PUBLIC DISCLOSURE STATEMENT

ADBRI PTY LTD

PRODUCT CERTIFICATION
CY2023

Australian Government

Climate Active
Public Disclosure Statement

An Australian Government Initiative

NAME OF CERTIFIED ENTITY	Adbri Pty Ltd
REPORTING PERIOD	Calendar year 1 January 2023 – 31 December 2023 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.*
	Felicity Lloyd Chief Sustainability and Innovation Officer 05 November 2024 *Note: you can submit this document to Climate Active unsigned. The Climate Active team will invite you to sign this document once they have completed their review.*

Australian Government
Department of Climate Change, Energy, the Environment and Water

Version: January 2024

1.CERTIFICATION SUMMARY

TOTAL EMISSIONS OFFSET	792 tCO_2-e
CARBON OFFSETS USED	100% ACCUs
RENEWABLE ELECTRICITY	N/A
CARBON ACCOUNT	Prepared by: Energetics Pty Ltd
TECHNICAL ASSESSMENT	11-11-2024 Energetics Pty Ltd Next technical assessment due: CY 2026
THIRD PARTY VALIDATION	N/A – based on verified EPD

Contents

1. Certification summary 3
2. Certification information 4
3. Emissions boundary 6
4. Emissions reductions 9
5. Emissions summary 11
6. Carbon offsets 14
7. Renewable Energy Certificate (REC) summary 16

Appendix A: Additional information 17
Appendix B: Electricity summary 18
Appendix C: Inside emissions boundary 19
Appendix D: Outside emission boundary 20

2. CERTIFICATION INFORMATION

Description of product certification

This product certification is for a specific volume of selected opt-in concrete mix products produced in Victoria at the South Wharf factory.

- Functional unit: Tonnes CO2-eq for 1 m^3 concrete
- Offered as: opt-in product certification, with a total CY23 volume of 2,455.6 m^3 of concrete mixes across 6 of Adbri's Hy-Tec range of Futurecrete® concrete mix products:
    - 25MPA 14MM Futurecrete Zero Concrete
    - 50MPA 20MM Futurecrete Zero Concrete
    - 50MPA 14MM Futurecrete Ultra Zero Concrete
    - 50MPA 20MM Futurecrete Ultra Zero Concrete
    - 50MPA 14MM Futurecrete Ultra Zero Concrete
    - 65MPA 14MM Futurecrete Ultra Zero Concrete
- Life cycle: cradle-to-grave is used as the downstream emissions while complex due to limited product visibility and limited ability to control/influence emissions reductions have been estimated as part of the lifecycle assessment undertaken for all concrete products produced in VIC and associated Environmental Product Declaration (EPD).

The responsible entity for this product certification is Adbri Pty Ltd, ABN 15 007 596 018.

This Public Disclosure Statement includes information for the CY2023 reporting period and uses the EPD (linked here) to inform the product's life cycle for the purpose of this certification.

Description of business

Adbri, formerly known as Adelaide Brighton, is one of Australia's pioneering construction materials and industrial mineral manufacturing companies. Adbri provides concrete, masonry, cement, lime, aggregates, and industrial minerals. Adbri has grown into one of Australia's leading concrete suppliers to the residential, commercial and infrastructure sectors. Adbri has been supplying concrete to Australian hospitals, schools, homes, roads and water infrastructure from their plants located in New South Wales, Queensland, Victoria, South Australia, and Northern Territory. Adbri runs 55 concrete plants nationally in addition to 6 cement plants, 3 lime plants, 20 quarries and 8 masonry plants. 11 of the 55 concrete plants are located in Victoria.

Adbri operates two emissions-intensive, trade-exposed and hard-to-abate processes – the integrated manufacture of clinker and the production of lime. Unavoidably, chemically liberated carbon dioxide from the high-temperature processing of limestone accounts for ~63% of Adbri's Scope 1 and Scope 2 GHG emissions with no complete substitute for limestone in this process. As a result, Adbri's environmental commitments have directed the focus towards the development of low-emission products in the near term until a commercial breakthrough technology can be adopted in their operations for scope 1 emissions reduction.

This has led Adbri to bring out products such as Futurecrete® (reported in this PDS for carbon-neutral certification) launched in 2023 as a low-carbon product that uses supplementary cementitious materials (SMCs) to reduce embodied emissions while meeting performance requirements. Futurecrete® concrete is manufactured using a minimum of 25% SCMs as cement replacement. The use of SCMs in concrete reduces embodied emissions, enhances concrete durability and can support the circular economy by repurposing industrial by-products. To enable more significant carbon reductions, Futurecrete® Ultra range uses over 41% SCMs in the mix as cement replacement, further reducing embodied emissions of the mix. Adbri's Futurecrete® and Futurecrete® Ultra products are supported by Adbri's independently verified Concrete Environmental Product Declaration (EPD)[1].

[1] Adbri Concrete Products EPD - Victoria

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' of a product or service. These attributable processes are services, materials and energy flows that become the product or service, make the product or service and carry the product or service through its life cycle. These attributable emissions 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.

Inside emissions boundary

Quantified

Extraction and production of raw materials used in concrete production

Fuel used in raw material transport

Electricity used in production

Fuel (diesel and natural gas) used in equipment

Water used in manufacturing

Waste generated

Process emissions

Fuel used in transport of concrete mixes to customer

Fuel and electricity used in product installation

End-of-life of sold products

Non-quantified

N/A

Optionally included

N/A

Outside emission boundary

Non-attributable

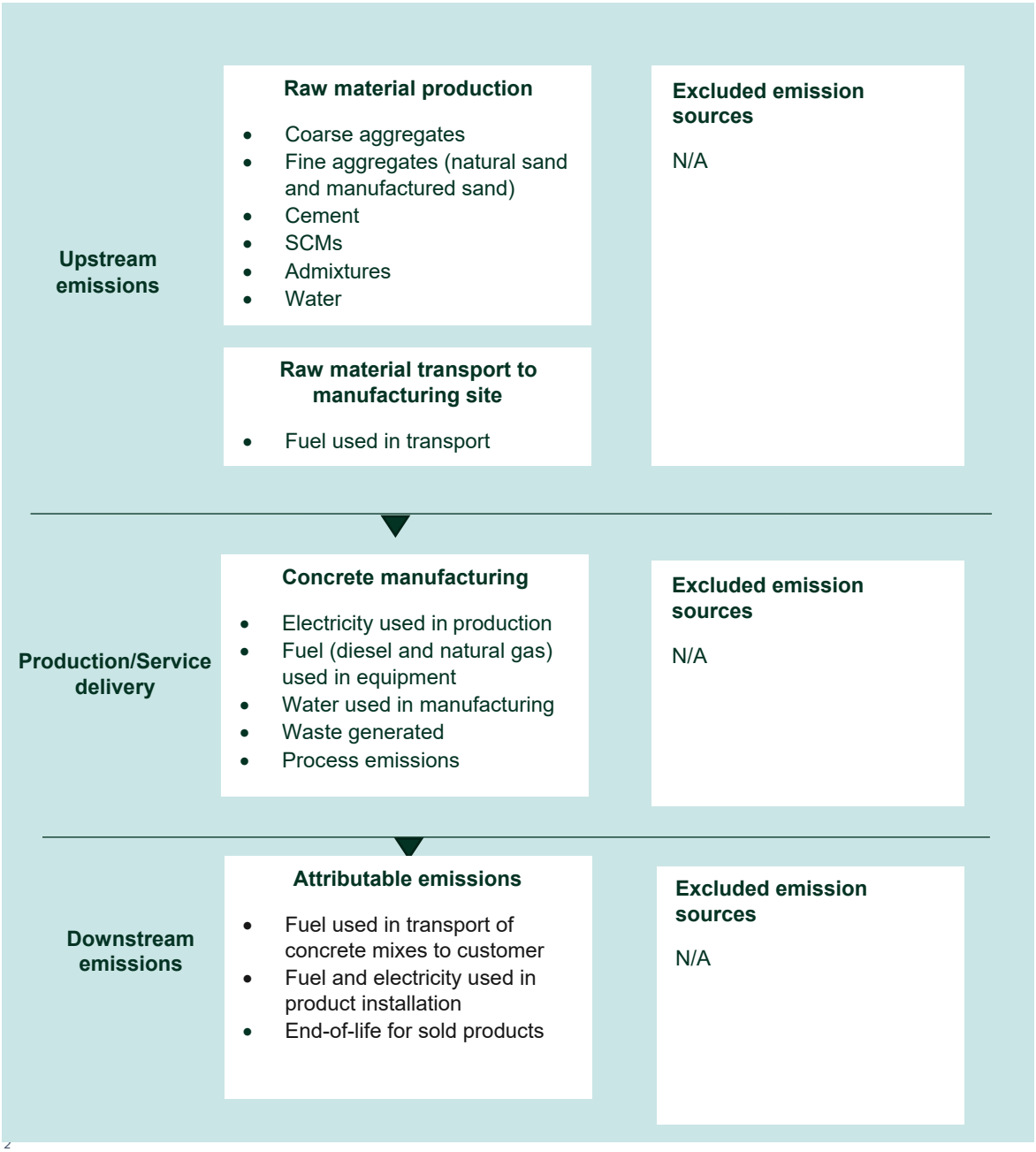
Capital goods and infrastructure

Product process diagram

A cradle-to-grave boundary has been adopted. It is to be noted that 81-93% of emissions (depending on the product mix) are associated with the extraction and production of raw materials and the concrete production process. 2-4% of emissions are associated with the transport of concrete to customer. The remaining portion of emissions are downstream emissions associated with use and end-of-life scenarios of the product. Adbri has little to no control over product usage and disposal beyond the factory gate boundary with concrete applications varying widely depending on customer (e.g. infrastructure projects) needs. Downstream uses and associated emissions can prove complex to map as multiple concrete mixes are used for multiple projects, however these emissions have been estimated as part of the LCA and EPD. Downstream scenarios covered in Adbri's LCA report show that these emissions contribute to 7-19% of total emissions noting that these estimates are high-level estimations only.

Adbri's cradle-to-grave -boundary is outlined in the following diagram.

According to the LCA report and EPD[2] of Adbri's VIC concrete mixes, the addition of capital goods (i.e. manufacturing infrastructure and equipment) is outside the scope of the LCA.



4. EMISSIONS REDUCTIONS

Emissions reduction strategy

With concrete and other infrastructure products like cement and lime playing a critical role in the transition to a low-carbon economy, Adbri is committed to reducing its operational greenhouse gas emissions in line with its Net Zero 2050 goal. Adbri is also committed to producing lower-carbon products for customers to support their sustainability goals, and to partnering with others to develop technologies and solutions.

Adbri has prepared a detailed Net Zero (NZE) Roadmap[3] encompassing the goal tracking, operational gaps and hurdles, and steps aimed at reducing Scope 1 and Scope 2 emissions to achieve the goal of Net Zero 2050. The NZE Roadmap has been guided by the scenario analysis disclosed in the Task Force on Climate-Related Financial Disclosures (TCFD) reporting in Adbri's 2020 Sustainability Report. As engagement, capability, data systems and the necessary technology to measure, monitor and report Scope 3 emissions continues to mature, Adbri also intends to develop a pathway to achieving net zero Scope 3 emissions in line with the 2050 goal.

Adbri's goals from the NZE Roadmap include:

- Short-term target projected to FY24:
    - 7% absolute reduction in operational emissions by FY24 vs FY19 baseline for Scope 1 and 2
- Medium term target projected to FY2030:
    - 20% reduction in cement emissions intensity ($kgCO_2$-e/tonne) by FY30 vs FY20 baseline focusing on Scope 1 emissions
    - 10% reduction in lime emissions intensity ($kgCO_2$-e/tonne) by FY30 vs FY20 baseline focusing on Scope 1 emissions
    - 100% zero emissions electricity supply by FY30 focusing on Scope 2 emissions reduction by sourcing renewable energy and emerging technologies such as power generation using hydrogen.
- Long term goal projected to FY2050
    - Net zero emissions across Scope 1, Scope 2 and Scope 3 (pathway is under development)

[3] *Adbri 2020 Net Zero 2050 Roadmap*

The Net Zero 2050 goal is underpinned by 3 core action areas i.e., reduce emissions, create new products, and collaborate.[4] To tackle the reduction of emissions with concrete (along with aggregate and masonry) specifically, Adbri has:

- implemented diesel reduction and fuel replacement by modernising its fleet with engine efficiencies
- trialled the HYDI Hydrogen on Demand Truck as an optimisation initiative
- entered into partnerships with Janus Electric to develop battery-electric retrofit options for prime movers converting them into electric vehicles in 2023
- run trials on optimising quarry fleet and machinery scheduling to reduce fuel consumption.

Adbri has also installed an addition of 80kW of rooftop solar increasing the rooftop capacity to a total of 1.1MW. This generation feeds into Adbri's general operations.

Adbri has launched new products to reduce embodied carbon in its products such as Futurecrete®. The product range uses up to 65% supplementary cementitious materials to reduce the embodied emissions in concrete, as outlined in Adbri's newly released EPD. The EPD is independently verified to ISO 14025 and the best practice standard EN 15804 and is registered with EPD Australasia.

Adbri is approaching the NZE pathway in two stages. From 2020–2030, the priority will be to deliver emissions reductions through conventional abatement approaches like process and energy efficiency, increasing the use of alternative fuels and transitioning to zero emissions electricity. In parallel, Adbri will support capability building for breakthrough technologies required post-2030 to close the technology gap for hard-to-abate clinker and lime manufacturing. Supporting the capability building will develop and de-risk breakthrough technologies at scale, via collaborations and partnerships in research and development (R&D) and potential pilot-scale demonstrations to accelerate commercial deployment. In this period, opportunities to substitute fossil fuels with zero emissions alternatives across the operations will be assessed as zero-emission heavy vehicles are also expected to become widely available.

[4] *Adbri Sustainability report 2023*

5.EMISSIONS SUMMARY

Emissions over time

Emissions since base year		
	Total tCO_2-e	Emissions intensity of the functional unit
Base year/Year 1: 2023	791.01	0.32 tCO_2-e/m^{3*}

*The emissions intensity of the functional unit is an average of the emissions intensity of all the concrete mixes disclosed in this PDS. This may vary year on year depending on the concrete mixes sold.

Significant changes in emissions

No significant changes can be reported for CY2023 as it is the base year/first year of reporting for carbon neutrality.

Use of Climate Active carbon neutral products, services, buildings or precincts

No Climate Active carbon neutral products, services, buildings or precincts have been used in the production of Adbri's Concrete mixes.

Emissions summary

In 2023, Adbri conducted a cradle-to-grave LCA for concrete ready-mixes manufactured in Victoria as a basis for the development of Environmental Product Declarations (EPD) compliant with Product Category Rules – Construction Products (PCR 2019:14) v1.11[5] and the overarching EN 15804:2012+A2:2019[6] standard. The study allowed for transparent communication of the life cycle impacts of Adbri's concrete to its customers, with results ultimately used in publishing an EPD. The LCA covered cradle-to-grave emissions, addressing mandatory LCA reporting stages i.e., A1-A3+C+D. Additional modules A4-A5 were also included in the LCA scope. Modules A4 and A5 cover product transport for distribution, and product installation of the product use case respectively. Modules C and D are end-of-life emissions of the products. The modules outside of A1-A3 are modelled based on estimations. The lifecycle assessment was supported by a carbon calculator providing the emissions per stage of each product mix given they are made with different percentage mixes of raw materials used. This allowed for accurate emissions intensity to be determined leading supporting accurate carbon emissions calculations when specific volumes are supplied to clients.

[5] *The International EPD System. Product Category Rules (PCR) for Construction Products, PCR 2019:14 v1.11. (2021) Retrieved from www.envirodec.com.*

[6] *British Standards Institution. Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products, BS EN 15804:2012+A2:2019. (2019)*

The LCA results show that the majority of the emissions i.e., 80-93% sit in the product stage of the product lifecycle. The product stage of the lifecycle is defined as stages A1-A3 as shown in the table below. Within the product stage, general purpose cement carries the highest impact, contributing up to 89% of total GHG impacts. The remaining stages or modules as described in the EPD, i.e., A4-A5 and C, contribute to emissions beyond the cradle-to-gate boundary including downstream emissions at the product's end-of-life. Any disposal or recycling at the end of life is captured in module C. Module D is not counted within the EOL stages of the product for the purpose of this calculation as it is defined as benefits beyond the system boundary and is used as an accounting measure for recycled material available from the EOL of concrete for production of new product. Module B is not declared following the methodology outlined in PCR-2019:14 v1.11 and the overarching EN 15804:2012+A2:2019 standard as it is understood that the use stage of concrete as a material incurs no emissions once installed through to its end-of-life.

The EPD, LCA report, and LCA carbon calculators were used to inform the emissions calculations for this PDS. The indicated lifecycle stages (are covered for the 6 specific concrete mixes manufactured at the South Wharf plant in Victoria under Adbri's Hytec product line. The product group mixes are as follows:

- 25MPA 14MM Futurecrete Zero Concrete
- 50MPA 20MM Futurecrete Zero Concrete
- 50MPA 14MM Futurecrete Ultra Zero Concrete
- 50MPA 20MM Futurecrete Ultra Zero Concrete
- 50MPA 14MM Futurecrete Ultra Zero Concrete
- 65MPA 14MM Futurecrete Ultra Zero Concrete

The total quantity of products sold as carbon-neutral across the above product range in CY23 is used for total emissions calculations in this PDS. This quantity is specific to the infrastructure projects these volumes of concrete mixes are supplied to. Therefore, it does not include the total volume of all products manufactured and sold across the different mixes listed above but rather a portion of the absolute total that is to be sold as a carbon-neutral product. The summary below includes all stages within the cradle-to-grave boundary, as defined by this PDS and informed by the LCA report.

Note that no uplift factors have been used for the total emissions.

Life cycle stage / Attributable process / Emission source		**tCO_2-e**
Raw material supplied (Module A1)	637.27	660.87*
Transport of raw material (Module A2)	7.87	
Manufacturing of concrete (Module A3)	15.74	
Transport of concrete to the customer (Module A4)		19.64
Construction and/or installation process (Module A5)		44.20
End of life (Module C)		66.30
Attributable emissions (tCO_2-e)		791.01

**The LCA report and EPD report Module A1-A3 as one value.*

Product / Service offset liability	
Emissions intensity per functional unit	0.32 tCO_2-e/m^3
Emissions intensity per functional unit including uplift factors	N/A
Number of functional units covered by the certification	2,455.60 m^3*
Total emissions (tCO_2-e) to be offset	**791.01**

* The number of functional units covered is the total m^3 of the different cement mixes sold in CY2023 (as listed above in this section) that Adbri will seek to sell as carbon-neutral products.

6. CARBON OFFSETS

Eligible offsets retirement summary

Offsets retired for Climate Active certification

Type of offset units	Eligible quantity (used for this reporting period)	Percentage of total
Australian Carbon Credit Units (ACCUs)	792	100%

Project description	Type of offset units	Registry	Date retired	Serial number (and hyperlink to registry transaction record)	Vintage	Stapled quantity	Eligible quantity retired (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 (%)
Darling River Eco Corridor 9	KACCU	ANREU	18 December 2024	8,335,775,319 – 8,335,776,110	2021-2022	0	792	0	0	792	100
Total offsets retired this report and used in this report										**792**	
Total offsets retired this report and banked for future reports									**0**		

Co-benefits

Darling River Eco Corridor #9

(Extract from: https://greencollar.com.au/project-information/darling-river-eco-corridor-9/)

Follow the Kulkyne Creek through NSW and you'll eventually reach the northern block of Salt Lake Pastoral, a 38,358 hectare a piece of land that the Barton family has leased since 1927. The Kulkyne is a valuable water source for the farm, but drought years have made it harder and harder to keep the land healthy and the vegetation resilient.

Historically, the combination of long-term grazing and the impact of feral animals suppressed native vegetation across the landscape, which in turn resulted in soil degradation. In 2016, Jack and Tegan Barton decided to instigate a project that would support the growth of native vegetation alongside the family Dorper Sheep business, installing new fencing and introducing more sustainable grazing techniques that would help ward off further soil degradation.

The Bartons now sustainably manage over 30,000 hectares of endemic Aussie woodlands filled with species like mulga, hop bush, budda bush, gidgee, leopardwood and eucalyptus. Their carbon project has become a stable and resilient secondary income in often drought-stricken NSW, having a transformative impact on how the Bartons have been able to improve their country and manage erosion and water retention.

The regenerating woodlands themselves protect the soil from degradation, with the Bartons reporting improved ground cover and reduced erosion on the water flats thanks to the stabilising effect of the tree roots. The soil is healthier and diversity of vegetation is improving with the emergence of Sturts Desert Pea and other native desert shrubs on the regenerating landscape.

Key benefits:

- Sequestration of carbon to mitigate climate change
- Improved biodiversity
- Protecting soil from degradation & improved soil health
- Improved water retention & drought resilience
- Improved business resilience

7. RENEWABLE ENERGY CERTIFICATE (REC) SUMMARY

Renewable Energy Certificate (REC) Summary

N/A – no REC have been surrendered.

APPENDIX A: ADDITIONAL INFORMATION

Please refer to the information on purchased offsets below and the attachment to this submission.

Image 1: ACCUs retired through a human-induced regeneration of native forest project in NSW (792 tCO2e)

Logged in as: Fiona Wademan / Industry User

Transaction Details

Transaction details appear below.

Transaction ID	AU38239
Current Status	Completed (4)
Status Date	18/12/2024 11:12:38 (AEDT) 18/12/2024 00:12:38 (GMT)
Transaction Type	Cancellation (4)
Transaction Initiator	Wademan, Fiona
Transaction Approver	McMahon, Michelle
Comment	Surrendered for Climate Active Product certification CY23 - Adbri opt-in concrete mix products

Transferring Account

Account Number	AU-2780
Account Name	Adelaide Brighton Cement Limited
Account Holder	Adelaide Brighton Cement Limited

Acquiring Account

Account Number	AU-1068
Account Name	Australia Voluntary Cancellation Account
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
AU	KACCU	Voluntary ACCU Cancellation			ERF103367					2021-22		8,335,775,319 - 8,335,776,110	792

Transaction Status History

Status Date	Status Code
18/12/2024 11:12:38 (AEDT) 18/12/2024 00:12:38 (GMT)	Completed (4)
18/12/2024 11:12:38 (AEDT) 18/12/2024 00:12:38 (GMT)	Proposed (1)
18/12/2024 11:12:37 (AEDT) 18/12/2024 00:12:37 (GMT)	Account Holder Approved (97)
18/12/2024 11:08:09 (AEDT) 18/12/2024 00:08:09 (GMT)	Awaiting Account Holder Approval (95)

Link to the registry can be found here- please note that the retired ACCUs are currently not reflected online.

APPENDIX B: ELECTRICITY SUMMARY

N/A – electricity reporting has been integrated into the product LCA report and EPD.

APPENDIX C: INSIDE EMISSIONS BOUNDARY

Non-quantified emission sources

The following emissions sources have been assessed as attributable, are captured within the emissions boundary, but are not measured (quantified) in the carbon inventory. These emissions are accounted for through an uplift factor. They have been non-quantified due to one of the following reasons:

1. **Immaterial** <1% for individual items and no more than 5% collectively
2. **Cost effective** Quantification is not cost effective relative to the size of the emission but uplift applied.
3. **Data unavailable** Data is unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.
4. **Maintenance** Initial emissions are non-quantified but repairs and replacements quantified.

Relevant non-quantified emission sources	Justification reason
N/A	N/A

Excluded emission sources

Attributable emissions sources can be 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**).

Emissions Source	No actual data	No projected data	Immaterial
NA	NA	NA	NA

Data management plan for non-quantified sources

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

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.

1. **Size** The emissions from a particular source are likely to be large relative to other attributable emissions.

2. **Influence** The responsible entity could influence emissions reduction from a particular source.

3. **Risk** The emissions from a particular source contribute to the responsible entity's greenhouse gas risk exposure.

4. **Stakeholders** The emissions from a particular source are deemed relevant by key stakeholders.

5. **Outsourcing** The emissions are from outsourced activities that were previously undertaken by the responsible entity or from outsourced activities that are typically undertaken within the boundary for comparable products or services.

Non-attributable emissions sources summary

Emission sources tested for relevance	Size	Influence	Risk	Stakeholders	Outsourcing	Justification
Capital Goods	N	N	N	Y	N	**Size:** The emissions source is not quantified in the LCA report used to inform this PDS as infrastructure, construction, production equipment, and tools that are not directly consumed in the production process. Capital goods (equipment and buildings for Adbri) typically account for less than a few percent of nearly all life cycle impacts and as a result it is assumed that capital equipment makes a negligible contribution to the product impacts. **Influence:** As this emissions source is not quantified in the LCA report, Adbri's potential to influence this emissions source has not been deemed relevant. **Risk:** There are no relevant laws or regulations that apply to limit emissions specifically from capital expenditure. The source does not create supply chain risks and it is unlikely to be of significant public interest. **Stakeholders:** Key stakeholders may to consider this a relevant emissions source if infrastructure is not upgraded to align with NZE 2050 target being a hard-to-abate sector with limitations on technical upgrades. **Outsourcing:** Adbri does not have emissions from outsourced activities undertaken within the organisation's boundary that are classified under this category.

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