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Australian Energy Market Operator – Draft Competition Benefits Inputs, Assumptions and Methodology – October 2021

EnergyAustralia is one of Australia’s largest energy companies with around 2.4 million electricity and gas accounts across eastern Australia. We also own, operate and contract a diversified energy generation portfolio across Australia, including coal, gas, battery storage, demand response, wind and solar assets, with control of over 4,500MW of generation capacity.

We appreciate the opportunity to comment on the possible calculation of competition benefits as part of AEMO’s Integrated System Plan. We recognise that competition benefits are listed amongst those that AEMO must have regard to under clause 5.22.10(c) of the NER, subject to AEMO providing reasons regarding their immateriality or disproportionate computational burden.

We underline AEMO’s conclusion, in its July 2021 ISP Methodology, that the calculation of competition benefits is a challenging task, especially when compounded by analysis of benefits from multiple projects that collectively form a candidate development path. We question the context for AEMO’s consultation on this matter after publishing its Methodology which, in some part, appears to reflect EY subsequently undertaking analysis for Humelink’s Project Assessment Conclusion Report. We do not consider this analysis has any bearing on demonstrating the materiality or proportionality of burden in considering competition benefits under clause 5.22.10(c)(3). In the absence of further public scrutiny, it is unclear whether EY’s analysis, given inherent uncertainty in the values it produced, materially alters the case for the preferred investment option. EY also referred to “the Frontier approach”, which might incorrectly imply this is a long-standing or accepted methodology. There was no sensitivity analysis of the results, nor any discussion of the shortcomings involved and so the need for caution in relying on results. This contrasts to the 2004 Frontier Report on which EY’s analysis was based:

Given the generally positive results of this exercise (in terms of demonstrating the workability of the approach and the intuitively sensible results) we believe that a more detailed analysis of the assumptions is warranted. This more detailed assessment would aim to ensure the estimated benefits are not overly sensitive to key assumptions and would allow a more considered calibration of the base case assumptions to ensure they are broadly in line with expectations in relation to price levels and frequency and severity of transmission constraints. In the meantime, the results of this analysis should be used cautiously.¹



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¹ Frontier Economics, 2004, *Evaluating interconnection competition benefits – Final Report*, pp. vi-vii.

We therefore support the general tenor of caution in AEMO's consultation paper and its intention to remain conservative in choices of methodology and inputs. We expect that it will be similarly cautious in relying heavily on competition benefits in selecting between candidate development paths. Further modelling efforts and stakeholder discussion following the draft, and even beyond the final, 2022 ISP will be required to refine and build confidence in any approach, assuming it can be suitably relied upon in the manner AEMO expects. Notably, it will be difficult to determine the importance of method and input choices without viewing, discussing and re-running example calculations. It is unfortunate that EY did not conduct sensitivity testing of its results for Humelink and we recommend that, if AEMO is minded to progress down this path, it invest effort in properly testing the robustness of its approach. This testing would include clearly outlining the direct impacts of the methodology on the scope and timing of projects within chosen development paths, as well as associated market outcomes such as prices and dispatch volumes.

AEMO also has an important but separate 'threshold' decision on whether to formally adopt this in its ISP methodology and IASR. Doing so will set a precedent as well as place certain obligations on subsequent RIT-T proponents under the NER. That is, it may be an option to conduct competition benefit calculations for the ISP that are not explicitly part of its methodology.

AEMO proposes to model competition benefits in situations where such benefits will likely materially affect the selection of the optimal development path. This seems more likely to arise in situations where candidate investment pathways are effectively indistinguishable in terms of traditional net market benefits. This presents a 'catch 22' situation as reliance on competition benefits as a 'tie breaker' will likely involve more stakeholder disagreement than the standard market benefits calculation on its own. While we support the judicious use of competition benefits, and the materiality and proportionality considerations under the NER, AEMO should consider additional means to refine its traditional net benefits calculations before having to resort to using competition benefits.

Ultimately the reliance on competition benefits should be to explore the relative magnitude of benefits for different candidate development paths, and absolute dollar values of benefits should not be relied upon. As per our previous point, use of competition benefits will only add value where it is clear, within the bounds of uncertainty, that competition benefits are significantly different across different candidate investment pathways.

Our feedback on specific methodological issues and assumptions are as follows:

- While various proposed elements might appear to drive conservatism in benefits calculations, it is unclear whether this would actually be the case, particularly when elements are combined. For example, some assumed capacity/ bidding strategies of coal plant, demand elasticities and exclusion of hydro and battery storage are arguably aggressive. We agree that dynamic competition benefits should be excluded.
- We would caution against heavily relying on 'raw' historical observations of particular plant bidding as a demonstration of market power, as this will likely reflect periods of transient fuel and resource scarcity. These factors, as well as incentives around contracting and from vertical integration, were noted in the Frontier Report² from which EY has based its assumed bidding strategies. While noting the difficulties in splitting out "genuine unavailability" from "strategic

² [Frontier Economics Modelling of Liddell Power Station Closure.pdf \(energy.gov.au\)](#)

withdrawal/repricing”, assuming all observations reflect the latter is highly questionable. At a minimum, EY’s/ Frontier’s inclusion of an option to leave only 40% capacity at SRMC bidding for Bayswater, Mt Piper and Stanwell does not appear to be supported by historical data. It is also unlikely to be a reasonable view of sustained bidding practice over the full modelling horizon, as would be the case in 6 of the 54 combinations of strategic bidding.

- We note the proposed range of portfolio strategy options implies that between 4,600MW and 1,200MW of supply capacity is effectively repriced to \$500/MWh as part of the competition benefits study definition:

	lowest strategy option	highest strategy option	Maximum capacity	Capacity at lowest strategy option	Capacity at highest strategy option
Bayswater	40%	80%	2,690	1,076	2,152
LYA	80%	95%	2,210	1,768	2,100
MP	40%	80%	1,390	556	1,112
Stanwell/Tarong	40%	90%	2,860	1,144	2,574
Capacity at SRMC			9,150	4,544	7,938
Capacity repriced				4,606	1,213
Existing dispatchable capacity				42,600	
% repriced				11%	3%

Whilst these numbers represent a relatively small proportion of the existing dispatchable capacity, they are quite material when considered in the context of the individual power stations. Hence we seek AEMO’s further consideration of why these numbers represent a suitable range of supply to be included over the entire planning horizon, and assurances that AEMO will disclose and discuss which of the 54 combinations that satisfies the Nash equilibrium.

- We also seek AEMO’s further exploration of the hypothesis that deriving the Nash equilibrium from all bid combinations for each half-hourly (or hourly) interval for a 25-year study period is computationally expensive and is therefore not proposed — such that AEMO will determine the Nash equilibrium to be one of the 54 combinations that applies for the full outlook period. That is, why the Nash equilibrium will not and should not been investigated for each hour independently, or for each year independently. For example, fewer combinations can allow this more dynamic, and likely more representative, approach to be adopted.
- We also understand EY used proprietary market simulation software for its Humelink analysis, not Plexos software that is used by AEMO. It does not necessarily follow that the EY methodology can be translated directly into Plexos. Based on EnergyAustralia’s knowledge of Plexos, we would not support the proposed 54 combination approach.
- AEMO’s modelling of generation plant and bidding strategies should also consider price outcomes in terms of recovery of fixed costs, take-or-pay contracts and plant exit. It is not clear, for example, whether this is constrained by the methodological requirement to use an exogenous generation investment pathway across different Plexos model runs. We would also be concerned about the lack of internal consistency if prices post competition modelling were not used as an input into the long-term capacity modelling. Frontier asserts that \$5000/MWh would not provide an investment signal — this should be tested, particularly given storage technologies were not as commercially scalable or viable at the time of Frontier’s study.

- AEMO should also be guided by the need for consistency across modelled outcomes. Noting our support for a conservative and transparent approach, this consistency might actually dictate calculation of benefits for the full time horizon rather than arbitrarily truncating it to 10 years. To the extent benefits are in proportion to retiring coal plants, their tailing off should be seen in the modelling results in any case.
- Reliance on competition benefits, including demand response via price changes, is likely to be politicised. AEMO will need to be transparent but also cautious about presenting wholesale spot price outcomes (i.e. the relative price uplift across scenarios that is avoided by capturing competition benefits) across affected jurisdictions.
- We are cautious about the modelling of demand elasticity feedbacks. We would, for example, be concerned where the analysis presumes sustained additional electricity demand is created through customer load due to sustained reductions in wholesale prices. We note the proposal to apply a 50% discount on the traditional price elasticity factor of -0.1 to account for the conversion between retail and wholesale prices. We encourage AEMO to explore the suitability of this adjustment further as it should apply to the various wholesale customer segments. There is also currently a lack of transparency around precisely how additional demand via electrification from cross-sector emissions reduction trajectories will be modelled by AEMO. As such, the additional overlay of demand elasticity as part of modelling competition benefits is likely to create greater uncertainty regarding AEMO's approach to modelling demand.

If you would like to discuss this submission, please contact me on 03 9060 0612 or Lawrence.irlam@energyaustralia.com.au.

Regards

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