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Australian Government
Department of Agriculture, Fisheries and Forestry

Submission via the online submission portal

7 November 2025

RE: National Bioenergy Feedstock Strategy

Rio Tinto welcomes the opportunity to make a submission to the Department of Agriculture, Fisheries and Forestry (the **Department**) in relation to its National Bioenergy Feedstock Strategy discussion paper.

Rio Tinto acknowledges that we have an important role to play in driving forward the energy transition. In 2024, our scope 1 and 2 emissions were 30.7 million tonnes CO_2e of which around 64% were generated by our Australian assets. We have committed to decarbonising our assets by reducing our scope 1 and 2 emissions by 50% by 2030 and to net zero by 2050, and we are making significant investments by 2030 towards delivery of our decarbonisation strategy.

In the long term, we expect that electrification of our mobile assets, alongside the transition of energy systems to firmed, renewable electricity, will be the major decarbonisation pathway to support achievement of our emissions reduction targets. Our roadmap includes a significant increase in electricity demand to support electrification but in some cases access to this electricity will be challenged due to low technology maturity, infrastructure costs, and land access and approval challenges. Further, we do not expect electrification to be technically feasible or financially viable for all of our Australian operations or for all classes of diesel consuming equipment. Energy from biogenic sources is seen as an important component of our decarbonisation strategy and will contribute to meeting our decarbonisation targets. Our progress to date includes trialling a range of options in Australia including replacing fossil diesel with renewable diesel at our iron ore assets in the Pilbara, and trialling the use of bio-pellets at our Yarwun alumina refinery to displace coal. We are also progressing a Pongamia seed farm development in Queensland to help stimulate supply of low carbon liquid fuels in Australia, subject to confirming its technical and economic viability.

We encourage the Government to develop clear guidelines to define the sustainability of biofuels in Australia, and prioritise development and investment in novel feedstocks and related technologies accordingly, to promote a sustainable, scalable industry in the long term. Lifecycle emissions and other sustainability-related impacts vary significantly depending on feedstock type and land use considerations, processing-related emissions and waste, transportation, and co-benefit opportunities. Establishing sustainability parameters now, including consideration of carbon intensity limits that reduce over time, would provide policy certainty, promote R&D and investment into alternative feedstock projects, promote best practice, and maximise emissions reduction in the long-term. Recognition under the Australian Carbon Credit Unit (ACCU) Scheme should also be progressed, to incentivise feedstock projects that meet defined thresholds for carbon sequestration and co-benefits.

In addition to near-term emissions reductions opportunities, developing a domestic bioenergy industry has broader benefits including potential for regional jobs, economic development for communities and traditional owners, and supporting Australia's fuel security. We support the development of a National Bioenergy

Feedstock Strategy as an important foundational step and have provided feedback to the discussion paper questions in the Appendix to this letter.

We thank the Department for the opportunity to engage on the development of National Bioenergy Feedstock Strategy. We would welcome the opportunity to discuss this submission with you further. Please contact Sarah Dearmun (Sarah.Dearmun@riotinto.com) with any questions.

Yours sincerely,

Stefan Kwiatkowski
Acting Chief Decarbonisation Officer

APPENDIX

What are the main barriers—commercial, logistical, regulatory, or environmental—to developing reliable and sustainable feedstock supply chains for domestic bioenergy production?

Australia faces a significant gap in domestic renewable fuels production, with no established supply chain and a heavy reliance on imported fuels, primarily from Asia. This dependence exposes the nation to supply chain disruptions, price volatility, ESG-related risks, and lost economic opportunities. The demand for low carbon liquid fuels is forecast to rise sharply, driven by carbon pricing mechanisms, emissions liabilities, net zero commitments, and the expected limitations of electrification in remote and heavy-duty applications.

Widespread adoption of low carbon fuels depends on development of a liquid market of sustainable feedstock meeting environmental, social and governance (ESG) objectives at an economic price point. However, the current renewable fuels market in Australia is nascent and fragmented, with limited domestic production and no established pricing mechanisms. Rio Tinto faces a significant challenge in securing reliable volumes of renewable fuels at a commercially viable price, with current market data indicating that renewable diesel carries a material price premium, representing a financial burden that is clearly unsustainable without structural market reform and targeted investment.

Beyond price, ESG considerations create further challenges to procurement decisions. The lack of transparency in global supply chains introduces certificate of origin risk, where low carbon liquid fuels may be sourced from feedstocks with questionable sustainability credentials, undermining corporate decarbonisation claims and introducing reputational and compliance risks. Additionally, the use of food-based feedstocks in some supply chains raises food substitution concerns. These risks are incompatible with Rio Tinto's ESG commitments and stakeholder expectations.

A key barrier to developing a reliable and sustainable feedstock supply chain is the lack of downstream refining capacity for low carbon liquid fuels in Australia. In turn, reliable supply of feedstock is needed to promote investment in refining capacity. A multi-pronged approach that supports development of feedstocks options including related infrastructure, incentivises investment by producers in refining capacity, and supports the development of a competitively priced product for consumers is required. The need to stimulate the low carbon liquid fuel industry in Australia is well known with increasing investments and funding packages recently announced, including the recent announcement of a A$1.1 billion Cleaner Fuels Fund.

More broadly, barriers to the development of a sustainable biofuels supply chain include a lack of incentives for producers, regulatory uncertainty discouraging investment in domestic production, unattractive business cases for sustainable biogenic feedstock projects, and limitations in the ability to account for emissions reductions from switching to biofuels.

Expanding market-based reporting of scope 1 emissions would promote investment and uptake. To overcome geographical constraints to marketing biofuels (and minimise emissions from transporting biofuels to site) we encourage the Commonwealth to consider a model for enabling the renewable energy attributes of biofuels to be traded and reported under the scope 1 market-based approach in NGER. Rio Tinto supports efforts by the Department of Climate Change, Energy, the Environment and Water to better enable the reporting of scope 1 emissions from the combustion of co-processed fuels in the NGER scheme.

What opportunities exist to improve feedstock supply chain efficiency and reduce costs?

Rio Tinto recognises the need to stimulate a domestic low carbon liquid fuel industry to improve availability and reduce costs and has invested in a pilot project exploring Pongamia (a native tree seed) as a sustainable feedstock for renewable diesel. We acquired 2,250 hectares of cleared land near Townsville in north Queensland to establish farms to study growth conditions and measure seed oil yields. Planting is currently in progress with 100,000 saplings recently planted.

Is sufficient feedstock data available to support the development of the strategy and inform investment in new bioenergy industries?

No. Project proponents face significant time and R&D cost to compile data. A collaborative effort is required to map alternative feedstock options to then enable future prioritisation.

In the case of Rio Tinto's Pongamia farm in Queensland, the pilot project was established with an R&D focus to improve the quality of available data, with the learnings generated aiming to develop a pathway for commercialisation of Pongamia as a low carbon liquid fuel feedstock. The trees will take approximately 5 years from planting to mature (10 years for full maturity) and produce seeds to then refine into renewable diesel, which produces challenges from an investment perspective.

Which feedstocks, or mix of feedstocks, should be prioritised for immediate deployment, and which require further research and development across the short, medium, and long term?

Australia's existing canola crop presents an attractive, available feedstock for Australia's developing low carbon liquid fuel industry. However to build a pipeline of feedstocks to meet future demand and sustainability requirements, we encourage the Department to take action now to support next generation feedstock projects like Pongamia and to consider a mechanism to prioritise feedstocks, including for R&D effort, based on carbon abatement potential.

Based on Rio Tinto's current studies into potential biofuels use in its operations, we also encourage early investment in aggregation and densification to support the collection and upgrading of low-value residues (like straw, bagasse, and forestry offcuts) into higher-value, tradable commodities like pellets and briquettes. This builds the necessary infrastructure and optionality to supply future refineries and other end uses, and minimise land use change

How can government and industry support the utilisation of a diverse range of feedstocks, including resources like residues, woody biomass and other novel feedstocks?

Government measures to increase the supply of sustainable biogenic feedstocks and provide policy certainty around use of and recognition of biofuels are instrumental in supporting the investment decisions required along the value chain and to developing a liquid biofuels market. Incentives could include support for R&D and pilot programs, and incentives for landowners to develop advanced biofuel feedstock crops in suitable areas.

We acknowledge recent policy support for biofuels as part of the Future Made in Australia plan (including the Innovation Fund), Guarantee of Origin Scheme, Cleaner Fuels Fund, and NGERS updates, but note that there is currently a gap in funding support available to sustainable feedstock projects relative to that available for other alternative fuel projects.

Supporting the economics of developing feedstock projects by creating pathways for these to be recognised under the ACCU Scheme could incentivise growth. This could serve the dual purpose of supporting development of Australia's LCLF industry, while expanding ACCU supply to help meet expected demand from facilities under the Safeguard Mechanism as structural decarbonisation solutions are developed and implemented.

What actions should government and industry take to ensure social licence and sustainability concerns are appropriately addressed?

We encourage the Government to develop clear guidelines to define the sustainability of all forms of bioenergy in Australia. Lifecycle emissions and other sustainability-related impacts vary significantly depending on feedstock type and land use considerations, processing-related emissions and waste, transportation, and co-benefit opportunities. The National Bioenergy Feedstock Strategy should incorporate traditional owner and community engagement to plan for the creation of opportunities for remote and regional communities.