



# **PUBLIC DISCLOSURE STATEMENT**

**AUSTRAL BRICKS (TAS) PTY LTD**

**PRODUCT  
2020-2021**

Australian Government  
**Climate Active**  
**Public Disclosure Statement**



NAME OF CERTIFIED ENTITY: Austral Bricks (Tas) Pty Ltd

REPORTING PERIOD: 1 July 2020 – 30 June 2021

**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

A handwritten signature in black ink, appearing to read 'Cathy', written over a light blue horizontal line.

Name of Signatory

Cathy Inglis

Position of Signatory

General Manager Technical & Innovation

Date

5 February 2022



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

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Version number February 2021

# 1. CARBON NEUTRAL INFORMATION

## Description of certification

This Climate Active certification concerns bricks and pavers manufactured at Austral Bricks (Tas) Pty Ltd's Longford site (see Table 1 and 2). At this site Austral Bricks produces a range of bricks and pavers for the Tasmanian, other Australian markets and overseas markets. The functional unit for this certification is 1,000 Standard Brick Equivalents (SBEs) of bricks or pavers.

This PDS has been prepared and verified based on the Climate Active, the ISO14040:2006 and ISO14044:2006 standard and emissions are offset in accordance with the Climate Active.

*“Climate Active certified products are an important step in Brickworks journey towards becoming Australia’s most sustainable building materials company.”*

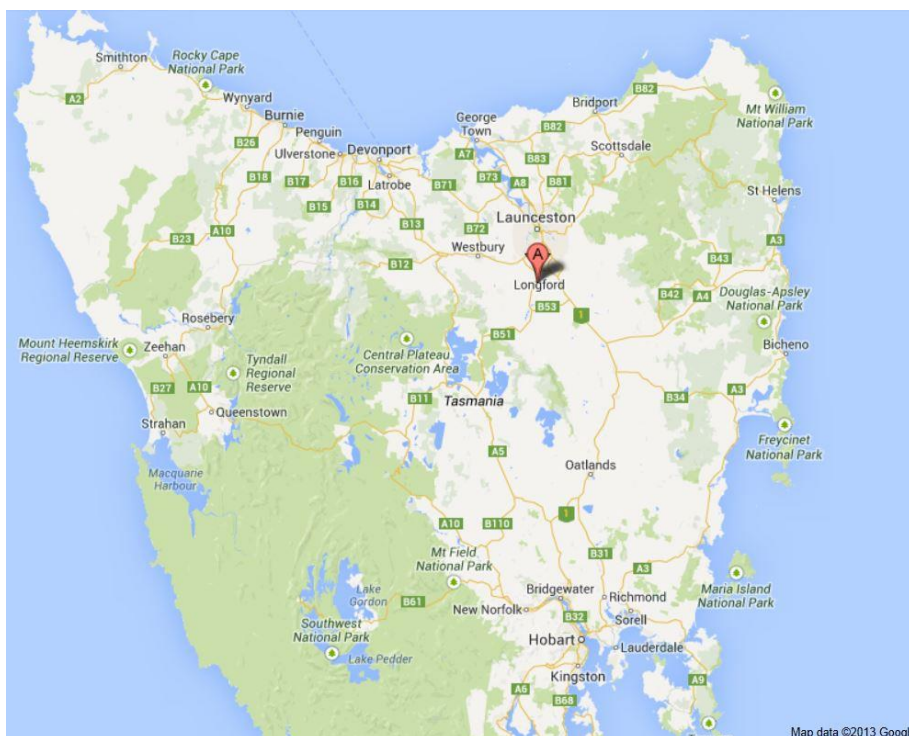


Figure 1: Plant location in Longford, Tasmania (Source: Google maps)



**Figure 2: View of Longford plant storage yard (Source: Google maps)**

Austral Bricks Tasmania certifies all the clay products manufactured at the Longford plant as carbon neutral under the Climate Active program. The products made at Austral Bricks Longford include bricks and pavers:

1. **Bricks.** Clay bricks are a common building material used predominantly for wall systems in residential buildings.
2. **Pavers.** Clay pavers are used for paving and landscaping in residential, commercial and industrial applications.

Bricks are used for a number of reasons:

- load-bearing capacity – this makes bricks suitable for load-bearing walls;
- aesthetics – bricks are available in a large range of colours, tones and textures;
- durability – bricks perform their function for the duration of the service life of the building; and
- bricks require relative little maintenance and cleaning.

Pavers are similar in appearance and characteristics to bricks, although they are used for paving rather than wall applications.

Table 1 and Table 2 present examples of the products included in this certification.

Table 1: Typical brick product configurations (Source: Austral Bricks)

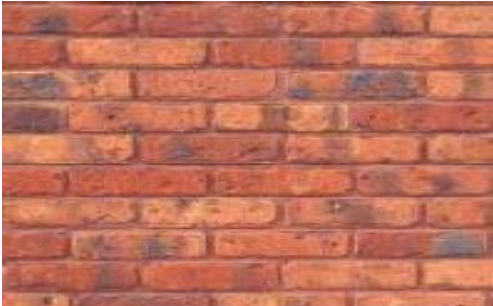



Brick shape & core hole configuration	Examples – bricks in wall application
Standard brick with 10 core holes	
Standard brick with 3 core holes	
Twin brick	

Table 2: Typical paver product configuration (Source: Austral Bricks)

Paver shape	Example – pavers in paving application
Classic paver (no core holes)	

**The functional unit for this certification is 1,000 Standard Brick Equivalent (SBEs) of bricks or pavers manufactured in Longford and used in various applications throughout Tasmania, interstate and overseas.**

Standard Brick Equivalent is a common unit of measurement across the clay brick industry for a brick. An SBE refers to the fired product and has the dimensions of 230x110x76mm. The products covered in this PDS come in a range of different sizes, which have been converted to SBEs.

The functional unit of SBE's has been built into the sites carbon calculator, to understand the amount of carbon associated with the lifecycle of each brick. The functional unit is not applicable to the carbon inventory as all products produced at Longford are offset.

Clay bricks are used in (residential) construction; typically walling systems, planter boxes, etc. Clay pavers are used in paving and landscaping applications.

The functional unit covers the whole life cycle of the products, including manufacturing, packaging, delivery to site, application, cleaning and maintenance and disposal at end-of-life.

Note: Mortar and/or other materials used to bond bricks in their application are excluded from the carbon footprint assessment. The reasons for this exclusion are:

- Brickworks does not supply the mortar to clients, and therefore has no control over the composition and quantity of mortar used.
- Furthermore, the bricks and pavers are used in a range of applications that have varying requirements regarding ancillary materials. Any attempt to capture these requirements within the scope of this certification would introduce additional uncertainty.

## Organisation description

Brickworks Limited (Brickworks) is one of the world's leading providers of building products, employing 1181 full time equivalent employees across its Australian operations and 777 employees in North America. Austral Bricks, a subsidiary of Brickworks has been transformed from originally a New South Wales state based operation to a national organisation with manufacturing operations in NSW, Victoria, Tasmania, South Australia, Western Australia and Queensland. Austral Bricks manufactures and markets clay products such as bricks and pavers. The manufacturing process involves mining clay and shale and mechanically processing it prior to shaping and firing the bricks in kilns fuelled predominately by natural gas.

Austral Bricks Longford, Tasmania operates a low carbon operation whereby the kiln is predominately fired by sawdust. It has manufactured carbon neutral bricks since 2013/14 under the Climate Active Standards (formal known as NCOS). This public disclosure statement concerns all bricks manufactured at Austral Bricks Longford which are certified carbon neutral.

### Product process diagram

The system boundary (key processes and flows shown in Figure 3) describes which processes are included and excluded in the life-cycle assessment (LCA). This LCA for Austral Bricks Longford covers the full life cycle of clay bricks and pavers manufactured by Austral Bricks in Longford, Tasmania. The diagram depicts attributable upstream processes, processes within the operational control of Austral Bricks Longford (brick manufacturing) and attributable downstream processes. The excluded emission sources (land use and land use change emissions, business ground travel (e.g. taxis and rental cars used by corporate staff), head office energy use emissions, demolition of the structure in which bricks are used) are not attributable or not relevant to the product.

The following figure is Austral Bricks life cycle diagram - cradle to grave.

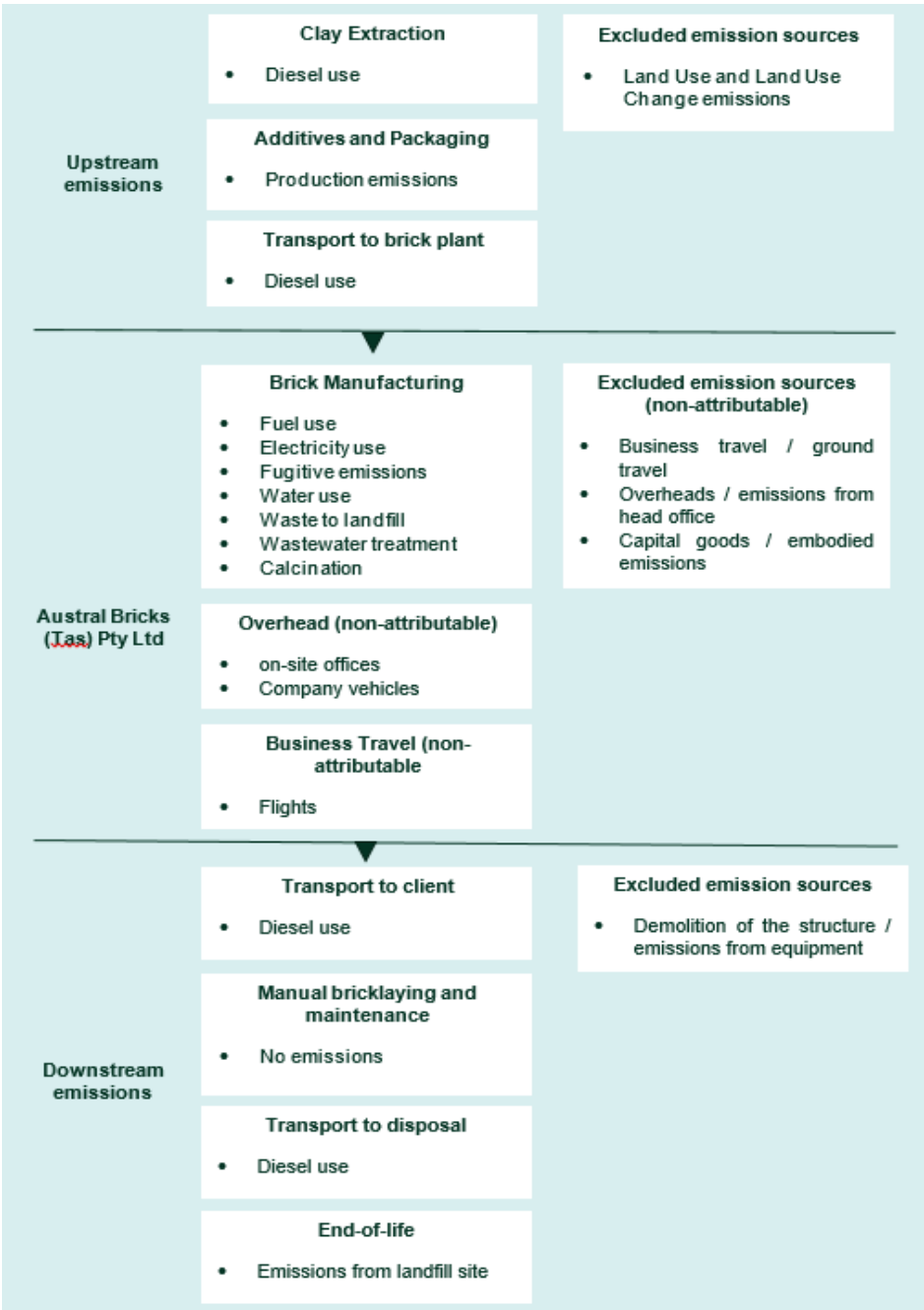


Figure 3. Life cycle diagram – cradle to grave.

## 2. EMISSION BOUNDARY

### Diagram of the certification boundary

For each life cycle stage, attempts have been made to identify and quantify material flows, energy flows and emission sources. The inputs include materials, fuels and energy while the outputs include products, emissions and waste.

For the purposes of this certification, the embodied energy incorporated in the infrastructure (buildings, plant, equipment, roads, vehicles, etc.) associated with manufacturing bricks and pavers is excluded from the product system. Other capital goods (e.g. power lines) are excluded as well. This is due to the long lifetime of capital goods in the brick lifecycle and the expected impact of this exclusion on the footprint is small.

Austral Bricks has applied a cut-off limit for flows smaller than 1% of expected greenhouse gas emissions. This means we have estimated emissions based on past data, instead of collecting detailed information for these smaller emission sources for the current period. These are listed as non-quantified sources in the diagram hereafter.

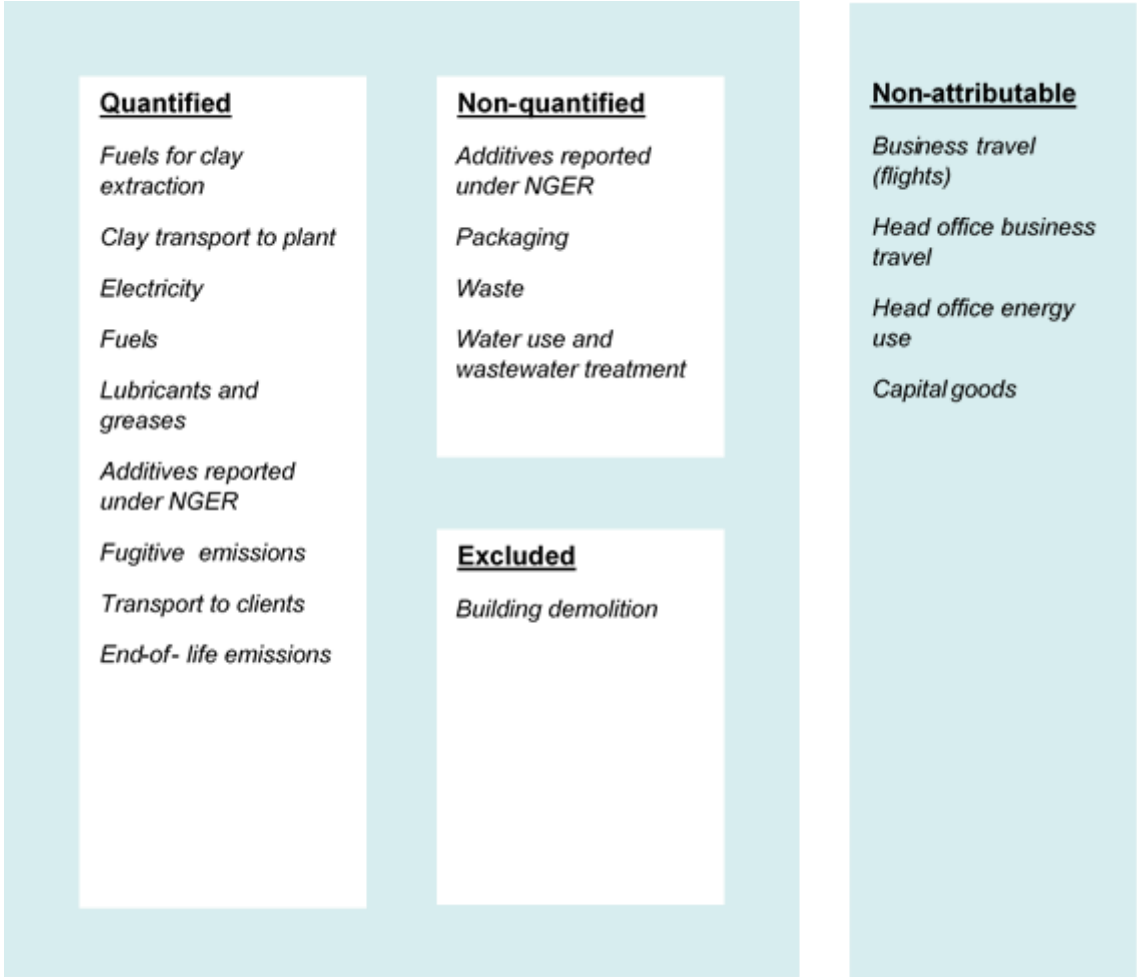


Figure 4: Attributable and non-attributable emission sources included and excluded in the LCA



## Attributable non-quantified sources

The following items meet the condition of 'attributable' but are below the cut-off and are considered non-quantified. We have applied uplift factors based on the previous LCA for bricks manufactured in Longford.

- Additives not reported under National Greenhouse and Energy Reporting (NGER) Act 2007: We use a large range of additives to give each brick its unique properties (colour, glaze, etc.). Additives that are energy carriers (e.g. char, sawdust, vegetable oils, starch-based additives) are reported under our NGER obligations and have been included based on actual use and emission factors. The remaining additives are mainly minerals (e.g. iron oxide, manganese oxide) or frits (glass containing colorant). Using conservative literature data applicable to additives used at Longford (Tas), based on Brickworks' NCOS LCA FY19, the weighted average emission factor was established as 214 kg CO<sub>2</sub>e/t of additives not already reported under NGER. This equates to 1.4 kg CO<sub>2</sub>e per tonne of bricks. This factor has been applied as the uplift factor across all products.
- Packaging, waste to landfill, water use and wastewater treatment: Based on Brickworks' NCOS LCA FY19, the total of greenhouse gas emissions associated with these sources added up to 2.2 kg CO<sub>2</sub>e per tonne of bricks. This factor has been applied as the uplift factor across all products.

*"Climate Active certified products are an important step in Brickworks journey towards becoming Australia's most sustainable building materials company."*

Cumulatively, the uplift factors account for 2% of the Longford products' life cycle emissions.

## Excluded sources (within certification boundary)

The demolition of the building or structure in which bricks are used is excluded from the assessment, as explained earlier in this document. No other attributable emission sources have been excluded from the boundary.

## Non attributable sources (outside certification boundary)

The following items meet the condition of 'non-attributable' and are therefore left outside the system boundaries:

- Corporate business travel and head office energy use (at 738-780 Wallgrove Rd, Horsley Park NSW) have been excluded from the boundary, as these emission sources are not attributable to the products.
- The embodied emissions of capital goods (plant equipment, buildings, infrastructure) are considered non-attributable to the product. This is consistent with industry standard LCAs for construction products, as outlined in the Product Category Rules (PCR) of the International EPD System and has been verified by the Registered Consultant that has compiled our inventory (Rob Rouwette; Energetics).

## 3. EMISSIONS SUMMARY

### Emissions reduction strategy

Austral Bricks Tasmania understands and accepts responsibility for environmental protection which is integral to the conduct of its commercial operations. Austral Bricks Tasmania's objective is to comply with all applicable environmental laws, regulations and community standards in a commercially effective way. Austral Bricks is committed to encouraging concern and respect for the environment and emphasising every employee's responsibility for environmental performance.

Reducing energy consumption, emissions and associated costs are key issues organisations are facing in a carbon constrained world with increasing energy prices. Austral Bricks Tasmania actively participates in greenhouse gas reporting scheme such as the National Greenhouse and Energy Reporting (NGER) Act 2007. This program requires organisations to measure and report their energy consumption, production and greenhouse gas emissions under strict protocols. The data is subsequently collated and reported to Senior Management and the Board.

Energy efficiency is a key priority for Brickworks with periodic audits undertaken of all kilns. In 2018, gas efficiency plans were developed for all Australian brick kilns including Austral Bricks Longford. Those plans are currently being implemented. In 2020 Brickworks released its sustainability strategy which includes a target to improve gas efficiency by 10% and investment in the transition to hydrogen fuel economy.

Austral Bricks Tasmania produces low embodied carbon bricks fired in traditional kilns fueled by saw dust at over 1000°C. The management team has implemented numerous initiatives to reduce energy consumption and greenhouse gas emissions, as set out below. These initiatives will drive down energy consumption per unit of production.

Brickworks' sustainability strategy, 'Build for Living: Towards 2025', recognises the substantial environmental and social impacts of the built environment. The strategy focuses on the opportunity to make buildings and cities safe, resilient and sustainable through reducing carbon emissions. The strategies are available in: <https://bbp.style/PUBLIC/investor-centre/Sustainability-Reports/BKW-Towards-2025-Brochure-21Sep20.pdf%20> and <https://www.brickworks.com.au/climate-related-impacts-and-responses/>.

## Emissions over time

Table 3

Emissions since base year									
	Base:	Year 1:	Year 2:	Year 3:	Year 4:	Year 5:	Year 6:	Year 7:	Current:
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Scope 1 (tCO <sub>2e</sub> )	1140	1418	1324	2244	2462	2881	2320	2307	2439
Scope 2 (tCO <sub>2e</sub> )	782	677	338	359	342	617	576	502	523
Scope 3 (tCO <sub>2e</sub> )	1480	1573	1718	2229	2284	2434	2158	3847	3226
Total tCO <sub>2e</sub>	3402	3668	3381	4832	5088	5932	5054	6656	6188

## Emissions reduction actions

Austral Bricks Tasmania has an ongoing maintenance schedule, and during the 2021, there were some unquantified improvements including lighting upgrades and motor replacements.

Brickworks is also tracking the energy efficiency of its kilns and has a stretch target to improve gas efficiency by 10% by 2030.

## Functional units

Table 4

	Number of functional units
a) Number of functional units produced this period	12875 x 1000 SBE
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)	0

## Emissions summary (inventory)

Brickworks has undertaken an LCA for our total brick and paver production in Longford. Table 6 shows the life cycle emission factor per tonne<sup>1</sup> of bricks at each of our eleven production locations. These factors include emissions from transport of bricks to clients by a delivery truck over 50 km. When determining the emissions associated with bricks supplied to a client or project, we use the actual mass of the bricks supplied and actual transport distance from plant to client to get an accurate carbon footprint for the consignment.

<sup>1</sup> Our functional unit is expressed per 1,000 bricks, as bricks and pavers are ordered in number of units required. However, since we have hundreds of different product types, it is easier to present results per tonne of bricks since cradle-to-gate manufacturing impacts are calculated at site level per tonne of product.

Note: in line with our NGER reporting, we have applied a location-based approach for electricity.

**Table 5**

Emission source category	tonnes CO <sub>2</sub> -e
Extraction of clay (diesel use)	26.01
Transport of clay to Longford (diesel use)	115.2
On-site energy: Longford plant electricity use	531.12
Truck vehicle fleet (diesel); on-site vehicles	157.67
On-site energy: Kiln fuel (bituminous coal) use	0
On-site energy: Kiln fuel (natural gas) use	1827.59
On-site energy: Kiln fuel (saw dust) use	277.12
Calcination of clay	150.41
Body additive (coal/char) use	17.5
Transport of products to customer	2519.21
Manual application and manual maintenance/cleaning	0
Transport of bricks to end-of-life landfill	424.2
Bricks in landfill	0
<b>1. Total inventory Emissions</b>	<b>6188.3</b>
2. Net emissions per reference unit (1,000 Single Brick Equivalent (SBEs) = 3,000 kg)	0.48
3. Number of reference units produced this period	12875 x 1000 SBE
4. Carbon Footprint (Net emissions per reference units (2) * number of reference units (3))	<b>6189</b>

**Table 6**

Emission source category	tonnes CO <sub>2</sub> -e
1. Total inventory emissions	6189
2. Emissions per functional unit (based on the number of functional units represented by the inventory) Total tCO <sub>2</sub> -e divided by the number of functional units in table 5.	158.3kg CO <sub>2</sub> per tonne of bricks
3. Carbon footprint (Emissions per functional unit (2) * number of functional units (a or b from table 6))	6189

## Uplift factors

Cumulatively, the uplift factors account for 2% of the Longford products' life cycle emissions.

**Table 7**

Reason for uplift factor	kg CO <sub>2</sub> -e/tonne bricks
Uplift factor for packaging, business travel and other overhead	2.2
Uplift factor for additives not reported under NGER	1.4
<i>Total uplift factors</i>	3.6 (142.27 tonnes CO <sub>2</sub> -e total)
<b>Total to offset</b> (Carbon footprint + total uplift factors)	6189 tonnes CO <sub>2</sub> -e

## 4. CARBON OFFSETS

### Offset purchasing strategy: In arrears

Upon determination of final tonnes of carbon emissions required to be offset, Brickworks engages accredited providers (such as Carbon Neutral, South Pole Group and CBL Markets) of carbon offsets (such as VCUs) to purchase and surrender the offsets as required under Climate Active at the end of the reporting period. The carbon emissions to be offset are determined based on the production volume of the bricks and pavers during the reporting period (FY21).

The purchase and surrender of the offsets will occur within 4 months of the reporting period. It is Brickworks intention to purchase eligible offsets generated from Australian and overseas projects.

Brickworks endeavors to procure approximately 20% portion of its carbon units from local Tasmanian forestry projects.

To ensure that the Carbon Neutral Brick remains competitively priced, international credits up to 80% are an important aspect to the purchasing strategy due to their lower cost. Brickworks engages a broker to find clean energy projects such as wind power in Asia.

**Table 8**

1. Total offsets previously forward purchased and banked for this report	2,479
2. Total emissions liability to offset for this report	6,189
3. Net offset balance for this reporting period	3,710
4. Total offsets to be forward purchased to offset the next reporting period	8,192
5. Total offsets required for this report	6,189

## Co-benefits

### **Tasmanian Native Forest Protection REDD Forests:**

The REDD Forests project equates to 20.2% of Austral Bricks (Tas) offsets for financial year 2021. Tasmania is internationally recognised for its native forest, endemic species and significant biological diversity. However, significant tracts of native forest are still being logged or are scheduled for logging to make way for pasture or other agricultural use.

These pioneering projects minimise greenhouse gas emissions by preventing the release of carbon stored in the trees, which would otherwise occur through the logging, processing and use of the timber. The carbon credits provide a means for landholders to pursue a new business model, generating revenue from protecting trees rather than clearing them.

In addition, the projects help to protect and restore Tasmania's valuable native forests, which provide a habitat for a number of endangered species including the wedge-tailed eagle, spotted quoll and the iconic Tasmanian devil.

### **International Units - Indian Wind and Solar:**

Indian wind and solar VCUs comprise the remaining 79.8% of carbon offsets. Solar and wind projects provide emission free, affordable energy to the Indian electricity grid. Our procurement of Indian VCUs supports the transition away from India's fossil fueled dominated energy mix, and provides co-benefits including cleaner air, good work opportunities and improved energy equity.

## Offsets summary

Proof of cancellation of offset units. Additional proof of transaction can be found in the appendix.

Table 9

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 (%)
<b>Forests Alive: Protection of Tasmanian Native Forest</b>	ACCU	ANREU	13/8/2020	3801,759,297 – 3801,760,769	2020-21	1500	500	0	1000	16.2%
<b>Forests Alive: Protection of Tasmanian Native Forest</b>	ACCU	ANREU	26/7/2021	3,801,767,395 - 3,801,769,296	2020-21	1902	0	1652	250	4%
<b>Mahindra Solar Power, India</b>	VCS VCU	VERRA	26/07/21	9040-63312258-63317257-VCS-VCU-997-VER-IN-1-1767-01012019-23122019-0	2019	5000	0	5000	0	0%
<b>India Wind Power, Mahindra, India</b>	VCS VCU	VERRA	22/12/2020	9040-63073262-63078261-VCS-VCU-997-VER-IN-1-1767-	2019	5000	0	1540	3460	55.9%



				01012019-23122019-1						
Wind Power project in Gujarat India	VCU	VERRA	31/8/2020	<u>7235-378925560-378930559-VCU-034-APX-IN-1-1190-01012017-31122017-0</u>	2017	5000	3521	0	1479	23.9%
<b>Total offsets retired this report and used in this report</b>									6189	
<b>Total offsets retired this report and banked for future reports</b>									8192	

Type of offset units	Quantity (used for this reporting period claim)	Percentage of Total
Australian Carbon Credit Units (ACCUs)	1250	20.2%
Verified Carbon Units (VCUs)	4939	79.8%

## 5. USE OF TRADE MARK

Table 10

Description where trademark used	Logo type
Sustainability Report 2021	Member
Carbon Neutral Brochure	Product
Brickworks Website	Product

# APPENDIX 1

## Non-attributable emissions for products and services

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 11**

Relevance test					
Non-attributable emission	<i>The emissions from a particular source are likely to be large relative to the organisation's electricity, stationary energy and fuel emissions</i>	<i>The emissions from a particular source contribute to the organisation's greenhouse gas risk exposure.</i>	<i>Key stakeholders deem the emissions from a particular source are relevant.</i>	<i>The responsible entity has the potential to influence the reduction of emissions from a particular source.</i>	<i>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.</i>
Head Office business travel	No	No	No	No	No
Head Office energy use	No	No	No	No	No
Capital goods	No	No	No	No	No

## APPENDIX 2

### Non-quantified emissions for products/services

Table 12

Non-quantification test				
Relevant-non-quantified emission sources	<i>Immaterial &lt;1% for individual items and no more than 5% collectively</i>	<i>Quantification is not cost effective relative to the size of the emission but uplift applied.</i>	<i>Data unavailable but uplift applied. A data management plan must be put in place to provide data within 5 years.</i>	<i>Initial emissions non-quantified but repairs and replacements quantified</i>
Additives reported under NGER	No	Yes	No	No
Packaging	No	Yes	No	No
Waste	No	Yes	No	No
Water use and wastewater treatment	No	Yes	No	No

# APPENDIX 3

## Transaction details for offsets



Emissions Reduction Fund



This certificate verifies that

### **Brickworks Building Products**

has compensated

**1,500 tonnes of greenhouse gas emissions**

by investing in South Pole's climate protection project:  
Protection of Tasmanian Native Forest, Australia

**Renat Heuberger**  
CEO, South Pole



Thank you for committing to bold climate action. Your contribution is not only a meaningful step towards mitigating climate change globally, but also changes lives for the better by contributing to the Sustainable Development Goals set out by the UN.

Retirement ID      3,801,759,297 - 3,801,760,796  
Certificate number    C1743EN, 08.2020  
Date                     14/08/2020



This certificate is issued by South Pole. For more information about our services and more than 700 climate protection projects, please visit: [southpole.com/projects](https://southpole.com/projects). The CO<sub>2</sub> emissions indicated on the certificate are compensated through investments in the above mentioned carbon offset projects based on international standards.



# CERTIFICATE OF CLIMATE PROTECTION

This certificate verifies that

## Austral Bricks Pty Ltd

For the period 01.07.2020 to 30.06.2022 the direct and indirect emissions have been measured and offset. The emissions amounted to

**6902 tonnes of greenhouse gas emissions**

by investing in South Pole's climate protection projects:  
 Mahindra Solar Power, India  
 Protection of Tasmanian Native Forest, Australia

**Renat Heuberger**  
 CEO, South Pole



Thank you for committing to bold climate action. Your contribution is not only a meaningful step towards mitigating climate change globally, but also changes lives for the better by contributing to the Sustainable Development Goals set out by the UN.

Retirement ID	9040-63312258-63317257-VCS-VCU-997-VER-IN-1-1767-01012019-23122019-0
Retirement ID	3,801,767,395 - 3,801,769,296
Certificate number	C2079EN, 07.2021
Date	28/07/2021

This certificate is issued by South Pole. For more information about our services and more than 700 climate protection projects, please visit: [southpole.com/projects](https://southpole.com/projects). The CO<sub>2</sub> emissions indicated on the certificate are compensated through investments in the above mentioned carbon offset projects based on international standards.





This certificate verifies that

## Austral Bricks Tasmania

has compensated

**5,000 tonnes of greenhouse gas emissions**

by investing in South Pole's climate protection project:  
Indian Wind Power, India

**Renat Heuberger**  
CEO, South Pole



Thank you for committing to bold climate action. Your contribution is not only a meaningful step towards mitigating climate change globally, but also changes lives for the better by contributing to the Sustainable Development Goals set out by the UN.

Retirement ID 9040-63073262-63078261-VCS-VCU-997-VER-IN-1-1767-01012019-23122019-0  
Certificate number C1838EN, 12.2020  
Date 22/12/2020



This certificate is issued by South Pole. For more information about our services and more than 700 climate protection projects, please visit: [southpole.com/projects](https://southpole.com/projects).  
The CO<sub>2</sub> emissions indicated on the certificate are compensated through investments in the above mentioned carbon offset projects based on international standards.



An Australian Government Initiative

