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To: The Australian Energy Market Commission (AEMC)
Re: Consultation Paper – Electricity Network Regulation Review – Package 2

Thank you for the opportunity for the Institute for Energy Economics and Financial Analysis (IEEFA) to provide input to the AEMC Consultation Paper – Electricity Network Regulation Review – Package 2.

IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

IEEFA welcomes the AEMC's Package 2 consultation paper and the review of the economic regulation of electricity networks, which is much needed. IEEFA agrees with the AEMC's approach to "not rule out ambitious and substantive reform". However, we note that the AEMC's starting point "to consider changes within the existing ex ante incentive-based regulatory framework" could miss key opportunities to improve the economic efficiency of network services delivery. There is evidence that the current building block, propose-respond framework has not delivered efficient network costs for consumers. We recommend the AEMC broaden its scope to consider a wide range of alternatives for reform of the regulatory framework, not only refinements within it. Given this, IEEFA's submission makes three key points:

1. **The existing framework is not delivering.** Key issues within the regulatory regime include $15 billion in supernormal profits from 2014–2023, an ineffective demand management incentive scheme, a structural capex bias, and falling network utilisation alongside rising Regulated Asset Bases (RABs). In IEEFA's view, these are major problems that may not be solvable by adjusting incentive schemes and making changes to the current framework.

2. **The AEMC should consider a broad range of reform options**, including options to address excess returns and improve efficiency, to level the playing field for non-network solutions, and to protect consumers from over-investment.

3. **The AEMC should take a holistic, evidence driven, future-focused approach to the review.** IEEFA recommends international regulatory frameworks be studied and compared to the NEM. Significant evidence should also be gathered on the historical performance of the regulatory regime. Further, the processes from Packages 1 and 2 should converge as service classification decisions cannot be separated from considerations of underlying incentives and efficiency. The review should also be future focused to enable the energy system to innovate and decarbonise over the next 25 years or so.

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The existing framework is not delivering

The AEMC should not treat the current framework as the default starting point. IEEFA's analysis and other evidence documents a range of issues including but not limited to the below. These are significant issues that may not be solvable by adjusting incentive schemes and making changes to the current framework.

- **Supernormal profits are evident.**

IEEFA analysis estimated regulated electricity networks received about **$15 billion in supernormal profits** between 2014 and 2023, on top of ~$17.6 billion in allowed equity returns. In FY2022, actual profit was ~2.5 times the level necessary to compensate for risk. There is a lack of evidence these excess returns were associated with productivity improvements, and there is inadequate reporting to demonstrate these profits are balanced by a net benefit to consumers.

The AEMC notes that the framework "already contains ex post elements" that self-correct. However the supernormal profits in conjunction with minimal productivity improvement since 2006 are evidence that existing ex-post corrections are insufficient and improvements are required.

- **Capex bias exists – and non-network alternatives spend has been low historically.**

The Averch-Johnson effect predicts rate-of-return regulation will bias companies toward capex. A 2018 KPMG review identified differences in the regulatory treatment and certainty of cost recovery between opex and capex, weighted average cost of capital (WACC)-driven returns, and the operationally easier path of network build over non-network alternatives as factors that create barriers to networks making efficient expenditure decisions.

Low levels of investment in non-network alternatives suggest that the capex bias is influencing investment decisions in Australian electricity networks. From 2013–17, Energeia found non-network alternatives were just **0.15% of total network spending**, versus a potential 25%, and that spending on capital works, such as grid upgrades, increased shareholder returns by **200%** compared with the best performing non-network incentive. Prior IEEFA analysis found the Demand Management Incentive Scheme (DMIS) produced only **$3.2 million** of spending from ~$1 billion available during the 2017–2022 network revenue period.

- **The regulated asset base (RAB) is growing alongside declining utilisation.**

Distribution network per-customer RAB rose 34% from 2006–2022 while network utilisation fell 15% in absolute terms. This means consumers are now paying much more for a service they are using less than in 2006, with no correction to the RAB value.

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- **There is evidence incentive schemes have overcompensated networks.**

As shown in IEEFA network returns analysis, there is evidence the design and operation of incentive schemes have been overcompensating networks: "Incentive schemes continue to contribute significantly toward actual equity returns above the AER's target level." AER's own analysis shows distribution and transmission network productivity, or total factor productivity (TFP), growth has been weak, stagnant or negative since 2006. IEEFA has found no connection between returns and productivity. In addition, IEEFA analysis demonstrated networks were able to gain both directly higher returns from reductions in actual compared with forecast opex, and additional returns under incentive schemes. IEEFA considers the conclusions in the AER's 2023 review of incentive schemes for regulated networks warrant further examination, and should not be treated as settled in the AEMC's review.

The AEMC should consider a broad range of reform options

The AEMC should review the economic regulation of electricity networks from first principles, considering efficiency and suitability for the future. IEEFA recommends the AEMC consider a broad range of reform options as outlined below. The below includes options to improve the effectiveness of the existing regime, significant adjustments to the regime, and options that may go beyond the existing regulatory framework where the evidence warrants it.

Options to address excess returns and improve efficiency

- **Independent performance monitoring of the AER should be introduced.** The Australian National Audit Office (ANAO) found in 2020 the AER was only a "partially effective regulator". There has been no comprehensive review into whether the AER is delivering the best outcomes for consumers, in light of issues such as persistent, significant supernormal profits. IEEFA recommends an outcomes-based performance evaluation framework of the AER be introduced.

- **Absolute network service provider (NSP) profit disclosure should be implemented.** The AER publishes returns in percentages only in the annual network performance reports. IEEFA recommends each NSP publish actual versus allowed profits in dollar terms annually and the AER collate this and report on it in the annual network performance reports.

- **Appropriate resourcing needs to be maintained for the AER** to be able to regulate with appropriate scrutiny.

- **Independent third parties, including consumer advocates, should have appropriate opportunities to scrutinise decisions.** The AEMC should consider whether the consumer voice is adequately enabled by regulation processes, or if there are significant process burdens and barriers.

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- **Allowed returns should be considered in the AEMC review.** IEEFA's Draft 2026 Rate of Return Instrument (RoRI) submission noted a range of parameters that could be driving allowed returns to be higher than efficient levels. This includes equity beta, which IEEFA recommended should be 0.5 or below, not 0.55 – as AER's data shows an equity beta of ~0.4 for majority-regulated domestic companies. The AEMC excludes the *level* of the rate of return from Package 2, examining whether the RoRI framework provides sufficient flexibility for the AER, but does not examine whether the current rate of return parameters produce returns above efficient levels. In IEEFA's view, excluding this from consideration entirely is a significant gap, given the rate of return is the largest single driver of network revenue, and interacts directly with the capex bias the AEMC explores in the consultation paper. As the AEMC notes, "differences between the regulated rate of return and the NSP's cost of capital can distort its choice[s]".

- **Whether outcomes conform with the RoRI should be examined.** The AER 2026 Network Performance Report explains how in recent years the inflation rate variation (IRV) has been a key driver of higher than expected actual return on regulated equity: "The high inflation rate environment from 2022 to 2024 has led to RoRE returns being significantly higher than allowed returns, which was most noticeable in 2023." Electricity Market Advisory Services (EMAS) analysis found the IRV diverges from the trailing average portfolio return on debt (TAPRD) under Clause 9 of the RoRI. This raises the question whether the major driver of excess network returns so far this decade conforms with the RoRI, a mandatory instrument. As EMAS identified, with higher than forecast inflation to December 2025, it is clear the IRV has again resulted in substantial supernormal profits in the year to 30 June 2026. IEEFA believes this issue meets all four AEMC criteria for prioritisation. EMAS found the IRV has a material impact on consumer bills, and so removing the IRV to conform with the RoRI is feasible. Removing the IRV is separable from any wider future review of the regulatory treatment of inflation, and has so far been explicitly excluded from the scope of the 2026 RORI Review. AEMC and/or the AER should consider whether this inconsistency between RoRI TAPRD and actual regulatory allowances for debt conforms with the RoRI. IEEFA also raised this issue in a submission to the AER's RoRI.

Options to level the playing field for non-network alternatives

Non-network solutions need genuine pathways to compete. IEEFA details a range of options to enable this below:

- **An independent demand-side entity and competitive procurement should be considered.** DNSPs face a structural conflict: they build networks (which grow the RAB and absolute returns) and decide whether to procure non-network alternatives (which do not grow the RAB and absolute returns). IEEFA recommends the AEMC consider creating an independent demand-side entity to competitively procure non-network solutions from aggregators, retailers, C&I customers, batteries and distributed energy resources (DER). This would create genuine competitive tension with network capex. One option would be to restructure the Demand Management Incentive Scheme (DMIS), such that networks

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no longer had a monopoly accessing this incentive scheme. The AER could use the networks' planning data to identify areas where network augmentation was likely within a five year window and the likely cost of that augmentation. The AER (instead of the networks) could then seek offers from the market to deliver peak kVA demand reductions at lower cost than the network augmentation.

- **One nationally consistent interface for demand-side measures procurement should be implemented,** whether operated by the independent entity IEEFA proposes or through another competitively neutral arrangement.

- **Totex should be considered.** Totex (combining capex and opex) is a reform that the AEMC has put forward in the paper, to address the capex-opex distortion. Great Britain and the Netherlands, two European leaders in flexibility procurement, both use the totex model – alongside a number of other European countries. Great Britain networks contracted 9GW of flexibility in 2024. The 2017 ENA-CSIRO Network Transformation Roadmap recommended totex be adopted as default approach by 2027 – which has not yet occurred. The AEMC should consider this idea in detail. However, we do not see this as an alternative to our earlier suggestion above that the AER (or some other specialised procurement body) should establish a competitive market in the provision of non-network alternatives to network augmentation.

- **Connections should be reviewed.** The AEMC should review how connections are managed and co-ordinated in distribution and transmission networks, given long timelines and unpredictable processes. IEEFA understands complex and slow connection processes may be holding up key aspects of the energy transition, such as the connection of large-scale renewables, deployment of C&I solar and storage and deployment of public electric vehicle charging infrastructure. As discussed in the transmission section below, there may be a significant opportunity from amending network regulation to accelerate innovation and avoid inefficient and duplicative expenditure in legacy network assets, including for new network connections.

- **A strengthened non-network alternatives consideration pathway.** DNSPs and TNSPs are currently required to consider non-network options through the RIT-D and RIT-T options screening processes. However, as IEEFA detailed in its C&I solar and storage report, the RIT-D process has a number of features that prevent effective competition from non-network alternatives in the form of C&I solar and storage. Similar issues may exist in the RIT-T. A strengthened obligation or process should go beyond the current processes and requirements.

- **Grid-enhancing technologies should be enabled through the network economic regulation regime.** Various grid-enhancing technologies such as transmission support batteries ("virtual transmission"), dynamic line ratings, advanced power-flow control and other technologies can help improve network utilisation. A study by CurrENT in Europe found that innovative grid technologies (IGTs), such as advanced power flow, advanced conductors, storage as a transmission asset, dynamic line ratings and high temperature

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superconductors, could increase overall network capacity in Europe by 20–40% (based on inputs from technology experts). However, the impact on individual lines can be even greater. The study found that by investing in IGTs in Europe in parallel to conventional grid buildout, gross cost savings of €700 billion (~AU$1.13 trillion) in conventional expansion might be achieved by 2040.

The Australian government is encouraging grid-enhancing technologies through a grant program. Ideally, these technologies, where they are viable and efficient, should be effectively incentivised through the existing network economic regulation regime.

Options to protect consumers from over-investment risk

- **Peak throughput-based price-cap regulation should be considered.** Network businesses have historically earned returns well above the risk-free rate to compensate them for risk. Now, with low network utilisation, the risk of asset stranding should not be transferred to consumers – as they have little ability to manage that risk. To address declining network utilisation alongside rising RABs, the AEMC should investigate throughput-based price-cap regulation for new investment above a baseline, linking network revenue to peak kVA required by customers. If demand doesn't materialise, revenue falls rather than consumers paying for idle assets. This regulatory principle that consumers should not pay for assets they do not need is not a new one. Prior to the establishment of the national regulatory structure state regulators would 'optimise' the asset base so that it only represented the value of assets that were needed by consumers rather than what had been built (often referred to as Optimised Depreciated Replacement Cost (ODRC)). This would provide a strong incentive for networks to better judge augmentation needs and take into account the potential for technological innovations such as household batteries and vehicle to grid technologies that could reduce customers' need for network capacity.

- **A clawback mechanism for excess returns should be considered.** IEEFA recommends a safeguard be considered, under which persistent supernormal profits above a clear threshold are returned to consumers. This already exists in New Zealand, where the Commerce Commission applies this approach to Transpower.

- **Climate resilience and climate risk need to be considered in the review.** The AEMC should consider the value of climate-resilient electricity networks, and the risk to NSPs and consumers if networks have lower climate resilience or higher exposure to climate-related risk. The AEMC should consider whether the current framework appropriately encourages efficient design and build of climate-resilient networks.

- **RAB optimisations/writedowns should be considered.** As noted earlier, before the shift to national economic regulation by the AER, jurisdictional regulators typically could – and often did – write down overinvested RABs using the Optimised Depreciated Replacement Cost (ODRC) method for setting the RAB. Under the current NER, the RAB is rolled forward, meaning there are no asset writedowns or optimisation for excess

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capacity (although the AER has greater discretion to roll-in capex spent above the approved allowance). As IEEFA noted in a prior report, this change from the ODRC to the RAB roll-forward method meant the risk of excess capital investment was transferred from networks to consumers. Recommendation 11 of the ACCC's Retail Electricity Pricing Inquiry called for RAB writedowns or rebates estimating savings of AU$100 a year per customer in certain states, however they never materialised. The AEMC should consider reintroducing RAB optimisation or consider writedowns or the alternative above of introducing price cap regulation based on peak kVA demand.

- **Increase focused on transmission technology innovation to avoid inefficient asset duplication and potential future stranding.** Substantial new transmission and system security investments are proposed by regulated networks to enable the replacement of thermal by renewable generation. However, for a variety of reasons, high-voltage alternating current (HVAC) plus synchronous condenser technology options are invariably preferred by regulated networks over voltage source converter high voltage–direct current transmission (VSC-HVDC) options. Of all the transmission upgrades under development nationally, it seems unlikely HVDC is always inferior to HVAC plus synchronous condensers. Overhead HVDC has several advantages over HVAC in terms of reduced per kilometre line cost, and social licence, landowner and environmental impacts. HVDC converter stations are proven grid-forming inverters at multi-gigawatt (GW) scale, and avoid the need for investment in synchronous condensers and other technology that may have little or no value in a future inverter resource dominated grid. The unbundling of HVAC and synchronous condensers under the Regulatory Investment Test for Transmission (RIT-T) may be contributing to inefficient investments in duplicative legacy synchronous transmission assets, which risk become economically stranded in the future. This may be contributing to the extensive delays in the commissioning of new transmission and system security assets, particularly given tightening global supply chains for synchronous condensers.

  The AEMC should examine whether network incentives and other aspects of network regulation are resulting in excessive and inefficient investment in legacy assets instead of assets suitable for an inverter-dominated grid.

- **Cost pass-throughs should remain targeted exceptions**. The AEMC must ensure cost pass-throughs do not transfer typical network forecasting and delivery risk to consumers. The AEMC should consider the risk of rising natural disaster-related costs and how to address them.

- **Anticipatory investment should be treated with caution.** Some early investment may be efficient, but the 2006–2015 overinvestment period is a cautionary story. Three DNSPs proposed 20–22% capex increases for 2025–2030 in regions with >45% rooftop solar. Network capex should be tested against and compared with DER substitution and other non-network options. This is particularly important given the capex bias and low historical uptake of non-network alternatives documented above.

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- **Transmission delivery should be subject to stronger accountability**, including transparent performance reporting and clear consequences for cost overruns and delays.

A holistic, evidence-driven approach to the review

IEEFA recommends the AEMC take a holistic, evidence-driven approach to the review, and makes the following high-level recommendations regarding the AEMC's approach to the review.

- **An international study and comparison should be undertaken.** IEEFA recommends the AEMC undertake a detailed comparative review of regulatory frameworks and actual consumer outcomes in Great Britain (RIIO + flexibility), New Zealand, the Netherlands (yardstick + totex), and Hawaii (outcome-based PBR) and a range of other countries to explore a wide range of possible models.

- **Significant evidence should be gathered on the performance of the regulatory regime.** This should include efficiency of network costs, historical trajectory of network costs, cost pass-through data, risk analysis, non-network solutions uptake and a range of other data to better inform debate and decision-making.

- **Package 1 & 2 processes should converge.** Service classification decisions addressed in Package 1 will directly affect incentives and efficiency considerations addressed in Package 2 (and vice-versa). The processes should be considered together.

- **The review should be future focused.** The review should design for the next 25 years or so, to enable the energy transition to 2050. The regulatory framework should be built around an active consumer and prosumer, not preserve a framework designed for passive consumption. Technology, consumer participation and competitive alternatives will continue to develop, and the framework needs to be able to evolve with them.

IEEFA thanks the AEMC for the opportunity to provide comments, and looks forward to the next stages of the electricity network regulation review.

Kind regards,

Johanna Bowyer, Lead Analyst, Australian Electricity