	3,420 tCO2-e

6. CARBON OFFSETS

Offsets retirement approach

In arrears		
1.	Total number of eligible offsets banked from last year's report	872 t CO_2-e
2.	Total emissions footprint to offset for this report	3,420 t CO_2-e
3.	Total eligible offsets required for this report	2,548 t CO_2-e
4.	Total eligible offsets purchased and retired for this report	24,000 t CO_2-e
5.	Total eligible offsets banked to use toward next year's report	21,452 t CO_2-e

Co-benefits

The Bundled Wind Power Project in Tamilnadu, India involves installation of 396 Wind Turbine Generators (WTGs) with a total cumulative installed capacity of 236 MW. The wind energy project activity (Project) involves in the Enercon Wind Farms (WFs) in Karnataka Bundled Project with a total cumulative installed capacity of 73.6 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 WFs.
- 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:

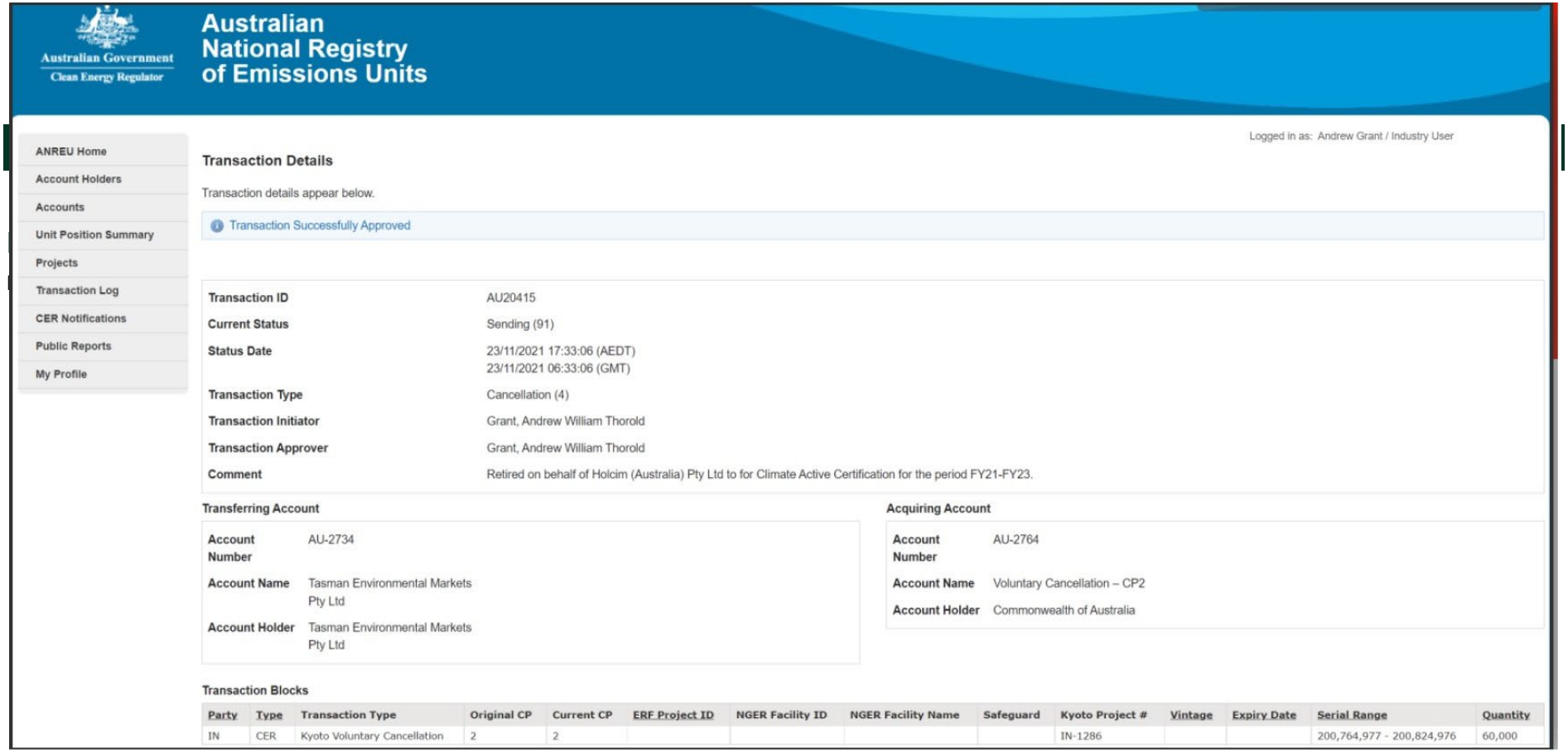
- The project activity results in generation of additional employment opportunities directly and indirectly which helps improve the standard of living of the people in and around the project activity location.
- The generation of the offsets provides financial incentives, which encourage channelling 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.

Eligible offsets retirement 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**	**Stapled quantity**	**Eligible quantity (tCO_2-e)**	**Eligible quantity used for previous reporting periods**	**Eligible quantity banked for future reporting periods**	**Eligible quantity used for this reporting period**	**Percentage of total (%)**
Bundled Wind Power Project in Tamilnadu, India, coordinated 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		1,000	128	0	872	25%
Bundled Wind Power Project in Tamilnadu, India, coordinated by Tamilnadu Spinning Mills Association (TASMA-V2)	VCUs	VERRA	03/05/2022	9064-65162471-65166470-VCS-VCU-508-VER-IN-1-1353-01012017-31122017-0	2017	4,000	4,000	0	1,452	2,548	75%
CER-IND-Enercon Wind Farms Karnataka Project, India	CERs	VERRA	23 Nov 2021	200,764,977 - 200,824,976	CP2	60,000*	60,000	0	20,000	0	0%
									Total offsets retired this report and used in this report	3,420	
									Total offsets retired this report and banked for future reports	21,452	

**40,000t for Holcim's Humes Precast concrete (opt-in) future sales / 20,000t for Holcim's ViroDecs ready-mix concrete (opt-in) future sales*

Type of offset units	Quantity (used for this reporting period claim)	Percentage of total
Certified Emissions Reductions (CERs)	0	0%
Verified Carbon Units (VCUs)	3,420	100%



Australian Government
Clean Energy Regulator

Australian National Registry of Emissions Units

ANREU Home
Account Holders
Accounts
Unit Position Summary
Projects
Transaction Log
CER Notifications
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Logged in as: Andrew Grant / Industry User

Transaction Details

Transaction details appear below.

Transaction Successfully Approved

Transaction ID	AU20415
Current Status	Sending (91)
Status Date	23/11/2021 17:33:06 (AEDT) 23/11/2021 06:33:06 (GMT)
Transaction Type	Cancellation (4)
Transaction Initiator	Grant, Andrew William Thorold
Transaction Approver	Grant, Andrew William Thorold
Comment	Retired on behalf of Holcim (Australia) Pty Ltd to for Climate Active Certification for the period FY21-FY23.

Transferring Account

Account Number	AU-2734
Account Name	Tasman Environmental Markets Pty Ltd
Account Holder	Tasman Environmental Markets Pty Ltd

Acquiring Account

Account Number	AU-2764
Account Name	Voluntary Cancellation – CP2
Account Holder	Commonwealth of Australia

Transaction Blocks

Party	Type	Transaction Type	Original CP	Current CP	ERF Project ID	NGER Facility ID	NGER Facility Name	Safeguard	Kyoto Project #	Vintage	Expiry Date	Serial Range	Quantity
IN	CER	Kyoto Voluntary Cancellation	2	2					IN-1286			200,764,977 - 200,824,976	60,000

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) Summary

N/A

APPENDIX A: ADDITIONAL INFORMATION

Not applicable for this certification.

APPENDIX B: ELECTRICITY SUMMARY

Not applicable for this certification.

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Excluded emission sources

Attributable emissions sources including capital goods, personel and downstream stages are excluded from the carbon inventory, but still considered as part of the emissions boundary if they meet **all three of the below criteria**. An uplift factor may not necessarily be applied.

1. A data gap exists because primary or secondary data cannot be collected **(no actual data).**
2. Extrapolated and proxy data cannot be determined to fill the data gap (**no projected data**).
3. An estimation determines the emissions from the process to be **immaterial**).

	No actual data	No projected data	Immaterial
Capital goods	Yes	Yes	Yes
Personel	Yes	Yes	Yes
Production equipment not directly consumed in the process	Yes	Yes	Yes

APPENDIX D: OUTSIDE EMISSION BOUNDARY

Non-attributable emissions have been assessed as not attributable to a product or service (do not carry, make or become the product/service) and are therefore not part of the carbon neutral claim. To be deemed attributable, an emission must meet two of the five relevance criteria. Emissions which only meet one condition of the relevance test can be assessed as non-attributable and therefore are outside the carbon neutral claim. Non-attributable emissions are detailed below.

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

- 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

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 stages	No	No	No	No	No

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