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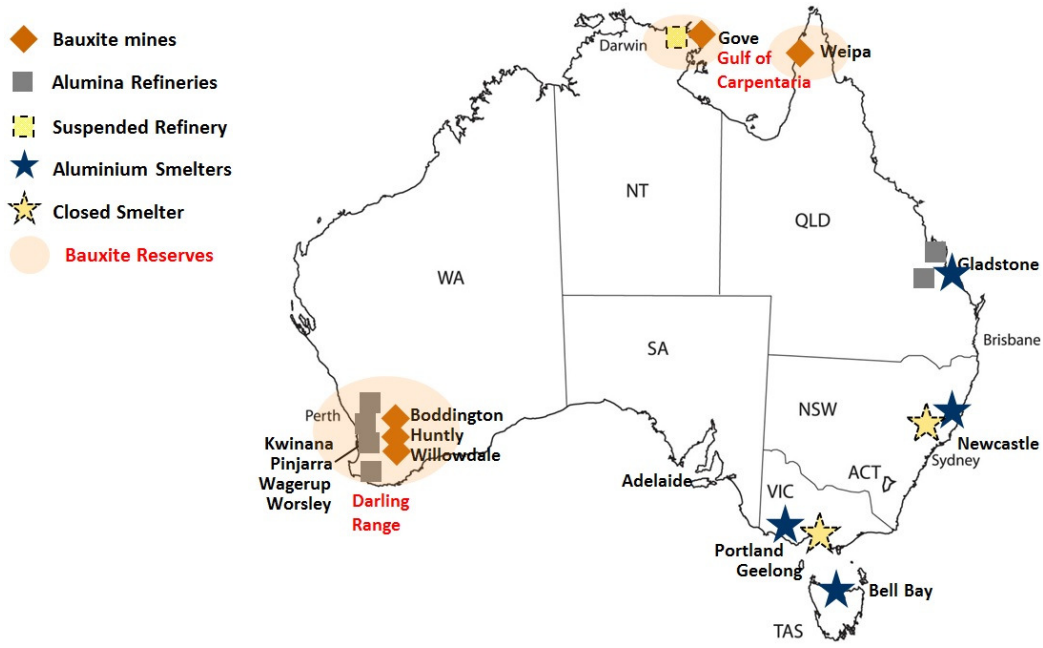
Lodged online

Setting Australia's post-2020 target for greenhouse gas emissions – Issues Paper

Thank you for the opportunity to provide comments on the Government's Issues Paper: *Setting Australia's post-2020 target for greenhouse gas emissions*. This submission is made on behalf of the bauxite mining, alumina refining, and aluminium smelting sectors, which directly employ more than 14,000 people and sustain the livelihoods of more than 50,000 households, most in regional Australia. This vertically integrated industry is responsible for more than $9 billion of export earnings for the Australian economy and make up a substantial part of the economic activity in regions where we operate including Arnhem Land, Gladstone, south-west Western Australia, Hunter Valley, Cape York, Portland and Tasmania. The location of facilities in this industry is shown on the map below.



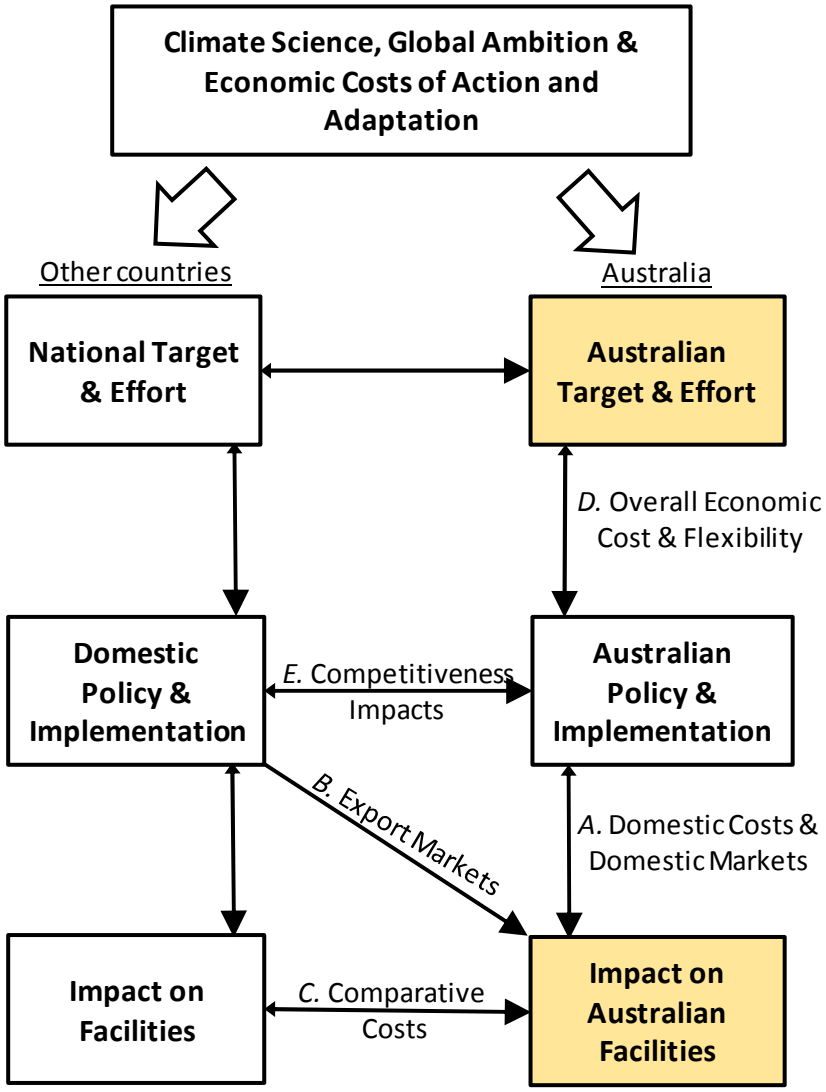
With direct emissions of 3.5 million tonnes CO2-e per year and indirect emissions of more than 25 million tonnes CO2-e per year, Australia's greenhouse gas emissions target will have a significant impact on this sector - hence our interest in the work of the UNFCCC Taskforce. The significant progress made in reducing greenhouse gas emissions in our industry – a 27% reduction in the

emissions intensity of alumina refining and a 30% reduction in the emissions intensity of aluminium smelting - is outlined in the attached appendix.

Impact of Australia's targets on domestic industry

The impact of climate policy on Australian facilities is dependent on the costs imposed on those facilities by domestic policy, relative to the costs imposed on competing facilities by policies in their country.

The relationship between these matters and Australia's greenhouse gas emission target is shown in the diagram below.



The development of each country's targets and policies can be considered as a sequence, commencing with scientific advice on climate impacts, consideration of the economic costs of action and inaction, and setting of global greenhouse gas ambition.

This strongly influences national targets and effort, which influences the design and implementation of national policy, which determines impacts on individual facilities.

However, this series does not operate in a single direction; as each element also influences the elements above: the potential impact on facilities (amongst other factors) influences domestic policy; the feasible domestic policies influence the national target and the summation of national targets influences global ambition.

A number of these interactions warrant further consideration in light of the work of the UNFCCC taskforce and the impact of Australia's target on the alumina and aluminium industries.

The ultimate impact on Australian alumina refineries and aluminium smelters is controlled by three main factors:

- The costs imposed on these facilities by Australian policy – indicated by arrow A in the diagram above.
- Changes in export markets for alumina and aluminium resulting from policies imposed in those countries – arrow B in the diagram.
- Changes in relative competitiveness of Australian facilities as a result of the carbon costs imposed on competing facilities compared to the cost imposed in Australia – arrow C in the diagram.

The key link between these factors and the setting of Australia's targets is the result of two other interactions:

- The selection of Australia's target will determine the overall economic cost to Australia and the flexibility available in policy design for distribution of those costs, including for costs imposed on domestic industry – arrow D in the diagram.
- The design of Australia's policy for achieving its target compared to the design of other country's policies in achieving their targets will control the distribution of economic costs within each economy - arrow E - and largely determine the comparative carbon costs imposed at a facility level - arrow C.

Considering these interactions, to maintain the competitiveness of Australia's aluminium and alumina industries, the UNFCCC taskforce should recommend:

- *A target no more constraining than represents Australia's fair contribution to global ambition and maintains flexibility in the level and distribution of costs within the domestic economy.*
- *Domestic policy design that explicitly considers the distribution of costs in the Australian economy and its impact. Australia's policy design and the extent that it imposes costs on domestic industry should consider the policy design of key competitors and the extent to which they impose costs on industry at a facility level.*
- *Specific policy elements to ensure trade exposed industries such as aluminium and alumina are not subject to a higher net carbon cost than that actually paid by competing facilities in other jurisdictions.*
- *Specific policy elements which enable the growth of Australian industry, particularly where Australia holds a competitive advantage. For example, limits on emissions-intensity will enable economic growth while limits on absolute emissions will constrain it.*

International action

In proposing an appropriate target for Australia, the Australian Aluminium Council (AAC) encourages the taskforce to consider the targets, policies and implementation announced in other jurisdictions. That assessment should look beyond the simple headline target at a national level. It should include consideration of the factors that will control the actual costs imposed at a facility level.

The consideration should include, as a minimum: the extent of policy implementation; the legal force of the policy; the measuring, reporting and verification supporting the policy; the economic cost of the policy; and, importantly for competitiveness impacts, the extent to which the policy constrains and adds costs to individual businesses and facilities in sectors relevant to Australia.

Previous independent studies commissioned by the AAC have shown that the actual cost impact of carbon policy at a facility level can be greatly different to the level suggested by a simple assessment of national policy. Exemptions, sub-national policies and exclusions, and non-compliance all contribute to a lesser impact at facility level.

The AAC also encourages the taskforce to focus on those jurisdictions that actually compete with Australian producers in global markets for alumina and aluminium. Comparisons are often erroneously focused on those countries with announced climate policies. For example, while Europe has a well-developed carbon policy, it is not a major competitor to Australia's alumina or aluminium industry as either a production or export location. Similarly comparisons are most relevant to the countries we compete against in export markets (our trade *competitors*) rather than the countries we trade heavily with (our trading *partners*).

For this industry, Australia's key competitors are China, Brazil, United States, India and new investment in the Middle East for alumina refining; and China, Russia, North America and new investment in the Middle East for aluminium smelting, as shown in the summary of global production in the tables below.

	% global **alumina** production (2012)
China	39%
Australia	*22%*
Brazil	10%
United States	5%
India	5%
Russia	3%
Ireland	2%

	% global **aluminium** production (2013)
China	46%
Russia	8%
Canada	6%
United States	4%
United Arab Emirates	4%
Australia	*4%*
India	4%

Thank you for the opportunity to provide comment on the Issues Paper. We would welcome the opportunity to answer questions regarding any matter raised in this submission. Please contact me if you would like to do so.

Yours sincerely

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GREENHOUSE GAS EMISSIONS

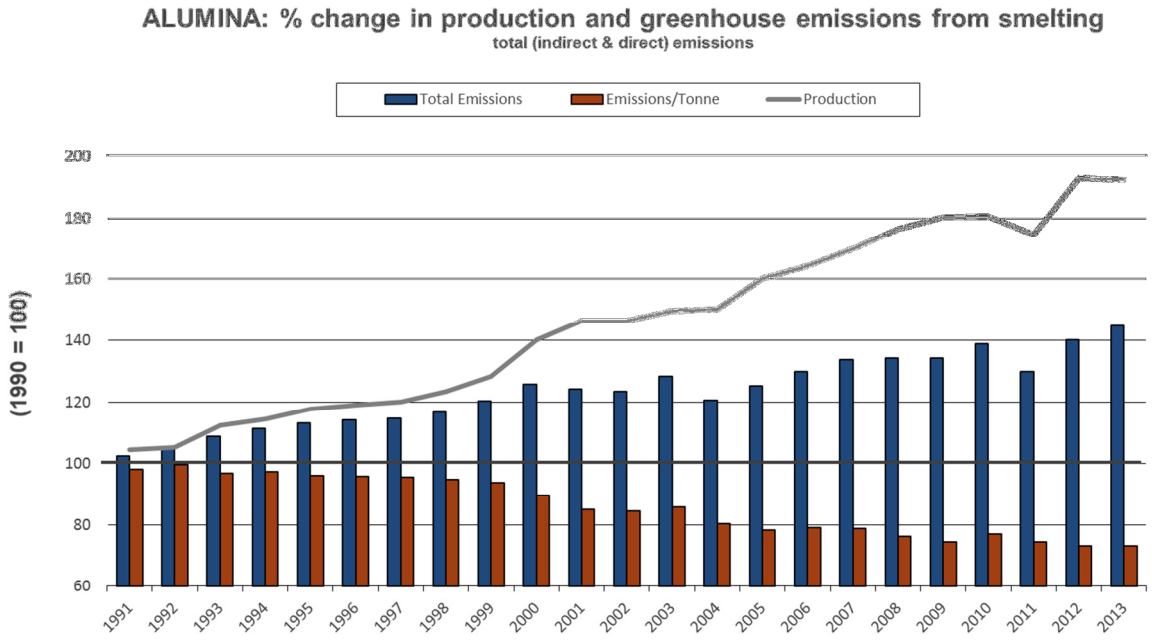
The Australian aluminium industry has been committed to reducing greenhouse gas emissions for more than two decades. Through focused application of technology and resourcefulness, the industry has proven its commitment to energy efficiency and improving greenhouse emissions performance. Our industry remains committed to further improving its greenhouse and energy performance in line with Australia's greenhouse reduction goals.

The AAC maintains a comprehensive emissions database covering all alumina and aluminium production since 1990. This has provided a platform for the industry to build on its experience in measuring and reporting greenhouse gas emissions, and in seeking abatement opportunities.

ALUMINA REFINING

Absolute emissions from Australia's alumina refineries have increased by only 48% since 1990, despite an almost 92% increase in production over this period.

Emissions intensity was 0.70 tonnes of CO2-e per tonne of alumina in 2013, 27% lower than the 1990 value of 0.96 tonnes of CO2-e per tonne of alumina. This result improves our industry's record low emissions intensity of 0.71 per tonne of alumina first achieved in 2009 and 2011.



ALUMINIUM SMELTING

The smelting of aluminium is a very energy intensive process. More than 80% of smelting greenhouse gas emissions are indirect (electricity-related) emissions. The remaining 20% of emissions come from direct (on-site) emissions.

The combined direct and indirect greenhouse gas intensity of Australian primary aluminium production improved to 14.9 tonnes of CO_2-e per tonne of aluminium in 2013 from 21.2 tonnes in 1990. This is a 30% improvement in emissions per tonne of production compared to 1990.

In 2013, direct (process) emissions of greenhouse gas (PFCs, carbon inputs, fuels) were 1.83 tonnes of CO_2-e per tonne of aluminium, 64% lower than in 1990. PFC emissions fell to 0.11 tonnes of CO_2-e per tonne of aluminium, a 97% improvement over 1990 levels.

Total direct greenhouse gas emissions from Australian aluminium smelters were 3.27 million tonnes CO_2-e in 2013, down 48% compared to 1990 emissions of 6.26 million tonnes. This significant decrease in direct greenhouse gas emissions has occurred even with a 44% increase in production.

Emissions from the purchase of electricity have fallen 19% on an intensity basis since 1990. These indirect emission levels are closely linked to production and are therefore sensitive to economic conditions.

Since 1990, aluminium production has increased by 44%, whilst total indirect emissions have risen by only 16%.