

Department of Primary Industries

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24 February 2010

Dr John Tamblyn Chairman Australian Energy Market Commission PO Box A2449 Sydney South NSW 1235

Our Ref: PD/03/0165

Dear Dr Tamblyn,

Review Into the Use of Total Factor Productivity (TFP) for the Determination of Prices and Revenues - Preliminary Findings

I am writing to provide a submission by the Department of Primary Industries (DPI) addressing the Australian Energy Market Commission (AEMC)'s Preliminary Findings report in its Review Into the Use of Total Factor Productivity for the Determination of Prices and Revenues.

DPI has been a strong proponent of the use of TFP in economic regulation of network businesses because of the significant long term efficiency benefits it is seen to hold for the Victorian energy sector, and by extension for the Victorian public. It is also a view born of concern with the potential loss of efficacy of the existing 'building blocks' based regulatory approach, as network businesses become more sophisticated in the presentation of their cases for additional expenditure, bearing in mind the asymmetry of information that exists between businesses and economic regulators. Finally, DPI notes the environment of technological change and competition in the energy sector, and believes that it is becoming less appropriate for regulators to rely only on firm-specific forecasts of costs related to traditional network infrastructure in determining the necessary level of expenditures in future.

Instead, the use of an industry productivity benchmark such as TFP holds the possibility of bringing competitive pressure to innovate and reduce costs to the monopoly network sector, to the benefit of all energy customers.

In this regard, DPI appreciates the efforts of the AEMC in evaluating the use of TFP in network regulation, and strongly supports the AEMC's preliminary finding that "A TFP methodology will increase the incentive for service providers to be innovative and seek cost efficiencies compared to the current building block approach". This finding validates the decision of the Ministerial Council on Energy in providing for the use of TFP in the National Electricity and Gas Laws.

A key concern of the AEMC has been to evaluate the necessary supporting data and methodology for deriving the TFP index that is to be used in network regulation. In DPI's view, however, these questions are part of the diet of economic regulation, which the AER will have to tackle in a flexible way in time, and should not be cause to delay the implementation of TFP based regulation. This matter is discussed in detail in the attached submission.



DPI notes the substantial work that has been done to date in Victoria to prepare the ground for TFP based regulation, and considers that Victorian network sector is likely to be well placed to respond effectively to the enhanced efficiency incentives inherent in a TFP based regime. For that reason, DPI considers that it is important that TFP be available as soon as possible for practical application.

Thank you for your consideration of these issues. Please contact Raif Sarcich – A/ Director, National Energy Markets – on (03) 9658 4160 if you have any questions regarding this submission.

Yours sincerely

Peter Naughton A/ Executive Director Energy Sector Development



Victorian Department of Primary Industries ("DPI") Total Factor Productivity ("TFP") Review Submission on AEMC Preliminary Findings Report

26 February 2010*

Introduction

DPI agrees with the Australian Energy Market Commission (AEMC)'s preliminary findings as to the benefits that will accrue from introduction of TFP, in particular that using a TFP methodology creates stronger incentives for service providers to pursue cost efficiencies compared to the building block approach.

That this was the case was at the heart of the DPI submission in support of the proposed rule change to allow use of the TFP methodology in electricity distribution¹. And as was then submitted by DPI "a direct outcome of the TFP approach is that it provides incentives for distributors to be cost efficient, and this incentive can be expected to be stronger than would apply under the building block approach."²

Concerns

Where DPI has concerns lies in the delays that can be expected to result from the finding that a new data set should be accumulated before TFP is introduced and the costs and inefficiencies that will be born by consumers and industry from continued use of the building blocks model in that period.

DPI is of the view that there is no need to wait a further 8 years³ to gather the necessary data, the TFP methodology can be introduced now, if not throughout Australia at least in Victoria, either as an alternative to the building blocks approach or if not that in parallel for a predetermined period (to test the robustness of the methodology).

DPI submits that to do otherwise is not only contrary to Government policy as clearly reflected in the provisions of the NEL that since 1 January 2008 have mandated TFP, but also is inconsistent with the National Electricity Objective ("NEO") and National Gas Objective ("NGO").

¹ Submission May 2008 *Proposed Rule Change to the AEMC to permit use of the 'TFP Approach'*, pages 11 and 38-42.

² Ibid, page 41.

³ In fact it may be more than that: the AEMC at page xii of its Preliminary Findings Report says "at least eight years".

DPI is also concerned that, in as much as the Preliminary Findings Report may reflect some misapprehensions as to policy regarding introduction of TFP and as to the provisions of the NEL and NGL mandating its introduction, the utility to the MCE of the AEMC's ultimate report will be undermined and that of itself may further delay the necessary rule making.

Specific points in relation to the AEMC's preliminary findings

TFP is mandated by the NEL and NGL

DPI is of the view that it is important to keep in mind that the decision that TFP should be available as a regulatory methodology as either an alternative to, or as a supplement to the building blocks approach was made by the MCE in 2007. That was when the *National Electricity (South Australia) (National Electricity – Miscellaneous Amendments) Amendment Act 2007* was passed. That act came into force on 1 January 2008.

Attachment B to DPI's May 2008 submission in support of the Victorian proposed rule change to allow use of the TFP methodology in electricity distribution summarizes and explains the changes made by that amending act in order to mandate the use of TFP, but in present context it is important to recall that items 26I and 26J of Schedule 1 to the NEL provide as follows:

Regulatory economic methodologies

- 26I The regulatory economic methodologies (including the use of the methodology known as the "building block approach") to be applied by the AER in—
 - (a) making a distribution determination or transmission determination; or
 - (b) amending a distribution determination or transmission determination; or
 - (c) making an access determination.
- 26J The methodology known as "total factor productivity"—
 - (a) as a regulatory economic methodology to be applied by the AER for the purpose of—
 - (i) making a distribution determination or transmission determination; or
 - (ii) amending a distribution determination or transmission determination; or
 - (iii) making an access determination;
 - (b) as an economic regulatory tool to inform and assist the AER in applying, or analysing the application of the regulatory economic methodology known as the "building block approach" by the AER for the purpose of—

- (i) making a distribution determination or transmission determination; or
- (ii) amending a distribution determination or transmission determination; or
- (iii) making an access determination.

Provisions that are substantially identical to items 26I and 26J were enacted by the *National Gas (South Australia) Act 2008*, being items 40- 42 of Schedule 1 to the NGL. Items 40-42 came into force on 1 July 2008.

As is self evident from the above, MCE policy is that the TFP methodology should be available as an alternative. That has been the policy since 2008.

DPI is concerned that much of the analysis in the Preliminary Findings Report appears addressed to whether TFP should be introduced or not. That is not the question for the AEMC. The question instead (as item 26J of the NEL and its sister, item 42 of the NGL clearly express) is how best to satisfy the NEO and NGO.

In other words, and to emphasize the point just made, it is not for the AEMC to determine whether there should or should not be use of the TFP methodology. That decision has already been taken and, as reflected in the legislation, is that there should be use of that methodology. In other words use of TFP methodology is mandated.

The policy reflected in the NEL and NGL means that the AEMC is empowered to decide how TFP may best be employed as a regulatory methodology in its own right and as an analytical and statistical tool for the use of the AER in evaluating and applying building blocks-based price controls. In other words, it may be both an alternative and a supplement to the building blocks approach.

To effectively delay the introduction of TFP to 10 years after item 26J came into force is contrary to that expressed policy.

Delay in use of TFP methodology is contrary to NEO and NGO

Both the NEO and NGO are efficiency objectives and that the AEMC, in performing any of its functions and powers under the NEL and NGL, must have regard to those objectives⁴.

The AEMC having now made the finding that TFP enhances efficiency, it is (in DPI's submission) both contradictory of that finding and inconsistent with both the NEO and NGO for the AEMC to in effect delay introduction of TFP for a further 8 years while "robust and relevant" or "reliable and robust"⁵ data is accumulated.

⁴ See section 32 of the NEL, section 72 of the NGL.

⁵ See pages 49 and 51 of the Preliminary Findings report.

Accepting that policy mandates the introduction of TFP in some form means that there is a heavy burden to demonstrate that the NEO & NGO are best met by delaying its effective implementation. In other words, that the benefits of applying TFP in the near future (on which DPI has outlined its views in its rule change application and previous submissions) would be negated in all cases by deficiencies in the TFP index used due to shortcomings in the data set from which it would be derived. DPI submits that this is exceptionally unlikely due to the way TFP works.⁶

That 8 year delay will make it a decade after the MCE mandated use of TFP before it is first used. In that decade, on the AEMC's own analysis (and also DPI's) there will be accumulated inefficiencies with costs to consumers and industry from continued use of the building blocks approach that should have been avoided by the earlier introduction of TFP.

Neither the AEMC nor Economic Insights have sought to quantify the cost to consumers and industry of this delay. Nor has any analysis been performed of whether the costs of that delay outweigh the costs (if any) that might be incurred from implementing the TFP methodology using data that is not as robust as might be the case if there was an eight year delay. Such analysis is fundamental in a matter like this.

Items 26J and 42 allow for possible data issues

Whether data is adequate for use of the TFP methodology is not overlooked in terms of the drafting of items 26J of the NEL and its sister item 42 of the NGL.

As has already been said, both items contemplate two possible ways in which the TFP methodology is to be introduced. First: as an alternative for the building blocks approach. Second: as a supplement: described in the drafting of the item itself as "to inform and assist the AER" in its application of the building blocks approach.

This expression of the two possible ways in which the TFP methodology might be used was not accidental: it instead reflected and acknowledged that – as with any newly introduced regulatory methodology – there may well be both data adequacy issues and also methodological issues that rendered it unwise or impractical to immediately cease use of the existing methodology for the new.

However, and again as the AEMC will appreciate, this is also an expression of legislative intent against the course the AEMC suggests, namely that the implementation of the TFP methodology be delayed until a "robust and relevant" or "reliable and robust" data set is accumulated.

⁶ Principally, that the trend set by most TFP indices is resilient to data errors which fall in a random pattern and attempts to game the index. See previous submissions by the Essential Services Commission of Victoria.

In other words, what the AEMC proposes in this regard is contrary to the provisions of the NEL and NGL.

Data issues bedeviled early building blocks approach

It is important that the inputs to TFP based regulation are not held to an unachievably high standard versus those of the alternative building blocks approach. Inadequacy and unsuitability of data bedeviled the early energy reforms in Victoria (and the introduction of the building blocks approach). However those issues did not stop the reforms. Instead the robust view was taken that the reforms would proceed regardless but with the caveat that at least in the first few years a conservative approach would be taken in terms of expected efficiency gains.

Indeed, significant issues with data continue to affect the building blocks approach today. In particular, the firm-specific cost forecasts used to determine the X factor (that the TFP approach would replace) exert a material influence on the confidence of regulators to set prices at their most efficient level.

Importantly, what it also speaks to is that it is not a valid rationale for avoiding a particular regulatory task simply because it is thought that there might be data issues.

Instead the better approach – indeed the only approach – is to take a conservative view and make decisions that allow for the fact that data may not be as good as one might wish. If that means that a "second best" (or conservative) decision is made, so be it. If that also means that some inefficiencies or monopoly profits remain in the regulated entities in the short term, again so be it.

However such decisions are taken on the basis that – as knowledge and experience of the regulatory methodology improves both in terms of understanding the methodology itself and the acquisition of better data – then the economic regulator will be able to move closer to optimal decisions whereby the short term inefficiencies and monopoly profits are progressively reduced. These short term inefficiencies are to be considered in the context of the larger long term incentives for efficiency which even a cautiously applied TFP based approach will bring.

The same approach – which is one that has been consistently taken throughout the energy reform process over the last 15 years – is reflected in the provisions of items 26J and 42.

In other words, it is not a valid basis for delay in implementation of the TFP methodology that it might be thought that there are data issues. Instead the AEMC's task (and the AER's) is to devise a means for adoption of the TFP methodology that takes into account and allows for any such data issues.

A "chicken and egg" problem

There is a further problem associated with the search for optimal data.

While DPI assumes that the AEMC is not advocating that TFP can only be introduced once there is a "perfect" data set – such would be manifestly absurd - waiting to accumulate "the right data" (for want of a better expression) has the potential to introduce a chicken and egg problem.

While at one level the TFP methodology can be said to be simple, the more prescriptive the AEMC intends to be in its rule making for TFP, the more the data set may become dependent upon and intertwined with that prescription. This, in DPI's view carries with it a serious risk that the rules will be unable to be settled absent "the right data" but what is "the right data" will not be able to be determined absent settling the rules.

From DPI's perspective, the AEMC should be striving to avoid such an outcome. And if that means that TFP methodology has to be implemented with – at least in the first instance – less than optimal data, that is matter that cannot be avoided (although the design for implementation needs to address those data issues).

Implementation of the TFP methodology

The TFP methodology is in itself quite simple. X is determined as growth TFP less growth input prices and growth CPI. This a trend analysis, and while it is true that TFP is a function of the growth outputs less growth inputs, that is not an analysis that is necessarily accurate (or could be accurate) to the last decimal point.

Implementing a TFP methodology is not about a detailed prescription of what the AER as economic regulator must do. It is instead about setting the broad parameters of the methodology in rules and then leaving the AER to implement the methodology including making decisions as to adequacy of data and, if data is not sufficiently adequate, how the methodology should be applied.

In other words, the AEMC's function as rule maker is to determine the broad parameters within which the TFP methodology is to operate and put those parameters into rules. The AER as economic regulator must then, within those parameters, apply the methodology.

That is the model that underpins the energy reforms and the establishment of the AEMC and AER. Under that model, the AEMC must strive to avoid straying into areas that are the diet of economic regulation. Information provision, and whether the AER has adequate information to make a required regulatory determination, is an area that (in DPI's view) is the diet of regulation and is a matter best left to the AER.

With such model for implementation, concerns about data are addressed by the AER taking a conservative approach in distribution determinations at least in the initial regulatory period when the TFP methodology is implemented. In other words, the AER

as economic regulator takes the same approach as was used by economic regulators in the early days of the implementation of the building blocks approach in Australia.

DPI also appreciates, and to a degree sympathizes with, the view that may be expressed that unless there is an "adequate" data set, it may not be possible to implement the TFP methodology. Clearly if there was no data at all, the methodology could not be implemented. But this is not a case of no data, it is instead a case of data where issues are raised as to its being "robust and relevant" or "reliable and robust". In that regard, DPI can only repeat what it has previously said about the approach that has to be used (and has previously been used) when faced with such data quality issues.

Information provision to the AER

DPI has also been somewhat discomforted by the generality of the statements made in the Preliminary Findings Report⁷ as to the current data. The Economic Insights Data Availability Report – which the AEMC cites in support – does not really help in determining why existing data cannot be adapted for use in one way or the other, and what are the risks associated with such a course.

Indeed much of the Economic Insights Data Availability Report appears to concentrate, at least insofar as Victoria is concerned (and after acknowledging that Victoria has much the best data), on the fact that data is not publicly available, alternatively is primarily financial in nature. There are also comments made as to the distributors' provision of data.

Unfortunately no attention appears to have been paid to the AER's Regulatory Information Orders ("RIO") and Regulatory Information Instruments ("RIN") powers in terms of addressing any such perceived or actual data deficiencies.

And if there are risks associated with proceeding on data that, even after use of the RIO and RIN powers, is still deficient, again a cost-benefit and feasibility analysis would appear to be what is required, but such does not appear to have been considered.

It is also noted that the Preliminary Findings Report, at the same pages, argues for the AER to establish "a regulatory reporting regime for each energy sector". DPI accepts that it is often thought that regulatory reporting by regulated entities is insufficient: but to address that issue the AER was some time ago given the power under both the NEL and NGL to make and issue RIO and RIN. As far as DPI is aware, the AER has not been reluctant in its use of RIO and RIN, although equally since the introduction of the powers the regulated entities may have been more forthcoming in disclosures.

However if the AEMC is proceeding on the basis that the AER cannot obtain the information that it needs to administer the TFP methodology, that is a fundamental

⁷ See pages 49-50.

misunderstanding of the present regulatory regime. The AER has ample powers in terms of RIO's and RIN's to obtain the information it needs, if it is not volunteered. And the fact that the AER may not have that information now, or that the regulated entities have to derive it from other information is not an issue in terms of the relevant provisions.

Also troubling is the way in which the AEMC's concerns about adequacy of present data used for economic regulation has become intertwined with the TFP review⁸. Data provision for the purposes of economic regulation is governed by the RIO and RIN regime established by the NEL and NGL. It is for the AER to determine whether data is adequate or not for its functions as economic regulator: if not it can be expected to issue a RIO or RIN.

As DPI sees it, it is not part of the TFP review to examine the general scheme for information provision under the NEL and NGL. Instead that scheme and the fact the AER has ample powers at law to acquire the necessary data to make TFP work must be taken as a given.

Inadequacy of data has not prevented introduction of TFP in other jurisdictions

Informative as to all the above is the approach of the Ontario Energy Board in 2008 when it decided to implement TFP as part of its economic regulation of electricity distribution businesses.

The Board's report dated July 14 2008 *Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors* at pages 13 - 16 makes clear that there were considerable data adequacy issues that the Board had to face, not least of which was that Ontario data for the period 1998-2001 was not available at all. United States data was proposed as an alternative after analysis had suggested that it was an acceptable surrogate.

There were, not unsurprisingly, arguments before the Board about the use that could, or should, be made of the United States data in the circumstances, these arguments are canvassed on pages 13 - 16.

Significantly those arguments were not seen by the Board as warranting rejection of TFP, but instead the issue came down to what value for the productivity factor should be determined (see page 20 of the report). The inference that one may draw from that is that the Board then had in contemplation a value that took into account the issues raised about the appropriateness of the United States data.

⁸ See para 5.1.2

There is already sufficient data for Victoria

From DPI's perspective, the issue of data is, in the context of Victoria, not relevant.

TFP use in economic regulation has been under examination in Victoria for the better part of 5 years. The detail of that examination is available on the ESC Victoria website.

Nothing in that examination has suggested that in Victoria there is not sufficient data so as to prevent the introduction of the TFP methodology in Victoria now.

This is said, accepting that in 2005, Meyrick and Associates raised issues as to the correctness of some data and in respect of which Dr Lawrence was seeking further information⁹. That there may be issues about some of the data and its correctness is not per se a basis for rejecting the mandate in the NEL and NGL for introduction of the TFP methodology. But again these are issues that the AER, as economic regulator, can address (by its RIO and RIN powers if need be) if there is any merit now (some 5 years later) to them.

That is not to say that DPI has overlooked data quality issues. As was said at the AEMC TFP Public Forum, the design that DPI put forward (as part of its application for a TFP rule change) for the implementation of TFP methodology for electricity distribution businesses was a transitional model which included (inter alia) P_0 resets and other variations on a "strict" TFP methodology to provide a level of assurance that the implementation would not result in perverse outcomes. Such variations are clearly available to the AEMC as a means to address any actual or perceived data issues and, in DPI's submission, are the means that such issues should be addressed rather than putting off implementation for 8 years until "the right data" is accumulated.

Put shortly, DPI's submission is that rules for TFP can be made now and in a way that allows staged introduction depending upon whether the AER is satisfied that the data set is fit for purpose. On that basis the TFP methodology could be introduced for Victorian electricity distribution businesses in the near future rather than in some 8 years time.

Alternatively (although DPI sees this as "second best"), the TFP methodology could (as item 26J contemplates) be implemented in parallel with continued use of the building blocks approach. If at the end of the chosen period of in parallel use the data has proved adequate, MCE may consider whether building blocks can be put to one side.

⁹ See *Response to Pacific Economics Group* dated 29 March 2005 at pages 11 – 14.