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Post 2025 Market Design Review
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By email: info@esb.org.au

Essential Energy submission – Post 2025 Market Design Consultation Paper

Essential Energy welcomes the opportunity to provide a submission in response to the Energy Security Board's (ESB's) *Post 2025 Market Design Consultation Paper* (the consultation paper).

The electricity supply chain is currently undergoing a fundamental transformation - such is the pace of this change that traditional roles and responsibilities for services provided are often no longer clearly defined by the rules. Left unaddressed, this technology led transformation will impact security, reliability, equity and affordability outcomes for consumers across Australia's many networks. The earlier that fit for purpose regulatory reforms can be integrated across the National Energy Market (NEM), the more optimal the benefits of increased customer choice can be applied to all consumers.

To that end, Essential Energy supports the wholistic approach taken within the consultation paper which reflects the several other major regulatory reforms currently underfoot and how the Post 2025 project intersects these reforms.

Essential Energy supports the two-sided market and Distributed Energy Resources (DER) reform frameworks as a uniquely positive opportunity to facilitate changes to allow customers to realise the full value of their supply and demand if they so choose. Nonetheless, a greater focus on evolved consumer protection frameworks and continual customer net benefit analysis is required to ensure overall economic efficiency is being maximised.

In relation to Distribution System Operator (DSO) reforms further foundational work is required to gain increased visibility and operability. Given the unique circumstances faced by individual networks there is unlikely to be a one size fits all approach. In addition, the consideration of Renewable Energy Zones (REZ's) introduces a number of complexities across both transmission and distribution which requires further analysis, as does the greater utilisation of the distribution network as a method of placing downward pressure on the costs of energy market transition for consumers.

These issues and our response to other specific discussion topics raised in the consultation paper are provided below. If you have any questions in relation to this submission, please contact me directly via phone 0406 534 682, or Mr Anders Sangkuhl, Regulatory Strategy Manager at anders.sangkuhl@essentialenergy.com.au or via phone 0409 968 326.

Yours sincerely,

A handwritten signature in black ink that reads "Chantelle Bramley". The signature is written in a cursive, flowing style.

Chantelle Bramley
General Manager, Strategy, Regulation and Corporate Affairs

Essential Energy submission to the ESB post 2025 market design consultation paper

Two Sided Markets (Initiative E)

The significant energy transformation currently underway across the electricity grid, coupled with the increasingly decentralised investment in DER resources occurring at the individual customer level, has laid the foundations for increased interaction between suppliers and customers either directly or through a trader. This “once in a generation” market transition represents a uniquely positive opportunity for network businesses to support customers maximising the full value of their supply and demand if they so choose.

To that end, Essential Energy is highly supportive of the two-sided market reforms as a way of networks appropriately supporting and facilitating greater customer involvement in the delivery of customer-led goals such as the delivery of sustainability, resilience and efficient DER management. However, a range of practical network limitations currently exist which should be addressed by the Post 2025 reform process, the detail of which is outlined below.

Evolved consumer protection framework is a pre-requisite of two-sided market reforms

At present, energy market participants have a regulated relationship with the Australian Energy Market Operator (AEMO), the Australian Energy Regulator (AER), and other Government bodies providing a standardised framework for the regulation, settlement and sale of electrons to customers. For example, licensed market participants who retail electricity are subject to regulation, compliance and codes of conduct which are designed to protect consumers from unscrupulous commercial behaviour and/or misrepresentations as well as a host of other fundamental protections such as life support. Complying with these codes of conduct is a prerequisite condition of licensing and an ongoing incentive and obligation for participants to provide fair products.

However, some of the alternative models for the two-sided market of the future, considered within the consultation paper propose changes to the operational processes and overall relationship between third parties and customers, in a way that differs from the traditional retailer led market participant relationship. This can lead to new risks for consumers, especially for those who are vulnerable. It is worthwhile noting that many customers will not have the ability or motivation to engage in any future two-sided energy market in a meaningful way. Any proposed changes to the market design should recognise this and ensure fit for purpose customer protections remain in place regardless of the level of interaction customers take going forward.

Essential Energy considers an evolved customer protection framework is a pre-requisite to future two-sided market reforms. It is fundamental that customers are taken on the journey of two-sided market reforms, lest any single bad customer experience lead to well publicised failings in the broader policy discourse, crimping future reforms. The prioritisation of the customer protection workstream will also help ascertain what options are desirable from a customer perspective.

To this end, we suggest the scheduling of the evolved customer protection workstream framework take place in the “*short term (now to two years)*” schedule as opposed to the “*longer term (five years)*” schedule. This customer protections framework is also relevant to the DER integration workstream outlined below.

Ensuring net customer benefit

Proceeding with the two-sided market reforms is expected to reduce system costs and create economic efficiencies across the supply chain. Whilst Essential Energy agrees in principle with the expected benefits two-sided markets will deliver, it is important to periodically reaffirm this view by assessing reform options against the costs, benefits and other trade-offs associated with each pathway to ensure clear customer benefits that are consistent with the national electricity objective.

As such, Essential Energy would encourage the adoption of periodic cost benefit analysis to be produced at key milestones of the reform timeline as set out in the ESB’s next directions paper. This

would provide assurance to participants that customer benefits and overall economic efficiency is being maximised and that the timelines and sequencing options are informed by an appropriate assessment methodology. A necessary starting point for such a piece of work would be an industry agreed common cost-benefit framework to ensure costs and investments are balanced across all industry participants.

Delivery timeframes

Essential Energy supports the ESB's efforts in framing the reform stages of the two-sided market reforms into short term (now to two years), immediate term (two to five years) and long term (five years plus) along a reform timeline. This indicative timeline is highly useful for both regulators and market participants to assist reform sequencing preparations.

It is somewhat inevitable, that some of the indicative timelines in the immediate to long-term schedule will alter, as they are dependent on preceding regulatory reforms. However, in the short term such variability should be limited. This applies to the initial foundational works outlined in the consultation paper as well as other components such as:

- the expanded aggregator framework;
- technical requirements for central dispatch participation;
- "no regrets" actions identified through the Open Networks Project;
- telemetry and communication requirements; and
- consumer protection framework development;

We would encourage tangible milestone dates being set within the ESB's next directions paper for these short-term reform options above as a matter of priority. The scheduling of such reforms is vital in informing future reform priority workstreams and allowing participants to internally prepare their businesses for approaching workloads.

Data Requirements

Whilst data requirements will necessarily be examined in closer detail at later stages of the two-sided market reform process, it is worth noting that the efficient functioning of the two-sided market requires trade execution based on common and accurate data transfers between parties. Nonetheless, at present within the market there are several well identified issues regarding NMI data sharing between market participants, networks and third-party aggregators. As such, we would encourage the ESB to apply greater consideration at the next stage of consultation into how data is defined and shared across a common market architecture with agreed quality, security, and standard requirements. One potential reform pathway contemplated could be an extension of the MSATs framework for two-sided market trading.

Integrating Distributed Energy Resources (Initiative F)

The rapidly growing prevalence of rooftop solar, batteries, and the emergence of new participants such as aggregators providing demand response capabilities, is transforming the role of the distribution network of the future to one based on bi-directional flows and real time communications. This rapid technological growth represents a unique opportunity for networks to positively assist consumers in delivering societal and environmental benefits whilst also maximising their economic welfare.

The achievement of these objectives poses challenges to the existing regulatory framework. In this context, it is worth noting Essential Energy's support for the current AEMC *Distributed Energy Resources Integration* rule change, which considers recognition of export services as part of the 'distribution service' provided by distribution network service providers (DNSPs) to customers as well as the removal of the National Electricity Rules clause 6.1.4, which explicitly prohibits the charging of export tariffs. These changes are critically important to ensure that future expenditure on export capacity is cost-effective, and that customers are incentivised to operate DER resources in a manner which maximises economic utility for all stakeholders.

Customer preferences are central to DER reforms

With multiple existing and proposed DER integration workstreams currently underfoot, it is worth noting that increased customer engagement and preferences are central to all DER workstreams as outlined in the consultation paper including tariff reforms. This engagement is especially relevant when considering the fact that decisions made today will impact DER installations already made by customers in good faith.

These considerations are important in providing regulatory justification which balances the delivery between limited service offerings and those options which consider the full suite of DER service offerings. From Essential Energy's perspective, our priorities are led through customer engagement based on clear understandings of the trade-offs in faster or slower transitions in the delivery of DER services. These interactions primarily occur through customer advisory groups and jurisdictional stakeholders. Essential Energy would encourage the ESB to consider periodic customer evaluations as part of the roadmap timeframes to ensure the benefits derived from reforms provide customer value and meet evolving customer needs.

Distribution system operator

In the next phase of the 2025 project it is important to consider the DNSP transition to a DSO role under both the DER integration and two-sided market workstreams. Even now, DNSPs are recalibrating their dynamic operating envelopes to consider the delivery of a range of expanded services to customers and new market participants such as aggregators and demand response service providers.

Each DNSP is facing unique circumstances on their individual networks due to visibility, geography and DER penetration differences. Therefore, there is unlikely to be a one size fits all approach and industry will seek to draw upon lessons from DNSPs that are facing DER integration issues first. This is especially true in relation to the "*facilitated participation measures*" and the "*deep market integration measures*" as outlined within the consultation paper.

However, all DNSPs will gain value from the "*foundational measures*" outlined within the consultation paper which focus reforms on the following deliverables:

- Enhancements to DER visibility, communications, standards and interoperability.
- Pilot DER programs for participation in network services, wholesale markets, Frequency Control Ancillary Services (FCAS)/Energy Storage Systems (ESS) and via local markets.
- Design options and market architecture (in consultation with stakeholders).

These reforms are crucial in seeking to deliver the data and visibility capabilities to realise the opportunities for participation in multiple service markets. At this junction it is worth noting the alignment with the "no regrets" actions as outlined within the Open Networks' Distribution System Operator project given the close alignment of deliverables including:

- Establishment of an industry guideline or standard for the setting of export limit operational envelopes.
- Establishment of an industry guideline or standard for the setting of communication requirements across networks.
- Individual DNSPs to define visibility requirements and network export constraints as pertains to their unique network.

The achievement of these objectives would go a long way towards gaining greater visibility and understanding of the low voltage network allowing for limits to network capacity in a more dynamic way and ultimately ensuring networks are utilised more efficiently. Essential Energy would encourage the ESB to consider a continued focus on implementation of the actions outlined within the Open Networks project to continue progression of the transition of DNSPs to a greater DSO role.

DER technical standards

The consultation paper notes reforms currently underfoot in developing initial technical standards for DER across the NEM including the draft inverter standard AS4777.2 and other technical rule

changes. As it relates to the discussion on assessment of future compliance and industry training requirements arising from new DER standards, it is worth mentioning that there are currently several mechanisms available within the existing market framework including audits, consumer codes, manufacturing standards and legislative measures.

Despite the range of compliance options available, in recent discussion, the responsibility for ensuring compliance has been increasingly directed at DNSPs through connection agreements and audit. This is a role DNSPs are not well suited (or funded) to undertake, and the scale and cost of undertaking this work on a geographically sparsely populated network like Essential Energy's requires detailed consideration.

Essential Energy's preference is for technical standards compliance to be delivered through a multi staged approach involving metering co-ordinators, retailers, DNSP and jurisdictional regulatory bodies. For example, one of the most cost-effective methods of compliance is to have standards set at the DER manufacturer level and validated by authorised installers prior to installation.

Transmission Access and the Coordination of Generation and Transmission Investment (Initiative G)

Renewable Energy Zones

As noted within the consultation paper, a range of interim arrangements for Renewable Energy Zones (REZ's) are currently underway through AEMO's integrated system plan, as well as individual jurisdictional regulatory initiatives. Whilst the potential funding of the shared transmission network is a worthwhile objective as a method of bringing forward investment and reducing network congestion, detailed analysis needs to be taken to ensure risks are minimised. By way of example, the creation of REZ's may introduce a number of complexities which need to be closely evaluated including:

- The geographic location of REZs may cause inconsistencies for network business connection processes, depending on whether a connecting generator is in or out of an identified REZ zone.
- Whilst the focus on REZs is primarily directed to transmission assets, it is worth noting that DNSPs may have surplus network capacity in areas surrounding REZs. Ideally this should feed into REZ processes to align efficiencies.
- Whilst generators may be able to connect and receive firm access rights within REZs, the subsequent network impact where the REZ intersects the open access regime (at both the transmission and distribution level) may result in necessary augmentation / reconfiguration investment.
- Potential gaming risks may be introduced where connecting generators "shop" between different regimes on the distribution and transmission level.

Essential Energy agrees that the development of REZs are an important component for the transmission underway across the NEM and we would encourage greater consideration in the ESB's 2025 directions paper as to how these risks can be addressed through a consistent national approach wherever possible.

Congestion and access reforms

The NEM's existing open access connection regime is currently facing several well identified challenges, including generation being connected in areas with weak transmission linkages, highly variable marginal loss factors changing year on year, increased congestion and an increased consumer pricing risk.

Given these challenges, the consideration of the delivery of planning reforms which contribute to the achievement of efficient investment outcomes is a worthwhile objective. Whilst the focus of the post 2025 paper is firmly on transmission investment, it is important to consider the effective utilisation of

distribution networks. For example, shifting some of the generation and transmission investment risk away from consumers through the efficient utilisation of distribution networks is a worthwhile objective and one which would contribute to placing downward pressure on the costs of energy market transition for consumers.

This is especially true given the projected future role of distribution networks in facilitating an integrated platform for increased DER penetration. If correctly designed such reforms could potentially defer the need for additional investment. As such, we would encourage greater consideration of first principles in the delivery of planning reforms which contribute to efficient investment outcomes. Whether or not congestion solutions are ultimately delivered through transmission, generation or distribution solutions is of little concern to end use consumers.

Other Considerations – Network Resilience

Whilst not an issue directly considered by the ESB Post 2025 consultation paper, in the wake of the 2019-20 bushfire season it is worth raising the need to embed resilience across Australian networks to minimise the risks and impacts of future natural disasters. The findings and recommendations of the recent Royal Commission and State jurisdictional inquiries strongly emphasised the importance of a continuous energy supply in mitigating the risk and impact of natural disasters by creating resilience in the electricity network.

A significant portion of Essential Energy's network is in a designated bushfire zone, and vegetation management is its single biggest operational expense. The issues identified in the bushfire inquiries are likely to be amplified over time as bushfire risks and their severity increase due to climate change effects. One potential way to embed resilience in the network is through the greater utilisation of stand-alone power systems (SAPS) across distribution networks. Whilst the recent AEMC SAPS regulatory framework is currently in the process of being adopted, it is worth noting that amendments may be required to ensure reforms are fit for purpose.

Another way resilience can be considered is through the investigation for methods of valuing environmental and community benefits when networks consider DER hosting capacity decisions.

Despite the growing community expectations for greater network resilience to be provided, there appears to be a recognition in both the inquiry and royal commission findings that at present there is no corresponding methodology within the regulatory framework to value the resilience. As such, we would encourage the ESB2025 project to contemplate how "resilience" could also form part of future reform processes.