



Response to the Australian Energy Market Commission—Draft Report—Review into the use of total factor productivity for the determination of prices and revenues

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1. Overview

The Energy Networks Association (ENA) welcomes the opportunity to respond to the Australian Energy Market Commission's (the Commission's) *Draft Report—Review into the use of total factor productivity for the determination of prices and revenues* (Draft Report).

Energy network businesses support the Commission's broad approach of deferral of detailed development work on a total factor productivity (TFP) model to a later stage where more evidence may exist about its prospects of clearly satisfying the national energy law objectives. It is important for regulatory certainty, however, for the Commission to ensure any early draft rules enshrine some key high-level design principles to provide stakeholders ongoing confidence that application of the TFP methodology (and assumption of its specific potential risks by networks) will remain a voluntary option, rather than an externally imposed requirement, under future regulatory rules.

The proposed introduction of new information-gathering powers and requirements under a rule change process is an area of some concern with the Draft Report for network businesses. The draft rules discussed by the Commission have the potential effect of materially affecting a number of legal policy decisions and balanced assessments made by industry and the Ministerial Council on Energy (MCE) in the design of the recently revised national energy law and rules framework. The introduction of information-gathering rules which have the practical effect of weakening legal and due process protections provided to network businesses under the relevant laws is a key ongoing policy issue for the sector, on which further dialogue with the Commission is sought.

Further analysis by Economic Insights comparing outcomes under a number of scenarios between a variety of TFP-based models and a highly stylised 'building blocks' comparator has added useful information to the ongoing policy debate on the use of a TFP approach. ENA considers a number of assumptions and simplifications adopted in the modelling, however, means that caution needs to be taken before concluding, as is claimed, that the building blocks model may be 'riskier' than some variants of the TFP approach. In addition, ENA is concerned that under a range of scenarios TFP approaches modelled appear to fail to meet revenue and pricing principles enshrined in the national energy laws.

Finally, energy network businesses have a number of concerns surrounding the drafting and workability of proposed 'stage 1' rules. In particular, a number of terms in the early drafts of the relevant rules have significant uncertainties associated with their meaning and practical operation, increasing the potential for subjective discretionary decisions which may negate the benefits claimed for adoption of a TFP-based approach.

Recommended approach

Based on its assessment of the Draft Report and work to date through the review, ENA recommends that the Commission should:

1. ensure 'stage 1' rules embed the principle that use of the TFP methodology should be an option available to eligible distribution businesses at their discretion
2. ensure any information-gathering provisions contained in the relevant energy rules also include procedural protections similar to those currently in force in national energy laws
3. review the proposed 'stage 1' draft rules clarifying the scope of key terms surrounding the adjustment of service provider data; and
4. review the proposed conditions for the AER forming a view that the introduction of a TFP approach is feasible, avoiding any requirements to effectively forecast the future productivity potential of the sector or individual firms.

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 percent 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 \$65 billion and annually undertake an average investment of approximately \$12 billion in network operations, reinforcement, expansions and greenfield extensions.

3. Proposed two-stage approach

3.1 Absence of key design principles for TFP model and approach

The Commission has moved to develop a two-stage approach to the potential introduction of the TFP methodology under national energy rules. A significant area of difference between the Commission's report and its earlier preliminary findings is the absence of substantive discussion in the Draft Report of some of the critical design and operational features of a future workable TFP model.

Energy network firms consider that while detailed development of a final TFP methodology should be deferred until the Commission's contemplated 'stage 2', it remains important, to provide a degree of regulatory stability and certainty, for the Commission to set out and reaffirm a small number of important policy principles relating to implementation of the TFP methodology.

One such principle, discussed in the previous Preliminary Findings paper, is that selection of the TFP approach in the future must remain an option available to regulated firms at their sole discretion. There must be no possibility of the approach being imposed upon firms involuntarily. A capacity for a regulated firm to opt for a building blocks style review if it faced external circumstances likely to put it in the situation of breaching financial capital maintenance or its regulated charges failing to meet the requirement of the national revenue and pricing principles set out in the national energy laws, is also a basic principle which can usefully be enshrined in the Commission's further rule design.

In addition, and for the same reasons, the Commission needs to make clear that the building blocks regime will remain a key ongoing element in the economic regulatory framework. Providing certainty that a building blocks framework will continue to remain available over the medium term is critical to sustaining confidence necessary to attract investment funding required for the renewal and expansion of long-lived network assets. It also clarifies that movement to an optional TFP-based approach represents a low-risk expansion of the set of regulatory tools available under the framework, not an unquantifiable step-change in regulatory approach.

3.2 Collection of data to support TFP methodology—policy issues

Energy network businesses have strong concerns relating to the development of detailed information collection provisions envisaged under the initial drafts of the 'stage 1' rules.

3.2.1 Policy design underlying existing information provisions and experience to date

Information collection powers under the current national energy laws and rules were subject to considerable policy discussion at the time of their finalisation. A critical issue deliberated upon by policy makers, including the MCE, was the appropriate role of the Law and Rules, and the legal policy considerations of locating a variety of powers and obligations in either the Law or Rules.

As a result of these deliberations, the MCE developed revised national energy legislation which clearly located a set of extended information-gathering provisions in the *National Electricity Law* and the *National Gas Law*. This policy decision included the conscious withdrawal of a range of supporting information collection provisions of, for example, the previous National Gas Code (for example, Schedule A) and the centralisation of these provisions in the new energy legislation. New powers specifically inserted into the new laws included the capacity to require the annual collection and maintenance of information by service providers in a form prescribed by the Australian Energy Regulator (AER). Two new regulatory instruments were provided for, first a Regulatory Information Order, and secondly, a Regulatory Information Notice. Regulatory Information Orders are instruments able to be issued to all or certain classes of network firms, and were designed to provide the basis for consistent industry-wide data collection processes which the AER advised MCE were necessary for the execution of its regulatory functions.

To date, the AER has completed nearly a full cycle of revenue and pricing reviews without developing and publishing a Regulatory Information Order. In contrast, it has executed its functions using a range of separately developed Regulatory Information Notices, and sought to introduce a set of informal or *ad hoc* information

collection requirements linked to its approval of individual firms' regulatory proposals.¹ In ENA's view, effective use of existing information provisions should be threshold evidence in any consideration of whether expanded powers are required or would be consistent with the national energy objectives. This is consistent with the AEMC's evidence-based approach and the principle of proportionality in considering amendments to the regulatory framework

3.2.2. Potential for rule-making to overturn policy design underlying regulatory framework

Due to the deliberate policy choices made to place significant information collection provisions in the primary energy legislation, rather than the associated energy rules, network businesses consider the proposal to extend and replicate the AER's information collection powers through rule change processes are contrary to the policy basis of the existing regulatory framework. A critical aspect of the proposal to create new information collection provisions solely through the exercise of the rule making function is that this approach has the practical effect of bypassing substantive and procedural protections relating to information collection requests by the AER which were determined to be appropriate by the MCE in view of the potential costs and impacts of expanded regulatory powers. For example, none of the elements contained in Section 28 of the *National Electricity Law* relating to information being 'reasonably necessary' for the exercise of regulatory functions or formal opportunities to examine proposed information collection requests are provided for in the draft rules currently contemplated.

Indeed, the Draft Report claims as a *benefit* of the rule-based creation of new information gathering powers that service providers will be prevented from 'delaying' information gathering processes by 'questioning' or 'seeking justification' for data requests from the AER.² In ENA's view this statement does not reflect a balanced or full assessment of the merits of introducing extensions to information-gathering provisions in the national energy rules. It is a matter of strong concern that a factor in the design of proposed rule amendments appears to be the possible weakening of a number of legal and procedural protections included in the primary legislation.

3.2.3. Departure from previous Commission approach

The approach would also represent a sharp departure from the considerations which led the Commission itself, in its capacity as the rule-making body for Chapter 6A of the *National Electricity Rules*, to reject untargeted and expansive information collection gathering powers. Instead, in November 2006 the Commission approved the existing rule provisions and limited information gathering arrangements on the basis that the overall 'regulatory package' designed by the Commission for electricity transmission revenue regulation gave appropriately strong incentives on regulated firms to fully evidence regulatory proposals.

In these circumstances, the energy networks sector consider that a serious consequence of the proposed rule change is a potential overturning of a set of legal policy judgments reached by the MCE in the design of national energy laws. For this reason, ENA considers that the draft rule design should be reconsidered, and, at a minimum, an equivalent set of protections as contained in Section 28 of the *National Electricity Rules* be developed for inclusion in any 'stage 1' rules.

¹ Examples of this include inserting a proposed 'statement of costs' in gas network Access Arrangements, and 'outcomes monitoring' in the 2010 Victorian electricity distribution determination.

² AEMC *Draft Report – Review into the use of total factor productivity for the determination of prices and revenues*, November 2010, p.96.

4. Evidence from Economic Insights modelling

ENA recognises that the stylised model developed by Economic Insights provides some insights into how the regulatory determination process could differ under the application of a simplified building blocks approach and a variety of potential TFP-based approaches. Due to the significant nature of the simplifications made in the model design, however, the model results should be interpreted with caution.

Energy network businesses have a number of particular concerns relating to the assumptions underlying the Economic Insights modelling as well as reservations about its general suitability as a basis for a conclusion that a TFP-based approach for economic regulation in Australian energy sector is consistent with the national energy objectives.

4.1 Scope for forecast errors—building blocks and TFP approaches

The Economic Insights model presents three forecast scenarios for the building blocks approach. It then calculates a profitability measure in each scenario for three subsequent regulatory control periods. In the case of two of the scenarios ('under' and 'over' forecasting of costs), the Economic Insights modelling effectively assumes that the regulator systematically repeats the same type of forecasting error in each of the three regulatory determinations. While any forecast is prone to errors, it is unclear that scenarios that make this type of assumption represent a realistic depiction of the normal operation of a building blocks approach. Therefore, the profitability measures that Economic Insights used to compare the building blocks approach with alternatives are affected by a modelling bias.

In ENA's view the conclusions drawn from comparing profitability outcomes of building blocks and TFP-based approaches should be treated with caution. This is particularly the case in relation to the hypothesis that TFP-based regulation is systematically 'less risky' than a building blocks approach due to a claimed lower potential for forecasting errors. As noted, the large divergences between realised revenues and revenue requirements modelled under building blocks regulation can be explained by the unrealistic assumptions regarding systematic forecasting biases affecting 15 years of economic regulation. Therefore, in normal circumstances ENA would not expect building blocks approach to necessarily produce the types of variances identified in the Economic Insights' model.

It is important to recognise that errors in forecasts in TFP-based regulation can also cause significant financial implications for energy network businesses. In principle, a TFP-based approach will be effective on the condition that historical productivity growth accurately predicts future productivity growth. Should significant variances occur between historically implied and achievable productivity gains, however, this also has the potential to result in inaccurate revenue forecasts. Therefore, there is an appreciable risk that energy network businesses will be unable to recover their revenue requirements under TFP-based regulation. In ENA's opinion this contradicts national energy law objectives and the requirement contained in the revenue and pricing principles that a firm should be provided with a reasonable opportunity to recover at least the efficient costs of providing the relevant services.

4.2 Requirement for cost recovery on *ex ante* basis not satisfied

The TFP-based models examined by Economic Insights take into account businesses' costs at the time of price reset by aligning the revealed costs with the revenue requirement in the last years of the preceding regulatory period. Such an approach, however, does not consider future changes in the investment requirements of regulated firms as well as any new obligations which result in new costs (unless off ramps or other cost pass through mechanisms are specifically included). In contrast, the building blocks approach has the capability to account for the costs that the business will need to incur in future by including them in the expenditure allowance. The scenarios modelled by Economic Insights show that a building blocks approach allows firms to recover additional expenditure from anticipated cost increases. At the same time, when the TFP-based approach is applied, the businesses reveal worse outcomes compared to the base building blocks case.³ This indicates that the businesses are unable to fully recover additional costs. In ENA's view such an outcome reveals a fundamental problem with the capacity of the TFP-based approach to adjust to major cost shifts in a way which is compatible with existing revenue and pricing principles.

Energy network businesses are concerned that regulatory determinations based on historic costs only will not provide businesses with a reasonable opportunity to recover at least efficient cost, which is inconsistent with national energy law objectives and revenue and pricing principles. It also implies that application of a TFP-based

³ Economic Insights *A model of building blocks and Total factor productivity-based regulatory approaches and outcomes*, p.28 and p.30.

approach would impose additional uncertainty on regulated firms while the building blocks approach provides a reasonable opportunity to mitigate impacts of the foreseen events on these firms.

4.3 Challenges in accounting for differences in productivity conditions

Energy networks businesses are also concerned that due to differences in productivity conditions between networks, the TFP growth index may not be an accurate measure of future productivity growth. The factors that can potentially influence a firm's productivity growth include differences in operating conditions and initial levels of productivity.

In relation to operating conditions it is important to consider how business-specific circumstances such as location, climate, customer density and existing infrastructure may affect a service provider's productivity growth. The Economic Insights analysis demonstrates that rural distributor (DB1) underperforms in all scenarios modelled using the TFP-based approach. While Economics Insights does not comment on this matter, such outcomes imply that some network businesses would be at risk of being persistently and unfairly disadvantaged under TFP-based regulation due to exogenous differences in their operating conditions.

A further potential issue is that differences in initial productivity levels may result in unequal opportunities for service providers to outperform industry productivity growth. Under TFP-based regulation businesses can recover their revenue requirement if they achieve average industry productivity growth and earn excess profits if they outperform the industry average. However, service providers who already achieved high productivity levels are likely to find it more difficult to improve their productivity levels compared to poor performing businesses. This means that regulated firms with initially low levels of productivity will be in a position to earn relatively large profits by making relatively easier 'catch up' gains.⁴

To address these issues the Draft Report suggests that a potential solution would be to form industry groups from the service providers facing comparable productivity growth in order to account for such differences. The Draft Report notes that further investigation is needed in relation to how operating conditions affect productivity growth and how the industry groups should be formed for TFP methodology. However, it is not clear if such an approach would be workable. Energy networks in Australia differ significantly in their operating environments, size and geographic location. Additionally, Australia has a relatively small number of energy network businesses. In ENA's view it would be difficult to separate the industry into groupings with comparable productivity growth rates without that process itself introducing arbitrary and subjective regulatory discretion into the regulatory framework. This would be a perverse policy outcome, given that TFP-based regulation is itself an approach designed to limit the influence of just these types of decisions.

⁴ AEMC Draft Report (November 2010), p.79

5. Proposed ‘stage 1’ draft rules

5.1 Requirement to produce an annual TFP index and calculation report

The proposed drafting of the rule relating to AER production of an annual TFP index and report contains several areas of ambiguity which networks consider may usefully be clarified.

The proposed rule allows for adjustments to the data provided to account for ‘structural differences’ to improve the consistency of the data. An example provided is for adjustments to recognise different classifications of services. As the TFP indicative index may evolve into the basis for a price and revenue setting mechanism, it is important that adjustments and modifications to the index are as transparent as possible. For this reason, further iterations of the proposed rule should set out the broad types of ‘structural differences’ which the AEMC contemplates the AER might take into account in adjusting the basis of the TFP index.

Similarly, it is unclear from the drafting of the same proposed rule what the scope is of ‘exceptional circumstances’ that would permit the AER to make adjustments to provided data. While the Draft Report cites unusual one-off events (such as the Auckland CBD blackout), the definition of exceptional circumstances is potentially wide and subject to considerable disputation if the policy intent of the rules are not clear. As an example, it is unclear whether serious (but non-catastrophic) storm events would be intended to be covered by this definition.

5.2 Conditions needed to be met before a TFP methodology could be applied

The proposed rule on conditions for the introduction of a TFP methodology has several significant potential deficiencies.

One condition which the AER is required to monitor is whether the *‘TFP index growth is likely to be a reasonable estimate of future potential productivity growth of the industry group’*. It is unclear on what basis the AER is to form this judgement. As drafted this rule invites the AER to make an apparently subjective determination over the likely future potential productivity growth of a particular set of network businesses, without providing any guidance on how such an assessment can reasonably be made. This lack of clarity would have the consequence of making the fulfilment of this criterion highly uncertain. Making the movement to a TFP-based methodology contingent on the ability of a regulator to ascertain the likely future productivity potential of a set of regulated network firms is also somewhat circular, as movement from building blocks style regulation is supported by the Commission on the basis of regulator’s lack of information about the true cost and production functions of regulated firms.

A further condition proposed is that the AER be satisfied that *‘Service providers within an industry group face comparable productivity growth prospects’*. This condition also appears to place the AER in the position of forming judgements with little supporting information or guidance. Under an implementation of ‘stage 1’ rule changes the AER will have access to a past record of industry and firm level productivity trends. This information will not be sufficient, however, to form an estimate of the likely future comparative performance of firms within an industry group, as this information is not contained in the data, and future productivity performance is unlikely to be accurately estimated by linear extrapolation of past trends. Indeed, productivity performance of a set of firms in a defined industry may well display strong ‘mean reverting’ or stochastic characteristics over the medium term.



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