AUSTRALIAN ALUMINIUM COUNCIL LTD

Productivity Commission
https://engage.pc.gov.au/projects/energy-transformation/surveys/secure_form/survey/have-your-say-pillar-5

5 June 2025

Dear Commissioner,

Re: Pillar 5: Investing in cheaper, cleaner energy and the net zero transformation.

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining, aluminium smelting and downstream processing industries. The aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the nation's economy. Department of Industry, Science and Resources has recently forecast[1] that earnings for Australian exports of aluminium, alumina and bauxite are expected to rise from $16 billion in 2023–24 to $18 billion in 2024–25. More than $14B of this comes from the alumina and aluminium industries, as value adding mineral processing sectors. The industry includes six bauxite mines which collectively produce over 100 Mt per annum making Australia one of the world's largest producers of bauxite. Australia is the world's largest exporter of alumina with five alumina refineries producing around 18 Mt per annum of alumina. Australia is the seventh largest producer of aluminium, with four aluminium smelters and additional downstream processing industries including more than 20 extrusion presses. Aluminium is Australia's top manufacturing export. The industry directly employs more than 21,000 people, including 6,600 full time equivalent contractors. It also indirectly supports a further 55,000 families predominantly in regional Australia. The integrated industry contributes around $18 B to Australia's GDP.

The Council welcomes the opportunity to make a submission to the Productivity Commission focused on Pillar 5: Investing in cheaper, cleaner energy and the net zero transformation. We welcome the recognition in this consultation on the need to align with multiple other reviews underway in this area including, but not limited to, National Electricity Market Wholesale Market Review Settings, the Net Zero Plan, upcoming review of the Safeguard Mechanism and the response to the Samuels Review. Additionally, there are numerous, and sometimes competing or contradictory, processes across states and territories. These in turn build on considerable consultation and reform across Australia's climate and energy policies over the past decade. The Council has made submissions to many of these which are publicly available, and additionally would be more than happy to provide the Commission with responses to any sector specific questions. In responding to this initial consultation, the Council has focused its response on:
1. Industry context as a very large energy consumer, large emitter but also key pathway to Australian and global decarbonisation; and
2. & 3. Answers to selected consultation questions with a focus on industrial decarbonisation.

1. Aluminium Industry Context

Aluminium is one of the commodities most widely used in the global transition to a clean energy future[2]. It is also recognised for its importance to both economic development and low emissions transition. Aluminium use is highly correlated with GDP, so as countries urbanise, per capita use of aluminium increases. It is expected that by 2050, global demand for aluminium will nearly double[3]. While an increasing

[1] https://www.industry.gov.au/publications/resources-and-energy-quarterly-december-2023
[2] https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action
[3] International Aluminium Institute High Substitution Scenario

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proportion will be met through recycled aluminium, there will remain a need for increased production of primary aluminium requiring a comparable increase in global bauxite mining and alumina refining rates.

Australia is one of the very few countries which has bauxite mining, alumina refining, aluminium smelting and aluminium extrusion all within its borders, making aluminium one of only two commodities in which the raw materials are mined and processed all the way to a consumer product right here in Australia. The single biggest opportunity to decarbonise the energy intensive, vertically integrated Australian aluminium industry is through the combination of electrification or conversion to low emissions fuels for existing industrial processes and decarbonisation of the national electricity supply.

Australia has a large resource and industrial base and has great potential for conversion to zero- and low-emissions industrial production including for export, with economic benefits to match. While industrial production is a major contributor to Australia's overall emissions, both directly and via consumed electricity, Australia's green industry ambition is linked to opportunities created by the global transition to net zero. Yet, as the Council has maintained throughout our dialogue with Government, the future of the industry in Australia cannot be taken for granted[4]. Key risks include high energy costs combined with a high cost to decarbonise industrial processes, proactive industry policy among competitor nations, as well as regulatory complexity and uncertainty.

Aluminium Industry Energy Use

Australia's aluminium smelters are already a large electricity consumer, with the four smelters using around 2,600 MW or ~10-12% of the electricity consumed in the NEM. Providing electricity is supplied consistently, with firm power, and at internationally competitive prices, aluminium smelting can be run on renewable electricity. As smelters are already largely electrified, no technological conversion is required. The carbon intensity of the Australian grid is declining rapidly, with this increased penetration of variable renewables.

As there is an increased penetration of variable renewable technologies, there will be an expanded role that smelters will be able to offer to support reliability through power services, flexibility and interruptibility.

- Interruptibility is the short term loss of power to part of or whole potline or whole smelter.
- Flexibility is the ability to use more or less power than normal, for short term periods (seconds to minutes through to hours) without creating too much process instability.

Smelters' large and fast-acting interruptibility helps secure and restore stability to the network before and after contingencies occur – which can potentially avoid impacts, or load shedding, to the broader customers and population. The industry has increasingly been called upon to support grid stability and reliability, as the challenges in managing the grid increase over the course of phaseout of aging thermal generators in parallel with growing volumes of variable renewable power supplies. For example, during May and July 2022 Tomago Aluminium provided 62 hours of modulation across 36 events which were a mixture of RERT and responding to high market price. This response by Tomago supported the Australian Energy Market Operator (AEMO) to manage a complex and challenging system and maintain supply to domestic customers. However, while Aluminium smelters already offer a range of services and functions which support the network over varying weather, network demand and operating conditions, including Reliability and Emergency Reserve Trader (RERT) and Frequency Control Ancillary Services (FCAS), this is currently unvalued in the market[5].

While the industry nominally uses ~10% of the NEM, the Minimum Operational Demand in the NEM is falling with increasing solar PV penetration. At times of minimum demand, the aluminium industry uses

[4] https://news.alcoa.com/press-releases/press-release-details/2024/Alcoa-announces-curtailment-of-Kwinana-Alumina-Refinery-in-Western-Australia/default.aspx

[5] The Green Aluminium Production Credit, announced on 20 January 2025 does not address demand management services which are already being provided by smelters and are not contingent on smelter decarbonisation. https://www.industry.gov.au/news/new-green-aluminium-production-credit-will-support-transition-green-metals

more than 25% of the NEM. With AEMO now needing to issue "Minimum System Load" Market Notices[6] for the first time ever. The role of smelters in underpinning critical minimum demand should be recognised and supported.

The alumina industry also consumes nearly 200 PJ of energy, currently as gas and coal in the refineries. This energy use may convert to electricity requirements of 3-5GW[7] firm in the NEM and the SWIS depending on the technology applied in digestion and calcination[8]. This would transform both the NEM and SWIS electricity markets with substantial increases in demand.

Alumina refineries will require technology changes for both digestion and calcination processes to meet zero-emissions goals; either in the form of electrification or adaptation to use hydrogen for process heating. Development of this technology and its application will be stepwise as new technologies to reduce overall emissions become viable. The required thresholds for implementation will be differentiated by refinery (and processes within a refinery); locational access to energy, including supporting transmission infrastructure; the local emissions intensity of electricity supply and bauxite type. The electrification of existing industry, combined with the development of new electricity intensive industries, such as hydrogen, will require substantial volumes of electricity delivered reliably, affordably and at scale. The Council is concerned that if technology development lags, or energy transmission and supporting infrastructure is delivered in the manner and at the pace it has historically, this will become the bottleneck in the transition[9].

Both the National Electricity Market (NEM) and Wholesale Electricity Market (WEM) are going through a once in a century transformation and as Australia moves towards net zero emissions by 2050, this transition will need to be carefully managed to ensure that all consumers are provided with internationally competitively priced, reliable, low emissions energy. The NEM and WEM are currently heading towards systems which lack the inertia and demand response requirements needed to address the risk of instability, which is becoming increasingly problematic for Australian industry.

Aluminium Emissions and Decarbonisation

The Mission Possible Partnership, in collaboration with the International Aluminium Institute, recently released Making Net Zero Aluminium Possible: A Transition Strategy for a 1.5°C-compliant Aluminium Sector[10] (the Strategy). The release of the Strategy was supported by the Council and its members. This work brought together companies across the global industry, including those operating across the value chain in Australia. The Strategy recognised that it is possible to meet rising aluminium demand, reduce emissions from the sector to net zero by 2050, and align with a 1.5°C target. The Strategy also highlighted that a global investment of approximately US$1 trillion will be required for the aluminium sector transition, including significant investment to supply the required zero-emissions electricity. Considering the size of the Australian aluminium industry (~3% of the global industry), this equates to an investment of US$30bn to deliver the same outcome. The Strategy outlines not only actions the industry needs to take, but also actions required by Governments to support this. In particular, developing policy that is predictable, stable and transparent to enable businesses to confidently plan for the substantial investment that comes with a commitment to decarbonisation. Governments also have a vital role to play designing markets to support the transition, particularly for the energy and electricity sectors.

The Australian Renewable Energy Agency (ARENA), in consultation with Alcoa, Rio Tinto and South32 has published a Roadmap for Decarbonising Australian Alumina[11]. The Roadmap identifies four key themes for

[6] https://wattclarity.com.au/articles/2024/09/24sept-aemo-minimumsystemload-alert-vic/
[7] The potential renewable capacity required to meet this demand is likely 3 to 5 times this amount. https://arena.gov.au/assets/2022/11/roadmap-for-decarbonising-australian-alumina-refining-report.pdf
[8] https://aluminium.org.au/wp-content/uploads/2022/07/FACT-SHEET-03-ALUMINA.pdf
[9] https://www.worley.com/~/media/Files/W/Worley-V3/documents/our-thinking/from-ambition-to-reality/from-ambition-to-reality-report.pdf
[10] https://missionpossiblepartnership.org/wp-content/uploads/2022/10/Making-1.5-Aligned-Aluminium-possible.pdf
[11] https://arena.gov.au/assets/2022/11/roadmap-for-decarbonising-australian-alumina-refining-report.pdf

decarbonisation that could transform the way alumina refineries consume and use energy by enabling the uptake of renewables and removing the use of fossil fuels. It also provides a framework for future policy and investment decisions and serves as a call to action to collaboratively transition the sector into an industry at the forefront of the transition to net zero.

Replacing carbon anodes with non-reactive or inert anodes would remove both the carbon dioxide and PFCs emitted during the smelting process (about 95% of the scope 1 emissions associated with a smelter). However, inert anodes could potentially increase the voltage requirements of a smelter, so are best applied in conjunction with low or zero carbon electricity, to ensure the reductions are not offset with increased indirect emissions. Additionally, retrofitting of this, or any other new technology, in Australia's aluminium smelting industry would require substantial capital investment and this could only be undertaken when combined with internationally competitive long-term electricity contracts. Australian smelter operator's Rio Tinto and Alcoa are involved in a joint venture with Apple and the Government of Quebec, with funding assistance of the Federal Government in Canada on the Elysis[12] process which would remove the use of carbon in the direct smelting process. The Mission Possible Strategy[10] indicates that technologies, such as inert anodes are not expected to be ready for large-scale deployment before 2030 and even then, face challenges during rollout.

In 2023, Scope 1 and 2 emissions from Australia's integrated aluminium industry (bauxite, alumina, aluminium) were about 33.4Mt CO2-e, which was 7% of Australia's national emissions (Figure 1). Energy typically accounts for 30-40% of the industries cost base, and therefore energy efficiency is a key focus for these processes.

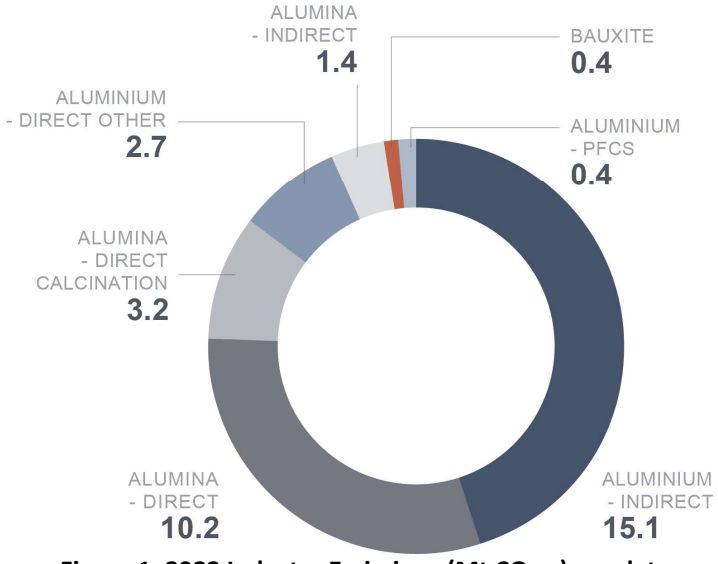

Figure 1. 2023 Industry Emissions (Mt CO_2-e) - update

Globally, there is a focus across industry to find solutions for the technology challenges required to decarbonise, including the use of hydrogen based technologies. There is an opportunity for Australia to lead the world in development and implementation of these technologies, capitalising on Australia's national advantages, providing jobs and value to the economy. The Council has produced a series of five detailed factsheets to help articulate the technology pathways:

1. Australia's role in a global aluminium decarbonisation pathway;
2. How Australian bauxite will help meet global demand for aluminium;
3. Australia's role in developing low carbon alumina refining technologies for the world;
4. The role of Australia's aluminium smelters in providing baseload stability in a decarbonising grid; and

[12] https://elysis.com/en

5. Decarbonisation of Australia's electricity supply, which the Council sees as the single biggest opportunity to decarbonise the vertically integrated domestic aluminium industry.

The Council updates these factsheets annually; reflecting not only progress in decarbonisation in the industry; but also updating the industry's views of the evolution of decarbonisation technologies, based on research undertaken in Australia and through global partnerships. A summary of key Australian Aluminium industry initiatives is provided in
Table 1.

Table 1 Key Australian Aluminium Industry Initiatives

Activity	Link
Affreightment Carbon Reduction	https://www.combinationcarriers.com/insights-and-news/2022/1/4/kcc-and-south32-conclude-first-sustainability-linked-contract-of-affreightment
ARENA Roadmap for Alumina	https://arena.gov.au/knowledge-bank/a-roadmap-for-decarbonising-australian-alumina-refining/
Electric Calcination Study	https://arena.gov.au/projects/alcoa-renewable-powered-electric-calcination-pilot/
Gladstone Renewable Request for Proposals / PPAs	https://www.riotinto.com/news/releases/2022/Rio-Tinto-calls-for-proposals-for-large-scale-wind-and-solar-power-in-Queensland https://www.riotinto.com/en/news/releases/2024/rio-tinto-to-drive-development-of-australias-largest-solar-farm-at-gladstone https://www.riotinto.com/en/news/releases/2024/rio-tinto-signs-australias-biggest-renewable-power-deal-as-it-works-to-repower-its-gladstone-operations
HILT CRC	https://hiltcrc.com.au/
Hydrogen Calcination Study	https://arena.gov.au/projects/rio-tinto-pacific-operations-hydrogen-program/
Hydrogen Pilot Plant	https://www.riotinto.com/news/releases/2021/Rio-Tinto-and-Sumitomo-to-assess-hydrogen-pilot-plant-at-Gladstones-Yarwun-alumina-refinery
Memorandum of Understanding between Tasmania and Rio Tinto	https://www.stategrowth.tas.gov.au/__data/assets/pdf_file/0010/334558/TAS-RIO_TINTO_MOU_Feb_2022.pdf
Mission Possible Partnership	https://missionpossiblepartnership.org/wp-content/uploads/2022/10/Making-1.5-Aligned-Aluminium-possible.pdf
Refinery of the Future	https://www.alcoa.com/global/en/stories/releases?id=2021/11/alcoa-to-design-an-alumina-refinery-of-the-future
Rio Tinto and GMG	https://graphenemg.com/gmg-riotinto-energysavings-battery/
Spinifex Wind Farm (Portland)	https://arena.gov.au/news/offshore-wind-could-power-portland-aluminium-smelter/ https://www.spinifexoffshore.com.au/#/
Tomago Aluminium Renewable Future	https://www.tomago.com.au/tomago-aluminium-future-renewable-energy-needs/

Activity	Link
Weipa Solar and Battery Capacity	https://www.riotinto.com/news/releases/2021/Rio-Tinto-to-triple-Weipa-solar-capacity-and-add-battery-storage-to-help-power-operations https://www.riotinto.com/en/news/releases/2023/rio-tinto-approves-new-solar-farm-and-battery-storage-to-power-its-amrun-bauxite-operations-on-cape-york
Worsley Boiler Conversion	https://www.south32.net/news-media/latest-news/worsley-alumina-converts-first-boiler-from-coal-to-natural-gas
Yarwun Hydrogen Calcination Pilot Demonstration Program	https://www.riotinto.com/en/news/releases/2023/rio-tinto-and-sumitomo-to-build-gladstone-hydrogen-pilot-plant-to-trial-lower-carbon-alumina-refining https://arena.gov.au/projects/yarwun-hydrogen-calcination-pilot-demonstration-program/

Planning and approval delays are impacting decarbonisation beyond energy infrastructure

The Council agrees that planning and approvals processes are taking too long, but this applies to not only large energy infrastructure projects but also to other approvals which is delaying Australia's decarbonisation. Without mining, the world cannot reach net zero by 2050, and the minerals required to achieve our decarbonisation goals are of such magnitude that to reach net zero, we will need more mining, not less. While seeking to maintain Australia's highest standards for ESG, it is also worth considering that global demand will continue to be met from elsewhere if not provided by Australia. Australia's historic advantage in the aluminium industry stemmed principally from its substantial high quality bauxite reserves. The success of Australia's green metals industry requires an integrated system of policies, including those which support ongoing approval to mine Australia's bauxite reserves. This is impeding transformational investment – for example investment in alumina refineries also needs to be supported by access to bauxite environmental approvals on commensurate time scales. For example, investment in a transformational abatement project at an alumina refinery would need to be supported by surety of bauxite supply over the same long term period.

In 2024, the Council undertook a comparison of costs and delays impacting Australia's upstream bauxite and alumina sectors[13] due to increased geopolitical risk combined with rising costs and prolonged regulatory approvals. This found that one of the greatest cost increases expected over the next five years will come from delays in environmental approvals, limiting access to bauxite for our alumina refineries. Indonesia can approve and build an integrated bauxite mine and alumina refinery faster than Australia can approve a bauxite mine. The report highlighted the need for a streamlined regulatory process to unlock the potential of Australia's bauxite resources. While Indonesian refineries are set to expand alumina capacity by 6Mt over the next five years, Australia faces mounting challenges, including rising capital, labour, and energy costs, compounded by lengthy regulatory approvals (Figure 2).

[13] https://aluminium.org.au/wp-content/uploads/2024/10/241010-AAC-Upstream-Vulterabilities-Report-FINAL.pdf

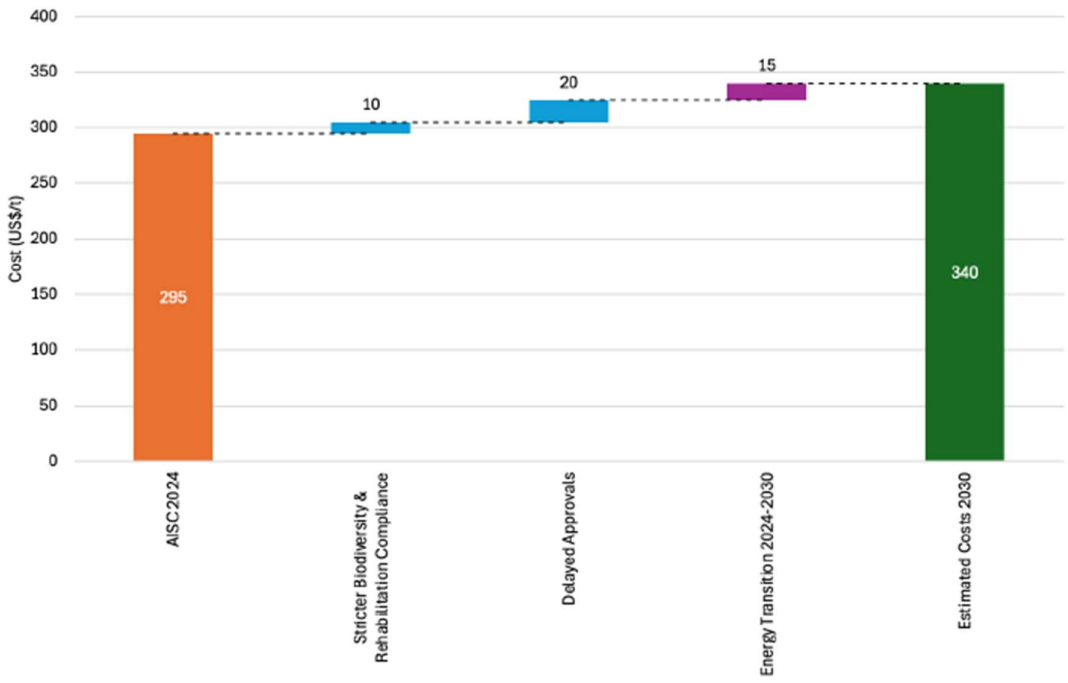

Figure 2. Increases to WA Refining Production Costs 2024-2030 (Source CM Group)[14]

A second piece of research conducted by the Council in 2024, highlighted the industry's significant contribution to the Australian economy prosperity and the advantages of its integrated mine-to-market structure. However, the report also identifies serious vulnerabilities requiring an urgent response from government, including long and uncertain regulatory frameworks that increase upfront investment costs[15].

The report also found the industry is especially vulnerable to supply chain disruptions. Challenging market conditions currently facing the industry, including the Safeguard Mechanism costs and the capital requirements for decarbonisation, have led to the impairment of two Australian alumina refineries[16]. An additional refinery was impaired due to delays in environmental approvals[17], and one has been curtailed[18]. Based on the report's modelling of a hypothetical scenario, the economic impact of the closure of a single bauxite mine in Western Australia that employed around 600 people could lead to loss of 10,000 indirect jobs and a $2.7B reduction to GDP. The report concluded that Australia needs timely, clear, and consistent environmental regulatory processes across all jurisdictions that ensure that the nations valuable bauxite resources remain economically accessible and support the timely delivery of transmission infrastructure essential to the energy transition.

2. Reducing the cost of meeting carbon targets

What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

Australia's abatement task needs to be met with a whole of economy approach including agriculture, transport and households, not just industrial and electricity sectors which have been the focus of policies

[14] https://aluminium.org.au/wp-content/uploads/2024/10/241010-AAC-Upstream-Vulerabilities-Report-Summary-FINAL.pdf

[15] https://aluminium.org.au/wp-content/uploads/2024/10/250204-AAC-Summary-Report-Economic-Contribution-of-the-Australian-Aluminium-Industry.pdf

[16] 2023 Half Year Results - https://www.riotinto.com/en/invest/financial-news-performance/results

[17] https://www.south32.net/docs/default-source/exchange-releases/worsley-alumina-approvals-update-0xcd7a6599a4d4a61c.pdf?sfvrsn=4c10b543_0

[18] https://news.alcoa.com/press-releases/press-release-details/2024/Alcoa-announces-curtailment-of-Kwinana-Alumina-Refinery-in-Western-Australia/default.aspx

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in the last decade. The previous term of Government developed whole of economy Sectoral Plans[19]. However, details on these beyond consultation did not materialise in 2024. A least cost pathway will require a whole of economy approach.

Carbon leakage would deliver abatement but without meeting Paris Agreement goals

When considering the cost, ambition and effectiveness of carbon policies, it is important to consider their effectiveness in reducing not only Australia's emissions but also international emissions at least cost. Reducing domestic emissions by closures, especially where production will be replaced by an international production with a higher emission intensity, does not support the Paris Agreement goals. It is worth noting that the global competitors for each part of the industry vary with commodity[20].

Australia is well placed to build on its aluminium supply chain to meet growing international demand. The integrated nature of bauxite mining, alumina refining, aluminium smelting and extrusion processes in Australia means that efficient and effective regulatory processes for each step are critically important to the ongoing operation of the overall system. Not only does policy funding need to be at an appropriate scale but there needs to be predicable streamlined process and approvals frameworks for the whole value chain from mine to market including infrastructure needed to ensure alumina and aluminium can continue to be made in Australia in the future. To do so, however, requires specific government policies:

1. Deliver internationally competitive supplies of clean energy;
2. Use of Production Tax Credits and a Transformational Infrastructure and Technology Fund to enable Australia to be sufficiently competitive to be able to attract global decarbonisation investment;
3. Prioritise the Australian aluminium value chain, as a strategic material, within industry development policies;
4. Environmental approval processes across the supply chain that appropriately balance the environmental rigour and protection with transparent timelines that reflect commercial needs; and
5. Development of long-term strategic partnerships with likeminded countries.

These policies are outlined in greater detail in recent analysis undertaken by the Council[21]. Non-financial means of support – particularly the streamlining of regulatory approvals (See Section 3) are also critical to lowering investment barriers.

Transmission and other supporting infrastructure needs to be efficiently delivered and priced

An internationally competitive cost of zero carbon electricity at industrial scale delivered to facilities will enable the greatest transformation of the sector. It is hoped that some emission reducing technologies for refinery digestion may be able to be deployed prior to 2030. However, access to the required generation, storage and infrastructure outside the facility could be the bottleneck holding back the electrification process. To assist with this, one solution is that Government could accelerate significant private investment in renewable generation, low-carbon industries and industrial decarbonisation projects by committing to upfront funding of transmission upgrades, that could be recovered from users (as needed) once operating. Large energy users can not afford to cross subsidise other market participants.

While the cost of variable renewable energy generation has fallen, the delivered cost (including transmission and distribution) of firmed electricity has not. The cost of services to stabilise networks, and the cost of firming renewable energy supply is likely to be one of the largest differentiators of Australia's future competitiveness for electricity-intensive industries. In addition, there is no transition without transmission and in both the NEM and the South West Interconnected System (SWIS) effort is needed to continue to progress future state transmissions networks, to support the large volume of renewable energy required to offset not only existing coal fired generation but also increased demand for facilities to electrify once this technology becomes viable. The fundamental pillar of global competitiveness is low-cost renewable energy, firming and transmission. The Council believes that transmission funding and pricing

[19] https://www.dcceew.gov.au/climate-change/emissions-reduction/net-zero

[20] https://aluminium.org.au/wp-content/uploads/2025/04/J008227-AAC-TRADE-AND-COMPETITIVENESS-FACTSHEET-APRIL-2025_FINAL_WEB.pdf

[21] https://aluminium.org.au/wp-content/uploads/2023/11/Aluminium-Critical-Mineral-Report-Nov23.pdf

methodologies must evolve to ensure they remain fit for purpose with the evolution of both the NEM and SWIS.

Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Industrial decarbonisation policy must be integrated and at an appropriate scale

To support industrial decarbonisation, Australia must be sufficiently competitive to be able to attract global decarbonisation investment. Treasury's Future Made in Australia (FMIA) Front Door recognises that for the net zero transition an estimated $625 billion of coordinated investment is required to decarbonise Australia's industry and energy system[22]. Policy support needs to be commensurate with the scale of these significant investments but must also be coordinated and streamlined for major transformational investment.

The Council has welcomed the inclusion of green metals, including alumina and aluminium, in the Government's FMIA agenda, to ensure these vital industries may continue to benefit communities and workers, as they have done for almost 70 years. These reforms, if well designed and delivered over a transformational time scale, should capitalise and continue to build on Australia's competitive advantages, support the transition to net zero and strengthen economic resilience and security. This will be achieved through targeted public investment to provide economic incentives that garner private investment at a scale that develops priority industries in line with Australia's national interest.

This targeted investment should provide the transitional support needed as Australia's infrastructure and energy systems develop, and energy returns to being competitive. The Green Aluminium Production Credit[23] (GAPC) announced in January 2025 is a first example of this. However, further work is required on the GAPC to define eligibility and applicability. While the GAPC is of an international scale, if it is taken up in full by all four smelters it is likely that $2B will be insufficient over the investment timescale proposed. Further work is also required to provide transformational scale policy support for Australia's alumina industry.

Safeguard Mechanism will need to evolve to prevent Carbon Leakage

The Carbon Leakage Review's preliminary findings[24] found that current Safeguard Mechanism settings are largely effective at mitigating carbon leakage risk in the short- to medium-term, they are likely to need to be augmented with additional measures and that alumina and aluminium are considered for this additional augmentation as part of the 2026-27 Safeguard Mechanism Review. The Council also encourages ongoing monitoring by the Government during the period until the 2026-27 Review, using annual data and bilateral discussions with facilities, to monitor for the risk of earlier escalation. For example, in aluminium smelters inert anode technology, will provide a >95% step change for Scope 1 emissions. There are, therefore, limited process emission abatement opportunities (<5%) for smelters until this technology is deployed and limited opportunities to bring this forward in Australia before 2030. This highlights the importance of Trade Exposed Baseline Adjustments (TEBA) while decarbonisation technology is developed and commercialised for sectors such as alumina and aluminium.

Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

There has been a large increase in reporting schemes including Climate Related Financial Disclosure[25] and development of a sustainable finance taxonomy[26]. The development and implementation of these takes time and increases compliance costs (particularly auditors), while relying on the same company resources as those which are working on implementation of decarbonisation projects. While these schemes create

[22] https://treasury.gov.au/consultation/c2024-571335
[23] https://www.industry.gov.au/news/new-green-aluminium-production-credit-will-support-transition-green-metals
[24] https://consult.dcceew.gov.au/carbon-leakage-review-consultation-paper-november-2024
[25] https://treasury.gov.au/consultation/c2024-466491
[26] https://treasury.gov.au/policy-topics/banking-and-finance/sustainable-finance/taxonomy

an apparent increase in transparency, they can create confusion as there are different reporting methodologies across different time periods. Industry faces high compliance costs associated with duplicative auditing of similar data sets (National Greenhouse and Energy Reporting Scheme, Safeguard, Climate Related Financial Disclosure), taking resources away from the task of abatement.

The Climate Change Authority's Annual Progress Report[27] recommended Require Safeguard facilities to report rolling 5-year compliance strategies on the expected annual weight of effort between on-site reductions and carbon credit use. If adopted this would not only be duplicative, but require advance reporting on legislative compliance plans. The Council does not support this recommendation.

3. Speed up approvals for new energy infrastructure

Are planning and approvals processes for large energy infrastructure taking too long? If so, what causes the most delay?

Governments also have a critical enabling role in addressing constraints to delivery of renewable energy projects including planning regulation, land access, and construction costs that are putting the industrial transition at risk due to tensions with competitiveness and scheduling. Planning systems, regulations and workforce development must also align with delivering projects required for shared net zero ambitions. The key to success for Australia's green metals sector is to ensure that Australia's bauxite resources continue to be able to be economically accessible, that low cost renewable energy is available and prioritised for use by industries such as the alumina and aluminium processes needed to convert the bauxite and that Australian industry is sufficiently able to attract the necessary financial support during the transition. Australia's alumina and aluminium industries are located in key regional hubs, which have been identified as part of Australia's transition a net zero economy. These green metal industries can create the baseload, flagship offtake agreements in these key locations that can encourage additional investment and renewable energy to support other industries to be developed.

How can planning and approvals processes be sped up without unduly compromising regulatory standards?

The current framework to engage on major projects are varied and ad hoc. The Council draws attention to the Fast41[28] process in the USA which has been successfully used to permit projects of comparable significance to those Australia is seeking to develop. It creates a single point of contact and improves predictability, accountability and transparency in the permitting process.

While legislative reform will take time, the incoming Government should, as an urgent priority set clear expectations of the Department in delivery of scheduled improvements within the current legislative framework. This should include publication of metrics on the Departmental website of performance. This must address reconsideration of past decisions, a key cause of delay with resourcing implications for both department and industry – this has international precedence aligned with Fast41 processes. This new process must establish clear coordination pathways with States to achieve faster approvals, including on how to undertake management plans during approvals rather than as post approvals. Ensuring outcome based, rather than prescriptive, conditioning which address materiality and risk to would help prevent duplication and achieve the intended outcomes for maters of national environmental significance.

Legislative reform is complex and needs to be done with a consistent bipartisan approach to achieve lasting and effective outcomes. To achieve this, a clearly articulated overarching plan is needed to enable reform to be undertaken where it can most effectively deliver improved outcomes through incremental change.

[27] https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-11/2024AnnualProgressReport.pdf

[28] https://www.south32.net/news-media/latest-news/hermosa-confirmed-as-the-first-fast-41-mining-project

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Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?

Fundamental reform of Australia's environmental processes is required and any approval differentiation should be developed in the construct of this overall reform process and for example also apply to Critical Minerals.

In Australia, bauxite, alumina and aluminium are not currently considered on the Federal Critical Minerals List but are included on some State lists, such as in Queensland. Aluminium is included as a Federal Strategic Material, but this listing lacks any other supporting policy framework. Australia's failure to address this is a lost opportunity in its policy setting framework. The Government should, as a priority, review the Critical Minerals strategy to address the changing geo strategic risks and align with global definitions and the needs of our strategic trading partners. Australia is now increasingly out of step with our peers. The new strategy should be stratified to address the different phases of critical mineral production in Australia. This would acknowledge the different policy measures including funding, reserves and any export restrictions on the different minerals. Bauxite, alumina and aluminium should be included as critical minerals noting their importance to not only the energy transition and sovereign capability but for defence, trade and geopolitical reasons.

Conclusion

The Council emphasises that it is critical that Australia finds a pathway where its world class energy resources are converted into internationally competitive, low emissions, reliable energy to ensure industrial production, emissions and jobs are not exported to other countries. Australia has the opportunity to shape its future, including its energy transition and industrial transformation, in a manner which is consistent with not only its net zero ambitions, but which maximises the social and economic potential of its resources, and maximises productivity. The Council is happy to provide further information on any of the issues raised in this submission.

Kind regards,

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