

Australian Government
Department of Climate Change, Energy, the Environment and Water

Submission via the Department's Consultation Hub

1 August 2023

Re: Hydrogen Headstart program Consultation

Rio Tinto welcomes the opportunity to make a submission to the Department of Climate Change, Energy, the Environment and Water ("the Department") regarding the design of the \$2 billion Hydrogen Headstart program.

Rio Tinto acknowledges that we have an important role to play in the energy transition. We have committed to decarbonising our assets, particularly reducing our Scope 1&2 emissions to net zero by 2050. In 2022, Rio Tinto's emissions were 30.3 million tonnes CO_{2e} of which around 60% were generated by our Australian assets, primarily our energy intensive Alumina and Aluminium assets in Eastern Australia.

The successful reduction of emissions in our Australian assets in large part relies on the availability of large-scale renewable energy, including green hydrogen. Without access to firm renewable power, it is challenging to justify significant long-term capital investments in energy-intensive Australian manufacturing facilities with low profit margins.

In July 2023, in partnership with the Australian Renewable Energy Agency (ARENA), Rio Tinto and Sumitomo agreed to build a hydrogen plant and retrofit process equipment at our Yarwun, Alumina refinery in Gladstone to demonstrate the viability of using hydrogen in the calcination process phase of Alumina production.

Gladstone has been positioned as a Green Hydrogen Hub by the Australian Government and a number of large-scale hydrogen facilities for domestic consumption and export are proposed. If hydrogen calcination technology is successful, then Rio Tinto's Gladstone alumina refineries have the potential to be large-scale domestic customers supporting development of a green hydrogen industry. The technical and commercial lessons from these trials could also lead to implementation of hydrogen calcination across the alumina industry globally.

To decarbonise the calcination process stage in the refineries with green hydrogen, we rely on the continued support from the Federal Government to develop external infrastructure and markets near domestic industrial users. It will be important to continue to prioritise the Gladstone region as a hydrogen hub and provide associated Federal Government funding to develop green hydrogen projects here to ensure cost-competitive green energy for our alumina refineries and the broader industry. It is likely that separate funding for common user infrastructure (i.e. hydrogen storage and transmission pipelines) will be necessary for industry to take up the opportunity of decarbonising industrial processes with hydrogen.

The Hydrogen Headstart program is a positive step, however, program funding will likely need to be increased by an order of magnitude and be quarantined to future-facing domestic industrial production to support rapid decarbonisation. And, while the focus on positioning Australia as a hydrogen exporter is understood, it is important to recognise hydrogen is most effectively used where it is produced.

We encourage the position noted for funding to be awarded based on merit criteria recognising the scale of the carbon abatement, density of domestic offtakers in a region and suggest that consideration of available projects with secondary benefits of using hydrogen (steam raising) could be considered.

Further, consideration ought to be put towards the methodology through which the gap between commercial pricing and production cost be measured at the level of individual offtake or customers. The methodology should seek to identify and define the competitiveness threshold at the industry level and priority industries for allocation of the subsidy and prevent excessive subsidisation of low value consumption of hydrogen or subsidy in excess of the differential between the cost of hydrogen production and the next best alternative fuel (inclusive of carbon costs) for any particular customer. It is likely that this will require thorough understanding of delivered, efficiency adjusted fuel and carbon costs at industry level by the administering agency and for an assessment to be made at the level of each production tax credit contract of the necessity and sufficiency of the subsidy.

We encourage the Department to consider opportunities to accelerate the development of these projects. The proposed consultation timeline which provides first funding in 2026/27 needs to be considered in light of the offtake projects in progress, which require certainty of supply alongside Australia's emissions reductions targets.

We thank the Department for the opportunity to engage on the design of this program which we view as a further positive step forward to supporting Australia's energy transition whilst maintaining competitive manufacturing industries. We look forward to continuing to work together with government and energy suppliers to create a competitive, renewable energy system for Australia.

We would welcome the opportunity to discuss this submission with you further. In the interim, if you have any questions, please contact Rachel Storrs (Rachel.storrs@riotinto.com).

Yours sincerely



Jonathon McCarthy
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