Justice and Equity Centre

Network performance reporting for regulated electricity and gas networks consultation paper

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About the Justice and Equity Centre

The Justice and Equity Centre is a leading, independent law and policy centre. Established in 1982 as the Public Interest Advocacy Centre (PIAC), we work with people and communities who are marginalised and facing disadvantage.

The Centre tackles injustice and inequality through:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change to deliver social justice.

Energy and Water Justice

Our Energy and Water Justice work improves regulation and policy so all people can access the sustainable, dependable and affordable energy and water they need. We ensure consumer protections improve equity and limit disadvantage and support communities to play a meaningful role in decision-making. We help to accelerate a transition away from fossil fuels that also improves outcomes for people. We work collaboratively with community and consumer groups across the country, and our work receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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The Justice and Equity Centre office is located on the land of the Gadigal of the Eora Nation.

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Acronyms list

Acronym	Full name
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
CAPEX	Capital expenditure
CER	Consumer Energy Resources
EWCAP	Energy and Water Consumers' Advocacy Program
NEO	National Electricity Objective
NGO	National Gas Objective
OPEX	Operating expenditure
TETU	Total Energy Throughput Utilisation
TPFU	Two-way Power Flow Utilisation

1. Introduction

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the Australian Energy Regulator's (AER) Network performance reporting for regulated electricity and gas networks consultation paper (the Paper).

Network costs are a material and growing component of retail energy bills, and consumers need assurance that these costs are being effectively monitored to ensure they are fair, prudent, and efficient. The AER's network performance reporting plays a vital role in this regard, not only through the data it collects, but through its interpretation and commentary, which adds vital insight and must remain a core feature of future reports.

This submission focuses on two key areas where improvements to network performance reporting are essential to ensure it contributes to promotion of the long-term interests of consumers:

1. **Network Utilisation Metrics**
   There is a critical need for more comprehensive and meaningful metrics to assess how effectively network infrastructure is utilised. Current measures based solely on peak demand provide insufficient insight. Metrics that better reflect the value delivered by network assets across the full range of operating conditions are needed. Such metrics would help guide efficient investment decisions, reduce stranded asset risks, and support the efficient integration of consumer energy resources (CER).

2. **Emissions Reporting**
   We welcome the AER's proposal to include emissions reduction reporting but contend the proposed scope is too narrow and inadequately robust. To appropriately align with national and jurisdictional net zero targets, network businesses must report comprehensively across Scope 1, 2, and 3 emissions as well as their efforts to reduce emissions. This data is essential to the AER's assessment of the prudency and efficiency of network expenditure and should include an evaluation of transition plans to ensure networks adequately contribute to emissions reductions.

We support the introduction of Annual Information Orders to consolidate reporting requirements and improve the consistency of this data. We look forward to working further with the AER and stakeholders to ensure network performance reporting continues to evolve to meet the challenges of an efficiently decarbonising energy system while promoting and protecting consumer interests.

2. Improve measurement of network utilisation

Network utilisation is a key metric for assessing how efficiently energy network infrastructure is used. It helps energy policy makers, regulators, and a growing range of stakeholders understand how to develop, operate, and manage the energy system at least cost and emissions.

The utilisation metric reflects the loading of network assets, their relative productivity and their capacity to meet peaks in demand[1]. This matters to consumers. The more efficiently network assets are used, the lower the average cost of delivering electricity and the less likely additional investments in augmentation will be needed.

In general, higher overall utilisation of transmission and distribution networks should lead to lower 'unit' prices. In relation to the existing measure of utilisation, the AER acknowledges that, "this measure is incomplete, as it does not account for two-way network flows and may not show localised constraints from exports from solar photovoltaic (PV) systems[2]."

The AER currently defines network utilisation as "a network's ability to respond to increases in maximum or peak demand." While useful, this definition is narrow and limited in value. It says little about the overall productivity of the networks assets and overlooks two-way energy flows and local constraints, especially those caused by behind-the-meter CER. By focusing only on peak demand and aggregating data across the whole network, the current metric fails to capture how the network performs the rest of the time.

Additional network utilisation measures

We support the recommendation that the AER adopt more comprehensive benchmarks, including those proposed in the recent UTS Institute for Sustainable Futures report[3]. Metrics like Total Energy Throughput Utilisation (TETU) and Two-way Power Flow Utilisation (TPFU) offer a fuller picture of how networks are delivering value to consumers.

These measures can improve network planning, reduce the risk of stranded assets, and encourage non-network solutions like flexible demand. When paired with incentives to flatten peaks in areas nearing capacity, they can increase energy throughput without costly upgrades enabling the lower 'unit prices' intended through more efficient utilisation.

The AER should use TETU and TPFU – and any other appropriate new measures – alongside traditional peak demand metrics. This would allow networks to measure not just their ability to handle one-way demand, but also their capacity to support exports, maintain reliability, and integrate local CER flows.

We welcome the inclusion of export services in network performance reporting. However, data on export capacity, battery uptake, tariffs, and curtailments is not a substitute for robust utilisation metrics. These indicators are essential for tracking CER integration, but they do not reveal how well the network supports renewable energy and demand-side strategies.

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1 We refer to peaks in the plural to emphasise that network utilisation should account for more than just system-wide demand. It must also reflect regional and zone-level peaks, local asset constraints, temporal variations (daily, seasonal, hourly), and export peaks from distributed energy resources.

2 See AER 2024 Network performance report, pp. 42

3 See Langham, Ibrahim, Rispler, and Roche Reimagining Network Utilisation in the Era of Consumer Energy Resources.

Recommendation 1

That the AER adopt complementary network utilisation metrics such as TETU and TPFU to better reflect how effectively network infrastructure delivers value to consumers, beyond peak demand alone.

3. Inadequacy of proposed reporting on emissions

We welcome the AER's proposal to include emissions reduction reporting for electricity and gas network service providers. However, the current scope is too narrow and inadequate for the wider purpose of reporting on emissions and the prudency and efficiency of investment and operational decisions to reduce those emissions.

The Issues Paper states:

> This priority has been drafted to reflect that network performance reporting will only apply to applicable jurisdictional schemes, where the NSP performance is a relevant measurement to achieving the target set by the jurisdiction to reduce or likely to contribute to reducing Australia's greenhouse gas emissions.

We do not support limiting reporting to performance against applicable jurisdictional schemes.

The targets and commitments context for AER monitoring

Achieving emissions targets and commitments such as the 2050 net zero target is a shared goal across all Commonwealth, state, and territory governments. Emissions targets form the basis of targets within the AEMC target statement under the national energy law (Target Statement).[4] The AER must consider these targets when making decisions, including when exercising its economic regulatory functions, such as monitoring and reporting.[5]

Australia also has international law obligations in respect of action on climate change which require taking measures capable of achieving our emissions reduction targets and of contributing to the Paris Agreement goal of limiting global warming to 1.5°C.

These obligations have recently been confirmed by the International Court of Justice in its Advisory Opinion on the Obligation of States in respect of Climate Change. The AER should consider Australia's obligations in its decision making in respect of emissions reduction and the reporting required to effectively measure this.[6]

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4 https://www.aemc.gov.au/regulation/targets-statement-emissions

5 See sections 16(1)(a) and 32A(5) National Electricity Law, and sections 28(1)(a) and 72A(5) National Gas Law.

6 See the ICJ Advisory Opinion on State Obligations in respect of Climate Change. See in particular paras 457 and 427. See further the International Law Commission ILC Articles on State Responsibility, (Responsibility of States for Wrongful Acts), see in particles Articles 4 and 5.

Ensuring monitoring and reporting contributes appropriately

To contribute appropriately to meeting targets and commitments, network performance reporting should:

- Quantify emissions across Scope 1, 2, and 3
- Track emissions trends against jurisdictional net zero targets (noting that net zero timelines differ across jurisdictions).
- Evaluate each network's net zero transition plan
- Identify whether intervention is needed to ensure networks contribute adequately to emissions reductions.

In response to the AER request in Table 4-2 of the Paper we provide below an analysis of why measuring network performance against emissions targets is both important and possible.[7]

Reporting on emissions not merely emissions reduction

The AER should require networks to report on the emissions produced through their operations, including Scope 1, 2 and 3 emissions (as set out in the table below). Given the AER approves network business expenditure, it should have comprehensive scope 1, 2 and 3 information, analysis of net zero transition plans, and analysis of actual emissions reductions being achieved, to properly determine whether expenditure proposals are meeting the national energy objectives to achieve emissions reductions. This is particularly important in relation to gas distribution networks.

Networks should report on their direct and indirect (scope 1 and 2) emissions so that efforts and measures taken to reduce those emissions can be observed, measured and evaluated. Networks should also report on scope 3 emissions associated with their delivery of energy to end users.

As key infrastructure by which fossil fuel energy is currently delivered, steps taken by networks directly impact on indirect emissions in their supply chain both upstream and downstream. Consideration of the emissions produced by the energy flowing through the network (scope 3 emissions) is fundamental to their business.

The efficiency of network efforts to address emissions can then be a central consideration of the AERs assessment of prudence and efficiency of network business investment and operation decisions.

Recommendation 2

That the AER expand on its emissions reporting framework for network business to ensure an adequate capacity to comprehensively assess network emissions, as well as the prudence and

[7] The AER states in Table 4-2 "In our current operational and financial performance dataset, we don't believe there is any data that could be used to assess the performance of NSPs in relation to emission reduction targets. We welcome stakeholder thoughts on how we could report NSP performance in relation to this proposed priority."

efficiency of investments and operations in reducing those emissions in line with applicable targets and commitments.

The table below gives examples of the types of emissions within Scopes 1, 2 and 3, and in brackets example types of activities networks can undertake to reduce these emissions.[8]

		Electricity networks	**Gas networks**
Upstream emissions	Scope 2 – indirect emissions	Line losses on electricity transmission and distribution lines. Energy purchased for use at facilities.	Energy purchased for use at facilities. Liquefied natural gas (LNG) use of electricity.
	Scope 3 – indirect emissions	Generation of electricity used by customers Purchased goods and services Business travel Employee commuting Waste management Upstream emissions from purchased fuel	Generation of electricity used by customers Purchased goods and services Business travel Employee commuting Waste management Upstream emissions from purchased fuel
Operations	Scope 1 – direct emissions	SF6 leaks from electric equipment Fleet fuel use Power generation	Leaks and venting from gas transmission and distribution system LNG venting and fuel Fleet fuel use Power generation
Downstream emissions	Scope 3 – indirect emissions		Use of the gas provided to customers

While scope 3 emissions can be more difficult to quantify, omitting them from network reporting

[8] This table is based in part on information in the analysis provided by UK distribution network National Grid, https://www.nationalgrid.com/stories/energy-explained/what-are-scope-1-2-3-carbon-emissions.

ignores the substantial climate impact associated with the transport of energy by networks, and the potential for networks to contribute to the reduction of those emissions. We consider it possible to measure and report on them meaningfully.

For gas networks, Scope 3 emissions should reflect the volume of fossil methane transported and combusted by consumers. Meeting climate targets will require either substituting fossil methane with renewable fuels (where it is efficient to do so) or reducing and eliminating its use altogether.

This will enable the AER and stakeholders to assess whether networks are reducing their direct emissions; supporting consumers to efficiently transition away from fossil fuels; and aligning with state and territory emissions targets.

The AER must ensure emissions reporting meets a robust standard and serves the long-term interests of consumers. Under the National Electricity and Gas Laws, the AER is required to make decisions having regard to the achievement of emissions reduction targets. It should not continue approving expenditure that inefficiently locks in future emissions and excess costs for consumers without analysing transition plans and alignment with emissions targets.

The role of the regulator is to guide the responsible phase-out of emissions by prudent and efficient network expenditure. We recommend the AER expand monitoring and reporting of emissions to appropriately enable this role.

4. Continued engagement

We welcome the opportunity to meet with the AER project team and other stakeholders to discuss these issues in more depth. Please contact [redacted] at [redacted] regarding any further inquiries.