



## Australian Energy Market Commission

Level 5, 201 Elizabeth Street Sydney NSW 2000  
PO Box A2449, Sydney South NSW 1235

P – 02 8296 7800

F – 02 8296 7899

E – [aemc@aemc.gov.au](mailto:aemc@aemc.gov.au)

ABN 49 236 270 144

[www.aemc.gov.au](http://www.aemc.gov.au)

21 November 2008

Dear Sir/Madam

### **Review into the use of total factor productivity for the determination of prices and revenues**

The Australian Energy Market Commission (Commission) has initiated a Review on the possible use of total factor productivity (TFP) for the determination of prices and revenues in regulatory decisions. The Commission will report the outcomes of the Review to the Ministerial Council of Energy (MCE) and make recommendations on potential changes that could be made to the Rules to provide for the adoption of a TFP approach in appropriate circumstances.

Under the National Electricity Law (NEL) and National Gas Law (NGL), the Commission may make Rules relating to the use of a TFP based methodology both in making or amending prices and revenues for service providers, and also as an economic regulatory tool to assist the Australian Energy Regulator (AER) in applying the building blocks approach in its decisions. The NEL and NGL also allows for Rules to be made for the use of TFP to assist in the resolution of access disputes.

The objective of this Review is to:

- a) advise the MCE whether, at this stage of market development, any allowed application of a TFP would contribute to either the national electricity objective (NEO) and/or national gas objective (NGO); and
- b) if so, what amendments to the Rules should be made to enable the use of a TFP approach and in what circumstances.

This Review will consider whether allowing the use of TFP in addition to the existing building block approach would provide benefits to service providers and the AER in the relevant decision making processes.

The Review is being conducted under the powers established by s. 45 of the NEL which authorise the Commission to conduct reviews into any matter relating to the National Electricity Rules (NER) and under the powers established by s. 83 of the NGL which authorise the Commission to conduct reviews into any matter relating to the National Gas Rules (NGR). The terms of reference for the Review can be found at Attachment A.

### **What is total factor productivity?**

In broad terms, TFP is a measure of the productivity with which businesses, industries or regions use all the inputs in their production processes (which includes capital, labour and raw materials) to produce outputs that are valued by customers. Regulators in some overseas jurisdictions have made use of historical estimates of industry growth rates of TFP to assist them in determining the future efficient price path for regulated utility businesses.

### **Why is the Commission undertaking this Review?**

The Expert Panel on Energy Access Pricing (Expert Panel) was established by the MCE in December 2005 to provide advice to the MCE on a model to achieve a common approach to revenue and pricing across the energy market. This included developing a common set of arrangements for the economic regulation of access to electricity and gas transmission and distribution assets to the extent warranted, taking account of the relevant differences between those sectors. One aspect addressed by the Expert Panel was the application of TFP to energy regulation as an alternative to the building block methodology.

The Expert Panel concluded that there was merit in encouraging the development of a TFP approach to setting regulated prices as one means of reducing the costs of regulation. However, it also noted that many issues would require detailed consideration before it could be applied. The Expert Panel recommended:

- that the NEL and NGL include provisions that would enable the AEMC to make rules in relation to TFP; and
- that the MCE direct the AEMC to undertake a detailed review of the application of TFP to the NER and NGR.

Following the MCE considerations of the Expert Panel recommendations, both the NEL and NGL were amended to include provisions for the AEMC to make rules which allow the use of TFP as:

- a methodology in determining prices and revenues of regulated electricity and gas service providers;
- as an economic tool to inform and assist the AER in applying the building blocks methodology; and
- as an economic tool to assist in the resolution of access disputes.

On the 23 June 2008, the Victorian Minister for Energy and Resources submitted a proposal to amend the NER to allow the use of TFP as an economic regulation methodology for approving, or amending, determinations (including access determinations) for electricity distribution network service providers.

The majority of submissions to the first round consultation on this proposed rule change requested that a comprehensive review of TFP be undertaken before any specific assessment of proposed rule changes is carried out. In addition, the AER's submission addressed the proposed time frame included in the Victorian Minister's rule change proposal. It stated that the work required to introduce a TFP approach into the NER and to be ready for its implementation could not be completed in time to apply a TFP approach for the 2011-15 Victorian electricity distribution review.

Following consideration of the stakeholder submissions and consultation with the MCE-SCO the Commission has decided to initiate this Review.

Innovation and development in the regulatory principles and practice should be supported where this further promotes the national energy objectives. In conducting this Review, the Commission will have regard to the twin goals of achieving efficiency savings and maintaining market confidence in the regulatory framework.

### **How will the Commission approach this Review?**

The Commission will take a staged approach to addressing the question of whether TFP should be used in pricing and revenue decisions. First, the Commission will make an assessment of whether it considers that a TFP based methodology would promote either the NEO and/or NGO and therefore should have a role in the relevant decision making processes. In doing so, the Commission will consider consistency with the revenue and pricing principles of both the NEL and NGL. It will also look at the possible range of models for applying TFP and will assess the issues relevant to the rule change proposal submitted by the Victorian Minister. At the end of this stage, the Commission will provide its findings to the MCE for its consideration (Stage 1 Report).

If the Commission considers that Rules should be made to facilitate the use of TFP for either, or both, gas decisions or electricity determinations it will then proceed to develop recommended draft Rules to be submitted to the MCE. In doing so, the Commission will have regard to considerations from the MCE on the Stage 1 Report.

The Review shall assess all possible applications of TFP on which the Commission may make a Rule. Therefore, it will investigate the suitability of a TFP methodology for both electricity transmission and distribution and also for gas transmission and distribution. However, the Commission notes that the Expert Panel concluded that the case for TFP appears less compelling for transmission due to the lumpiness of future capital expenditure. Also the Commission, in its Rule Determination on the Economic Regulation of Transmission Services, reached the view that a revenue cap methodology using a building blocks approach was the appropriate form of regulation for prescribed electricity transmission services. This was because of the lumpiness and uniqueness of shared transmission network costs and the extensive network externalities and potential market power associated with the shared transmission network. Accordingly, the Review will have a greater focus on the application of TFP to distribution regulation.

As a result of deciding to undertake this Review, the Commission has extended its assessment period for consideration of the TFP Rule change proposal submitted by the Victorian Minister earlier this year. The Rule change proposal will be considered following the conclusion of this TFP Review.

### **What will be the key issues?**

This Review into the possible role for a TFP based methodology in pricing and revenue decisions in addition to the existing building blocks approach raises some crucial issues relating to how service providers should be regulated. Some of the key issues that will be assessed include:

- a) What are the disadvantages with the current applications of the building blocks approach to the determination of prices and revenues for regulated service providers? Could a TFP based methodology address those disadvantages, and how?
- b) What are the economic and regulatory issues arising for service providers, the AER and other interested parties where two parallel forms of price setting methodology are in operation?
- c) Can a TFP methodology promote the NEO or NGO, consistent with the revenue and pricing principles in the NEL and NGL?
- d) What is the support within the energy industry for TFP and how extensively will a TFP methodology be used?
- e) What are the required data collection arrangements necessary to support the application of a TFP methodology? Are these arrangements achievable and/or desirable?

The use of TFP is dependent on the collection of appropriate data and the maturity of the regulatory framework. An application of TFP might be more appropriate in some jurisdictions but not others.

The Commission has engaged two consultants to assist in this Review. The Brattle Group has been engaged to provide a review of the use of TFP in utility regulation in selected countries. Denis Lawrence has been requested to investigate whether the existing data and reporting requirements of Australian energy regulators would support the implementation of a TFP based methodology. These reports will be publicly available to aid the consultation process during the course of the Review.

### **What will happen next?**

The Commission is preparing a Framework and Issues Paper which will identify the range of issues requiring consideration. It will also inform interested parties on how the Commission proposes to assess the issues under its decision making criteria. This paper will be released in December. The Commission will hold a public forum in February to brief stakeholders on the Framework and Issues Paper.

The Commission will then undertake research, analysis and consultation with key stakeholders to develop its findings on the use of TFP in the economic regulation of Australian energy service providers. The Commission will consult on its draft findings and hold a public forum during June 2009.

The Commission is committed to conducting the Review in an open and transparent manner that provides all interested stakeholders with the opportunity to contribute at each stage of the Review process. It encourages stakeholders to fully participate in the process in order to ensure that the Review result in robust outcomes for the benefit of the energy market.

For additional information on the Review is available on the Commission's website at <http://www.aemc.gov.au/>. If you need further information please contact the Commission by emailing [aemc@aemc.gov.au](mailto:aemc@aemc.gov.au).

Yours sincerely

John Tamblyn  
Chairman

## **Attachment A: Review into the use of total factor productivity for the determination of prices and revenues – Terms of Reference**

---

Pursuant to s. 45 of the National Electricity Law (NEL) and s. 83 of the National Gas Law (NGL), the Australian Energy Market Commission (Commission) has initiated a review into possible applications of a total factor productivity (TFP) based methodology in the determination of prices and revenues (Review).

### **Objective of the Review**

This Review is seeking to provide advice to the Ministerial Council of Energy (MCE) on:

- the circumstances in which an application of a TFP based price setting methodology would contribute to the NEL and NGL objectives;
- the arrangements including information, reporting and data requirements that need to be put in place to facilitate its application; and
- as appropriate, the development of proposed rules to support the applications of a TFP based form of control for any individual or group of electricity or gas distribution or transmission service providers.

### **Scope of the Review**

Clauses 26I and 26J of Schedule 1 to the NEL and clause 42 of Schedule 1 to the NGL set the following matters relating to the use of a TFP methodology in revenue and pricing decisions and determinations on which the Commission may make a rule on:

- a) making or amending an electricity (distribution or transmission) determination;
- b) making an electricity access determination;
- c) the use of a TFP methodology as an economic tool to inform and assist the Australian Energy Regulator (AER) in the application of the building block approach in making or amending electricity determinations or making electricity access determinations;
- d) approving or making (or approving or making revisions or variations to) a full gas (distribution or transmission) access arrangement;
- e) for the dispute resolution body to make a gas access determination;
- f) the use of a TFP methodology as an economic tool to inform and assist the AER in the application of the building block approach in approving or making (or approving or making revisions variations to) full gas access arrangements; and
- g) the use of a TFP methodology as an economic tool to inform and assist the dispute resolution body in applying or assessing the application of the building block approach in making gas access determinations.

The Commission will assess the suitability of each of the above possible applications as part of this Review.

### **Approach to the Review**

In seeking to address the above objectives, the Commission will undertake a staged approach. The two stages are as follows:

- **Stage 1:** will identify
  - a) the circumstances in which the use of a TFP based price setting methodology would contribute to the national electricity objective (NEO) and/or the national gas objective (NGO) in each of the possible applications identified in the scope of the review; and
  - b) whether those circumstances exist, or are likely to exist, in the National Electricity Market (NEM) or any market for natural gas services.

- **Stage 2:** will develop draft rules (for either the National Electricity Rules and/or National Gas Rules) to support the application of a TFP based methodology for revenue and pricing decisions and access determinations, as appropriate to the recommendations made in stage 1.

## Considerations

In conducting this Review, the Commission shall have regard to:

- MCE statement of policy principles;
- previous reviews and rule determinations relating to framework for energy regulation;
- the Expert Panel's assessment and findings on the use of TFP methodologies in revenue and pricing decisions; and
- analysis previously conducted by the Essential Service Commission of Victoria into the application and use of TFP.

This Review will be conducted in an open and transparent manner to provide all interested stakeholders with the opportunity to contribute at each stage of the Review process. The Commission will have regard to stakeholders' opinions raised during the course of the Review.

## Timing and outputs

The Commission will deliver the following outputs for this Review:

- A **Framework and Issues Paper**, which will identify and consult on the range of issues requiring consideration and inform interested parties on the Commission's proposed assessment criteria;
- A **Stage 1 Draft Report**, which will set out the Commission's proposed recommendations on whether an application of a TFP methodology would promote the NEO and/or NGO; and
- A **Stage 1 Final Report**, which will set out the Commission's findings on whether an application of a TFP methodology would promote the NEO and/or NGO. The Commission will provide this report to the MCE for its consideration and brief it on its findings.

This process for stage 1 can be summarised as follows:

Milestone	Timing
Framework and Issues Paper	December 2008
Framework and Issues Public Forum	February 2009
Stage 1 Draft Report	June 2009
Public Forum	June 2009
Stage 1 Final Report to MCE	August 2009

If the Commission considers that an application of a TFP methodology would promote either the NEO and/or the NGO it would then draft recommended rules under stage 2. The Commission intends to submit any such proposed rules to the MCE by November 2009. Stakeholders will be given an opportunity to comment on any draft proposed rules before the Commission provides them to the MCE for consideration.