

Huntly mine transition and Pinjarra refinery production increase

Environmental assessment



Greenhouse gases



Alcoa has been operating in Western Australia since 1963. Our Huntly and Willowdale mines send mined bauxite to our Pinjarra and Wagerup refineries where it's refined into alumina, the material used to make aluminium.

Aluminium plays a key role in decarbonisation. It's found in solar panels, wind turbines, electric vehicles, medical equipment and more. We continue to rely on it every day.

The assessment

We are seeking approval to transition Huntly Bauxite Mine to new operating areas and increase alumina production at Pinjarra Alumina Refinery by 5%. This requires assessment from the Environmental Protection Authority (EPA) and approval by the State and Commonwealth Governments to ensure it meets environmental standards and minimises impacts on the environment, cultural values and local communities.

Transitioning to new mine regions is essential for the continued operation of the Huntly mine and Pinjarra refinery. This project will protect thousands of ongoing local jobs, helping sustain the regional economy.

In identifying strategies to reduce our Greenhouse Gas impacts, we've undertaken comprehensive assessment of emissions from mining and refining.

EPA environmental objective aims to

minimise environmental harm from climate change by reducing net greenhouse gas emissions as much as practicable.



Key terms

Greenhouse gas emissions (GHG) – Gases released into the atmosphere that contribute to global warming, including carbon dioxide (CO₂) and methane (CH₄).

Scope 1 emissions – Direct emissions from Alcoa's operations, such as diesel fuel use in mining equipment.

Scope 2 emissions – Indirect emissions from purchased electricity and steam to power mining and refining activities.

Proposed activities

Mine emissions

Bauxite mining contributes a smaller portion of the total GHG emissions from alumina production.

The main sources are:

Scope 1 – Direct emissions from the clearing of vegetation and the use of diesel fuel in mining and haulage equipment.

Scope 2 – Indirect emissions from electricity used to support mining operations.

Refinery emissions

Alcoa's Pinjarra refinery uses natural gas instead of coal as its primary fuel source. This produces fewer emissions per tonne of alumina.

The main emission sources from the refinery include:

Scope 1 – Natural gas combustion in boilers, calciners, and the oxalate kiln.

Scope 2 – Purchased electricity and steam used in refinery operations.

Managing impacts

Alcoa has an ambition to achieve net zero greenhouse gas (GHG) emissions by 2050.

Huntly mine and Pinjarra refinery operate under the Safeguard Mechanism, which sets net Scope 1 emissions limits for large facilities.

Alcoa is advancing a range of studies to drive emissions reductions. Large-scale implementation of major initiatives, such as electrification, is dependent on a number of factors including technology readiness and access to secure, competitive and low emissions electricity. Where emissions cannot be avoided or reduced below the Safeguard Mechanism baseline, carbon credits will be surrendered.

Initiatives underway and under consideration to reduce emissions across Huntly mine and Pinjarra refinery are:

Huntly mine

- Fuel additives to deliver improvement in diesel efficiency.
- Haulage optimisation, including retrofitting lightweight truck trays to increase capacity and reduce fuel burn per tonne.
- Mining equipment fleet transition, including hybrid and battery electric vehicles. This work is also looking at reducing truck payload which could deliver combined zero emission and environmental benefits including reduced noise, reduced clearing and enhanced water management.

Pinjarra refinery

- Process and equipment enhancements to improve energy efficiency.
- Replacement of natural gas use in the refining process with electrical alternatives.
- Renewable energy projects to support electrification.



How Alcoa monitors potential impacts

Alcoa reports Scope 1 and 2 GHG emissions under the **National Greenhouse and Energy Reporting Act 2007**.

Monitoring and reporting support compliance and drive improvements in emissions reduction strategies.



Stay informed. Scan the QR code using your phone camera, visit our website www.alcoa.com/australia or contact us via alcoaofaustralia@alcoa.com or (08) 9316 5817. This information is available in other languages upon request.