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Energy Security Board  
Email submission to:  
info@esb.org.au

19 October 2020

Dear Sir/Madam,

**Re: P2025 Market Design Consultation Paper**

Rio Tinto welcomes the opportunity to make a submission to the Energy Security Board (“the ESB”) on the P2025 Market Design Consultation Paper (the “Consultation Paper”). This paper outlines the ESB’s considerations in contemplating future long-term, fit-for-purpose changes to the design of the National Electricity Market (“NEM”) post-2025.

Rio Tinto actively participates in the development of climate and energy policy. In joining with businesses across the world in signing the Paris Pledge for Action, Rio Tinto supported the outcome agreed by 195 governments at the international climate negotiations at COP21. Our most recent dedicated climate change report, published in February 2020, provides detailed information on our approach to climate change and what we are doing to prepare our business for a low-carbon future<sup>1</sup>.

Rio Tinto is a large user of energy in Australia, in particular electricity, gas and diesel, spending more than A\$1.3 billion annually. With our significant investment in a vertically integrated supply chain that transforms Australian bauxite into alumina and then aluminium using Australian energy resources, we require the continuous provision of reliable energy at an internationally competitive price over a long-term horizon. At their construction and subsequent major expansions, our smelter and refinery facilities have provided the long-term energy off-takes that have underwritten significant energy generation and resource extraction projects, and our existing long-term off-takes within the NEM continue to underpin material quantities of dispatchable generation. The aluminium smelters and alumina refineries in which we have an interest represent approximately 10 per cent of the electricity demand in the NEM. All of our operations are trade exposed, with our aluminium smelting and alumina refining assets also highly electricity and emissions intensive. Accordingly, it is fundamental for Rio Tinto’s NEM connected operations that market design and policy delivers a secure and reliable electricity supply at an internationally competitive price consistent with national environmental and climate change objectives.

***The Consultation Paper needs further consideration of factors external to the NEM.***

It is Rio Tinto’s assessment that the Consultation Paper has been largely written from the perspective of redesigning a well-functioning, strongly competitive stand-alone market through a technical transition from a network of large central dispatchable power stations to a much more distributed network of intermittent resources with supporting storage and firming (p15). For most of the issues identified with that transition, the largely unstated starting point appears to be that markets are the best pathway to solve complex problems of allocation and efficiency. Inherent in the market design initiatives (MDIs) canvassed in the Consultation Paper is that outcomes in the NEM are determined by the inherent design and structures of the market and not by factors external to the market.

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<sup>1</sup><https://www.riotinto.com/sustainability/climate-change>

However, this assessment does not match the reality of the energy transition in which NEM market design and structural change is actually being carried out both now and for an extended period into the future. This then means that the wide-ranging changes being canvassed for the design of the NEM in the Consultation Paper are likely to deliver unanticipated or problematic outcomes.

The current context for the NEM is dominated by the following issues which are material to design but are given limited consideration in the Consultation Paper

1. Actions by both State and Federal Governments dominate the outcomes for the electricity market
2. Market concentration and associated issues with competitiveness both for existing and potential changes to the market make the outcomes of design changes less predictable.
3. The potential exit of large industrial consumers will have material negative effects on the operation of the electricity system.

Considering each of these elements in term:

1. *The P2025 market design needs to consider further the realities of Government action on the electricity market – both directly and indirectly through policy design*

The possibility of market design changes as set out in the Consultation Paper that ignore Government actions is a material risk given the current and expected future reality of the NEM. Given the evolution of the NEM is grounded in splitting vertically integrated State Government enterprises and then interconnection of the separate state networks, with State Governments (and to some extent the Federal Government) continuing to be seen to be politically accountable for electricity system outcomes, the operation of the NEM has always co-existed with government actions and choices. Some of those choices made more recently have related to competition (allowing vertical integration of generation and retail e.g. gentailers, merger of Government-owned corporations in Queensland, choices regarding which entities have been allowed to own what generation assets as a result of privatisation of state-owned assets), others have related to driving particular state specific outcomes (e.g. the Queensland Gas Electricity Scheme) or the actions and choices of State and Federal Governments with respect to the assets they continue to own within the NEM. Less obvious, but still material have been policies that have been material to the operation of fuel markets (gas, coal) for existing thermal plant that have in particular connected domestic energy outcomes to the volatility of international energy markets.

Of great significance has been the implementation of climate policy from outside the NEM framework that has been material to NEM outcomes – including a range of policies to encourage the growth of renewables, both large and small scale, at both a State and Federal level.

There is material evidence that Government actions from outside the framework of the NEM design will continue for the foreseeable future, with recent announcements at a Federal level regarding Low Emissions Technology stretch targets on electricity firming, refunding of the Australian Renewable Energy Agency (ARENA) and the Clean Energy Finance Corporation (CEFC), the Underwriting New Generation Investments program, the likely government implementation of Snowy 2.0 and Marinus link, the possibility of the Federal Government building significant gas fired generation in NSW and a long list of State Government announcements, policies and legislation regarding 2050 net zero targets and specific targeted spend for renewables and renewable offtake. Further Governments are making their own choices on what and how to implement what are notionally whole-of-NEM policies with state-specific implementation of the Retailer Reliability Obligation (RRO) as just one example. These Government actions are not confined to just one of the parties of Government in each jurisdiction, with clear

indications that whoever is in power at a State or Federal level, and whichever minor parties are significant, there is a clear expectation by all that Government action to shape both local and national electricity outcomes is a part of the landscape for the foreseeable future. As just one example, Australia's national, sub-national (e.g. State) and corporate emissions commitments to meeting Paris Agreement goals dominate the requirements, pace and timing for transition to a low-emissions future that forms a core part of the considerations outlined in the Consultation Paper.

This context is the reality then for market design. While there is some minor acknowledgement of this context (see for example p29, 44, 52), further consideration is needed in the Consultation Paper that there is no visible pathway for the NEM to be 'left alone' and for changes in design to work on the self-contained basis inherent in the mapping of market development outlined in the Consultation Paper (Figure 1 on p5). The P2025 market design needs to recognise that the energy transition is tied up in the commitments of Governments on emissions, their need to provide an essential service securely, reliably and affordably for consumers and the impact on competitiveness of Australian industry of electricity pricing.

While the possibility of current and future government action is not a reason for inaction or paralysis, a design approach that does not fully acknowledge this quite fundamental context runs the significant risk of unanticipated outcomes.

## *2. The NEM is not the competitive market that is implied by the P2025 design considered in the Consultation Paper*

In general, Rio Tinto supports the view that free markets provide the best mechanism to respond to dynamic conditions that require the efficient allocation of resources. However, markets can only deliver efficient solutions where they are competitive.

The extent to which the NEM is competitive varies by state. In general, the scale of generators' portfolios in Australia means there is a significant concentration of market power with a small number of generators in several states. As a general rule, for markets to be effective where a supplier has the ability to exercise significant market power, there must be an effective regulatory framework that offers certainty of access and prevents excessive pricing and other anti-competitive behaviour.

The Consultation Paper does not engage with this concentration of market power in design. There is some minor acknowledgement in the discussion regarding the proposed shift to locational pricing (p114) but otherwise the concentration of market power is largely absent from the design considerations. It is fundamental that the operation of the NEM is in the interests of consumers and that confidence in the operation of the market is maintained. Rio Tinto recommends that the impact of competitiveness on their ability to deliver as intended for all of the proposed new market structures is robustly tested, something not currently outlined in the Consultation Paper.

*3. Large electricity users are fundamental to the NEM - if we don't get the transition right the market will lose industrial load particularly smelting with negative consequences for the operation of the future NEM*

In setting out a long-term energy strategy for the NEM, there should be more recognition in the Consultation Paper of the importance of large users to the NEM, both as a source of base-load stability, as well as providing a range of services that support the operation of the NEM. Accordingly, any changes to market design need to provide an investible pathway to incentivise the continued operation of major industrial loads, such as smelters and alumina refineries, as well as providing pathways to motivate the voluntary provision of demand side management services.

Among the current and potential roles played by large loads such as those provided by refineries and smelters:

- Providing a base level of minimum demand (particularly important with the increasing penetration of rooftop solar within the NEM – see for example Figure 9 on p23). This in turn supports demand and the synchronous generation that currently provide the inertia and system strength needed for NEM operation (p35)
- Potential supply of some of the essential system services
- Potential participation in the RERT and related mechanisms including provision of interruptibility services when supply is unable to match demand e.g. during heatwave events.

It is important to recognise that for large industrial electricity users the current context means that there needs to be both near-term changes, as well as longer term recognition in the post-2025 operation of the NEM, of how to retain this important baseload.

***Pathway Forward and implications for the P2025 Consultation***

***Evolved NEM must be given real consideration***

Having identified these gaps in the consultation, it is worth noting that the ESB was tasked by the COAG Energy Ministers with setting out both a model of an evolved NEM and a more radical model of P2025 design. The Consultation Paper is focussed on the structures for this more radical model; however, some elements of the design canvassed in the Consultation Paper are able to be deployed in an alternate evolved NEM model. Noting the potential for significant problematic outcomes where there are radical changes to market design in conjunction with strong Federal and State Government action in ways which are material to electricity system outcomes, the model of an evolved NEM needs to be better fleshed out as an alternate pathway to radical change. In this context it is important to recognise that the excellent work of the ESB supporting the work outlined in the Consultation Paper has clearly identified that is no global template for what the future electricity market should look like. Australia will need to develop a customised Australian solution grounded in the practical realities of current infrastructure and the Australian policy, market concentration and industrial load context.

*Focus should not be on designing a perfect NEM but in designing a robust and adaptable NEM*

In the Consultation Paper the ESB is effectively considering what further policy changes are necessary to manage both the flow-on effects of previous interventions as well as anticipated future changes. It is important that any further policy interventions are fit-for-purpose and are prioritised. Given the context already outlined in which the market (however it is designed) needs to operate, attempting to build a comprehensive solution to all actual and potential challenges for the NEM is unlikely to be successful. Instead, there should be a focus on pathways to make the NEM more adaptable and robust.

*Incumbent long-term contracts need to be recognised and grandfathered where there is design change*

One specific comment that applies to all potential changes: as was recognised with the implementation of the RRO, incumbent long-term contracts need to be recognised and grandfathered where there is a material design change to the operation of the NEM, given the importance of these contracts in underpinning dispatchable generation.

***High level comments on some elements of the MDIs set out in the Consultation Paper...***

*Additional constraints not required on the exit of thermal generation*

Given the level of stated Government action in respect of the NEM, the task of ensuring resource adequacy beyond that framed by existing measures (including the RRO) has effectively been taken up by both State and Federal Governments and the need to impose additional constraints on the exit of thermal generation within the frame of the market rules is unnecessary. The ESB should concentrate on what are appropriate 'back-up' mechanisms in this context, including further consideration of the operation of the RERT.

*The technical elements of the essential system services design work must be continued but who pays must be given more detailed consideration*

The Consultation Paper design seems to be framed around costs for all changes and from all market designs being passed directly to consumers as the starting assumption to delivering least cost outcomes. The issue with this approach is that where electricity market participants and actors are of the view that they are always able to pass through costs, this has the potential to materially erode least-cost decision making. For example, this may be part of why the ESB has identified a significant increase in the cost of delivering transmission projects (p115). The decision-making logic of the Consultation Paper effectively relies on the positive intention and effort of market actors as they have only limited 'skin in the game' – they know that consumers will always bear the costs. It is important that there is a strong consideration given to a 'causer-pays' framework particularly for transmission infrastructure. As Rio Tinto has argued previously there should be other measures taken to increase accountability for network service providers including the impairment of assets that are part of regulated asset bases where it is appropriate to do so. Adding new markets and new charges and automatically passing these on to end-users also changes the cost dynamic for parties that have already contracted to managed price risk as new charges are typically an add-on not covered by existing contracts. For these reasons, further active consideration needs to be given to who is paying for these new markets.

*The emerging recognition of the importance of energy users and the conceptual frame of voluntary participation by energy users in the market is important*

The Consultation Paper grapples with a range of pathways to involve electricity consumers directly in the market. The introduction of 2-sided markets has the potential to be one of the most fundamental change to the NEM for large customers since it was introduced. With market changes that impact on large customers, there is the risk that standard industry consultation processes may not reach the right levels and to sufficient degree to ensure that large users fully appreciate what the new arrangements will require of them and are capable of providing meaningful feedback. This could lead to theoretically efficient design changes that, in practice, place problematic obligations on businesses. Accordingly, Rio Tinto endorses at a high level an approach that potentially provides a pathway to valuing services provided by energy consumers that go unrewarded with current market structures but that does not involve mandatory participation in electricity markets.

***Australia is competing internationally on energy transition and Australia's world-class energy resources need to be a source of competitive advantage***

It is clear that Australia is competing internationally on energy transition. In framing the long-term objectives for the NEM of the future, Australia should be seeking to leverage its abundant and high-quality energy resources to provide internationally competitively priced, low-emissions electricity. The energy policy decisions made to advance this objective should be technology agnostic and grounded in a full recognition of the entire circumstances in which the change is being made.

Getting the design of the NEM right and having a clear view of the context in which that design takes place will be fundamental to delivering on an internationally competitive low emissions NEM which can help ensure Australia's competitive position going forward. Low cost, low emissions electricity provides an enormous pull to reduce emissions – it allows Australia to pursue a NEM-wide strategy of lowering the emissions of the electricity system and then converting a range of other processes which are high emissions to electricity.

The ESB's objective in framing the Consultation paper is to "provide advice to Energy Ministers on changes to the existing market design, or recommend an alternative market design, to enable the provision of the full range of services to customers necessary to deliver a secure, reliable and lower emissions electricity system at least cost by mid-2021." (p12). For large commercial and industrial (C&I) customers, it is imperative that least cost for delivered electricity (including energy, system services, transmission and environmental costs) is also internationally competitive and that cost is managed through the transition, rather than delivering an uncompetitive NEM in the near term against the possibility of a lower cost NEM in the long term.



Rio Tinto looks forward to engaging with the ESB on the content of the Consultation Paper. We would welcome the opportunity to discuss this submission further with you. If you have any questions in the interim, please contact Daniel Woodfield ([Daniel.Woodfield@riotinto.com](mailto:Daniel.Woodfield@riotinto.com)).

Yours sincerely,

A handwritten signature in grey ink, appearing to be "K Parker", written over a light grey horizontal line.

Kellie Parker  
Managing Director, Rio Tinto Aluminium – Pacific Operations