

27 September 2019

Dr Kerry Schott AO
Independent Chair
Energy Security Board

Dear Dr Schott,

RE POST 2025 MARKET DESIGN ISSUES PAPER

TasNetworks welcomes the opportunity to make a submission to the Energy Security Board (**ESB**) on the Post 2025 Market Design (**MD2025**) Issues Paper.

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and Jurisdictional Planner (**JP**) in Tasmania. TasNetworks is also the proponent assessing the business case for Marinus Link, a new interconnector between Tasmania and Victoria. TasNetworks' focus in all of these roles is to deliver safe and reliable electricity network services to Tasmanian customers at the lowest sustainable prices. TasNetworks is therefore appreciative of the ESB's efforts to deliver a long-term, fit for purpose market framework that will support this objective.

TasNetworks supports Energy Networks Australia's (**ENA**) submission and would like to make several further comments with a particular focus on the Tasmanian context. The key points in this submission are:

- TasNetworks is supportive of the review mandate but considers that the greatest gains will be had from focusing on creating a stable, investable and incentive-based economic regulatory framework for Network Service Providers (**NSPs**).
- TasNetworks considers the principles listed in the consultation paper are too broad and notes the potential for incompatibilities between them. TasNetworks therefore calls for clarity on the basis by which conflicts between principles will be resolved if, as the ESB has suggested, no principle hierarchy is established.
- TasNetworks suggests that both the National Electricity Objective (**NEO**) and the Council of Australian Governments (**COAG**) Energy Council's Strategic Energy Plan (**SEP**) be included for assessment as part of MD2025. Without such a review, there is a great risk that any resulting market design will not meet *all* of the relevant long term electricity interests of *all* customers.
- In designing a framework to better expedite the energy transition, care must be taken that no flexibility is lost such that the framework cannot respond to, and cope with, other future market disruptions. This includes recognising those elements of the current framework that are fit for purpose and which should be retained. In this respect, TasNetworks considers the most important additional principle that might be adopted is to 'first, do no harm'.
- TasNetworks supports the ESB's focus on improving innovation and empowering customers. However, it is crucial to ensure protections and fair outcomes also accrue to those customers who are precluded from engaging with, and responding to, innovation and empowerment opportunities.

- Also critical to the success of customer empowerment and innovation objectives are the regulatory models faced by NSPs. Pragmatic recognition of those circumstances where competitive market development for some services will be inhibited and/or result in poorer customer outcomes is required. Where NSPs are able to deliver higher quality services to customers at reasonable cost, they should be allowed to do so.
- In terms of investment signalling, the consultation paper appears to concentrate on wholesale generation investability. Although an important element, TasNetworks considers the issue of interconnector pricing and funding is of equal importance in delivering low cost, secure and reliable electricity services for customers.
- TasNetworks considers that recognition and acceptance by all National Electricity Market (**NEM**) stakeholders of the increasing complexity and uncertainty associated with power system management is required as the grid incorporates more intermittent, weather dependant, inverter connected generation types. What constitutes an appropriate 'risk appetite' and the attendant 'cost appetite' to manage risks are therefore important matters for consideration as part of MD2025.
- Similarly, recognition of implementation and development lead times to robustly implement systems and process changes is required, particularly as they relate to impacts on regulated revenue determination preparation and planning activities.
- The Integrated System Plan (**ISP**) scenarios are a useful starting point for testing market designs. However, TasNetworks notes these scenarios omit several potentially significant developments. For example, Marinus Link and additional interconnection arising from the Battery of the Nation project along with greater production and use of hydrogen as a fuel and storage source. TasNetworks suggests that these developments be considered in at least one scenario under MD2025.
- TasNetworks considers elements from both the New Zealand and the Electric Council of Texas (**ERCOT**) electricity markets can provide valuable information to inform the MD2025 deliberations.
- TasNetworks also considers that a mixed modelling approach will be required to best inform stakeholders of the value, or otherwise, of competing market frameworks. Most importantly, modelling should indicate distributional impacts for market participants, particularly for customers. Without such an appraisal, there is a great risk that MD2025 will fail to generate the political and social license necessary to deliver successful and enduring market change.

TasNetworks responses to individual questions are provided below and we welcome the opportunity to discuss this submission further with you. Should you have any questions, please contact Bradley Woods via email (bradley.woods@tasnetworks.com.au) or by phone on (03) 6271 6187.

Yours sincerely,



Chantal Hopwood
Leader, Regulation

Assessment Framework

Is the assessment framework appropriate to evaluate the effectiveness of future market designs? What else should be considered for inclusion in the assessment framework?

TasNetworks considers the principles listed in the consultation paper are too broad and highlights areas of both overlap and potential conflict between them. TasNetworks notes the ESB's statement that principles will not be subject to a hierarchy as a means of resolving conflicts. However, this appears inconsistent with later statements that seemingly effect a principles hierarchy by citing consistency with the National Electricity Objective (**NEO**) and the COAG Energy Council's Strategic Energy Plan (**SEP**) as foundational considerations. TasNetworks therefore calls for clarity on the basis by which conflicts will, in fact, be resolved if no principle hierarchy is established.

On these elements, TasNetworks notes that the SEP has not been updated in the last two years. Further, although the ESB itself highlights a lower emissions electricity system as desirable outcome in the project scope and consultation papers, emissions considerations are notably absent from the NEO. TasNetworks suggests that both these elements should be assessed for their appropriateness as part of MD2025 given the ongoing changes in technological, environmental, political and financial factors impacting the energy transition. Without such a review, there is a great risk that any resulting market design will not meet *all* of the relevant long term electricity interests of *all* customers.

In terms of the principle of economic efficiency, TasNetworks considers that best outcomes result when prices accurately reflect their marginal cost of provision. Currently, there are some services which are not valued at all, or worse, are effectively signalled through another pricing mechanism. The use of energy prices to value system security services, such as system strength and inertia under the intervention pricing mechanism, is an exemplar nonpareil in the current market framework. TasNetworks therefore suggests that any new framework must be designed so that the value to each service or solution is accurate, timely and transparent. Further, that using one price to signal multiple value elements should be avoided.

In designing a framework to better expedite the energy transition, care must be taken that no flexibility is lost such that the framework cannot respond to, and cope with, other future market disruptions. This includes recognising those elements of the current framework that are fit for purpose and which should be retained. In this respect, the most important additional principle that might be adopted is to 'first, do no harm'.

TasNetworks notes that the scope assigned from the COAG Energy Council's Terms of Reference is broad. TasNetworks is supportive of a broad review mandate but considers that the greatest leverage will accrue from addressing current structural regulatory policy issues so that a stable, investable and incentive-based economic regulatory framework for NSPs results.

Changes to the current framework, rules and regulations should be unambiguous and have known consequences so that participants can make efficient and effective investment decisions. In this respect, the interplay of ongoing and current reviews with MD2025 needs to be made clear. That is, whether they might be seen as only interim and tentative steps towards MD2025 objectives or as foundational elements to be built upon and unlikely to be changed or discarded.

Proposed changes also need to be balanced such that they are not so prescriptive as to stifle innovation and evolution in business, customer and market practices. Recognition of implementation and development lead times to robustly implement systems and process changes is also required, particularly as they relate to regulated revenue determination preparation and planning activities.

Challenges and Risks

Have we identified all of the potential challenges and risks to the current market? If not, what would you add? Which of these challenges and risks will be most material when considering future

market designs and why? Which (if any) overseas electricity markets offer useful examples of how to, or how not to, respond to the challenges outlined in this paper?

TasNetworks considers the consultation paper covers many of the key challenges and risks to reforming the current market design but offers the following comments to supplement the ESB's deliberations.

TasNetworks supports the ESB's focus on improving innovation and empowering customers to engage with the electricity system on the terms that suit their needs and circumstances. Key to this is ensuring adequate protections and fair outcomes for those customers whose circumstance and/or capacity preclude them from engaging with, and responding to, innovation and empowerment opportunities. Consistent with the principle above, any change that contemplates additional harm to customers should be avoided.

Also critical to the success of customer empowerment and innovation objectives are the regulatory models faced by NSPs. Incentive based models, innovative trial frameworks and flexible regulatory arrangements will be essential in delivering a broader and more efficient range of services to customers. Pragmatic recognition that there will be times and places where competitive market development for some services will be inhibited and/or result in poorer customer outcomes is necessary. In these circumstances, where NSPs are able to deliver higher quality services to customers at reasonable cost, they should be allowed to do so. The learnings from the Australian Energy Market Commission's (**AEMC's**) *Power of Choice* reforms are instructive in this regard.

In terms of investment signalling, the consultation paper concentrates on wholesale generation investability. Although an important element, without appropriate consideration of how efficient transmission and distribution infrastructure investment can facilitate bringing additional generation to market, it is unlikely that a robust and effective framework will result. In this respect, TasNetworks considers the issue of interconnector pricing and funding is of paramount importance in delivering low cost, secure and reliable electricity services for customers.

Traditionally, there has been a tendency for regulators to regard transmission pricing arrangements as a cost recovery mechanism that is distinct from the investment decision. However, as customers become more central to, and have more say over TNSP investment plans, these considerations are becoming increasingly intertwined. This is no better illustrated than with the proposed Marinus Link interconnector where modelling indicates the majority of benefits will flow to mainland regions but where Tasmanian customers would pay disproportionately for it under current settings. The risk is that without reform of Inter-Regional Transmission Use of System (**IR-TUOS**) arrangements to effect a beneficiary pays approach, projects that maximise national market benefits may not go ahead due to regional pricing concerns. As a result, maximal economic efficiency will be compromised.

TasNetworks considers there are at least three alternative methods for improving the current pricing and funding arrangements for interconnectors. These include Federal Government or ESB funding, a NEM wide levy or amending the RIT-T to include a benefits funding analysis. TasNetworks has been evaluating the merits of each approach and would welcome the opportunity to discuss them further with the ESB as MD2025 progresses.

The integration of increasing quantities of Distributed Energy Resources (**DER**) and Variable Renewable Energy (**VRE**) are providing technical, system security challenges for NSPs and the Australian Energy Market Operator (**AEMO**) at both operational and planning timeframes. For example, the highly correlated responses of VRE, such as wind farm feathering in relation to storm events, are creating new system security challenges in areas with high renewables penetration. Moreover, there is mounting evidence to suggest that an unknown percentage of DER will likely

disconnect when subjected to a network disturbance¹. This has the potential to materially exacerbate the severity of both credible and non-credible contingency events.

TasNetworks considers that recognition and acceptance of the increasing complexity and uncertainty associated with power system management by all NEM stakeholders, including Governments and market bodies, will be required. This is so that realistic solutions to these challenges are delivered as the grid transitions towards an increasing penetration of intermittent, weather dependant, inverter connected generation types.

On this point, it is crucial to recognise that it is not economic, nor practical, to protect against all power systems risks, all of the time. What constitutes an appropriate 'risk appetite' and the attendant 'cost appetite' to manage it is therefore another important matter for consideration as part of MD2025. TasNetworks contends framework changes should be commensurate with practical and economic realities, exhibit an appropriate degree of flexibility and provide economic certainty to all parties to allow timely and effective solutions to be deployed. One relevant example here is recognition of the cost implications for NSPs to appropriately monitor, develop and deliver DER hosting capability to underpin customer centric DER solutions.

Germane to all the considerations above are comparisons with, and insights from, other markets. In this respect, TasNetworks considers elements from both the New Zealand and the Electric Council of Texas (**ERCOT**) electricity markets can provide valuable information to inform MD2025 deliberations. The New Zealand market possesses a number of innovative market arrangements including full nodal pricing, a Financial Transmission Right (**FTR**) hedging regime and a National transmission demand response programme. It is also in the midst of implementing a benefits based transmission pricing system to recover the costs of new grid investment². The ERCOT market provides an excellent case study on the successful integration of significant new quantities of VRE in an islanded grid³. Amongst other things, this has included changes to transmission planning to facilitate the creation of Competitive Renewable Energy Zones (**CREZs**) and to market pricing in a move from a zonal model to a nodal one.

Modelling

What scenarios and shocks should be used? How should these be used to test market design?

TasNetworks agrees that AEMO's Integrated System Plan (**ISP**) scenarios and shocks to these scenarios, such as from increased climactic impacts, economic changes and technological shifts, are a useful starting point for testing market designs. TasNetworks does, however, note that these scenarios will not be a complete template for analysis with several, potentially significant developments currently missing. Most notably, these include Marinus Link and additional interconnection arising from the Battery of the Nation project along with greater production and use of hydrogen. TasNetworks therefore suggests that these factors be considered in at least one scenario under MD2025.

In terms of shocks, TasNetworks considers that High Impact Low Probability (**HILP**) events arising from climate change, war and/or from cyber-terrorism should be incorporated. Beyond direct, first round impacts on things like system resilience, longer term, second round effects should also be considered. For example, the costs to upgrade network cyber security to mitigate and ward off future attacks and effects from a change in Government policy to increase energy reserves.

TasNetworks agrees that consideration of increased sector coupling, financial market and other economic factors exogenous to the market design is merited. This is consistent with the impacts from

¹ As noted by the AEMC in Appendix F.3 of its recently released System Resilience Discussion Paper. TasNetworks also highlights a recent UK example where approximately 500 MW of DER disconnected as part of an under frequency load shedding event. For further information, please see <https://www.nationalgrideso.com/document/151081/download>.

² For more information please see <https://ea.govt.nz/development/work-programme/pricing-cost-allocation/transmission-pricing-review/>

³ A summary and economic analysis of the ERCOT changes can be found at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3059760.

historic and persistently low inflation and bond yields that are already impacting network investability considerations via the Rate of Return determination. In this respect, a further shock that might be considered is a 'drought' in network investment owing to Government policy uncertainty and/or continued low rates of return.

How can market and economic modelling best be used to evaluate individual components of market design or the end-to-end market design?

TasNetworks considers that a mixed model approach will be required to best inform stakeholders of the value, or otherwise, of competing market frameworks. For example, although agent based market models are well suited to evaluating benefits from improved generation and operational efficiency, they are highly dependent on choice of generator bidding strategies. They will be less useful for establishing the costs of reform and quantifying the benefits from improved transmission investment efficiency. As a result, these elements will likely necessitate other modelling approaches to quantify.

Regardless of which approaches are adopted, modelling should include both current market offerings and credible, potentially significant new market services which may arise. For example, from fast frequency ancillary services, inertia, system strength and DER demand response services.

Most importantly, modelling should indicate distributional impacts for market participants. In particular, for customers. Without such an appraisal, even a valid and rigorous comparison of the costs and benefits between current and new market frameworks will fail to engender the political and social license necessary for successful and enduring market change.