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Australian Energy Regulator

RE: Network performance reporting process consultation

Tesla welcomes the opportunity to provide feedback on the Australian Energy Regulator's (AER) consultation paper on the effectiveness, relevance and value of current network performance reporting outputs, and future objectives and priorities.

Australia's energy system is undergoing rapid transformation. Consumers are now the largest source of new investment in generation and storage capacity, and the way networks plan, measure and report on performance must evolve accordingly. Traditional metrics of reliability and expenditure remain important, but they no longer tell the full story of a system increasingly characterised by distributed, bi-directional energy flows, flexible demand, and growing electrification.

From Tesla's perspective as a technology provider and emerging retailer with a customer base made up entirely of households with consumer energy resources (CER), the AER's performance reporting framework serves a critical dual purpose:

1. It informs the public and policymakers about how networks are performing against the National Electricity and Gas Objectives; and
2. It provides the evidence base for whether current regulatory incentives are producing the behaviours needed for a modern, efficient and decarbonised grid.

Tesla supports the AER's proposal to integrate export-service data into network performance reporting, to enhance accessibility through interactive dashboards, and to strengthen the narrative link between operational, financial and consumer outcomes. However, to fully reflect the realities of the transition, reporting must evolve from describing network activities to diagnosing system effectiveness, particularly in how networks are using, or not using, the tools already available to them.

We therefore recommend that the AER use this process to shine a light on incentive utilisation, especially the under-use of the Demand Management Incentive Scheme (DMIS) and Demand Management Innovation Allowance (DMIA). These mechanisms were intended to promote flexible, non-network solutions but have seen limited application in recent years, with several DNSPs not undertaking a material DMIA project since

the early 2020s. Transparent reporting on the scale, frequency and outcomes of DMIS/DMIA participation, as well as other schemes, would help determine whether these schemes remain fit-for-purpose in an era where orchestration, flexibility and export enablement are central to network performance.

In parallel, Tesla encourages the AER to apply the same innovative mindset that underpins its regulatory sandbox framework to the field of demand management / export services. Just as the AER is utilising sandboxing to help accelerated trials of new market and technical arrangements, a similar approach could reinvigorate non-network procurement by allowing DNSPs to trial new flexibility products, orchestration contracts and local capacity markets within defined regulatory parameters. In our response, we outline how the AER's reporting framework can:

- Modernise the definition of "performance" to include hosting-capacity utilisation, export headroom, voltage quality and flexibility enablement
- Provide forward-looking insights that link expenditure and performance outcomes to consumer value
- Improve accessibility through interactive, machine-readable data and consistent national metrics; and
- Create a feedback loop between network reporting, incentive review, and future reform.

Ultimately, network performance reporting should not only provide transparency, but it should also drive accountability and innovation. By integrating CER performance, non-network incentives, and emissions outcomes into the reporting framework, the AER can ensure that the data it publishes reflects the system Australians are actually building; one that is decentralised, digital, and consumer centred.

Tesla appreciates the opportunity to contribute to this consultation and would welcome further engagement on how performance reporting can support the next phase of network and incentive reform.

Sincerely,

[redacted]

Questions for network performance reporting process

Q1: Accessibility of AER network performance reporting

The AER's network performance reports have become an increasingly valuable reference for policymakers, investors, retailers, and consumer advocates, but accessibility remains a significant barrier to their broader use. Currently, reports are released in static PDF and spreadsheet formats that are challenging to navigate for stakeholders outside of the regulatory community. This limits the capacity for meaningful third-party analysis and for consumer-facing organisations to translate insights into advocacy or product innovation.

To improve accessibility, the AER should prioritise timeliness, interactivity, and interpretability. The lag between network reporting and publication diminishes the relevance of insights, particularly for fast-moving trends like export service performance and electrification. Bringing publication timelines closer to real-time, ideally within six months of submissions, would allow stakeholders to incorporate the data into ongoing regulatory processes, such as annual pricing proposals and tariff structure statements.

Equally, accessibility must evolve beyond text readability to include digital usability. Power BI-style dashboards that allow users to filter by jurisdiction, network type, and time period, combined with machine-readable APIs, would enable both expert and public users to extract value from the data. Accompanying each dataset with a concise narrative summary, highlighting the key drivers of change, emerging issues, and outliers, would bridge the gap between technical content and practical insight.

Finally, accessibility also means comparability. The AER should apply consistent metric definitions and colour-coding across electricity and gas reports, ensuring that a user can track trends across sectors and years without manually reconciling data structures. A clear data dictionary, linked to the underlying RIN or Order variables, would further enhance transparency.

Q2 – Q4: Analysis and insights in performance reports

The analysis currently provided in the AER's electricity and gas network performance reports offers an important baseline but falls short of providing the level of interpretive depth required to assess whether regulatory outcomes are translating into consumer benefits. The reports primarily describe trend, changes in expenditure, reliability, or returns, without evaluating the causal factors or implications for efficiency, equity, or system transition.

The AER could strengthen this analysis by adopting a story-driven, insight-rich framework that connects financial, operational, and consumer outcomes. For instance, comparing reliability improvements against capex and opex growth would help determine whether additional spending has delivered proportional value. Similarly, linking financial performance to incentive-scheme outcomes (such as service-target performance incentives or efficiency-benefit sharing) would illuminate whether networks are responding to the right regulatory signals.

In assessing whether the current analysis is sufficient, we also believe the AER should leverage the reporting process to evaluate the use and effectiveness of network incentive mechanisms, particularly schemes like the Demand Management Incentive Scheme (DMIS) and Demand Management Innovation Allowance (DMIA). These instruments were introduced to encourage DNSPs to trial and adopt demand-side and non-network solutions, yet the data suggests that few networks have made substantive use of them in recent years. In some cases, the last material DMIA projects were undertaken more than five years ago, despite growing opportunities to use orchestration, flexibility services and virtual power plants to defer capital expenditure.

The declining use of these incentives raises a broader question about whether the current incentive framework is properly aligned with the two-way system the AER now seeks to report on. Just as the AER has recently embraced regulatory sandboxing to accelerate innovation in new market and technical arrangements, a similar focus could be applied to reinvigorating demand management and non-network procurement. A similar encouragement of uptake of incentives like the DMIS or DMIA could allow networks to trial new flexibility products, orchestration contracts or local capacity markets within a defined regulatory safe harbour. This would bring the same experimental energy currently seen in export service trials to the demand-management space, an area that remains critical to efficient network investment.

To that end, the AER could consider reporting annually on DNSP participation in schemes like the DMIS and DMIA, including the number of active projects, expenditure levels, and quantified network deferrals achieved. Publishing this information in the Network Performance Report would not only improve transparency but create a feedback loop between reporting and incentive reform. A "demand-management performance" indicator - tracking the proportion of identified constraints addressed through non-network options would give clear visibility of how effectively networks are using existing tools to deliver least-cost outcomes for consumers. Ultimately, the reporting framework should do more than catalogue performance; it should test whether the incentive architecture itself is driving innovation in line with the energy transition's needs.

Stakeholders increasingly expect analysis that captures the transformation of network services in a two-way grid. This means incorporating DER metrics, export headroom, curtailment frequency, dynamic export participation, and hosting-capacity utilisation, directly into the core of the report, rather than treating export services as an ancillary topic. Doing so will demonstrate how the AER is embedding CER outcomes into its assessment of network performance, consistent with amendments to the National Electricity Objective (NEO) to include emissions-reduction outcomes.

While some stakeholders may prefer "data-only" publications, our strong view is that analysis and insight are essential to accountability. Without explanatory context, the reports risk becoming a compliance exercise rather than a decision-support tool. The AER should continue to interpret trends and outliers but make its assumptions transparent and allow users to replicate or challenge them via open datasets.

Q5 – Q7: Operational and financial data, emerging trends, and outdated metrics

The operational and financial datasets underpinning the AER's reports provide a solid basis for benchmarking expenditure, reliability, and profitability. However, as the energy transition accelerates, the data must evolve to reflect the changing nature of network performance. Traditional measure, such as system average interruption duration (SAIDI) and aggregate energy throughput are no longer adequate indicators of consumer outcomes in a decentralised, flexible grid.

We recommend that future datasets include things like network-level and feeder-level visibility of export and import capacity, utilisation rates of hosting capacity, and measures of dynamic export enablement. For instance, the proportion of customers experiencing zero-export limits or curtailment, average export headroom (in kW), and average connection-approval times would provide meaningful insights into how networks are managing CER participation. These indicators would also allow comparison between networks that adopt proactive orchestration approaches versus those that rely on blunt connection limits.

Emerging trends also warrant inclusion. Electrification of transport and heating is reshaping load profiles; data on EV connection density, managed-charging participation, and low-voltage voltage-quality management will soon be as material as reliability statistics. For gas networks, declining demand raises questions about asset stranding and cross-subsidisation, which should be tracked through throughput and depreciation metrics.

Conversely, some legacy indicators offer limited insight in the context of distributed energy. These should be retained for continuity but given lower prominence in visualisations to avoid overstating their relevance.

Q8 – Q10: Datasets, historical series, and infographics

The AER's decision to publish its operational and financial datasets in Excel has been valuable for transparency but is now limiting the analysis potential for both expert users and the public. Stakeholders need the ability to query, visualise, and cross-reference data dynamically. Transitioning to interactive dashboards, with embedded filters, regional overlays, and trend visualisations would vastly improve usability. The Power BI format proposed in the consultation paper is a welcome step, provided the raw data remains downloadable in open CSV or API form.

Regarding infographics, the current visual summaries focus heavily on expenditure and reliability. These are useful but no longer sufficient to tell the story of Australia's energy transition. We recommend adding panels that track CER participation (e.g., battery uptake, export service enablement, curtailment incidents), electrification impacts (e.g., EV penetration per feeder), and emissions performance. For consumers and policymakers, these graphics will provide a tangible link between network performance, transition progress, and consumer benefit.

Q11: Integration of export-service network performance reporting

We strongly support the integration of export-service reporting into the combined Electricity and Gas Network Performance Report from 2026. Export services are now core network functions, not ancillary offerings. Integrating these metrics will present a more holistic view of network performance and will enable stakeholders to assess how DNSPs are balancing reliability, utilisation, and consumer enablement in a two-way grid.

This integration presents an opportunity for the AER to standardise terminology and methodology across networks. Consistent definitions for curtailment events, dynamic export limits, and export tariff participation are essential for credible cross-comparison. The AER should also develop an "Export Service Performance Index" for each DNSP, incorporating metrics such as export-limit coverage, customer participation in flexible export arrangements, and average realised export headroom.

Integration should also improve public visibility of constraint management practices. By including export-limit and curtailment data alongside traditional reliability metrics, stakeholders will be able to understand the trade-offs between maintaining system security and enabling consumer value. Finally, aligning export-service reporting with financial performance data will allow the AER to identify whether networks are investing efficiently to support two-way flows or relying excessively on static export limits as a low-cost alternative.

Questions for objectives and priorities for network performance reporting

Q1 – Q4: Objectives and priorities for network performance reporting

The AER's proposed objectives remain fundamentally sound and continue to reflect the core functions of transparency, accountability, and improved performance under the National Electricity and Gas Objectives. We support retaining the existing six objectives, but with a sharper focus on consumer outcomes and data accessibility. In practice, this means framing "accessibility" not just as publication, but as the ability for stakeholders to meaningfully interrogate and act upon the data.

We also agree that the current priorities require expansion to reflect the changing policy landscape. The addition of "emissions-reduction targets" and "export services" is essential, recognising both the statutory amendments to the NEO/NGO and the centrality of CER to the energy transition. However, we recommend further refinement to ensure these priorities translate into measurable outcomes. For example, under the emissions-reduction priority, the AER should develop metrics tracking how network investments enable or impede emissions abatement, such as avoided curtailment of renewable generation or electrification enablement.

Similarly, the export-services priority should explicitly reference customer enablement, not only network capacity metrics but also the proportion of consumers able to export, average dynamic-limit flexibility, and the responsiveness of DNSPs to export requests. These measures would link network performance directly to consumer experience and competitive markets.

To ensure adaptability, the "emerging trends and issues" priority should be broadened to cover flexibility markets. As network operation becomes increasingly data-driven, the ability to capture and report on cyber-physical system performance will be essential to regulatory oversight.

Finally, we propose adding an overarching principle of "consumer value and participation" that cuts across all objectives and priorities. Every element of network performance, whether reliability, financial efficiency, or emissions, should ultimately be evaluated by its contribution to consumers' long-term interests. Embedding this framing would align the AER's performance reporting more directly with the purpose of the national energy objectives and provide a unifying thread for future reforms.

In our view, the proposed objectives and priorities are clear, fit-for-purpose and robust, but with these refinements they will better reflect the system's evolution toward decentralisation, digitalisation, and decarbonisation, while ensuring that reporting continues to deliver genuine value for consumers and the broader market.