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17 February 2023

Dear Treasurer

***Re: Climate-related financial disclosure***

The Australian Aluminium Council (the Council) represents Australia's bauxite mining, alumina refining, aluminium smelting and downstream processing industries. The Australian aluminium industry has been operating in Australia since 1955, and over the decades has been a significant contributor to the Australian economy. Alongside many decades of economic contribution, the industry is globally comparatively young and well maintained. The industry includes six bauxite mines which collectively produce over 100 Mt per annum making Australia the world's largest producer of bauxite. The six alumina refineries produce around 20 Mt per annum of alumina and Australia is the world's largest exporter of alumina. There are four aluminium smelters; in addition to downstream processing including more than 20 extrusion presses and Australia is the seventh largest global producer of aluminium. Aluminium is Australia's largest manufacturing export. The industry directly employs more than 17,000 people, including 4,000 full time equivalent contractors. The industry also indirectly supports around 60,000 families in regional Australia.

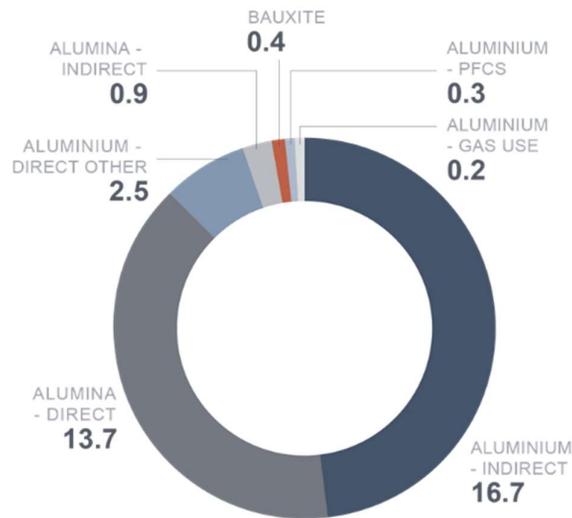
The Council welcomes the opportunity to provide feedback to the December 2022 consultation paper "Climate-related financial disclosure" (the Paper). Members of the Council may also have made submissions directly to this consultation, highlighting their specific situations. This Council submission should be considered alongside the direct input from our members.

The Council recognises Australia's target of by net zero by 2050 and 43% by 2030, as well as corporate ambitions over similar periods. The Council has considered how the climate-related financial disclosure options presented contribute towards meeting the continued global competitiveness of the Australian aluminium industry.

### **Aluminium Industry Context**

Aluminium is one of the commodities most widely used in the global transition to a clean energy future<sup>1</sup>. 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 is expected to nearly double. While an increasing proportion will be met through recycled aluminium, there will still be increased production of primary aluminium requiring a comparable increase in global bauxite mining and alumina refining rates.

In 2021, Scope 1 and 2 emissions from Australia’s integrated aluminium industry (bauxite, alumina, aluminium) were about 34 Mt CO<sub>2</sub>-e, which was 7% of Australia’s national emissions. (Figure 1). As such, the industry has a long history of reporting under the National Greenhouse and Energy Reporting (NGER) scheme, through the relevant liable entity. Corporations in this sector also have stated emission reduction targets and aspirations (see also Table 1). Of the Council’s members, South32 participated in the Corporate Emission Reporting Transparency Initiative (CERT) pilot in 2022, however, does not intend to participate further in 2023.



**Figure 1. 2021 Industry Emissions (Mt CO<sub>2</sub>-e)**

Additionally, most of the large bauxite mines, all six alumina refineries plus all four aluminium smelters are covered facilities under the Safeguard Mechanism. About 16.9 Mt CO<sub>2</sub>-e of this was Scope 1 emissions from Safeguard facilities, representing 12% of Safeguard emissions for the 2020/21 reporting year. Energy typically accounts for 30-40% of the industries cost base, and therefore energy efficiency is a key focus of for these processes.

### **Corporate Ambitions**

The major operators and joint venture participants in Australia’s aluminium industry have the common ambition of net zero by 2050, supported by interim goals (Table 1). However, when comparing these targets with performance within Australia or at a facility level, it is worth noting that corporate ambitions are set at levels that are in line with their policies and subject to their accounting and transparency rules. All of the Council’s members’ interim ambitions are for *both* Scope 1 and

<sup>1</sup> <https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action>

Scope 2, and the application of known technologies such as increasing renewable energy supply will be the major pathways for these to be achieved. In the case of the Council’s members:

- Corporate targets can be set on ownership, operational control or equity share basis which is different to Safeguard / National Greenhouse and Energy Reporting (NGER) data at the controlling corporation level.
- Corporate targets are frequently set at a multinational level to ensure those facilities in their international portfolio that provide the cost-effective and low-risk emission reductions are actioned first. Therefore, local facility targets may differ from corporate targets, and these may not align with Australian NGER data.
- Corporate and end-market requirements can be Scope 1, Scope 1 plus Scope 2, intensity based, or may include Scope 3. While these are accepted greenhouse gas emissions accounting procedures, they may not align with NGER data.
- Targets may be reported on calendar or financial years (and financial years vary by corporation) which may not align with NGER data
- Target setting relies on Government/regulator forecasts of substantial grid electricity decarbonisation by 2030; and additionally,
- Targets are generally set as long-term ambition supported by interim goals. This considers the temporal nature of targets (i.e., short, medium and long-term), and a non-annual approach to ensure businesses do not chase short-term and short-sighted annual reductions, but rather focus on long-term success.

**Table 1. Summary of Corporate Ambitions<sup>2</sup>**

<b>Company</b>	<b>Interim Goal (s)</b>	<b>Net Zero Ambition</b>
Alcoa	30% reduction in scope 1 & 2 emission intensity by 2025 50% reduction in scope 1 & 2 emissions emission intensity by 2030 from 2015 baseline	Net zero by 2050
Rio Tinto	15% reduction in scope 1 & 2 emissions by 2025 50% reduction in scope 1 & 2 emissions by 2030 From a 2018 baseline (equity basis)	Net zero by 2050
South32	50% reduction in operational carbon emissions (Scope 1 & 2) by 2035 from FY21 baseline	Net zero by 2050
Alumina Ltd <sup>3</sup>	45% reduction in scope 1 and 2 emissions by 2030 (from a 2010 baseline)	Net zero by 2050
Hydro <sup>4</sup>	Reduction of 30% by 2030	Net zero by 2050

Climate Related Disclosures

Many of the Council’s members already report under Global Reporting Initiative (GRI) and/or the Taskforce for Climate-Related Financial Disclosures (TCFD). For example, Australia’s aluminium industry has a long history of TCFD aligned disclosures (Table 2). Members are anticipating increased

<sup>2</sup>Sources: <https://www.riotinto.com/en/sustainability/climate-change>; <https://www.alcoa.com/global/en/stories/releases?id=2021/10/advancing-sustainably-alcoas-2050-net-zero-ambition>; [https://www.south32.net/docs/default-source/exchange-releases/2021-south32-sustainability-briefing.pdf?sfvrsn=d8a76a71\\_2](https://www.south32.net/docs/default-source/exchange-releases/2021-south32-sustainability-briefing.pdf?sfvrsn=d8a76a71_2); <https://www.hydro.com/en/media/news/2021/hydro-capital-markets-day-2021-sustainable-value-creation/>

<sup>3</sup> Alumina Ltd are a JV participant in Alcoa World Alumina and Chemicals, which operate two mines and three refineries in Western Australia and has equity in the Portland Aluminium Smelter.

<sup>4</sup> Hydro is a JV participant in Tomago Aluminium Company.

harmonisation of reporting standards as part of work by the International Sustainability Standards Board (ISSB), whose intention is to deliver a comprehensive global baseline of sustainability-related disclosure standards. As the Paper notes that other jurisdictions are contemplating or have introduced mandatory requirements for large businesses to disclose their climate-related risk, including those of relevance to other major producers across the aluminium sector. Any frameworks in Australia should align with future ISSB standards.

**Table 2. Summary of Climate Related Disclosures for Australian Listed Companies<sup>5</sup>**

Company	Disclosures
Rio Tinto	TCFD since 2017 Committed to aligning disclosures with Climate Action 100+ (CA100+) Net Zero Company Benchmark by 2023.
South32	TCFD since 2017
Alumina Ltd <sup>6</sup>	TCFD since 2019

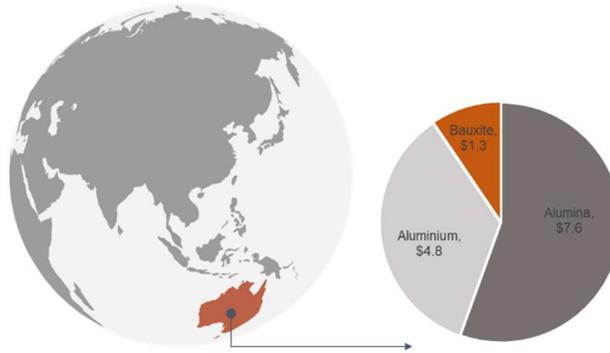
*Australia’s Competitiveness*

The Council believes there is an opportunity for Australia to capitalise on its own strategic advantage and maximise economic value. Today’s aluminium industry contributes around \$16.9B<sup>7</sup> a year to the economy in export value (Figure 2). More than \$15 B of this comes from the alumina and aluminium industries, as value adding mineral processing sectors. Australia is one of the very few countries which has bauxite mining, alumina refining, aluminium smelting and aluminium extrusion industries, making aluminium one of the few commodities in which the raw materials are mined and are processed all the way to a consumer product right here in Australia. Globally, there is a focus across industry to find solutions for the technology challenges required to decarbonise. There is an opportunity for Australia to lead the world in development and implementation of these technologies, capitalising on Australia’s national advantage providing jobs and value to the economy. A summary of the decarbonisation pathways, including initiatives in Australia is provided in Attachment 1.

<sup>5</sup>Sources: <https://www.alcoa.com/global/en/who-we-are/ethics-compliance/climate-change-policy>, <https://www.riotinto.com/-/media/content/documents/invest/reports/climate-change-reports/rt-climate-report-2021.pdf?rev=4fcdc6fe110f4744b3103decd268b083>, [https://www.south32.net/docs/default-source/all-financial-results/2022-annual-reporting-suite/sustainable-development-report-2022.pdf?sfvrsn=6c665c14\\_2](https://www.south32.net/docs/default-source/all-financial-results/2022-annual-reporting-suite/sustainable-development-report-2022.pdf?sfvrsn=6c665c14_2), <https://www.hydro.com/globalassets/06-investors/reports-and-presentations/annual-report/rdmar21/annual-report-2021-eng.pdf>, Alumina Ltd 2021 Sustainability Update.

<sup>6</sup> Alumina Ltd are a JV participant in Alcoa World Alumina and Chemicals, which operate two mines and three refineries in Western Australia and has equity in the Portland Aluminium Smelter.

<sup>7</sup> <https://www.industry.gov.au/sites/default/files/minisite/static/ba3c15bd-3747-4346-a328-6b5a43672abf/resources-and-energy-quarterly-september-2022/documents/Resources-and-Energy-Quarterly-September-2022-Aluminium.pdf>



**Figure 2. FY 2021-22 Industry Export Value (\$B)**

Aluminium use is highly correlated with GDP, so as countries urbanise, per capita use of aluminium increases. Aluminium is recognised for its importance to both economic development and low emissions transition. It is expected that, by 2050, global demand for aluminium is expected to nearly double. While an increasing proportion will be met through recycled aluminium, there will still be increased production of primary aluminium requiring a comparable increase in global bauxite mining and alumina refining rates.

It is worth noting that the global competitors for each part of the industry vary with commodity. For bauxite, this is principally Guinea, which is the world’s largest exporter, principally to China, including some captive bauxite mines, as well as Brazil, India, and Indonesia. Key competitors in alumina refining are China (>50% global production) and emerging economies such as Brazil, India, Saudi Arabia, Vietnam and Kazakhstan. Similarly, for aluminium smelting, China accounts for almost 60% of global production and the key countries for *growth* are India, United Arab Emirates, Bahrain, Saudi Arabia, and Malaysia.

Reforms to Australia’s climate-related financial disclosure should support efficient investment in companies and projects aligned with net zero emissions such as those in the aluminium industry, help Australian companies remain attractive in competitive global capital markets, reduce the reporting burden for companies operating in multiple jurisdictions and create a level playing field in the quality of reporting. The Council’s members prefer flexibility in the nature of ongoing disclosures such that they are meaningful in the context of operations. For example, quantitative but which rely on hypothetical assumptions can in fact be less meaningful than qualitative disclosures.

**Response to Key Consultation Questions**

The Council notes that these reforms apply at a corporate level, not an industry level. As each Member has different existing disclosure obligations, the Council will limit its comments on the Paper to a high level and selected questions. Members may also have made their own submissions, and these should be read in conjunction with this feedback. Additionally, the Council is a member of the Australian Industry Greenhouse Network which has made a more detailed submission on this process.

*Question 1: What are the costs and benefits of Australia aligning with international practice on climate-related financial risk disclosure (including mandatory reporting for certain entities)? In particular:*

- 1.1 *What are the costs and benefits of meeting existing climate reporting expectations?*
- 1.2 *What are the costs and benefits of Australia not aligning with international practice and in particular global baseline standards for climate reporting?*

The Council supports Australia aligning its climate-related financial risk disclosure with international practices. Many of the Council’s Members are multinationals which report in a manner aligned with

these practices such as the TCFD and GRI. Investor groups and shareholders will drive continuous improvement in reporting requirements. These practices are constantly evolving, and the Council cautions against overly prescriptive legislation which may require frequent revisions. Any move towards additional mandatory reporting over and above these international standards, should be biased only to meet a specifically identified gap, and at this stage the Council does not believe such a gap exists.

*Question 2: Should Australia adopt a phased approach to climate disclosure, with the first report for initially covered entities being financial year 2024-25?*

*2.1 What considerations should apply to determining the cohorts covered in subsequent phases of mandatory disclosure, and the timing of future phases?*

*Question 3: To which entities should mandatory climate disclosures apply initially?*

*3.1 What size thresholds would be appropriate to determine a large, listed entity and a large financial institution, respectively?*

*3.2 Are there any other types of entities (that is, apart from large, listed entities and financial institutions) that should be included in the initial phase?*

When establishing a climate related financial disclosure framework, the Government should recognise the long history of reporting which already exists amongst Australian and multinational entities. Depending on the framework, consideration will need to be given to how it applies to entities which are not Australian listed and what benefit to Australia. It is important to recognise that climate related financial disclosure frameworks should not be considered a proxy for progress against Australia's national emission reduction commitments.

The Council believes that when considering covered entities, consideration should be given to the degree of operational control companies have. Those which have investment in but do not operate assets (e.g., Joint Venture Partners) may not be able to obtain and compile sufficient data within 3 months of an annual report.

Similarly, even for large, listed companies to comply they may need to collect data from small/medium suppliers. Provision of consistent metrics for the purposes of data collection and aggregation across companies of all sizes will facilitate better data sharing.

Additionally, as noted in the consultation paper, the Council sees merit in following the example of NZ, the UK and EU, and focusing this initial reform on large businesses listed in Australia. This will allow for a smoother initial policy implementation, with less initial administrative burden. This would also allow for other relevant jurisdictions, like the US, to determine their approach and minimise reporting complexity for multinational companies.

*Question 4: Should Australia seek to align our climate reporting requirements with the global baseline envisaged by the International Sustainability Boards?*

*4.1 Are there particular considerations that should apply in the Australian context regarding the ISSB implementation of disclosures relating to: governance, strategy, risk management and/or metrics and targets?*

*4.2 Are the climate disclosure standards being issued by the ISSB the most appropriate for entities in Australia, or should alternative standards be considered?*

The Council welcomes the intent to align with the International Sustainability Boards (ISSB) and agrees that in order to avoid duplication alignment with international standards is the most practical option. Therefore, any deviations from the international standard should be underpinned by justification and consultation with stakeholders.

*Question 5: What are the key considerations that should inform the design of a new regulatory framework, in particular when setting overarching climate disclosure obligations (strategy, governance, risk management and targets)?*

There are already many instruments which exist in the reporting of financial risks. The Council believes that any additional framework for Australia should seek to align with these existing frameworks, rather than seeking to create any bespoke solutions for Australia.

*Question 6: Where should new climate reporting requirements be situated in relation to other periodic reporting requirements? For instance, should they continue to be included in an operating and financial review, or in an alternative separate report included as part of the annual report?*

Existing corporate reporting already includes consideration of climate related financial risk. There should be no separation into an additional report, but any requirements should be incorporated into existing reporting. Similarly, the operational control of covered entities should be considered in the degree of reporting required.

*Question 9: What considerations should apply to requirements to report emissions (Scope 1, 2 and 3) including use of any relevant Australian emissions reporting frameworks?*

The Council urges caution before attempting to add any additional emissions reporting requirements to existing NGRS requirements.

In Australia, Scope 3 reporting has been considered multiple times but has never been legislated due to complexities in boundaries, double counting and assurance of data.

*Question 13: Are there any specific capability or data challenges in the Australian context that should be considered when implementing new requirements?*

*13.1 How and by whom might any data gaps be addressed?*

*13.2 Are there any specific initiatives in comparable jurisdictions that may assist users and preparers of this information in addressing these challenges?*

There may be data gaps relating in particular to timing of data provision and different requirements across global jurisdictions (where controlling corporations may be based).

### **Conclusion**

Reforms to Australia's climate-related financial disclosure should support efficient investment in companies and projects aligned with net zero emissions such as those in the aluminium industry, help Australian companies remain attractive in competitive global capital markets, reduce the reporting burden for companies operating in multiple jurisdictions and create a level playing field in the quality of reporting.

The Council seeks a national climate and energy policy framework which is equitable, transparent, stable and predictable, while maintaining the economic health of the nation including vital import and export competing industries. The Council wishes to continue to work to achieve optimal outcomes for Australian industry, through 2030 and beyond.

Kind regards,



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## **Attachment 1 – Aluminium Industry Decarbonisation Pathways**

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<sup>8</sup> (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. It outlined not only actions the industry needs to take, but also actions required by Governments to support this. In particular, developing policy, which is predictable, stable and transparent to enable businesses to confidently plan for this substantial investment. Governments also have a vital role to play designing electricity markets to support the transition and minimising the risks of carbon leakage.

The Australian Renewable Energy Agency (ARENA), in consultation with Alcoa, Rio Tinto and South32 has published a Roadmap for Decarbonising Australian Alumina<sup>9</sup>. The Roadmap identifies four key themes for 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.

The Council has produced a series of five factsheets:

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
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 intends to update 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. The single biggest opportunity to decarbonise the energy intensive Australian vertically integrated aluminium industry is through the combination of electrification of existing processes and decarbonisation of the electricity supply.

Australia’s grid-connected mines, refineries and, particularly, smelters perform an enabling function in grid stabilisation which helps with increased penetration of variable renewable electricity. The carbon intensity of the Australian grid is declining rapidly<sup>10</sup>, with this increased penetration of variable renewables. Our industry also will have the opportunity, as part of contract renewal, to contract a substantial share of electricity supply from firmed renewable electricity from on-grid sources or behind the meter sources and members have signalled their intentions to do so<sup>11</sup>.

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<sup>8</sup> <https://missionpossiblepartnership.org/wp-content/uploads/2022/10/Making-1.5-Aligned-Aluminium-possible.pdf>

<sup>9</sup> <https://arena.gov.au/assets/2022/11/roadmap-for-decarbonising-australian-alumina-refining-report.pdf>

<sup>10</sup> <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/market-operations/settlements-and-payments/settlements/carbon-dioxide-equivalent-intensity-index>

<sup>11</sup> <https://www.riotinto.com/-/media/Content/Documents/Invest/Presentations/2021/RT-Investor-Seminar-2021-combined.pdf?rev=2e127f507f204ecc81e2d22527949560>

In 2021 the industry's indirect emissions associated with the consumption of grid purchased electricity are around 17.6 Mt CO<sub>2</sub>-e, of which 95% is from the production of primary aluminium). However, technologies which electrify the digestion process in alumina refineries could offset an additional 11 Mt CO<sub>2</sub>-e of the 13.7 Mt alumina Scope 1 emissions.

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 investment required to implement these changes will be substantial.

Providing electricity is supplied consistently, with firm power, and at internationally competitive prices, aluminium smelting can be run on renewable electricity. For aluminium smelters, more than 95% of Scope 1 emissions could be eliminated with conversion to inert anodes (eliminating direct anode consumption, energy used in carbon bakes plus perfluorocarbons). The technology for inert anodes is currently under development and will be more easily *assessed* in 5 years. Deployment of this technology is not anticipated to be readily available before 2030. Additionally, this would only be implemented in conjunction with long-term internationally competitive electricity contracts to underpin investment and available renewable electricity supply because they are more electricity-intensive (~10-15%). And even with competitive low emissions electricity, the investment would be substantial, and implementation would vary from smelter to smelter, or even potline to potline.

#### Electrification

Australia's alumina industry already has some of the lowest emissions in the world, with an average emissions intensity for alumina of 0.7 t CO<sub>2</sub>-e/t compared to the global industry average of 1.2 t CO<sub>2</sub>-e/t. Alumina refining is an energy intensive process, using about 10.5 GJ / t produced. Digestion and calcination are the two most energy intensive steps, with digestion consuming around two thirds of this energy. Currently, this energy is largely derived from gas and coal, as well as electricity. All of Australia's alumina refineries have some combined heat and power generation (cogeneration) facilities which use coal, gas, or biomass fuels. Cogeneration is an efficient way to produce process heat from the waste steam from electricity generation, resulting in the refineries using, and in some circumstances also exporting, low emissions electricity.

Around 150 PJ of energy, derived from gas or coal, is currently used in the digestion phase in alumina refineries to generate steam and electricity. This has the potential to be replaced by internationally competitive renewable electricity, subject to the successful development and commercialisation of refinery side technology (including Mechanical Vapour Recompression, thermal storage and Electric Boilers). This has the potential to require more than 4000 MW of electricity at a national level to replace the existing energy supply, on a like-for-like basis. This would transform both the National Electricity Market (NEM) and South West Interconnected System (SWIS) electricity markets.

However, this relies on, not only the development of commercial and technological solutions for electrification of alumina refineries, but also the development of sufficient competitively-priced low emissions generation and storage, and transmission capacity at scale to match. 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 infrastructure is delivered in the

manner and at the pace it has historically, this will become the rate limiting step in the transition<sup>12</sup>. For example, the SWIS may not have the generation nor transmission capacity to electrify one alumina refinery, let alone four. For example, Worsley Alumina<sup>13</sup> have confirmed that a substantial expansion and modification of the energy grid would be required to deliver renewable power at the necessary scale for industrial users in the region (SWIS). Therefore, decarbonisation of Worsley Alumina may be in two stages; firstly, conversion of the onsite boilers to natural gas and, only in the longer term, application of new technologies to support increased electrification and renewable energy for the refinery, which would require broader investment in shared energy infrastructure in the region.

It is the internationally competitive cost of zero carbon electricity at industrial scale to facilities, which will enable the greatest transformation of the sector. It is hoped that some 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 rate limiting step in the electrification process.

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<sup>12</sup> <https://www.worley.com/~media/Files/W/Worley-V3/documents/our-thinking/from-ambition-to-reality/from-ambition-to-reality-report.pdf>

<sup>13</sup> P73, <https://www.south32.net/docs/default-source/all-financial-results/2022-annual-reporting-suite/sustainable-development-report-2022.pdf>

**Table 3 Key Australian Aluminium Industry Initiatives**

<b>Activity</b>	<b>Link</b>
Electric Calcination Study	<a href="https://arena.gov.au/projects/alcoa-renewable-powered-electric-calcination-pilot/">https://arena.gov.au/projects/alcoa-renewable-powered-electric-calcination-pilot/</a>
Gladstone Renewable Request for Proposals	<a href="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/news/releases/2022/Rio-Tinto-calls-for-proposals-for-large-scale-wind-and-solar-power-in-Queensland</a>
Hydrogen Calcination Study	<a href="https://arena.gov.au/projects/rio-tinto-pacific-operations-hydrogen-program/">https://arena.gov.au/projects/rio-tinto-pacific-operations-hydrogen-program/</a>
Hydrogen Pilot Plant	<a href="https://www.riotinto.com/news/releases/2021/Rio-Tinto-and-Sumitomo-to-assess-hydrogen-pilot-plant-at-Gladstones-Yarwun-alumina-refinery">https://www.riotinto.com/news/releases/2021/Rio-Tinto-and-Sumitomo-to-assess-hydrogen-pilot-plant-at-Gladstones-Yarwun-alumina-refinery</a>
Mechanical Vapour Recompression Study	<a href="https://arena.gov.au/projects/mechanical-vapour-recompression-for-low-carbon-alumina-refining/">https://arena.gov.au/projects/mechanical-vapour-recompression-for-low-carbon-alumina-refining/</a>
Memorandum of Understanding between Tasmania and Rio Tinto	<a href="https://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0010/334558/TAS-RIO_TINTO_MOU_Feb_2022.pdf">https://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0010/334558/TAS-RIO_TINTO_MOU_Feb_2022.pdf</a>
Refinery of the Future	<a href="https://www.alcoa.com/global/en/stories/releases?id=2021/11/alcoa-to-design-an-alumina-refinery-of-the-future">https://www.alcoa.com/global/en/stories/releases?id=2021/11/alcoa-to-design-an-alumina-refinery-of-the-future</a>
Rio Tinto and GMG	<a href="https://graphenemg.com/gmg-riotinto-energysavings-battery/">https://graphenemg.com/gmg-riotinto-energysavings-battery/</a>
Spinifex Wind Farm (Portland)	<a href="https://arena.gov.au/news/offshore-wind-could-power-portland-aluminium-smelter/">https://arena.gov.au/news/offshore-wind-could-power-portland-aluminium-smelter/</a> <a href="https://www.spinifexoffshore.com.au/#/">https://www.spinifexoffshore.com.au/#/</a>
Tomago Aluminium Renewable Future	<a href="https://www.tomago.com.au/tomago-aluminium-future-renewable-energy-needs/">https://www.tomago.com.au/tomago-aluminium-future-renewable-energy-needs/</a>
Weipa Solar and Battery Capacity	<a href="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/news/releases/2021/Rio-Tinto-to-triple-Weipa-solar-capacity-and-add-battery-storage-to-help-power-operations</a>
Mission Possible Partnership	<a href="https://missionpossiblepartnership.org/wp-content/uploads/2022/10/Making-1.5-Aligned-Aluminium-possible.pdf">https://missionpossiblepartnership.org/wp-content/uploads/2022/10/Making-1.5-Aligned-Aluminium-possible.pdf</a>
HILT CRC	<a href="https://hiltcrc.com.au/">Heavy Industry Low-carbon Transition Cooperative Research Centre</a> <a href="https://hiltcrc.com.au/">https://hiltcrc.com.au/</a>
Affreightment Carbon Reduction	<a href="https://www.combinationcarriers.com/insights-and-news/2022/1/4/kcc-and-south32-conclude-first-sustainability-linked-contract-of-affreightment">https://www.combinationcarriers.com/insights-and-news/2022/1/4/kcc-and-south32-conclude-first-sustainability-linked-contract-of-affreightment</a>