PUBLIC DISCLOSURE STATEMENT

HANSON AUSTRALIA PTY LTD

PRODUCT CERTIFICATION – OPT-IN

CY2021

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	Hanson Australia Pty Ltd and its related companies Hanson Construction Materials Pty Ltd, Hymix Australia Pty Ltd, Alex Fraser Asphalt Pty Ltd, Recycling Industries Pty Ltd, Queensland Recycling Pty Ltd and Pioneer North Queensland Pty Ltd
REPORTING PERIOD	1 January 2021 – 31 December 2021 and projected for 2022.
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.* 
	Name of signatory: Phil Schacht Position of signatory: Chief Executive Date: 22 December 2021

Australian Government
Department of Industry, Science, Energy and Resources

Version September 2021. To be used for FY20/21 reporting onwards.

1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	5,268 tCO2-e
THE OFFSETS BOUGHT	100% VCUs
RENEWABLE ELECTRICITY	19.31%
TECHNICAL ASSESSMENT	22/12/2021 Emily Townsend thinkstep-anz Next technical assessment due: December 2024 (unless scope changes)
THIRD PARTY VALIDATION	Not required – EPD Pathway used

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2. CARBON NEUTRAL INFORMATION

Organisation Description

Hanson Australia, together with its related companies Hanson Construction Materials Pty Ltd, Hymix Australia Pty Ltd, Alex Fraser Asphalt Pty Ltd, Recycling Industries Pty Ltd, Queensland Recycling Pty Ltd and Pioneer North Queensland Pty Ltd (collectively referred to as Hanson),are leaders in the Australian construction materials industry. We service local communities with aggregates, concrete, asphalt and recycled construction and demolition waste through our network of sites around the country.

As part of the global HeidelbergCement Group (HC), we are the world's largest aggregates and ready-mix concrete (RMC) business and hold the second largest cement position. The strength of that global network and diverse team is being leveraged to address the challenges of climate change across all business lines. Across the network, there is significant investment in product research and development, particularly in reducing CO_2 in cement and concrete, and operational investment, such as numerous carbon capture projects at various stages of implementation in search of the best options. Hanson is committed to the UN Sustainable Development Goals and is working to improve sustainability outcomes for our people and planet.

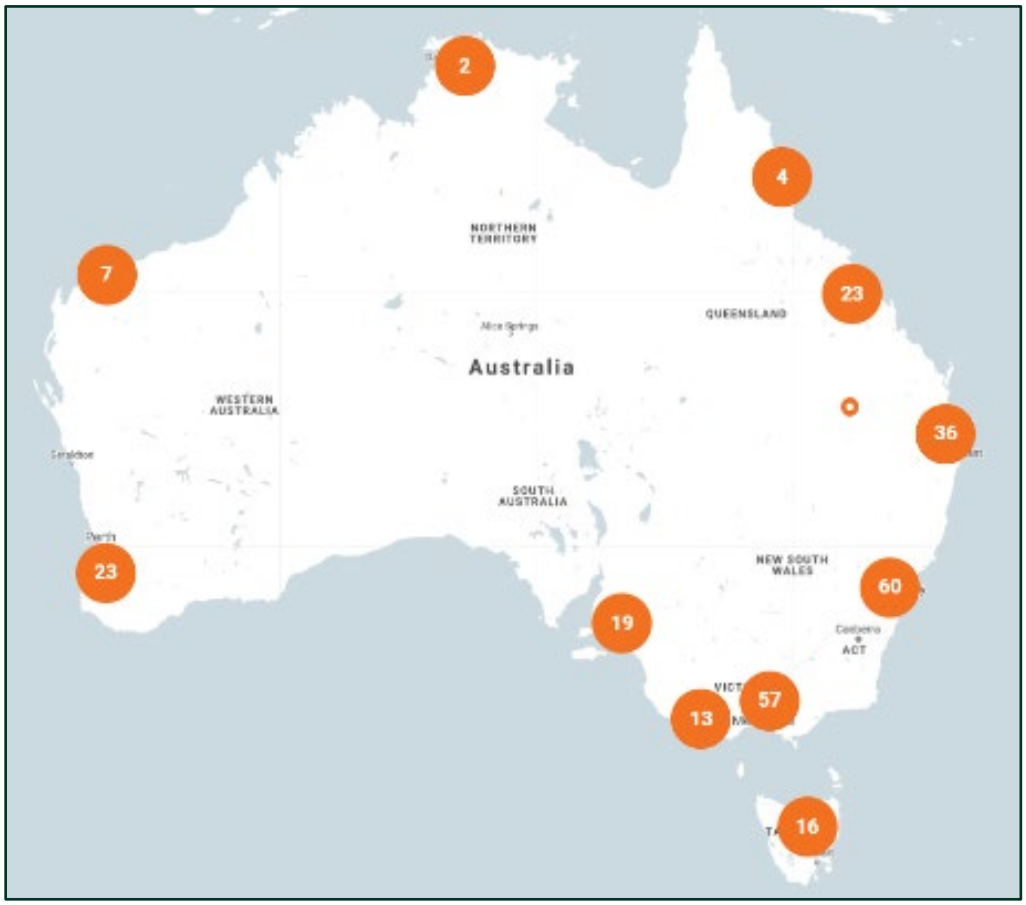
"Achieve net zero in our products has the focus of our global operational network. Climate Active Certification is an important intermediate step locally for us to support our customers to achieve strong sustainability performance."

Description of certification

This certification is to cover RMC products produced by Hanson sold in Australia. Climate Active certification is an option we are providing our customers to support the development of carbon neutral projects as part of our CO_2 reduction journey.

The certification is being managed through the EPD (environmental product declaration) pathway. Hanson holds process certification to produce bespoke cradle to grave Ecodocs™ EPDs for customer projects. With Hanson's range of cement reduced RMC mixes, our project Ecodocs™ EPDs and Climate Active certification, we are supporting customers to achieve more sustainable outcomes throughout the construction process and across the product lifecycle on an opt-in basis.

Hanson operate an integrated network of operations in all Australian states and territories. Through our Customer Service Centre based in Brisbane, deliveries in all metropolitan areas are optimized through a computerized algorithm. Over 20 years, this has allowed us to maximise the benefit of our network for customer service and efficiency.



Product description

The functional unit is defined as 1 cubic meter (m^3) of ready-mix concrete and the cradle to grave method is adopted for assessing emissions. Given it is not possible to know with certainty the life cycle stages of a particular product beyond the gate, estimates have been made based on industry and government information, for example fuel use in construction and recycled proportions at end of life.

Subject to the application, supplementary cementitious materials (SCMs) are employed to reduce CO_2 from cement. SCMs primarily include fly ash from coal fired power stations and slag from steel production. These materials are used to replace cement, significantly reducing the embodied carbon of the RMC product.

Hanson has a long history of employing SCMs in RMC products. While it is standard to utilize SCMs in most applications, the extent to which it occurs is influenced by technical and practical factors. For this reason, Hanson works with customers to design and select mixes based on their requirements, assisting them in choosing low cement options where possible. Most of the concrete operations around Australia have the capacity to incorporate SCMs to meet customer demands.

With the aim of addressing some key limitations associated with SCM, Hanson introduced Ecotera®. Mixes with Ecotera® can be designed for specific applications to replace up to 70% of cement with SCMs, going well beyond the previous regular 50% limit. This is achieved while satisfying project requirements of early age strength and low shrinkage. For the purposes of this year's certification, Ecotera® has not been employed.

Under the Climate Active certification, customers will have the option to opt-in to carbon neutral products. Ecodocs™ EPDs will be employed to calculate the CO_2 and annually this report will be updated to reflect the mix range covered. Given the significant variation in concrete mix design, it is impractical to list all possible options.

3. EMISSIONS BOUNDARY

Inside the emissions boundary

All emissions related to each lifecycle stage have been quantified in the carbon inventory as consistent with EPD Product Category Rules. There are no non-quantified emissions and, therefore, no uplift is applied.

Outside the emissions boundary

Non-attributable emissions include those related to personnel and capital goods. This is consistent with the EPD Product Category Rules. Both items are immaterial to the total emissions of the products.

Inside emissions boundary

Quantified

Production

- Electricity
- Fuel use in mobile plant
- Fuel used in fixed plant
- Waste
- Water

Transport fuel used in

- Road fleet
- Trains
- Ships

Cement specific

- Process emissions

Use

- Carbonation

End of Life (deconstruction, recycling, transport, landfill)

- Electricity
- Fuel use in mobile plant
- Fuel used in fixed plant
- Waste
- Water
- Carbonation

Non-quantified

N/A

Optionally included

NA

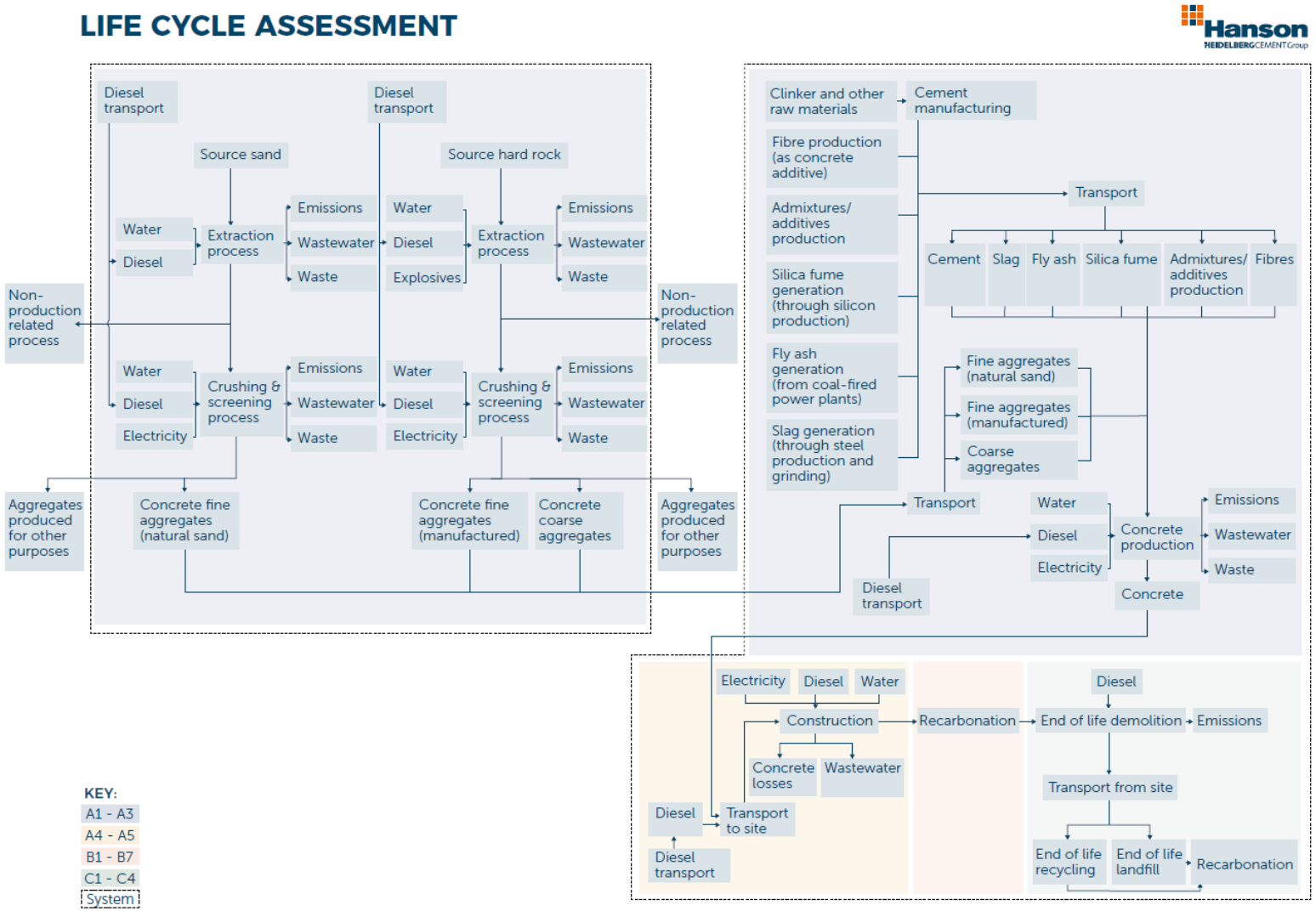
Outside emission boundary

Non-attributable

Personnel

Capital Goods

Product/service process diagram



The lifecycle analysis captures the full cradle to grave emission inventory for the RMC product. As the lifecycle stages beyond the gate are outside Hanson's control, estimates based on reliable industry and government information have been employed.

Attributable non-quantified sources

All emission sources have been quantified.

Data management plan for non-quantified sources

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

Non attributable sources (outside certification boundary)

The EPD is consistent with the Product Category Rules (PCR) as verified by Epsten Group.

The embodied emissions of capital equipment and personnel are considered non attributable and immaterial to the product. This is consistent with the EPD PCR and has been verified by qualified technical professional consultants, thinkstep-anz.

4. EMISSIONS REDUCTIONS

Emissions reduction strategy

Hanson is a wholly owned subsidiary of the global cement business, HeidelbergCement (HC). Globally, HC was the first cement business to set targets with the Science Based Targets initiative (SBTi), and more recently committing to the "Business Ambition for 1.5C". Further, HC is a CDP Climate A-list business, has joined the United Nation's "Race to Zero" campaign and, in the 2020 Sustainability Report, has integrated the Taskforce for Climate-Related Financial Disclosure (TCFD) reporting for the first time.

A crucial component of the work to reduce CO_2 is the global commitment from HC to produce CO_2 neutral concrete no later than 2050. This is driving significant action globally across all HC businesses. In 2021, the target was further reinforced by HC becoming one of the first companies globally to link take home pay for managers across global operations to CO_2 reduction.

In pursuit of the target, the Australian key action areas:

- Reducing CO_2 in RMC through product development and investment in our operations aimed at increasing the use of SCMs with a target of 17% reduction in kg CO_2 /m^3 per MPa by 2030 from a 2019 base* aligned to the Global Cement and Concrete Association (GCCA) methodology.
- Reducing our Scope 2 emissions through greening the source and optimizing electricity usage with a target of 65% reduction by 2030 from a 2016 base, aligned with our science-based targets.
- Promotion of reduced cement products to our customers in achieving their CO_2 reduction ambitions, particularly lower CO_2. The choice of lower CO_2 products is the critical step between development and impact.
- Reducing emissions from transport on a per unit per km basis through ongoing investment in more efficient fleet and investment in new technologies as they come available in Australia.

For sales and transport, internal targets have been set which are not yet publicly communicated. Our internal CO_2 reduction road maps are reported to the global senior management quarterly and contain a range of actions, most of which cannot be included here due to competitive sensitivities.

These planned actions are in the context of a long history of continually improving our business. Through ongoing investment in fleet, we have reduced transport CO_2 per unit per km delivered by nearly 1% per year on average since 2005. Investment in innovative IT solutions has supported the reduction of cement in products by leveraging algorithms to optimize mixes. Ongoing investment in plants has positioned the business to be ready to supply reduced cement RMC in most operations, with plans to address operations not currently set up for SCM utilisation.

* Targets are annually reviewed. As an RMC producer, about 80-85% CO_2 is in cement. We are working with our cement supplier (a Joint Venture) on progressing emissions reductions. We do not have operational control over the cement business.

5. EMISSIONS SUMMARY

Use of Climate Active carbon neutral products and services

No Climate Active Products have been used.

Product emissions summary

Having achieved process EPD certification, Hanson will be creating primarily bespoke EPDs on a project by project basis at customer request. This allows for location-based buildup of project specific mixes from specific plants and representative materials. The LCA is cradle to grave and for the purposes of the emissions summary each stage is grouped and A1-A3 (Production) is split from A4-A5 (Construction) for visibility of the cradle to gate.

The first table below shows all mixes specified for the R2 Barangaroo project, including the anticipated volume over the project lifespan, the impacts per life cycle stage in tCO_2e/m^3, and the total expected emissions across the project lifespan. Given that volumes of specific mixes can change over the duration of the project, some products have been allowed for with a nominal $1m^3$ in anticipation of use.

The actual volumes used will be reviewed over the course of the project and any differences in total emissions will be accounted for. The volumes delivered to the project to date are provided in the second table below. Note that total calculated emissions may not sum due to rounding in displayed data.

No	ALL ANTICIPATED MIXES AND EMISSIONS FOR R2 BARANGAROO PROJECT	VOLUME (m^3)	LIFE CYCLE STAGES				Total Lifecycle Unit tCO_2-e/m^3	Total emissions tCO_2-e
			A1-A3 Production	A4-A5 Transport & Construction	B1-B7 Use	C1-C4 End of Life		
1	Tower Columns & Wall 100 MPa 32% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	34	617	15.3	-10.6	16.5	0.638	21.70
2	Tower Columns & Wall 100 MPa 53% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	2135	459	13.8	-7.07	20.0	0.486	1,037.06
3	Post Tension 40 MPa 26% Indicative Cement Replacement – GGBFS	7000	370	12.9	-6.05	21.1	0.398	2,785.47
4	Level 2 Podium 40 MPa 27% Indicative Cement Replacement - Fly Ash	1	332	12.5	-5.68	21.4	0.360	0.36
5	Post Tension 50 MPa 25% Indicative Cement Replacement – GGBFS	5000	399	13.2	-6.63	20.5	0.426	2,130.27
6	Tower Columns & Wall 50 MPa 50% Indicative Cement Replacement - Fly Ash/GGBFS Blend	1	287	12.1	-4.28	22.9	0.318	0.32
7	Tower Columns & Wall 50 MPa 28% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	180	402	13.2	-6.63	20.6	0.430	77.32
8	Post Tension 65 MPa 44% Indicative Cement Replacement - GGBFS/Silica Fume Blend	252	418	13.4	-6.46	21.0	0.446	112.37
9	Tower Jumpform - Core 65 MPa 33% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	4650	392	13.1	-6.51	20.5	0.419	1,948.77
10	Tower Jumpform - Core 80 MPa 36% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	5600	424	13.4	-6.98	20.1	0.450	2,522.70
11	Transfer Slab 80 MPa 62% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	354	318	12.4	-4.30	23.1	0.349	123.63
12	Tower Columns & Wall 80 MPa 39% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	800	415	13.3	-6.64	20.7	0.442	353.85

No	ALL ANTICIPATED MIXES AND EMISSIONS FOR R2 BARANGAROO PROJECT	VOLUME (m^3)	LIFE CYCLE STAGES				Total Lifecycle Unit tCO_2-e/m^3	Total emissions tCO_2-e
			A1-A3 Production	A4-A5 Transport & Construction	B1-B7 Use	C1-C4 End of Life		
13	Puddle Pour 80 MPa 15% Indicative Cement Replacement - GGBFS/Silica Fume Blend	1	657	15.7	-11.8	15.1	0.676	0.68
14	Puddle Pour 65 MPa 50% Indicative Cement Replacement - GGBFS/Silica Fume Blend	1	403	13.2	-5.96	21.7	0.432	0.43
15	Basement Slabs (RC) 40 MPa 25% Indicative Cement Replacement - Fly Ash/GGBFS Blend	1	324	12.5	-5.17	22.1	0.353	0.35
16	Stairs 40 MPa 25% Indicative Cement Replacement - Fly Ash/GGBFS Blend	1	331	12.5	-5.34	21.8	0.360	0.36
17	Tower Columns & Wall 40 MPa 25% Indicative Cement Replacement – GGBFS	1	343	12.6	-5.57	21.4	0.371	0.37
18	Blockwork Core Infill 25 MPa 50% Indicative Cement Replacement – GGBFS	1	282	12.1	-1.33	22.9	0.316	0.32
19	Puddle Pour 100 MPa 19% Indicative Cement Replacement - GGBFS/Silica Fume Blend	1	710	16.2	-12.7	14.0	0.727	0.73
20	Tower Jumpform - Core 50 MPa 28% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	2740	397	13.2	-6.63	20.6	0.424	1,162.19
21	Tower Columns & Wall 65 MPa 33% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	110	397	13.2	-6.51	20.5	0.424	46.66
22	Tower Columns & Wall 40 MPa 50% Indicative Cement Replacement – GGBFS	200	282	12.1	-1.33	22.9	0.316	63.14
23	Stairs 40 MPa 50% Indicative Cement Replacement - Fly Ash/GGBFS Blend	600	256	11.8	-3.74	23.4	0.287	172.45
24	Basement Slabs (RC) 40 MPa 50% Indicative Cement Replacement - Fly Ash/GGBFS Blend	2637	254	11.8	-3.63	23.8	0.286	753.35
25	Puddle Pour 80 MPa 43% Indicative Cement Replacement - GGBFS/Silica Fume Blend	1	496	14.1	-7.93	19.3	0.521	0.52
		TOTAL VOLUME (m^3)					**Average CO2-e/m^3**	**Total Project CO_2-e**
		32,302					**0.412**	**13,315.36**

Of the total project volume, the following has been delivered to date:

DELIVERED MIXES AND EMISSIONS FOR R2 BARANGAROO PROJECT CY 2021	DELIVERED VOLUME (m^3)	Total Lifecycle Unit tCO_2-e/m^3	Total emissions tCO_2-e
Blockwork Core Infill 25 MPa 50% Indicative Cement Replacement – GGBFS	211.1	0.316	66.6
Level 2 Podium 40 MPa 27% Indicative Cement Replacement - Fly Ash	334.3	0.360	120.4
Post Tension 40 MPa 26% Indicative Cement Replacement – GGBFS	2961.8	0.398	1,178.6
Post Tension 50 MPa 25% Indicative Cement Replacement – GGBFS	33.4	0.426	14.2
Post Tension 65 MPa 44% Indicative Cement Replacement - GGBFS/Silica Fume Blend	202.0	0.446	90.1
Puddle Pour 100 MPa 19% Indicative Cement Replacement - GGBFS/Silica Fume Blend	76.0	0.727	55.3
Puddle Pour 65 MPa 50% Indicative Cement Replacement - GGBFS/Silica Fume Blend	211.0	0.432	91.1
Puddle Pour 80 MPa 43% Indicative Cement Replacement - GGBFS/Silica Fume Blend	121.4	0.521	63.3
Stairs 40 MPa 50% Indicative Cement Replacement - Fly Ash/GGBFS Blend	678.4	0.287	195.0
Tower Columns & Wall 100 MPa 32% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	672.7	0.638	429.3
Tower Columns & Wall 100 MPa 53% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	1062.0	0.486	515.9
Tower Columns & Wall 50 MPa 50% Indicative Cement Replacement - Fly Ash/GGBFS Blend	15.2	0.318	4.8
Tower Columns & Wall 80 MPa 39% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	456.0	0.442	201.7
Tower Jumpform - Core 65 MPa 33% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	1476.4	0.419	618.7
Tower Jumpform - Core 80 MPa 36% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	3353.8	0.450	1,510.8
Transfer Slab 80 MPa 62% Indicative Cement Replacement - Fly Ash/GGBFS/Silica Fume Blend	320.0	0.349	111.8
	DELIVERED VOLUME (m^3)		**DELIVERD VOLUME CO_2-e**
	12,186		**5,267.63**

6. CARBON OFFSETS

Offsets strategy

Offset purchasing strategy: **In arrears for CY21 and forward purchased for duration of project**		
1.	Total offsets previously forward purchased and banked for this report	0 tCO_2e
2.	Total emissions liability to offset for this report	5,268 tCO_2e
3.	Net offset balance for this reporting period	5,268 tCO_2e
4.	Total offsets to be forward purchased to offset the next reporting period	0 tCO_2e
5.	Total offsets required for this report	5,268 tCO_2e

Co-benefits

For the current period, offsets from two projects have been utilized with the following co-benefits:

- Brazil Nut Concessions Project – Peru[1]
    - The subject rainforest of the offset is protected from deforestation;
    - Improved legal frameworks and representations for concessioners;
    - Preservation of biodiversity and biomonitoring;
    - Training and employment opportunities for local community; and,
    - Biomonitoring of wildlife to preserve biodiversity.
- Fortaleza Ituxi REDD Project[2]
    - Establishment of seedling nursery with capacity of producing 50,000 native species per year;
    - Training in cattle and forest management for farmers in local community;
    - Technical education frameworks, labour condition and health insurance plans for workers; and,
    - Encouragement of attendance for young children at schools.

[1] Carbon Neutral project fact sheet 2021 – Brazil Nut Concessions Project – Peru
[2] Carbon Neutral project fact sheet 2021 – Fortaleza Ituxi REDD Project

Offsets summary

Proof of cancellation of offset units

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 (tCO_2-e)**	**Quantity used for previous reporting periods**	**Quantity banked for future reporting periods**	**Quantity used for this reporting period claim**	**Percentage of total (%)**
REDD Project Brazil Nut Concessions in Madre de Dios, Peru, Vintage	VCU	Verra	20/12/2021	11011-267309767-267313066-VCS-VCU-263-VER-PE-14-868-01012013-31122014-0 Verra Registry	2014	3300	0	3300	0	0%
REDD Project Brazil Nut Concessions in Madre de Dios, Peru, Vintage	VCU	Verra	20/12/2021	11011-267313067-267313766-VCS-VCU-263-VER-PE-14-868-01012013-31122014-0 Verra Registry	2014	700	0	700	0	0%
Fortaleza Ituxi REDD Project, Brazil	VCU	Verra	20/12/2021	8184-437840-447839-VCS-VCU-1519-VER-BR-14-1654-15122013-14122015-0 Verra Registry	2015	10,000	0	4,732	5,268	100%
Total offsets retired this report and used in this report									5,268	
Total offsets retired this report and banked for future reports								8,732		

Type of offset units	Quantity (used for this reporting period claim)	Percentage of total
Verified Carbon Units (VCUs)	5,267.63	100%

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) Summary

No RECs used in this reporting period.

APPENDIX A: ADDITIONAL INFORMATION

N/A

APPENDIX B: ELECTRICITY SUMMARY

Market-based approach summary

Market-based approach	Activity data (kWh)	Emissions (kgCO2-e)	Renewable % of total
Behind the meter consumption of electricity generated	0	0	0
Total non-grid electricity	**0**	**0**	**0**
LGC purchased and retired (kWh) (including PPAs & Precinct LGCs)	0	0	0
GreenPower	0	0	0
Jurisdictional renewables (LGCs retired)	0	0	0
Jurisdictional renewables (LRET) (applied to ACT grid electricity)	0	0	0
Large Scale Renewable Energy Target (applied to grid electricity only)	140,190	0	0
Residual electricity	585,807	631,618	0
Total grid electricity	**725,997**	**631,618**	**0**
Total electricity consumed (grid + non grid)	**725,997**	**631,618**	**0**
Electricity renewables	140,190	0	
Residual electricity	585,807	631,618	
Exported on-site generated electricity	**0**	**0**	
Emission footprint ($kgCO_2$-e)		631,618	

Total renewables (grid and non-grid)	**632**
Mandatory	**19.31%**
Voluntary	**0%**
Behind the meter	**0%**
Residual electricity emission footprint (tCO_2-e)	**19.31%**

Figures may not sum due to rounding. Renewable percentage can be above 100%

Location-based approach summary

Location-based approach	Activity data (kWh)	Emissions ($kgCO_2$-e)
ACT	0	0
NSW	541,561	487,404
SA	0	0
Vic	0	0
Qld	109,009	101,378
NT	0	0
WA	0	0
Tas	0	0
Grid electricity (scope 2 and 3)	**650,569**	**588,783**
ACT	0	0
NSW	0	0
SA	0	0
Vic	0	0
Qld	0	0

NT	0	0
WA	0	0
Tas	0	0
Non-grid electricity (behind the meter)	**0**	**0**
Total electricity consumed	**650,569**	**588,783**
Emission footprint (tCO_2-e)	**589**	

Climate Active carbon neutral electricity summary

Carbon neutral electricity offset by Climate Active product	Activity data (kWh)	Emissions ($kgCO_2$-e)
Enter product name/s here	**0**	**0**

Climate Active carbon neutral electricity is not considered renewable electricity. The emissions have been offset by another Climate Active carbon neutral product certification.

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

NA

Excluded emission sources

NA

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.

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.*
Personnel	No	No	No	Limited	No
Capital good	No	No	No	Limited	No

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Climate Active