

Low Emission Technology Statement

—
Our approach
to a low carbon future

[Get Started](#)

The future of buildings is resilience



Building resilient, safe and sustainable cities

The built environment forms the fabric of our cities and our lives, and contributes to substantial environmental and social impacts.

Cities around the world are adapting to be more resilient.



Make cities and human settlements inclusive, safe, resilient and sustainable

At Brickworks, we see a strong future for bricks, masonry, roof tiles and precast. They are critical enablers of the achievement of the UN Sustainable Development Goal 11, “Make cities and human settlements inclusive, safe, resilient and sustainable” and, supported by continued demand, presents a strong opportunity to transition to a low-carbon, circular economy.

Our bricks and concrete products are manufactured to provide resilience. They are durable, fire-proof, contain thermal mass for energy efficiency have excellent acoustic properties and emit no indoor air emissions (VOCs); and our clay bricks hold a 100-year guarantee.

Lifecycle analysis reflects the crucial role of resilience

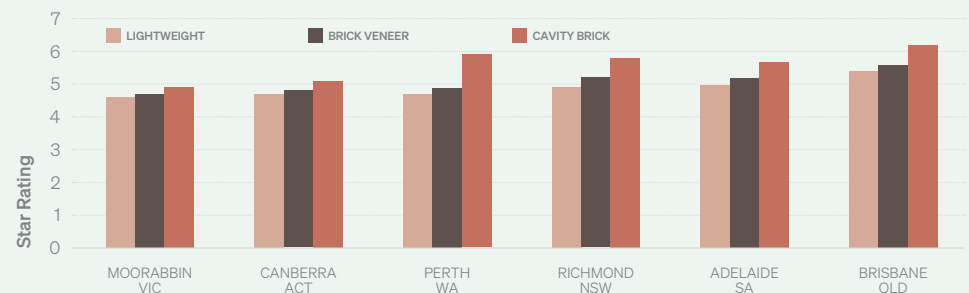


Bricks are a thermal battery. The energy embodied in bricks is a one-off investment that pays dividends now, and in the future.

Brick homes achieve higher ratings in the National House Energy Rating scheme than lightweight homes, increasing GreenStar Home ratings.

Further reading: *Sustainable Living with Bricks, Bricks for Living and Thermal Research: Best Building Products for Higher NatHERS Ratings*, available on www.brickworks.com.au.

Thermal modelling of a home comparing wall construction materials



10 REASONS WHY BRICKS ARE BETTER

- 1** Bricks last forever
- 2** Bricks can be reused or recycled
- 3** Bricks are maintenance free, they don't fade, rot or rust
- 4** Bricks are fireproof, unlike glass & fibre cement that shatter and fail
- 5** Bricks are known for their outstanding durability and colourfastness for life
- 6** Bricks are a thermal battery keeping your home cooler in summer and warmer in winter
- 7** Brick homes are more energy efficient than those constructed with lightweight materials
- 8** Bricks have excellent sound reducing qualities
- 9** Bricks are the natural healthy choice as they breathe and allow moisture to escape. Bricks emit no VOC's
- 10** Only Austral Bricks are guaranteed for 100 years



Our approach to a low carbon future



Brickworks has a vision to reduce greenhouse gas intensity

Brickworks is exploring the various potential decarbonisation technologies to understand the scale of emissions reduction they are likely to deliver, potential costs and timeframes for implementation.

Brickworks is committed to delivering short term emissions reductions driven primarily by a global kiln refurbishment program to drive energy efficiency beyond international benchmarks. This program is being driven out across our Australian and U.S. businesses.

In addition 13% renewable biofuels are used in Australia in FY21, this approach forms the basis of our commitment: 10% stretch target increase in gas efficiency at Austral Bricks plant by 2030 Baseline FY18.

In the medium term, Brickworks is driving a greater contribution from biofuels and low carbon opportunities such as hydrogen.

Movement towards renewable electricity opportunities are also currently under investigation.

The future of manufacturing is investment into global best practice technologies

Low Emission Technology Focus Areas



Continued investment into manufacturing excellence

- International energy efficiency benchmarking
- Global kiln refurbishment program to drive energy efficiency beyond international benchmarks
- Driving biofuels and low carbon opportunities



Who we are and what we make



Locally sourced natural raw materials

Clay and shale are the most abundant sedimentary rocks and the key ingredient for our bricks.



Sustainable Manufacturing

- Investment in pollution control
- Responsible water management, minimising potable water use in water stressed areas



Resilient Products

Doubling products with sustainable attributes:

- Australia's first carbon-neutral brick
- Beautiful products with long life expectancy – 100 year warranty on clay bricks
- High thermal mass for energy efficient buildings
- Resilient to climatic events such as fire, flood and storms
- Reusable and recyclable
- Locally manufactured by an Australian owned company



12% recycled content in raw materials in Australia

Recycled clay infrastructure projects, flyash and by-products.

Rehabilitation when site is exhausted

Transport – Minimum efficiency standard for vehicles (Euro V min) Truck replacement occurs every five years



Commercial Warehouses

Land rehabilitated and converted into commercial buildings incorporating leading Sustainability design initiatives

- GreenStar ratings
- Energy efficient design
- Renewable energy
- Water sensitive urban design



Homes and Buildings

Promoting safe and resilient environmental design:

- Sustainable Home Guide to help customers achieve sustainable home design goals
- Rewarding leading environmental design with complimentary carbon offsets for carbon neutral bricks for selected projects
- Thermal research and lifecycle education into energy efficient building design
- Continuous Professional Development tools on leading environmental design aspects for architects

Our building products play a key role in increasing sustainable home ratings to help our customers achieve their sustainable home design goals.

Driving Leading Environmental Building Design

Our central sustainability commitment is to drive leading environmental building design.

We provide leading research on passive solar thermal design, enabling reduced lifetime energy use.

For example, bricks can reduce heating and cooling bills by 40% each year using cavity brick compared to lightweight construction. This is because bricks are like a thermal battery, absorbing heat, storing it and releasing back to the environment later in the day when the temperature drops.

We support design tools, guidance and information to incorporate lifecycle thinking into building design.

The greatest environmental impact in a typical house was in day-to-day living, which accounted for the majority of energy consumed and greenhouse gases emitted over a 60-year life cycle. We have a long term relationship with universities to test housing construction methods and will continue to invest into research and guidance to promote a holistic approach.

We will double the volume of sustainable products by 2025.

This will be met by expanding our carbon neutral brick range from Daniel Robertson to be available on all brick types for selected projects. We are also launching a Brickworks Research and Innovation Centre to drive research into sustainable products reusing waste materials for lower carbon options and providing other design benefits such as permeable pavers to increase water management across cities.



Brickworks Sustainable Home Guide – Design principles for a more sustainable home

Our sustainable home guide is designed to help you achieve your sustainable home design goals. This guide is based on leading standards such as Green Star Homes by Green Building Council of Australia and LEED for Homes by the U.S. Green Building Council.

Building Materials for Higher NatHERS Ratings

Brick construction enables higher ratings in the National House Energy Rating scheme (NatHERS) than lightweight materials, increasing GreenStar Home ratings. Results from eight years of independent research conducted by the University of Newcastle, measuring the thermal performance of typical Australian housing, proves that bricks with high thermal mass make homes more energy efficient than lightweight construction.

Providing Carbon Neutral Options

Brickworks is proud of its innovative product accomplishments. It was the first company in Australia to provide Climate Active Certified Carbon Neutral Bricks to national and international markets, holding carbon neutral certification since 2013/14.

Brickworks has extended its carbon neutral offer, launching a second Climate Active product in August 2021.

The new Climate Active certification enables any brick made in Australia to be carbon neutral, providing a platform to meet the 2025 target to double the volume of products sold in Australia that hold leading sustainable qualities. The focus will be to work on project-specific requirements with selected architects and commercial builders, to deliver low carbon buildings.

Brickworks' most significant range of sustainable products consists of carbon neutral bricks manufactured in Tasmania, sold throughout Australia, New Zealand, Korea and Japan.

Brickworks Property Joint Venture Green Buildings

Brickworks rehabilitates land to convert into commercial warehouses incorporating leading sustainable design initiatives.

Goodman has implemented its 2030 sustainability strategy which covers all of its partnerships around the world, including the Goodman Brickworks Joint Venture (JV) and its operations at the Oakdale Industrial Estate.

Goodman's strategy includes several specific ESG targets, including its ambition to have carbon neutral operations by 2025, using 100% renewable energy and targeting 400MW of Solar PV installed globally by 2025.

Highlights for the Oakdale Industrial Estate including the following sustainable design initiatives incorporated into the development:

- LED lighting
- Solar PV – Approximately 4MW of solar PV has been installed across the estate including the 1.7MW system on Building 5A leased to DHL
- Translucent roof sheeting
- Energy and water monitoring
- Drought tolerant landscaping
- Rainwater harvesting with smart irrigation systems
- Water Sensitive Urban Design
- An onsite café at Oakdale Central providing a convenient food and beverage option for staff and visitors
- The precinct is centrally located with good access to the M7 and M4 Motorways
- Assessment of energy and water efficiency measures also underway across the stabilised buildings at Oakdale
- Strategic partnership with DHL on key sustainability measures including smart building technology and embodied carbon reduction measures



Green Star Rating

During FY20, Site 1A Oakdale South achieved GBCA's 5 Star Green Star for Design & As Built.

During FY21, Site 5 obtained a 5 Star Green Star rating and Site 6 obtained a 4 Star Green Star rating for Performance.

Low Emission Focus

Emission Reduction Track Record – 45% reduction on 2005/06 to FY21

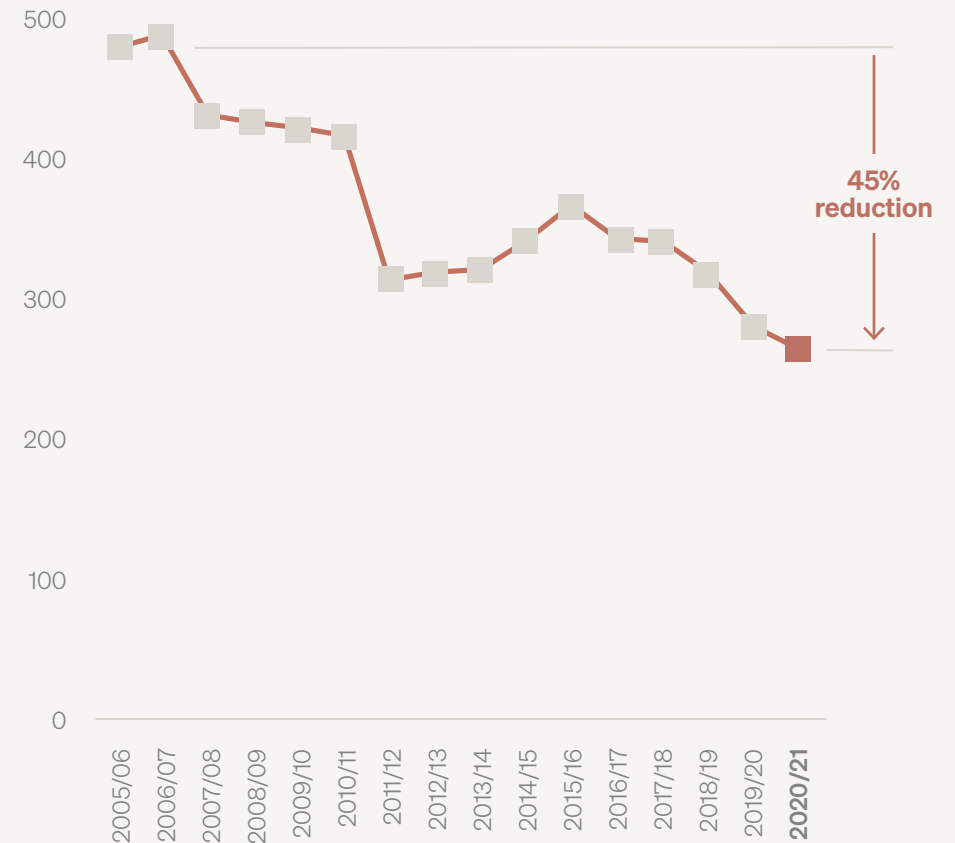
- Since 2005/06, Brickworks has continued to invest in alternate fuels, manufacturing consolidation, equipment upgrades and operational improvements.
- This has driven a general downward trend in carbon emissions, with a 45% decrease compared to the base year 2005/06 (Scope 1 & 2).
- These investments have also achieved reuse of 12% recycled content in raw materials in Australia, including recycled clay from infrastructure projects, flyash and by-products.

Identifying Low Emission Focus Areas

- Brickworks is exploring the various potential low carbon technologies to understand the scale of emissions reductions they are likely to, potential costs and timeframes for implementation, and some of the barriers and enablers to implementation.
- As leaders in manufacturing excellence, we have a long track record in investigating and developing commercial low carbon energy options.
- By consulting decarbonisation roadmaps, we ensure our investment focuses on technology areas which will have the most impact in ceramic manufacturing, and monitor breakthrough technologies. This alignment is set out in our 'Low Emission Technology Focus Area' framework.

BBP Australia carbon emissions since 2005/06

(kTCO₂-e)



National Greenhouse and Energy Reporting Data from FY10.

Low Emission Technology Focus Areas

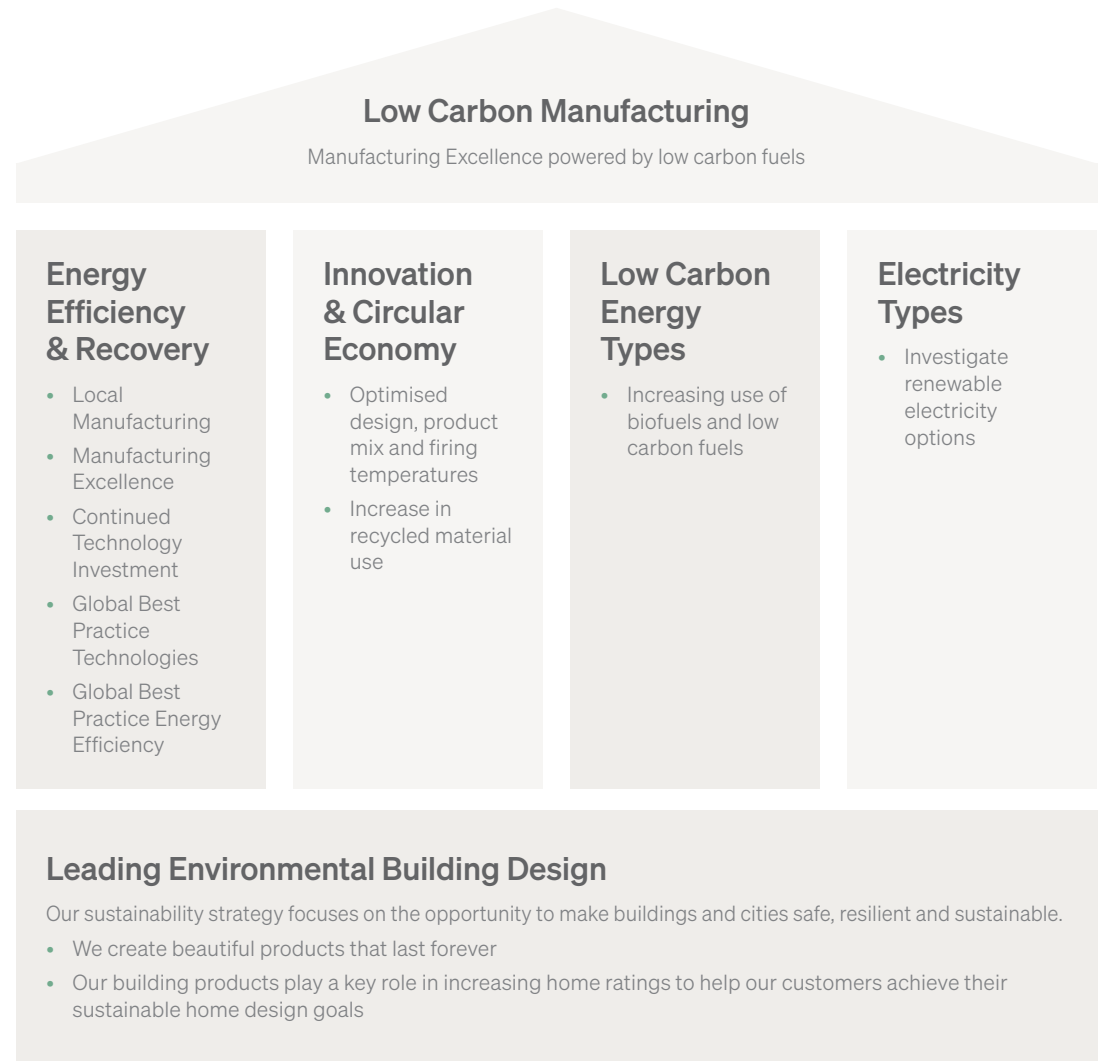
By consulting decarbonisation roadmaps, we ensure our low emission technology focus areas align with technology areas which will have the most impact in ceramic manufacturing, and monitor breakthrough technologies.

Highest Impact Low Emission Technology Focus Areas

- Brickworks has long understood that radical carbon emission reductions are possible through manufacturing excellence and has long dedicated strategic focus in driving global kiln refurbishment program to drive energy efficiency beyond global benchmarks. This is underpinned by our stretch target for a 10% increase in gas efficiency at Austral Brick plants by 2030.
- Brickworks understands the key role bioenergy and low carbon fuels can play in providing heat with minimum carbon emission, and has completed numerous successful bioenergy projects, achieving 13% biofuels in Australia in FY21.

“Radical reductions in carbon emissions need to build on process and energy efficiency improvements but must be focussed on providing the necessary heat with minimum carbon emissions”

Industrial Decarbonisation Energy Efficiency Roadmaps to 2050 – Ceramic Sector DECC UK, 2015



Focus Area Kiln fuel – Natural Gas

Brickworks continues its commitment to reducing energy use and carbon emissions.

The strategy for FY20 was to drive energy efficiency opportunities and continue the use of renewable fuels as substitutes for natural gas.

Energy In FY20, Brickworks Building Products Australia's (BBP) total energy usage was 4.5 PJ, an 8.85% reduction from 4.9 PJ the previous year. Energy intensity (energy consumption vs revenue) was 6.5 TJ per million dollars of revenue across BBP Australia, a 0.23% increase, reflecting fluctuations in revenue between FY19 and FY20.

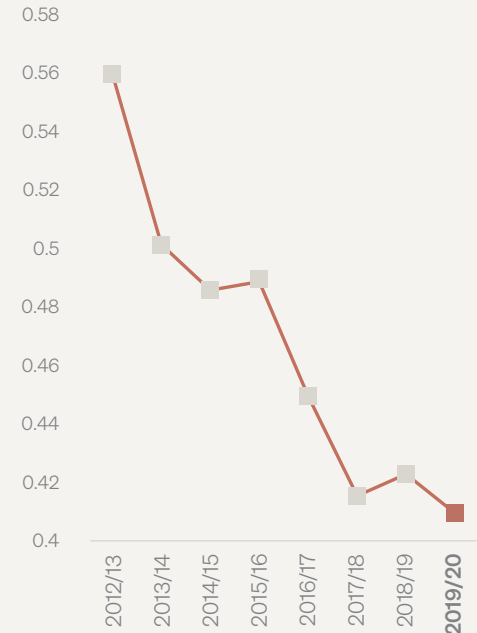
The majority (73%, 3.3 PJ) of the company's Australian energy requirements comes from natural gas, largely used at Austral Bricks' manufacturing facilities. Gas efficiency is measured at a factory level and results are reported to the Managing Director weekly.

Alternative biofuels made up 13% of Brickworks Australian energy requirements. Biofuel sources include landfill gas and sawdust. Austral Bricks Horsley Park Plant 21 and 23 both continue to substitute natural gas with landfill gas, sourced from neighbouring landfills. The increased percentage of biofuels is attributable to resolving previous interruptions in landfill gas supply at Plant 23 during FY19. Waste sawdust is the primary fuel used to fire the kiln at Austral Bricks Longford, Tasmania and is acquired from various Tasmanian sawmills.

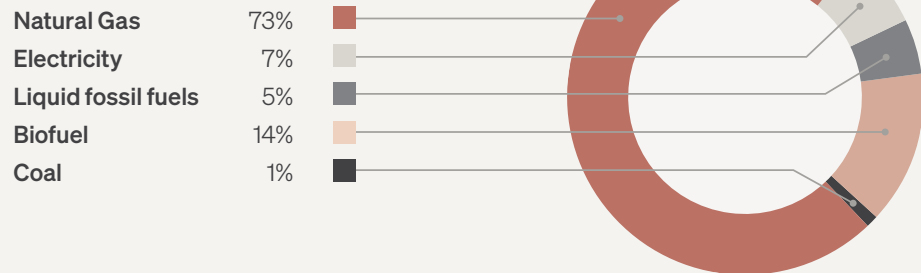
**BBP Australia
Energy Intensity**
(TJ/\$M Revenue)



Carbon Intensity
(kTCO₂-e / \$million revenue)



**BBP Australia
2020 Energy Mix**



Continued investment in energy efficiency and energy recovery

Since its inception, Brickworks has invested in the latest kiln, equipment and manufacturing technologies to improve productivity, product quality and energy efficiency.

Over time kiln design has evolved to improve energy efficiency by 65% and almost eliminated waste.

Continued investment in state-of-the-art kilns improved energy efficiency dramatically over time.

Since 2005/06, Brickworks has continued to invest in alternate fuels, manufacturing consolidation, equipment upgrades and operational improvements. This has driven a general downward trend in carbon emissions, with a 45% decrease compared to the base year 2005/06 (Scope 1 & 2).



Continued investment in energy efficiency and energy recovery

Since its inception, Brickworks has invested in the latest kiln, equipment and manufacturing technologies to improve productivity, product quality and energy efficiency. Over time brick kiln design has evolved to improve energy efficiency by 67% and significantly reduce waste.



Field Kiln

3500 BC–1900s

- Intermittent kiln
- Open roof
- Bottom fired
- Heat flows from bottom to top
- Cheap to build
- No skilled labour required to fire
- Not possible to regulate fire
- Unevenly fired brick
- Fuel: wood, rice husks
- Hand made bricks, drying on ground
- 2 week cycle excluding drying
- Load 20,000–30,000 bricks
- **35% waste**
- Fuel consumption:
2500–5000 kcal/Kg



Downdraft Dome Kiln

1880s Brickworks' first kilns

- Rectangular or circular – Intermittent kiln
- Closed roof
- Bottom fired
- Floor of kiln connected to chimney stack
- Hot gases move downward by chimneys natural or fan draught
- More evenly fired brick than field kiln
- Fuel: wood, coal, oil or natural gas
- 7-10 day cycle excluding drying
- Dry press, face brick focus
- Load 30,000–50,000 bricks
- **18% waste**
- Fuel consumption:
1200–1400 kcal/Kg



Hoffmann Kiln

Brickworks' Eastwood 1912

- Annular or round
- Closed roof
- Top fired – continuous kiln
- Heat zone is moved around stationary product
- More evenly fired brick than Dome kiln
- Fuel: coal, oil or natural gas
- 8-10 day cycle including drying
- Dry press, common brick focus
- Output 250,000–300,000 bricks per week
- **8% waste**
- Fuel consumption:
600–800 kcal/Kg



Tunnel Kiln & Dryer

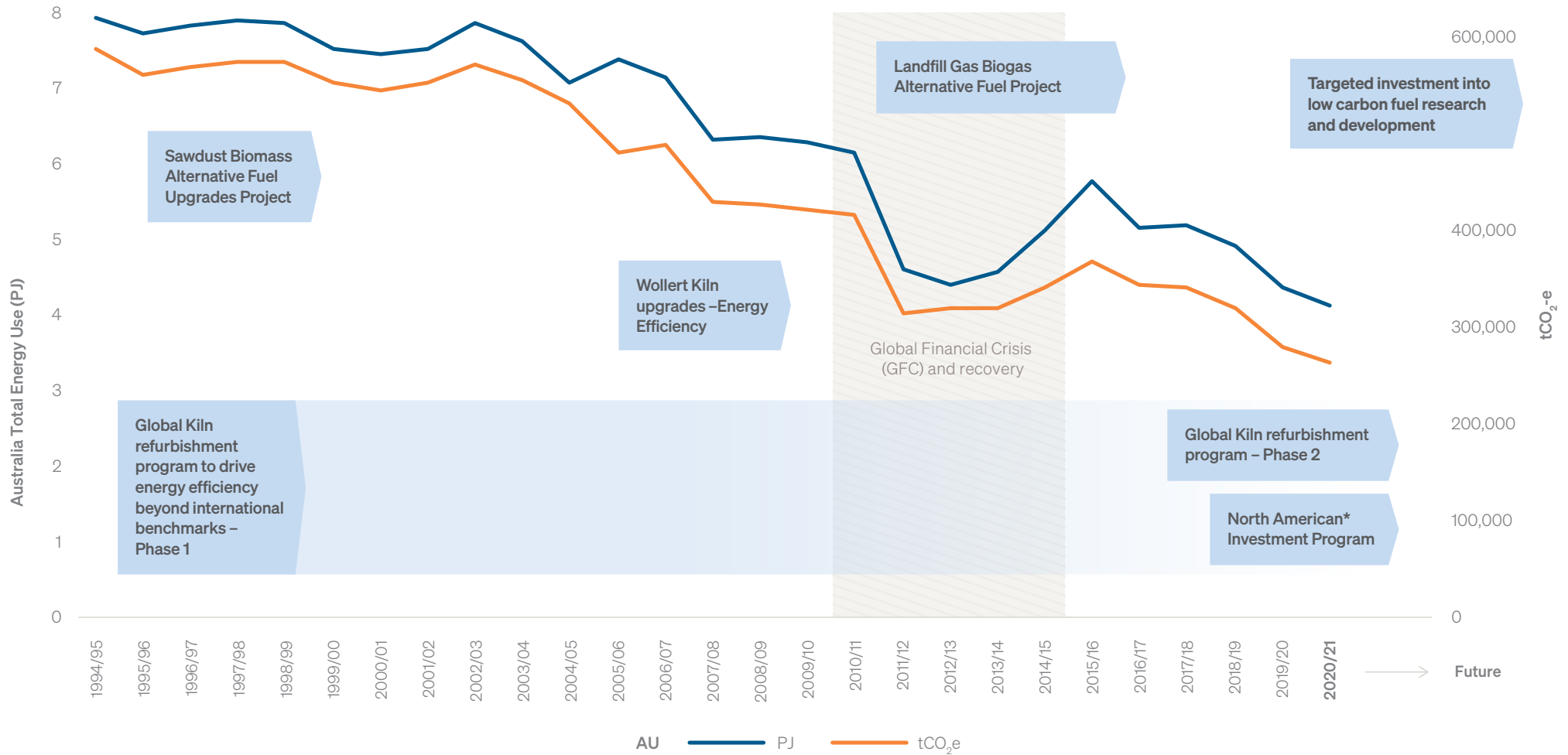
2020s Brickworks' Horsley Park Plant 22

- Closed ended tunnel kiln 200m long
- Top and side fired – continuous kiln
- Fully sealed casing system
- Hot preheat gases and cooling air recirculated
- Most even firing of bricks
- Fuel: natural gas
- Less than 60 hour cycle including drying
- Bricks now extruded
- Output more than 2,000,000 bricks per week
- Fully automated – no kiln attendants
- **Less than 1% waste**
- Fuel consumption:
<500 kcal/Kg

Continuous improvement in energy efficiency and reducing waste

Continued investment in energy efficiency and energy recovery

Since its inception, Brickworks has invested in the latest kiln, equipment and manufacturing technologies to improve productivity, product quality and energy efficiency.



* North American natural gas consumption in FY20 was 1.5 PJ

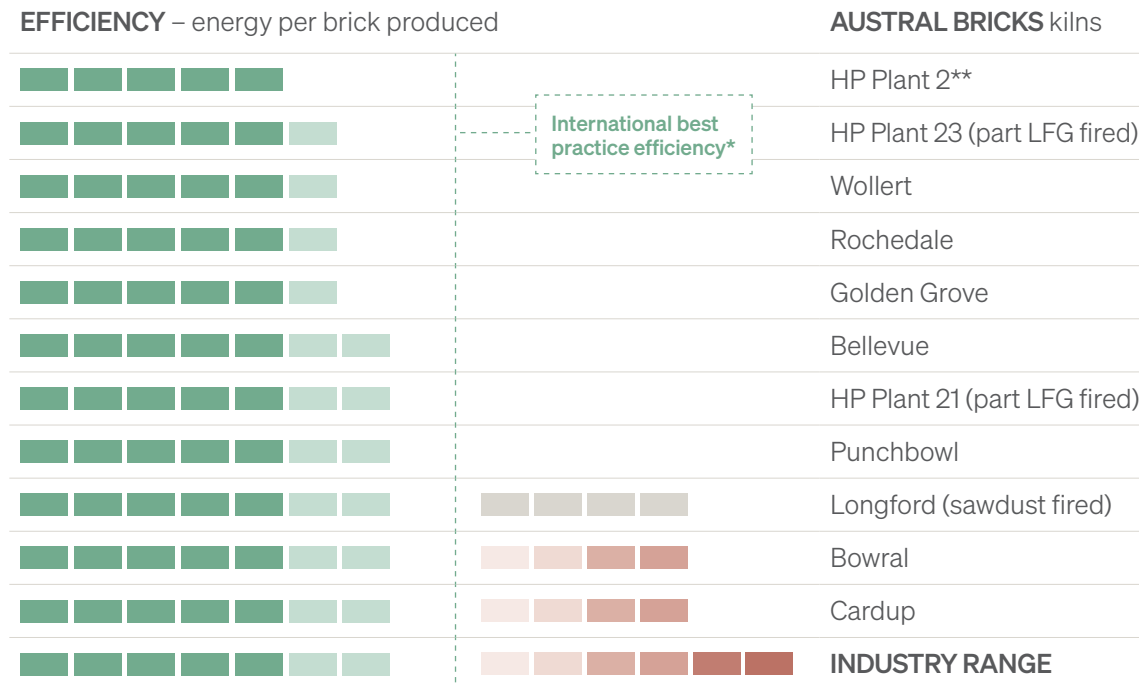
Global kiln refurbishment program

Driving energy efficiency beyond international benchmarks

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Performance of Australian kilns against International Leading Energy Efficiency Benchmarks

Continued investment into energy efficiency and recovery has improved many Austral Bricks kilns to exceed international leading energy efficiency benchmarks. Advanced plans are underway to upgrade remaining kilns.



Low energy use

Higher energy use

* **International Benchmark** – Energy Efficiency target set by Brick Development Association (UK) (Specific Energy Consumption per tonne)

** Expected design efficiency

Energy Efficiency & Recovery

- Local Manufacturing
- Manufacturing Excellence
- Continued Technology Investment
- Global Best Practice Technologies
- Global Best Practice Energy Efficiency

Our vision

- Brickworks continues to invest in the latest kiln, equipment and manufacturing technologies to improve productivity, product quality and energy efficiency.
- Performance against international leading energy efficiency benchmarks is used to reaffirm the focus of our refurbishment program, which is focused on the remaining kilns that are less efficient than international best practice benchmarks.
- FY18 marked the start of a strategic 10-year reinvestment vision to drive energy efficiency across Australia. By 2030, major plant upgrades aim to improve total gas efficiency across Austral Bricks Australia by 10% stretch target, based on 2018 levels.

Australian Focus

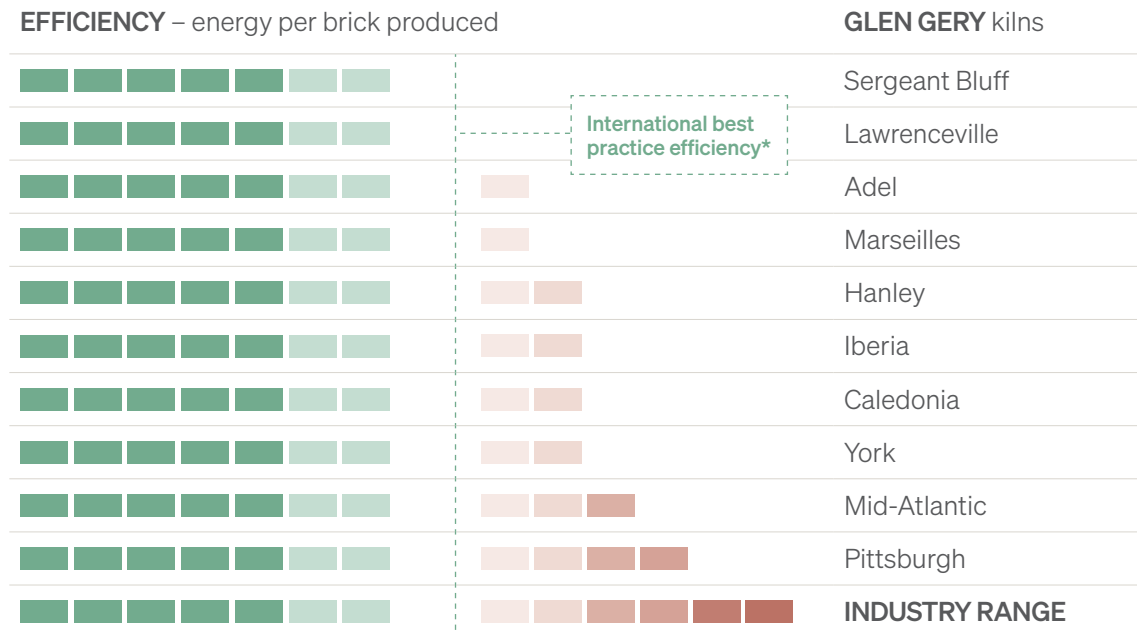
- Global kiln refurbishment program to drive energy efficiency beyond international benchmarks.
- 10% stretch target increase in gas efficiency at Austral Brick plants by 2030.

Global kiln refurbishment program

Driving energy efficiency beyond international benchmarks

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Performance of U.S. kilns against International Leading Energy Efficiency Benchmarks



* **International Benchmark** – Energy Efficiency target set by Brick Development Association (UK) (Specific Energy Consumption per tonne)

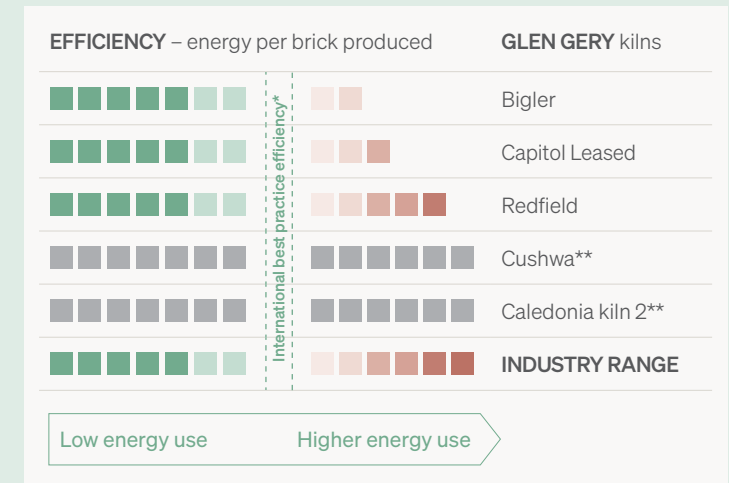
Our vision

- Glen Gery has a significant investment program to reinvigorating local manufacturing by upgrading kilns dating back to WWII with leading energy efficient kilns

U.S. Focus

- Global kiln refurbishment program to drive energy efficiency beyond international benchmarks
- Retirement of inefficient kilns dating from the 1940s

Performance of Retired U.S. kilns against International Leading Energy Efficiency Benchmarks



* **International Benchmark** – Energy Efficiency target set by Brick Development Association (UK) (Specific Energy Consumption per tonne)

** Data not available

Global kiln refurbishment program

Driving energy efficiency beyond international benchmarks

Efficiencies through Leading Manufacturing

Brickworks has a long track-record of continued investment in energy efficiency and energy recovery.

A key milestone of this commitment was the construction of Austral Bricks Wollert, a highly efficient factory, replacing six old kilns across three sites. This \$125 million investment in new state-of-the-art plant achieved over 50% reduction in gas use, with 35% improvement in efficiency per unit produced.

FY18 marked the start of a strategic 10-year reinvestment vision to drive energy efficiency across Australia. By 2030, major plant upgrades will improve total gas efficiency across Austral Bricks Australia by 10% stretch target, based on 2018 levels.

To achieve this target, a kiln refurbishment program to drive energy efficiency beyond international benchmarks is underway. Advanced plans are underway to upgrade remaining Australian kilns.

Horsley Park Plant 22

Brickworks major capital investment program is well underway with the state-of-the-art new Horsley Park Plant 22 due to commence commissioning mid 2022.

New Berrima (Bowral replacement)

Austral Bricks NSW received planning approval in May 2021 for a major investment in new brick manufacturing plant at New Berrima. The \$50m upgrade is expected to replace aging plant currently in operation at Bowral with a new energy efficient operation.

Cardup Efficiency Upgrade

Austral Bricks has applied for a Development Approval for a factory upgrade, set to bring many environmental benefits, including a new and highly efficient natural gas fired kiln and bag house scrubber.

North American Investment Program

The North America Investment Program will reinvigorate local manufacturing by upgrading kilns dating back to WWII with leading energy efficient kilns. The program also includes rationalization of manufacturing sites from 16 plants transitioning to 10. Significant investment in the most efficient plants to expand production, to enable closure of the 6 inefficient kilns, transitioning almost 200 products to the 10 more efficient plants. To date, upgrade works have been completed at Iberia, Hanley and Mid-Atlantic.



Existing kilns built in 1968 being replaced by the most advanced brick making facility in the world

Efficiencies through
Leading Manufacturing Excellence

Horsley Park Plant 22 Upgrade

Austral Bricks Horsley Park Plant 22 received DA approval to upgrade the site into a state-of-the-art brick manufacturing facility.

At the heart of the new Plant 22 operation will be a JC Steele, 120 extruder, a world first, exclusively built for Brickworks. The new kiln will push the limits of brick production efficiency. It will include automatic gas burners and a convective heat exchange system, linked to a computer supervision system. With best in its class fuel efficiency, product quality, the new Plant 22 operation will be a technical revolution that will set a new standard for brick manufacturing.

Lower Carbon Energy Options



Successful track record of implementing bioenergy and low carbon fuel projects

LFG Projects

Austral Bricks Horsley Park has used landfill gas in two kilns since 2013/14, substituting up to one third of the kiln's natural gas requirements. The combustion of landfill gas emits 10 times less carbon than natural gas, taking into account emissions that would have occurred otherwise. Horsley Park used 223,597 GJ of landfill gas throughout FY20, offsetting approximately 10,442 tonnes of carbon, equivalent to the energy used in 1,200 homes for one year.

Sawdust

Sawdust, a by-product derived from local Tasmanian sawmills is the main fuel source at Austral Bricks Longford. The site used 12,871 tonnes or 133,864 GJ of sawdust throughout FY20.

While the use of sawdust is less energy efficient than natural gas, its renewable component means that net carbon emissions from the combustion of sawdust is 40 times less carbon than natural gas, offsetting 6,700 tonnes of carbon, equivalent to removing approximately 1,000 cars from the road each year.



Lower Carbon Energy Options

Targeted investment into low carbon fuel research and development

As leaders in manufacturing excellence, we have a long track record in investigating and developing commercial low carbon energy options.

We are actively developing our long-term lower carbon energy pathway. Focused investment areas include:

- **Brickworks Biogas Circular Economy Investigation Study:** Brickworks is exploring the feasibility of biogas derived from the anaerobic digestion of organic material within biodigesters as a potential partial substitute for natural gas. Our investigations, in conjunction with leading Engineering Consultancy ARUP, include identifying circular economy opportunities supporting biogas generation.
- **Brickworks Hydrogen Feasibility Study:** Renewable hydrogen is expected to play a key role in the decarbonisation of sectors such as the replacement of natural gas. As a large gas user, this research may help Brickworks prepare for the availability hydrogen as a kiln fuel in the manufacture of clay bricks.
- By partnering with Murdoch University – leaders in renewable energy research, to investigate the transition to the hydrogen fuel economy through the 'Brickworks Hydrogen Feasibility Study'. The study will span over two years, and will explore the use of hydrogen as a kiln fuel in the manufacture of clay bricks, through desktop and lab-scale trials.
- **Renewable electricity:** Brickworks is exploring commercially viable renewable electricity opportunities. All new plants include a review of renewable electricity opportunities.



Enabling the Transition to Lower Carbon Fuels

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Brickworks sees opportunities in key low carbon technology areas which will have the most impact in ceramic manufacturing and breakthrough technologies.

If supported by governments, these key areas could become enablers of large-scale decarbonisation. Getting these enablers right will ensure the industry is in the best possible position to adopt low carbon technologies.

Brickworks is a keen participant in industry partnerships such as the Net Zero Industry and Innovation Program.

Brickworks supports calls to decarbonise the gas network as a way forward to assist Brickworks in reducing its scope 1 emissions from the consumption of natural gas.



Understanding Carbon Risks & Opportunities

The Taskforce for Climate-related Financial Disclosures (TCFD) recommendations provide a disclosure framework supported by investors and regulators.

During FY20, a plan was finalised to meet the recommendations on the TCFD, which was approved by the Brickworks Board and Audit and Risk Committee.

We are incrementally adopting the TCFD recommendations, such as undertaking climate scenario analysis, identifying risks and responses. Climate scenario analysis utilises three scenarios to ensure portfolio stress testing aligns with the TCFD guidelines. Climate scenarios include:

- Sustainability scenario, aligning with the Paris Agreement's aim to limit global temperature rise well below 2 degrees above pre-industrial levels.
- Security first scenario, with global temperature rise of 2-3°C
- Fossil-fuelled growth scenario, with global temperature rise >4°C

Transition risks were identified as the potentially most material, and are the primary focus, with physical risks to follow. Transition risks include changes to energy markets, carbon prices and policies and technology.

Following climate scenario analysis and identification of risks, we are outlining responses and strategies internally. During FY22, we are working with our audit partners EY to verify findings, and expect to make a public TCFD Statement during 2022.

TCFD Timeline

	Completed	2020/2021 Focus	2021/2022 Focus
GOVERNANCE	<ul style="list-style-type: none"> ▶ Establish TCFD Working Group. ▶ Formalise Board responsibilities and processes regarding climate risk ▶ Audit and Risk Committee (ARC) oversight of climate-related risks and opportunities 	<ul style="list-style-type: none"> ▶ ARC review of material climate risk and opportunities ▶ Formalise management responsibilities and processes regarding climate risk 	<ul style="list-style-type: none"> ▶ ARC annual review of material climate risk and opportunities
STRATEGY		<ul style="list-style-type: none"> ▶ Undertake materiality assessment ▶ Identify climate-related risks and develop scenarios and appropriate scenario assumptions ▶ Undertake scenario analysis and identify potential impacts and opportunities ▶ Formalise integration of climate-related risk assessment into strategy, financial and business planning 	<ul style="list-style-type: none"> ▶ Report outcomes of scenario analysis ▶ Describe strategies to improve the organisation's resilience to climate-related scenarios ▶ Integrate scenario analysis and climate risk management into strategy, financial and business planning
RISK MANAGEMENT	<ul style="list-style-type: none"> ▶ Incorporate climate risk into risk assessments processes 	<ul style="list-style-type: none"> ▶ Undertake climate-related risk assessments 	
METRICS AND TARGETS	<ul style="list-style-type: none"> ▶ Disclose Australian energy and carbon performance and trends ▶ Initiate development of US energy and carbon measurement and reporting ▶ Develop energy efficiency target 	<ul style="list-style-type: none"> ▶ Review existing metrics, measurement and monitoring methods. Develop additional metrics and methods if required ▶ Develop additional targets ▶ Implement energy efficiency target (ongoing) 	<ul style="list-style-type: none"> ▶ Disclose performance against relevant metrics and targets, and the related risks ▶ Provide historic trends and performance against metrics based on available production data ▶ Disclose performance against relevant metrics and targets, and the related risks ▶ Implement additional target ▶ Establish target review cycle