Response to Australian Energy Market Commission Preliminary Findings

Review into the use of total factor productivity for the determination of prices and revenues[1]

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[1] Project Number EMO0006

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Review into the use of total factor productivity for the determination of prices and revenues[2]

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1. Executive summary

The Energy Networks Association (ENA) welcomes the opportunity to contribute further to the Australian Energy Market Commission's (the Commission) review of the use of a total factor productivity (TFP) methodology in energy infrastructure revenue and price setting.

ENA notes that the basis for the Commission's range of preliminary assessments is a comparison of a potential TFP approach, with the features broadly as outlined in previous design discussions and the existing building blocks approach as reflected in the Chapters 6 and 6A of the National Electricity Rules and the National Gas Rules.

Whilst having an explicit basis for important threshold assessments is sound and transparent, industry considers that by its nature comparing the existing building block approach to a yet to be developed TFP approach in forming a draft recommendation to MCE is conceptually problematic. It is ENA's view that if the assumption is the introduction of a TFP option beyond 2018-19, then the Commission's assessment should seek to account for the likelihood that the building blocks approach will evolve to seek to address many of the deficiencies identified.

Energy networks support a need to regularly examine and update regulatory frameworks to ensure they represent best-practice. Industry favours periodic '"holistic" reviews of the economic regulatory framework. To maximise effective participation in a clear evidence-led process, however, these need to be commissioned with wide terms of reference and designed to engage with a full range of stakeholders with a shared understanding from the outset as to the 'all-inclusive' scope of the review. Further, they must be timed so as to be undertaken only after sufficient empirical evidence is available on the experience with the framework (for example, at the completion of two complete cycles of regulatory reviews). Detailed energy rules have only been in operation since 2007-08. For this reason, in response to the Commission's proposed way forward, ENA considers the Commission should recommend such a review occur before any final decision is taken by the MCE on the integration of a TFP methodology in the energy access regimes.

Taking into consideration the proposed timeline for collecting data for the TFP methodology over eight years, there does not appear to be a compelling reason to seek to develop detailed rules and settle design issues over the next 12 months. The Commission's timeline of at least eight years provides a valuable window in which to exercise an "option to wait". This would allow final rules

[2] Project Number EMO0006

on a TFP approach to be better informed as key uncertainties impacting on the future productivity of networks begin to be resolved.

Recommended approach

Based on its assessment of the Preliminary Findings report and work to date through the TFP review, ENA recommends that a practical way forward would be to:

1. more fully analyse the scope of existing information provisions to obtain clarity over whether further powers are actually required;

2. clarify the expected scope of additional information required to implement TFP;

3. recommend to the MCE that development of TFP enabling rules be deferred to a later stage and over longer time frame than is currently proposed in the Preliminary Findings; and

4. recommend to the MCE that in-principle a comprehensive review of the operation of new energy rules incorporating issues such as those raised in Ofgem's RPI-x@20 review and the Brattle Report should be carried out by the AEMC at the completion of the second full cycle of network pricing reviews, and before a final decision is made by the MCE on the TFP approach

2. Background

ENA is the peak national body for Australia's energy networks which provide the vital link between gas and electricity producers and consumers. ENA represents gas distribution and electricity network businesses on economic, technical and safety regulation and national energy policy issues.

Energy network businesses deliver electricity and gas to over 13.5 million customers, employ more than 40,000 people and contribute approximately 1.25 per cent to Australia's gross domestic product. Energy is delivered across Australia through approximately 48,000 km of transmission lines, 800,000 kilometres of electricity distribution lines and 81,000 kilometres of gas distribution pipelines. Energy network businesses are valued at over $60 billion and annually undertake an average investment of approximately $6 billion in network operations, reinforcement, expansions and greenfield extensions.

3. Efficiency under TFP methodology

An important consideration in assessing the TFP methodology is its capacity to promote efficiency. In principle, and in appropriate circumstances, industry considers setting prices by reference to an externally derived index can provide strong incentives for productive and allocative efficiencies.

3.1 Wider assessment of information asymmetry

The Commission's preliminary finding is that efficiency would also be improved because of reductions in what is referred to as 'the information asymmetry problem'. The findings, however, do not appear to be based on a comprehensive or balanced assessment of the likely practical extent of information asymmetry in the existing regulatory context. Importantly, such an analysis

should include consideration of features of the regime which may mitigate the information asymmetry issues identified. These include:

- the use of businesses' revealed cost information in setting future expenditure benchmarks;
- access to historical regulatory accounts prepared on the basis considered necessary by the economic regulator;
- capacity for the regulator to collect and maintain any information considered reasonably necessary for the exercise of its functions and powers;
- long-term incentives on businesses to provide realistic and well substantiated information and cost forecasts arising from the nature of pricing regulation as a known 'repeat game';
- short-term business risks arising from provision of poorly based or incomplete information, such as a capacity for the regulator to substitute proposed values and parameters;
- legal obligations on office holders of the regulated business not to provide false or misleading information; and
- requirements on businesses to certify at Board-level the completeness and accuracy of regulatory proposals.

Industry continues to support the systematic analysis carried out by the AEMC on these issues that led to the finalisation of the electricity transmission rules contained in Chapter 6A in November 2006. In this context, the overall effects of all interacting features of the 'regulatory package' were considered.

It is also important that any propositions made that price movements reflect the operations of information asymmetries are robustly sustained. The Commission should place little weight on unsupported claims that any significant increases in energy prices and network tariffs are proof that significant 'information asymmetries' are operating to distort prices. These claims ignore a range of other explanatory factors for price variations related to network asset lives, growing peak demand, and would ultimately need to be tested against the detailed evidence put before each regulatory pricing review to be meaningfully assessed.

3.2 TFP methodology as an optional alternative

Energy network businesses consider the principle of 'optionality' (i.e. that the use of TFP alternative is only applied at the election of the business) is fundamental to the compatibility of any TFP model with revenue and pricing principles and national electricity and gas objectives. In this respect, industry considers that the Commission needs to provide weight to the goal of promoting investment and regulatory certainty around the development of alternative methodologies, which in turn will encourage timely and efficient investment programs lowering whole of life asset costs.

The potential for the 'optionality' of TFP to be eroded by future rule changes puts at risk the goal of investment certainty. In ENA's view if a rule change was developed that permitted this level of regulatory discretion to evolve in the future, its consistency with the NEL/NGL objective would be open to significant question.

A possible option suggested for the Commission's consideration is a recommendation to enshrine a legislative principle in the National Electricity and Gas Laws, recognising a right of service

providers to continue to be regulated via the building blocks approach. This approach would be consistent with other provisions of national energy laws which set out the eligibility for various forms of regulation (e.g. electricity form of regulation factors, gas pipeline coverage provisions and regulations pertaining to the eligibility of gas networks and pipelines for 'light regulation' under the *National Gas Law*).

3.3 Design choices of a TFP methodology

The design choices recommended by the Commission for any TFP methodology developed will likely play a critical role in the desirability of the use of the option, and its longer-term effectiveness.

To provide a minimum level of certainty for businesses seeking to depart from traditional pricing approaches alternate 'rolling X' or 'fixed X' TFP methodologies should be fully specified in the rules in advance, and a service provider should have the right both to select the chosen approach and achieve a longer regulatory period if desired.

In its analysis of the potential for the TFP methodology to deliver improved efficiency outcomes the Commission notes that a key risk to the workability of the methodology may be the atypically high levels of technology change and business and policy uncertainty currently facing energy networks. Key uncertainties include the timing and form of possible smart metering rollout obligations, smart grid developments, likely enhanced renewables uptake affecting infrastructure location and possible changes to the timing and implementation of the Carbon Pollution Reduction Scheme. With the introduction of the TFP methodology being considered for the first time against this background ENA considers it is important that there is a clear capacity to revert to building blocks in order to guarantee satisfaction of the national energy revenue and pricing principles.

Concerns discussed in the Preliminary Findings around regulated firms 'conserving' capital and then switching to building blocks to 'over recover' required revenues are insufficient justification for vesting the AER with a highly discretionary power to refuse to revert to building blocks regulation. As with the analysis on information asymmetry, 'principles level' analysis of this issue should be supplemented by a careful review of the actual range of mechanisms that would mitigate this risk. Energy network businesses consider that binding license conditions, normal commercial incentives to minimise whole of asset life costs, as well as service and quality incentive mechanisms would sufficiently mitigate the stated concern.[3] In the event that the AER was given discretion to refuse reversion to building blocks then merits review must be available given the significance of this decision for the firm.

4. Recovery of efficient costs and investment

The principle of providing regulated firms with a reasonable opportunity of recovery of efficient costs, embedded in the National Electricity and Gas Laws revenue and pricing principles, is a key element of a certain investment framework.

Energy network businesses consider that it is not clear how the national energy revenue and pricing principles would be met by a TFP index methodology which simply adjusted forward revenue in a mechanistic way from data on past observed TFP trends. This is the approach that is adopted by both the 'rolling X' and 'fixed X' methodologies. The underlying assumption of this

[3] See AEMC Preliminary Findings *Review into the use of total factor productivity for the determination of prices and revenues*, 17 December 2009, p.33

approach is that future productivity can be proxied by past productivity performance, that is, that the future looks like the past.[4] Alternatively, it is argued that while historical productivity performance may be different to future productivity performance, the lagged integration of actual productivity performance means substantial differences between the past and future will not undermine a capacity to recover costs.

Neither of these propositions have been modelled or tested sufficiently through the process to date, yet they are central to the medium term regulatory and commercial sustainability of a TFP regime. It is critical for investment certainty that service providers have an assurance that *each individual determination* takes into account and satisfies the revenue and pricing principles, not that they are achieved 'on average' over an unspecified 'long-term'.[5]

The need to enable the prospective recovery of efficient costs and investments over a reasonable timeframe places special emphasis on the development of, and longer term commitment to, safeguard mechanisms. ENA support the development of safeguard mechanisms as they would be critical to providing regulated firms with the confidence to opt-in to a TFP approach. The types of safeguard mechanisms available should be described in the Rules, with service providers proposing the precise parameters as part of their TFP regulatory proposal

5. Conditions required by TFP methodology

5.1 Robust and credible data set

Energy network businesses concur with the Commission's initial findings that applying a TFP methodology would require a comprehensive data set collected on a consistent basis over an extended period, as the information required to derive TFP performance is not available on a robust basis from adjusted past data.

This raises the issue of how sufficient data will be collected in the future to underpin the further design, assessment and implementation of the TFP methodology. The Commission addresses this issue by suggesting that a range of new or amended information collection powers may be required. The Preliminary Findings, however, fail to adequately consider the range and scope of existing information-gathering powers – recently extended by MCE in energy laws – in its analysis both on the issue of information asymmetry and the need for data.

Data collection which could be used to support the use of TFP within a regulatory process is already permitted by the NEL and NGL. The AER has yet to exercise its existing powers to issue industry-wide Regulatory Information Orders, which would be the primary instrument for ensuring the gathering and maintenance of data for the purpose of benchmarking the productivity performance of energy network businesses. At times the Commission's analysis seems predicated on the erroneous presumption that there are no existing information collection mechanisms and that designing enhanced information requirements is a primary task for the review.[6] Industry considers it critical that any overlaps in the information collection scoping processes arising from the current review and the AER's stated intention to develop standardised Regulatory Information Orders are avoided.

More broadly, the Preliminary Findings appear to be somewhat unclear on the materiality of information collection issues, suggesting simultaneously that new powers and information may

[4] AEMC (December 2009), p.44
[5] See AEMC (December 2009), p.39 and p.44
[6] See AEMC (December 2009), p.51

be needed, and that the information required will not be substantially different or 'deeper' than that currently collected. These views need to be clearly reconciled prior to draft recommendations being made to the MCE. Industry's clear view is that the collection of the types of data contained in Appendix E of the Preliminary Findings is likely to involve substantial additional costs arising from the creation and integration of information capturing systems, and engineering/asset information beyond typical regulatory accounting outputs.

A full assessment of the potential quantum of these additional costs should form part of a balanced cost-benefit assessment by AEMC to MCE *prior* to the development of any detailed TFP rules or methodologies, given that these are upfront actual costs to be borne by the entire industry and consumers regardless of whether any particular firm uses the TFP option. This point suggests that development of detailed TFP rules should be deferred to a time closer to their potential implementation, so that the costs involved in rule design are not incurred until it is clear that the potential benefits of a TFP approach outweigh the additional information collection and other costs.

5.2 Measuring productivity performance

Central to the development of any workable TFP methodology is the question of how a productivity index can and should be designed. A significant amount of technical expertise and debate has occurred on this over the past five years both within industry and government.

The Commission's Preliminary Findings proceeds on assumption that an eight year data series will be sufficient to build an index which has the attributes of being both stable and having predictive power.

ENA is concerned that there is a risk that a simplified assumption of a 'classical' business cycle of fixed length will be inappropriate given Australia's recent economic performance. This performance has included sustained periods of annual gross domestic product growth more than twice the length of the suggested business cycle benchmark.[7] This fact casts doubt on whether a data series constructed over a single shorter time period (or eight years, in this case) will genuinely reflect the potential for business cycle driven variations in productivity.

A second issue is that there is no evidence offered in the Preliminary Findings to support the proposition that an index which is a *stable* extrapolation of past TFP performance will necessarily be a statistically reliable measure, or even a sound estimate, of expected productivity. The Commission appears to consider both stability and 'predictive power' as important criteria for any TFP index. Further decisions on the design of a methodology will need to clearly address the potential for the goals of stability and predictive power to conflict, and provide guidance over how these goals may need to be traded off or prioritised.

A further area which ENA considers could be valuably developed in the Commission's report is how the measurement of TFP would be affected by a range of cost-based safeguards and building blocks style 'add on' mechanisms. There is insufficient clarity in the Preliminary Findings over precisely how measurement of a TFP index could exclude impacts from parallel operation of elements of the building blocks approach. For example, it is unclear how events such as cost pass-throughs processes and mandated smart meter rollouts could be robustly separated at the

[7] http://www.treasury.gov.au/documents/239/PDF/paper05.pdf cf AEMC (December 2009), p.49

business and industry level.[8] Until this is resolved, it would be unclear what meaning could be applied to an overall TFP index.

A similar issue arises from the jurisdictional nature of reliability standard setting. Applying benchmarking techniques against a background of evolving differentiated reliability and service standards being set at a State or Territory level may produce results that do not adequately account for differences between businesses minimum service and reliability obligations, or the impacts of changes in these obligations on measured efficiency. Jurisdictional standards will also shape network planning and design frameworks applied by individual frameworks, leading to direct and indirect impacts on each capital investment decision made. The Preliminary Findings do not appear to adequately address how these material issues could be addressed by a TFP approach.

6. Impacts of the TFP methodology on the regulatory framework

Energy network businesses consider that an examination of possible impacts of the TFP methodology on the regulatory framework is important, but that such early analysis needs to recognise the inherent information limitations present.

In view of this, industry supports the Commission's caution in finding that it is ultimately *uncertain* whether the cost of regulation will be reduced by the introduction of TFP approach. This is because the counterfactual is unknown and the full cost of potential information collection processes cannot be estimated until the data requirements are fully specified.

ENA considers that similar caution should inform future analysis by the Commission on the issue of appeals. There is no empirical basis on which to conclude that reviews and appeals would be less frequent or costly under a TFP approach than under a cost-based review. Indeed, the range of safeguards, off-ramps, initial P^0 reviews, as well as a continuing need to establish a range of parameters and forecasts might actually lead to a greater scope for regulatory error and reviews. Introduction of new regimes can typically increase the likelihood of challenges as the scope of discretions or the meanings of key terms are tested. This should not simply be characterised as a cost, however, without also recognising that an offsetting benefit of such reviews is increased certainty as to the operation of a regime going forward.

As the Commission has identified, the balance of costs and benefits for a TFP approach will to a large extent rely on whether a TFP methodology is seen as practicable and workable by firms eligible to opt for it. A high-level observation can be made that to the extent that any TFP regime has features that reduce investment certainty, the likelihood of no business selecting the approach rises significantly. Such features would include heightened levels of regulatory discretion and/or a potential for firms to be 'locked in' to a TFP approach for a lengthy period without capacity for a cost-based review.

7. Applicability of TFP in electricity and gas sectors

Energy network businesses support the principle of eligible businesses having the option of utilising a TFP based approach which is clearly specified in the relevant National Electricity and Gas Rules. Broadly, network businesses concur that to the extent a TFP approach is feasible (which is still an outstanding issue), it is most likely to be able to be robustly applied in the electricity and gas distribution sectors.

[8] See AEMC (December 2009), p.38

The particular industry characteristics of the gas and electricity transmission sectors, featuring irregular discrete 'lumpy' investments favour ruling out the use of TFP for these sectors, and avoiding the likely significant associated data collection costs.

8. AEMC Assessment and way forward

8.1 Benchmark for assessment

ENA notes that the basis for the Commission's findings is a comparison of a potential TFP approach, with the features broadly as outlined in previous design discussions, and the existing building blocks approach as reflected in the existing provisions of Chapter 6 and 6A of the National Electricity Rules and the National Gas Rules.

Whilst the Commission making explicit the basis for assessment is sound and transparent, industry considers that by its nature comparing the existing building block approach to a yet to be developed TFP approach in forming a draft recommendation to MCE is problematic. The difficulty that arises is that such a comparison does not allow for the most likely counterfactual – the continued evolution of the building block approach over the next decade. ENA suggests that if the assumption is the introduction of a TFP option beyond the years 2018-19, then the Commission's assessment should seek to account for the likelihood that the building block approach will evolve to seek to address many of the deficiencies identified.

Ofgem's current RPI-x@20 review, and, to a lesser extent, the Brattle Group's report indicate the potential directions of such reforms. These reports also highlight that the introduction of a TFP option should not be viewed narrowly as the only constructive or viable alternative to the existing building blocks approach. The RPI-x@20 review, for example, does not even consider movement to the approach.

8.2 Examination of broader issues surrounding building blocks approach

Energy networks acknowledge a need to regularly examine and update regulatory frameworks to ensure they represent best-practice. Industry favours periodic "holistic" reviews of the economic regulatory framework. To maximise effective participation in a clear evidence-led process, however, these need to be:

- commissioned with wide terms of reference;
- designed to engage with a full range of stakeholders with a shared understanding from the outset as to the 'all-inclusive' scope of the review; and
- timed so as to be undertaken only after sufficient empirical evidence is available – recognising that detailed energy rules have only been in operation since 2007-08 (implying a review may be appropriate, for example, at the completion of two full cycles of regulatory reviews)

For this reason, in response to the Commission's proposed way forward, ENA considers the Commission should recommend such a separate broader review on possible improvements to existing models of regulation occur before any final decision is taken by the MCE on the integration of a TFP methodology in the energy access regimes.

8.3 Timing and way forward

Given the proposed timeline of collecting data on the TFP methodology over eight years, there does not appear to be a compelling reason to seek to develop detailed rules and settle design issues over the next 12 months.

The AEMC's timeline of at least eight years provides a valuable window in which to exercise an "option to wait". This would allow final rules on a TFP approach to be better informed as key uncertainties impacting on the future productivity of networks begin to be resolved

Based on its assessment of the Preliminary Findings report and work to date through the TFP review, ENA recommends that a practical way forward would be to:

1. more fully analyse the scope of existing information collection powers to obtain clarity over whether further powers are actually required;
2. clarify the expected scope of additional information required to implement TFP;
3. recommend to the MCE that development of TFP enabling rules be deferred to a later stage and over longer time frame than is currently proposed in the Preliminary Findings
4. recommend to the MCE that in-principle a comprehensive review of the operation of new energy rules incorporating issues such as those raised in the RPI-x@20 review and the Brattle Report should be carried out by AEMC at the completion of the second full cycle of network pricing reviews, and before a final decision is made by the MCE on the TFP approach.

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