

Green Aluminium Production Credit Design

<https://consult.industry.gov.au/green-aluminium-production-credit-design>

[info@aluminium.org.au](mailto:info@aluminium.org.au)

31 October 2025

Dear Minister

***Re: Green Aluminium Production Credit Consultation Paper***

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. The Department of Industry, Science and Resources (DISR) has recently forecast<sup>i</sup> that earnings for Australian exports of aluminium, alumina and bauxite are expected to rise from \$18 billion in 2025–26 to \$19 billion in 2026–27. 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 operating 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.

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

The Council welcomes the opportunity to provide further input into the design of the Green Aluminium Production Credit (GAPC) via the Consultation Paper (the Paper). The Council also notes that external conditions and the cost of the energy transition for Australia's aluminium and other manufacturing sectors have become more challenging since this policy was announced in January 2025<sup>iv</sup>. The GAPC is designed to provide transitional support as Australia's energy systems evolve and as pricing returns to competitive levels. However, as transitional support it is a bridge — and for some smelters what lies on the other side of that bridge is unclear. Bespoke solutions including the GAPC, but also aspects of other government support including recently announced Net Zero Fund<sup>v</sup> (under the National Reconstruction Fund) and policy changes to address the Carbon Leakage Review findings amongst others may be required. The Council and its Members would welcome the opportunity to continue a discussion on the optimum policy suite to secure each smelter with Government.

The Council would be happy to provide additional information on any issues raised in this submission.

Kind regards,



Marghanita Johnson  
Chief Executive Officer  
Australian Aluminium Council  
M +61 (0)466 224 636  
[marghanita.johnson@aluminium.org.au](mailto:marghanita.johnson@aluminium.org.au)

### **Feedback on Green Aluminium Production Credit Consultation Paper**

The Council has publicly recognised both the announcement of the GAPC<sup>vi</sup> and the consultation process<sup>vii</sup>. The Council notes that both it and its Members directly have undertaken wide ranging direct engagement with the Department on the GAPC and appreciates the collaborative consultation process undertaken to date. The Council and its Members will continue to engage directly, as well as via this consultation on the Paper. The Council also notes that its Members are likely to make submissions directly to this process and that these should be read in conjunction with this submission. The Council's submission is focussed on responding to specific aspects of the design settings as outlined in the Paper, noting the greater context surrounding the industry.

The Council also notes that consultation on the development of the Aluminium Product Guarantee of Origin certificate (PGO) and methodology is ongoing. The Council's primary concerns on this relate to balancing the flexibility needed in creating a PGO (including the use of Renewable Electricity Guarantee of Origin certificates [REGOs]) which meet the range of possible lower carbon options, with the expected cost burden associated with these schemes, particularly completing a full life cycle analysis on each batch. The Council also notes that a primary user of PGOs is likely to be the Government through the Future Made in Australia (FMIA) Green Metals program, but that the needs of this program are not yet defined. In order for the Guarantee of Origin scheme to meet its key objective of supporting the development of markets and international trade of low emissions products and renewable electricity, the Aluminium PGO will need to meet the needs of multiple stakeholders, including international alignment, and not be cost prohibitive (particularly with respect to scheduled audits). It is also worth noting that, once an Alumina PGO is also created, there will be compliance costs associated with this which will be baked into the Aluminium PGO cost (as a life cycle approach); in addition to the cost associated with the REGO. The Council also notes the need for ongoing alignment with the GHG Protocol Scope 2 reporting requirements, noting that these are currently under ongoing further refinements<sup>viii</sup>. This is particularly important as aluminium is a globally traded commodity and also largely produced by companies operating in multiple jurisdictions, which need consistency in reporting. This may require further consideration as outlined in response to Section 4.6.

#### **4.1 Who is Eligible**

The current formulation lacks clarity on the connection between eligible entities, eligible facilities and eligible tonnes of production. There has been detailed work thinking through these connections as part of the development of National Greenhouse Emissions Reporting Scheme (NGERS), the Safeguard Mechanism and exemptions that are available under legislation such as the Renewable Energy (Electricity) Act. The Council suggests that reference to these approaches will deliver the necessary clarity to confirm eligibility. This may include collaboration between DISR and the Department of Climate Change, Energy, Environment and Water (DCCEEW) to where practicable align definitions across schemes, particularly with NGERS.

Given the relatively small number of eligible facilities (four smelters) consideration will be required of the unique nature of each facility.

#### **4.2 Eligibility criteria**

##### **1. *What should be considered as 'new' or 'significant' carbon emissions reduction?***

The Council believes new actions should be broadly defined as those undertaken after 20 January 2025, but which commence before 31 December 2035. There may be examples where actions have commenced prior to 20 January 2025 as part of a broader exercise in smelter repowering that will be complete after 20 January 2025, as is the case with Boyne Smelter which commenced assembling their post 2029 energy solution with signing up to 2.2 GW of renewables in 2024, these actions should be considered to be part of the new action post 20 January 2025. Again, this is an example of that consideration will need to be given to the unique nature of arrangements for each facility as long as it demonstrates additional action beyond business as usual.

Significance could be the sum of multiple actions, and the level of reduction will depend on each smelter's current emissions level and range of available options in that jurisdiction and noting current contractual terms. As there are only four smelters, flexibility will be required to apply the term "significant," so the Council believes "supplementary" is a better measure.

2. *What types of evidence can aluminium smelters provide to demonstrate they meet the eligibility criteria?*

The evidence that a facility has undertaken new or significant carbon emissions reduction will vary across the facilities, as each is unique in nature but could include any or a combination of:

- A reduction (or projected reduction) in scope 2 emissions as reported under NGERS;
- A new electricity contract which is linked<sup>ix</sup> to low carbon sources or sources that produces REGOs;
- Additional investment in behind the meter electricity generation; and /or
- Other incremental projects such as energy efficiency in bakehouses etc which may cumulatively be able to demonstrate significant reduction.

It should be noted that all four aluminium smelters in Australia are directly connected to the NEM and as such are subject to grid emissions factors. The surrendering of any certificates to the extent required to notionally reduce smelter emissions would need to be considered as demonstrative of significant carbon emission reductions when bundled with electricity contracting.

**4.3 What is eligible production?**

The Council notes that one of the key principles for the definition of “green aluminium” is to not disadvantage the Australian aluminium industry relative to its overseas counterparts. In designing the threshold for eligible production, it is worth considering the compliance cost which will be associated with accessing the GAPC. Smelters already undertake reporting via the NGERS may be audited prior to submission. This is in addition to other audited data submission, such as for the Safeguard Mechanism. The additional verification and auditing costs associated with an aluminium PGO would not be insignificant, which is acceptable if the scheme is voluntary, but not if it becomes mandatory in order to access the GAPC. If this is to be the case, then this compliance cost should at least be included as eligible expenditure under the Scheme (see Section 4.6).

3. *Should the definition of green aluminium include mention of other criteria or qualities?*

The definition of “green aluminium” as per the GAPC should focus solely on meeting a reduction in the level of carbon in the production of aluminium. While many other metrics are important, these are covered by other certification schemes which the industry is party to, such as the Aluminium Stewardship Initiative (ASI) which focuses on a broad range of environmental, social and governance attributes.

4. *Should the definition of green aluminium include scope 3 emissions?*

No, the definition of “green aluminium” for the purposes of GAPC should not include Scope 3 emissions. The Council believes that the focus of the GAPC policy design should be the Scope 2 emissions, recognising that material changes in smelter Scope 1 emissions relies on technology that is currently in R&D and is yet to be industrialised. However, the Council notes again that as there are only four smelters, optionality to demonstrate Scope 1 and 2 emissions reductions should be considered on a case by case basis.

The Council notes that, definitions of green aluminium from a life cycle approach, including the International Aluminium Institute (IAI) and ASI also include other emissions, principally embodied alumina. However, in the context of what the GAPC is trying to achieve which is to “speed up and encourage deep decarbonisation of Australia’s aluminium industry” that the inclusion of additional emissions beyond the direct control of the smelter, including embodied alumina, does not delivery against the goal of the GAPC, but add complexity and compliance costs to the smelters, which is counterproductive.

5. *Could aluminium smelters feasibly measure and influence scope 3 emissions?*

The controlling corporations for all smelters will be required to report Scope 3 emissions under mandatory climate-related financial disclosures, in addition to existing voluntary reporting which most entities undertake. However, this reporting is at an entity, not facility level. Not only would adding Scope 3 emissions to GAPC therefore be inefficient, the measurement estimation methodology and level accuracy is not aligned with the GAPC or the potential batch nature of “green aluminium”. Additional feedback has been provided on this via the Council’s submission on PGOs<sup>x</sup>.

### 4.3.2 Proposed emissions threshold

6. Is the proposed threshold achievable for Australia's aluminium smelters, between the 2028–29 and 2043–44 fiscal years?

Threshold range proposed in the Paper is 4-8 tCO<sub>2</sub>-e/t Al. 4 tCO<sub>2</sub>-e/t Al is generally regarded by the industry as the lowest achievable emissions for production at commercial scale<sup>xi</sup>. However, the “cradle to gate” emissions as defined by the IAI<sup>xii</sup> (Table 1) operates under different boundaries to Australian reporting schemes such as NGERS, where casting and anode production are included in facility boundaries. The most significant inclusion in the “cradle to gate” method outside of smelting is emissions associated with embodied alumina and Scope 3 electricity emissions.

**Table 1. 2023 IAI tonnes of CO<sub>2</sub>e per tonne of primary aluminium**

	Electricity- Indirect	Perfluorocarbon (PFC) - Direct	Process (CO <sub>2</sub> )- Direct	Ancillary Materials- Indirect	Thermal Energy- Direct/Indirect	Transport- Indirect	Total- Cradle to Gate
<b>Mining</b>	0.02	-	-	-	0.05	-	0.07
<b>Refining</b>	0.2	-	-	0.4	1.5	0.3	2.4
<b>Anode</b>	0.05	-	0.1	0.8	0.1	-	1
<b>Production</b>							
<b>Electrolysis</b>	8.6	0.8	1.5	0.1	-	0.2	11.2
<b>Casting</b>	0.08	-	-	-	0.1	-	0.1
<b>Primary Aluminium</b>	8.9	0.8	1.6	1.2	1.7	0.5	14.8

It is important to distinguish between Life Cycle Inventory data (IAI) and facility Scope 1 and 2 data (NGER). Trying to convert data from one system to the other for comparison is not correct as there are still Scope 3 data mixed with Scope 1 and 2 data. If the intent of the GAPC is to be solely Scope 1 and 2 data, the best comparisons are with FastMarkets (Low-carbon aluminium market trends<sup>xiii</sup>) or Platts (Platts Low-Carbon & Zero-Carbon Aluminum Price Assessment<sup>xiv</sup>) which have definitions for low carbon aluminium at 4.0 on a Scope 1 and 2 basis.

The Council publishes industry level data across mining, refining and smelting assets in a manner which is consistent with IAI, but using Australian aligned boundaries<sup>xv</sup>. The current average emissions intensity for Australian smelting (including emissions associated with purchased electricity but excluding embodied alumina) is 11.18 tCO<sub>2</sub>-e/t Al (location based). Of this, the emissions associated with purchased electricity represent 9.28 tCO<sub>2</sub>-e/t Al (location based) and the single largest opportunity for reduction. The 11.18 tCO<sub>2</sub>-e/t Al in Australia is most directly comparable to 11.23 tCO<sub>2</sub>-e/t Al reported by the IAI (anode, electrolysis and casting excluding scope 3 ancillary materials and transport).

Given the Aluminium PGO methodology is still under development and the Alumina PGO methodology has not yet commenced development, it is premature to try to directly compare the methodology to be prescribed by the Government with the thresholds of 4-8 tCO<sub>2</sub>-e/t Al and a declining trajectory may be more appropriate as used for ASI. Noting that ASI currently have exemption criteria for this requirement given the structural challenges currently facing many smelters<sup>xvi</sup>.

The Council therefore proposes that it is more appropriate for Australia to set its own threshold under the GAPC, which reflects the potential for reduction in scope 2 emissions associated with electricity consumption (9.3 tCO<sub>2</sub>-e/t Al (location based) compared to global average 8.7 tCO<sub>2</sub>-e/t Al) at aluminium smelters. Changes in emissions associated with electricity are the largest single source of opportunity. The threshold should not include emissions associated with embodied alumina or any other Scope 3 emissions.

Rather than applying a specific threshold the Council believes smelters should have to demonstrate:

- Their actions would represent a material reduction compared to current performance; and
- Could be applied at smelters on a batch basis, where there is insufficient renewable electricity available in the period 2028–29 to 2043–44 to commercially or contractually supply the whole volume.

This would most simply, and at least cost, enable Australia's smelters to achieve the goals of the GAPC.

The Council recognises that each smelter, including Bell Bay Aluminium, are unique in their emissions profiled and believes all four smelters should qualify for the GAPC recognising the significant cost of reducing emissions further to meet a Green Aluminium classification. The Council notes that Bell Bays Aluminium's electricity contract expires on 31 December 2025. Again, considering there are only four smelters, consideration of the situation facing each is required, in the case of Bell Bay including payment from 2026.

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. It is important that smelters are considered equitably, even if they will be eligible later in the time period, such as Portland Aluminium which is currently contracted until mid-2035, providing limited near term optionality.

*7. If scope 3 emissions were included in the definition of green aluminium, what would the impact be on green aluminium emissions intensity?*

As discussed, Scope 3 emissions should not be included as they are not directly relevant to the goals of the GAPC, risk being duplicative (scope 3 emissions by definition are the scope 1 emissions of another facility); have different emissions estimation thresholds and may not be in the direct control of a facility so much as an entity.

*8. What would the advantages and disadvantages of producing aluminium with different emissions intensities be for industry, our export partners and consumers?*

Setting a GAPC threshold on a different basis to international benchmarks, by only focussing on a subset of emissions does not impede a smelter undertaking additional voluntary verification against a range of other standards including but not limited to the Aluminium PGO or ASI schemes, should that be beneficial in its trading. However, it would minimise the compliance cost with the GAPC itself.

#### **4.4 Payment terms**

The consultation advises that Green Al produced from 1 July 2028 won't see any payments until 1 July 2029 - this is a 12 month lag between significant costs may be incurred and when payment is received. As there are only 4 (potentially) eligible facilities, it does not seem like the administration of such a program is onerous on the DISR and as such the Council questions the reason for the 12 month lag

#### **4.5 Credit rate structure**

*9. Please provide feedback on the proposed credit rate range and the level of incentive this provides to drive deep decarbonisation?*

Member companies have highlighted a number of issues with the current formulation of the cost gap calculation. While the Council is unable to comment on the specifics of current and future electricity arrangements for Members, it is critical that the cost gap formulation addresses that gap between the cost of internationally competitive renewable energy and the current cost of contracting for renewable energy at the scale required by an aluminium smelter.

The Council also supports an approach which also recognises that Commonwealth funding is provided in conjunction with an agreed basis for support from State Governments, and where this has been agreed between the Commonwealth and a State government in respect of an eligible facility to support decarbonisation activity or otherwise, that the funding can be based on the relevant Commonwealth: State framework that has been agreed.

The Council notes that this this is grant funding it is then taxable, which then reduces the effective rate received by smelters. This should be taken into account when considering the structure of the scheme.

#### **4.6 Eligible expenditure**

*10. Do the proposed eligible expenditure categories align to the intent of bridging part of the cost gap to produce green aluminium?*

As articulated throughout this submission, the Council is concerned that the cost of compliance with the acquisition of REGOs (over and above electricity itself) and compliance with an Aluminium PGO may not be insubstantial, when compared to the GAPC. The Council has highlighted how, for example, the emissions component could be simplified in line with other audited reporting under NGERs (particularly by focusing on scope 2 emissions). The Council

believes further consideration of this is required in scheme design, and if some of the suggestions of simplification are not adopted then the cost of compliance with GAPC itself, including PGO and auditing costs, should be included as eligible expenditure.

*11. Is there a need to consider changing the frequency of payments?*

The Council believes quarterly or monthly payments would effectively link to electricity cost payments and production reconciliations; and should be considered to link production and credit.

**4.7 Administrative arrangements**

*12. Please provide any feedback on the proposed administrative approach.*

*13. The proposed Guarantee of Origin scheme will be used to support the registration and verification of the aluminium production. Are there any additional factors that would need to be accounted for in the proposed design of that scheme?*

As discussed in the response to Q6 the Council is concerned that there seems to be some blurring of boundaries in the GAPC threshold, which is particularly challenging as the Aluminium PGO is still under development and the Alumina PGO has not yet commenced development. The Council has provided direct input into the development of the Aluminium PGO, which also noted that the need to balance flexibility needed in creating a PGO (including the use of REGOs) which meet the range of possible lower carbon options, with the expected audit burden associated with these schemes, particularly completing a full life cycle analysis on each batch. The Council has suggested a range of ways in which the PGO should be simplified but it is not clear which of these will be adopted.

**4.8 Community benefit principles (CBP)**

The Council notes that CBP is a requirement of the GAPC under the National Interest Framework of the Future Made in Australia plan. As such the Council notes that under the GAPC, applicants will be expected to demonstrate how benefits from any GAPC funding they receive will be shared with the local community via a Community Benefits Sharing Plan, with guidance forthcoming following consultation later in 2025.

While the industry provides jobs which pay well above the national manufacturing average and contribute substantially to local communities, if the value of the GAPC is shared more broadly within the community in addition to:

- Having high direct compliance costs;
- Being taxable grant income;
- The acquisition of REGOs (over and above electricity itself); and

Then the total cost of compliance may not be insubstantial when compared to the GAPC itself.

**5.2 Guarantee of Origin scheme**

The Council notes that the Paper currently indicates that “the aluminium PGO schemes are expected to end in 2026” which it is interpreting as a mistake and not commenting on.

## References

---

- <sup>i</sup> <https://www.industry.gov.au/sites/default/files/2025-06/resources-and-energy-quarterly-june-2025.pdf>
- <sup>ii</sup> <https://www.worldbank.org/en/topic/extractiveindustries/brief/climate-smart-mining-minerals-for-climate-action>
- <sup>iii</sup> International Aluminium Institute High Substitution Scenario
- <sup>iv</sup> <https://aluminium.org.au/wp-content/uploads/2025/10/251024-Securing-a-Level-Playing-Field.pdf>
- <sup>v</sup> <https://aluminium.org.au/wp-content/uploads/2025/10/251015-Aluminium-NZF-Submission-1.pdf>
- <sup>vi</sup> <https://aluminium.org.au/wp-content/uploads/2025/01/250120-Australian-Aluminium-Council-Green-Metals-Response.pdf>
- <sup>vii</sup> <https://aluminium.org.au/wp-content/uploads/2025/10/251016-Aluminium-Production-Credit-Moves-Forward.pdf>
- <sup>viii</sup> <https://ghgprotocol.org/standards-development-and-governance-repository> includes a repository of the evolution of the GHG protocol, including most recent Scope 2 discussions held in June 2025. <https://ghgprotocol.org/sites/default/files/2025-07/S2-Meeting16-Minutes-20250625.pdf> The protocol is currently undergoing public consultation - <https://ghgprotocol.org/ghg-protocol-public-consultations>
- <sup>ix</sup> This could include specification of renewable content within a new contract, rather than the default position of using a state based location factor.
- <sup>x</sup> <https://aluminium.org.au/wp-content/uploads/2025/08/250801-Aluminium-FMIA-GO-Rules-Tranche-2-1.pdf>
- <sup>xi</sup> <https://international-aluminium.org/landing/low-carbon-aluminium-factsheet/>
- <sup>xii</sup> <https://international-aluminium.org/statistics/greenhouse-gas-emissions-primary-aluminium>
- <sup>xiii</sup> <https://www.fastmarkets.com/insights/key-topics/low-carbon-aluminium-production/>
- <sup>xiv</sup> <https://www.spglobal.com/commodity-insights/en/pricing-benchmarks/assessments/metals/low-carbon-and-zero-carbon-aluminum-price-explained#what-are-low-carbon-and-zero-carbon-aluminum-price-assessments>
- <sup>xv</sup> <https://aluminium.org.au/sustainability-main/sustainability/>
- <sup>xvi</sup> [GHG Emissions Reduction: ASI introduces flexibility to assurance framework; publishes Conformance tool | Newsfeed | Aluminium Stewardship Initiative](#)