30 October 2009



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# ENA submission to the AEMC TFP Design Discussion Paper — EMO 0006

Dear Dr. Tamblyn,

The Energy Networks Association (ENA) welcomes the opportunity to respond to the Australian Energy Market Commission (AEMC) *Design Discussion Paper* — *Review into the use of Total Factor Productivity for determination of prices and revenues.* 

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 directly contribute approximately 1.25 percent of Australia's gross domestic product. Energy is delivered across Australia through approximately 48 000 kilometres of transmission lines, 800 000 kilometres of electricity distribution lines and 81 000 kilometres of gas distribution pipelines. Energy network businesses are valued at approximately \$50 billion and annually undertake an average investment of approximately \$6 billion in network operations, reinforcement, expansions and greenfields extensions.

ENA appreciates the efforts of the AEMC in drafting the Design Discussion Paper and notes that the Paper is intended to stimulate discussion on the key issues, rather than advocate any specific design features. Industry is encouraged by a number of suggestions that are being discussed, including:

- allowing businesses the choice to elect to be subject to a Total Factor Productivity (TFP) regime or remain under a building blocks approach, without the ability of the Australian Energy Regulator (AER) to override the decision;
- the ability for businesses to propose arrangements in their individual regulatory determinations; such as, a rolling or fixed X, cost pass throughs, capital modules and off ramps; and
- the choice of the length of regulatory periods.

However, industry has some concerns with the development of a new price regulation methodology, irrespective of the specific features that may be employed in a potential model. Broadly, these concerns are:

• Any new regime must provide sufficient regulatory certainty. There is a degree of certainty in the current regime and any new methodology would need to provide at least a similar level of certainty. As the AEMC has previously determined, this degree of certainty is an essential feature in regulation of infrastructure requiring investment in long lived assets and the achievement of the National Electricity and National Gas Objectives. Considering a

large number of design features are still to be resolved, it is very difficult for businesses to assess the degree of certainty offered by the proposed new regime.

- Additional information reporting requirements must be designed to promote efficiency and not be excessively burdensome. To support an alternative form of price regulation, the regime will require additional information or information in a different form than is currently supplied. The benefits of a TFP regime should be greater than the additional information costs imposed, if the National Electricity Objective and National Gas Objective are to be enhanced.
- Any new methodology must be sufficiently robust in order to deal with a range of measurement and data issues, such as measuring reliable service, while still maintaining the correct balance of flexibility and certainty. A good model will incorporate high powered incentive properties, as this is noted as being a key strength of a TFP approach. However, industry is concerned that unless a number of intertemporal measurement issues are resolved, these incentives may be difficult to realise.
- A TFP regime must be designed in accordance with best practice price regulation. It may therefore be useful to assess the experiences of other sectors that have been subject to TFP regulation to gain insight into the aspects of TFP that have proven to be effective and the aspects that have caused problems for businesses, regulators and consumers. This may be a useful first step in assessing and designing any new regime.
- This review is assessing the suitability of TFP to gas and electricity distribution, with a possibility to conduct a similar review in transmission. While inherent difficulties exist in applying a TFP to gas and electricity distribution, it is nevertheless appropriate to review the effectiveness of the existing regulatory framework from time to time. In addition to the inherent difficulties that exist in the distribution sectors, transmission investment is often considered to be 'lumpier' than in distribution. ENA therefore considers that a TFP regime would not be suitable for transmission. These issues are addressed in more detail in the Grid Australia submission.

Each of these issues is dealt with in more detail in the following document. ENA would like to note that the comments are not intended to advocate a preference for any particular methodology or corresponding design elements.

#### Uncertainty of a new methodology

Certainty in the regime is important because business investment decisions will be based on assumptions about the regulatory framework. This framework must be stable and predictable over time because of the long periods for which investment capital recovery and commercial returns are required.

The proposal to move to an alternative form of regulation introduces regulatory uncertainty, which arises from the:

- specific design and underlying methodology of the proposed model; and
- administration of a TFP regime, particularly initially when the model is untested and the regulator's behaviour unknown.

One way to mitigate the reduction in regulatory certainty introduced through moving to a new regime is to clearly prescribe the key aspects of the regulatory model into the relevant Rules.

# Uncertainty arising from specific design of TFP

Given that significant methodological, data and design issues have not been decided, it is difficult to assess the impact on regulatory of potentially moving to a TFP based regime. The specific design of the model must be carefully crafted to make sure there is no negative impact on businesses planning to undertake major investment programs, either now or in the future.

There are a number of proposed TFP design features that may lend some certainty to the new regime. These features include:

- Allowing businesses the option to opt-in to the new regime. Industry considers that the opt-in feature is a vital component to mitigating the uncertainty that may be introduced by the regime and is supportive of its inclusion. However, to be effective, the opt-in feature must be solely at the discretion of the business because the certainty it provides would be undermined if businesses are not free to decide and therefore unsure to which regime they may be subjected.
- Businesses may wish to use off-ramps. The ability to incorporate this design feature into a business's regulatory period will provide that business with a safety net, should the actual cost of providing the network service diverge too greatly from the TFP price path. However, if the AER has the discretion to refuse the use of off ramps entirely, this will detract from the certainty that this instrument would otherwise provide.
- There is the potential for longer regulatory periods. However, this option will only provide the required increase in certainty if businesses are free to choose the length of regulatory period that suits them.

In some instances, desirable design aspects may be the source of business uncertainty. For example, allowing for business specific adjustments to the X-factor could be advantageous for businesses, but will detract from certainty because of the degree of subjective assessment required to incorporate this adjustment and potential inaccuracies that arise as a result. Ideally, under a TFP approach the price path would be calculated in a transparent and reproducible manner, which contributes certainty to the regime. Any divergence from the calculated industry productivity targets, no matter how desirable and beneficial, will reduce business certainty.

This trade-off between certainty and business specific adjustments illustrates the importance of allowing businesses a degree of flexibility to propose specific elements of the regime during price resets because businesses have different appetites for risk and uncertainty. If this is to be effective, these design elements will need to be inserted into the Rules and require a 'guided discretion' approach to decision making. This approach is encapsulated in the current regime and is consistent with the AEMC's finding that good economic regulation should be sufficiently flexible to adapt to the individual circumstances and any discretion conferred on the regulator should be guided by the Rules in terms of criteria and scope<sup>1</sup>.

# Uncertainty from administration of a new regime

Under the current building blocks regime, businesses are afforded a degree of certainty. The National Electricity Rules (NER) and National Gas Rules (NGR) are sufficiently prescriptive as to define the scope and application of the building blocks approach. Each component is determined with regard to the criteria set out in the NER or NGR. Businesses can be reasonably certain about the criteria and approach that will be applied by the AER in assessing regulatory proposals because of the detail of the Rules and regulatory experience to date. Most importantly, changes to the NER and NGR require substantiative consultation and assessment against the National Objectives and

<sup>&</sup>lt;sup>1</sup> Review into the use of Total Factor Productivity for the determination of prices and revenues — Design Discussion Paper, Australian Energy Market Commission, August 2009, p. 17

Pricing Principles in the relevant legislation and the AER is bound by these Rules. Any proposed alternative regime, such as TFP regulation, must be carefully developed to ensure that the regime is robust and clearly set out in the Rules to provide a similar level of certainty.

Initially, any new regime will generate regulatory uncertainty, particularly if it is relatively untested. The current building blocks model has evolved over the last two decades in Australia and overseas. As far as ENA is aware there is no such parallel experience with TFP price regulation in the context of energy networks. Irrespective of the design of the TFP regime itself, moving from a well understood and familiar model will necessarily be a source of uncertainty, which further enforces the need to prescribe as much of any new regime into the Rules as possible.

# Flexibility in the regime

A degree of uncertainty in any regulatory regime is unavoidable, but in general there is a trade-off between flexibility and certainty. For example, the use of a fixed X factor will provide businesses with greater certainty over the course of the regulatory period, but will not allow for the same degree of adjustment to their price paths as under a rolling X, which may better reflect changing market conditions. Firm-specific regulatory arrangements are an important aspect of any proposed TFP regime and should be clearly articulated in the relevant Rules.

Industry considers that the flexibility for businesses to tailor their regulatory arrangements would accommodate different risk profiles and enable businesses to incorporate elements to reflect their individual circumstances. For instance, a TFP methodology has been noted as being more risky, but allows for the potential of greater rewards for businesses and customers. However, risk averse businesses may elect not to be subject to a TFP regime or use pass throughs, capital modules and off-ramps to manage risk. Giving businesses choice in their regulatory arrangements will allow them to seek rewards commensurate with the degree of uncertainty and risk undertaken.

#### Robustness of data

As noted by the Economic Insights report, current data is not robust enough to support a TFP methodology<sup>2</sup>. The Network Advisory Services report reinforced this position and noted that just because the AER is able to ask for specific information, this does not necessarily mean that distribution businesses will be able to provide the information requested<sup>3</sup>. Historical data, which is required to estimate industry productivity growth rates, may be particularly difficult for businesses to provide and to the extent they can provide the data requested, it may not be consistent with data provided by other businesses and therefore not useful for estimating an industry benchmark.

When assessing a TFP regime in Australian energy markets, consideration must be given to the relatively small number of comparator companies in the electricity and gas network sectors and the vast jurisdictional differences affecting their operations, including:

- climate and seasonal factors;
- the age of existing infrastructure;
- the economics of connecting new customers;
- different business growth rates; and
- different gas penetration rates in the gas market.

<sup>&</sup>lt;sup>2</sup> Assessment of Data Currently Available to Support TFP-based Network Regulation, Denis Lawrence and John Kain, June 2009, p. 10

<sup>&</sup>lt;sup>3</sup> Issues in relation to the Availability and Use of Asset, Expenditure and Related Information for Australian Electricity and Gas Distribution Businesses, Network Advisory Services, August 2009, pp. 6 and 99

As noted by the AEMC, there are inherent difficulties with using data from overseas jurisdictions as a proxy for domestic data<sup>4</sup>. Furthermore, normalisation of domestic data to adjust for varying factors would decrease certainty, increase the potential for disputes and, particularly with such a small sample size of comparator companies, would likely be inaccurate. As a result, careful thought must be given to these issues when considering the information requirements and specific methodology of any proposed TFP regime.

# Information requirements

To implement any TFP based regime, specific data will be required to support the model. This data must be accurate and consistent across businesses and jurisdictions. For many businesses this will mean a significant increase or shift in data collection, collation and reporting procedures. Industry is concerned about the additional costs involved in potentially providing two sets of data concurrently, particularly if no additional benefit will be derived. At this stage, it is unclear what level of detail will be required, or whether these new data requirements will be in addition to the current regulatory information notices and revenue proposals.

Given that currently available data is not sufficiently robust to support a TFP methodology, businesses will have to adapt their current collection and reporting arrangements to accommodate the new regime for future use. Because businesses have existing systems, classifications and methodology for collecting data, any change in these collection and reporting techniques will require significant lead time for businesses to adjust. In some cases, adjustment may take several years. Industry is concerned that all businesses will be required to make substantiative changes to their systems in order to provide the information necessary to estimate an industry benchmark, even if they are not adopting the alternative methodology.

These changes will have a significant impact on businesses and information requirements should therefore be designed to promote efficiency in the provision of information, be least cost and avoid duplication. Industry acknowledges that certain information is necessary to derive the benefits of a TFP regime; however, industry is not supportive of any regime that imposes unnecessary or excessively onerous information requirements on businesses, which result in unnecessarily higher prices for customers. For instance, it appears unnecessary for transmission businesses to provide this information because their lumpy investment profiles should preclude them from a TFP model even before other considerations are taken into account.

# Robust methodology

ENA understands that a key consideration is whether the data should be collected to fit the methodology for calculating TFP growth rates or if the methodology should be designed to fit the available data. This consideration alone demonstrates how much work is required to develop the concept of TFP into a robust methodology for regulating network businesses. Numerous dangers arise if a methodology is designed to fit the data, including inaccuracies and loss of market confidence<sup>5</sup>. Given these dangers and the fact that current data has been assessed to be unfit to support a robust methodology, industry considers that primacy must be placed on establishing an appropriate and robust methodology.

At this stage, the design of a TFP model is not clear. There is a lack of practical and developed applications of this methodology to the regulation of network businesses and therefore limited experience to draw on in developing a TFP methodology. This includes a lack of practical experience in addressing measurement issues and designing and administering the incentive

<sup>&</sup>lt;sup>4</sup> Review into the use of Total Factor Productivity for the determination of prices and revenues — Design Discussion Paper, Australian Energy Market Commission, August 2009, p. 29

<sup>&</sup>lt;sup>5</sup> Review into the use of Total Factor Productivity for the determination of prices and revenues — Framework and Issues Paper, Australian Energy Market Commission, November 2008, p. 18

properties of the regime. While in theory a TFP methodology appears to have advantageous aspects, these cannot be realised in practice unless the methodology is sufficiently robust to:

- incorporate the right degree of flexibility, with limited regulatory discretion;
- maintain sufficient certainty;
- overcome measurement issues;
- interrelate with data and methodology in a transparent manner; and
- provide adequate incentives for businesses to achieve productivity targets and appropriate levels of investment.

#### Measurement issues

Any new methodology must deal with a range of measurement issues, such as the measurement of outputs. While it is relatively straightforward to define an output, measurement is often difficult. For example, a key deliverable from energy networks is reliable service. Reliability is inherently difficult to measure because it has a probability dimension, which means that although measurement of lost load and outages is possible, it does not necessarily reflect the underlying reliability of the network and probability of network failure. This is particularly problematic for transmission. It is also unclear how a TFP framework can effectively cater for reliability and security standards that may vary between jurisdictions and businesses.

Furthermore, reliability tends to vary slowly over time, whereas inputs to achieve changes in reliability, such as operating and capital expenditure, can be varied on a discretional basis in relatively short timeframes. Given that any measure of productivity is based on outputs relative to inputs, network reliability may create intertemporal measurement issues adding to the measurement challenges.

Further work and consultation is required to not only define the correct inputs and outputs to be used as part of a TFP methodology, but also to overcome these measurement issues.

#### Sufficient incentives and investment

Industry is also concerned about the development of different incentive schemes in the medium term, particularly relating to maintenance and improvement of service quality. Unless the methodology is designed to encourage service quality investment, it may have a negative impact on service quality in the long-run. There is potential for a TFP regime, unless carefully designed, to encourage businesses to defer investment in service quality because it seems difficult to incorporate service quality as measurable output, but expenditure will necessarily be measured as an input. This could encourage service providers to decrease investment in service quality, which will have a significant lag before the impact of the reduction in investment is observable and another significant lag to rectify the problem.

Current arrangements for investment in service quality differ across jurisdictions; however, all are designed to encourage the maintenance of a high level of service quality. For example, in New South Wales network service providers are subject to design, reliability and planning (DRP) licence conditions, which establish a minimum performance level. Assuming the required level of service quality is already achieved, there is limited scope to defer investment in service quality, but no real incentive. In some cases businesses are required to increase expenditure significantly to meet the DRP conditions. Because these costs are efficient, arrangements under the current building blocks methodology allow these businesses to recover the costs and therefore reduce the incentive to defer this investment. Any new form of price regulation must be able to not only encourage high levels of service quality, but also allow businesses with the reasonable opportunity to recover these costs.

#### Best practice regulation

The discussion for the TFP model is highly theoretical. Industry acknowledges that the AEMC is using this consultation to inform a decision on whether TFP is suitable for the energy network sectors. Given the challenges in designing and implementing a TFP regime, some basic principles may be studied from overseas TFP regulatory regimes to assist with the assessment and design of a regime in the domestic energy network sectors. While in the context of regulated electricity and gas networks the experience is very limited, both in scope and length of regulation, there are other sectors in numerous countries that are subject to TFP economic regulation, such as some agriculture sectors. Even though the use of overseas data is not an appropriate proxy for any Australian TFP data requirements, the regimes may provide some basis of exploring the experiences of regulator, regulated businesses and consumers and may provide insight into useful or problematic aspects of different TFP regimes.

Industry notes that Ofgem is currently conducting its RPI-X@20 review, a two year project to review the workings of the current approach to regulating energy networks in Great Britain and develop future policy recommendations. In its review of best practice economic regulation, Ofgem does not appear to be considering the adoption of TFP. In a similar manner, any consideration given to a new form of price regulation in the Australian energy network sectors should be contemplated in the context of best practice regulation. ENA therefore considers that as part of the review into the use of TFP, the experiences of other sectors that are regulated in a similar manner may not only help to articulate, but also provide a basis for developing the regime for Australian energy networks.

#### 'Lumpiness' of investment in transmission services

ENA notes that the focus of the Design Discussion Paper is on the distribution sector and that the possibility of applying a TFP approach to the electricity transmission sector will be considered at a later stage, as directed by the AEMC's Revised Statement of Approach<sup>6</sup>. However, the Expert Panel on Access pricing observed that in transmission services, "significant lumpiness over future capital expenditure demands is an important part of the industry landscape"<sup>7</sup>.

ENA is also of the view that TFP is unsuitable for the economic regulation of transmission networks. Among other matters, transmission investment requirements profiles are 'lumpy', which means that investment can vary significantly from one regulatory control period to another and therefore prices need to reflect individual business's costs.

In light of these considerations it would seem sensible to 'park' consideration of TFP for application to the transmission sector for the foreseeable future. This includes deferring the imposition of any additional information provision requirements until after a regime for distribution networks is much more developed.

If you have any questions or require clarification of any points discussed, please do not hesitate to contact Tim Kane on (02) 6272 1520 or <u>tkane@ena.asn.au</u>.

Yours sincerely

Andrew Blyth Chief Executive

<sup>&</sup>lt;sup>6</sup> Review into the use of Total Factor Productivity for the Determination of Prices and Revenues — Revised Statement of Approach, Australian Energy Market Commission, April 2009, p. 9

<sup>&</sup>lt;sup>7</sup> Report to the Ministerial Council on Energy, Expert Panel on Energy Access Pricing, April 2006, p. 105