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Review Into the Use of Total Factor Productivity for the Determination of Prices and Revenues

Submission to AEMC's Preliminary Findings Report

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1 Overview

The Essential Services Commission of Victoria (ESCV) supports most of the main findings and policy conclusions presented in the Australian Energy Market Commission's (AEMC's) Preliminary Findings of its review into the regulatory application of total factor productivity (TFP) approaches to utility regulation in the energy industry. We are pleased that the findings are consistent at several points with the positions that the ESCV has put forward about the potential benefits from adding a TFP-based option to Australia's regulatory framework. We believe the Preliminary Findings report represents yet another step forward as the thinking of Australian regulatory authorities continues to evolve in a positive direction.

Specifically, and most importantly, the AEMC's preliminary finding is that applying TFP-based regulation approaches to determine regulated prices would positively contribute to the objectives of the national electricity and gas regulation regimes.

We also find ourselves in agreement with much of the Australian Energy Regulator's (AER) submission of March 2009. However, we find several differences between the views of the AER and the directions taken by AEMC, and these are specifically in areas where we have concerns with some of the AEMC's conclusions.

Like the AER and the AEMC, we believe the merits of developing measures of industry TFP trends extend beyond the TFP-based regulatory option, and can also improve the effectiveness of building block regulation (e.g. as a benchmark that can be useful for evaluating expenditure forecasts). Because building blocks will remain part of the regulatory framework in any event, we also support AER's suggestion that improvements to the building block method should be adopted where appropriate, and that other alternatives to the building block approach should be examined. Changes to the National Electricity Law (NEL) and National Gas Law (NGL) would be needed to facilitate the ability for the AER to develop and deploy these options where it considers this to be of benefit. We also agree with the AEMC that work on the TFP-based option can help to improve regulation more generally, by creating benchmark information that could also prove useful in the building block approach.

Therefore, we recommend that the AEMC should reconsider its conclusion that there should be a delay of at least eight years for a TFP-based option to be added to the Framework. We believe a delay of this magnitude is not necessary for developing feasible, appropriate and robust estimates of TFP trends for regulated industries. We also believe that this delay will reduce the benefits that can be generated by moving immediately towards TFP estimation and developing concrete TFP-based mechanisms.

Like AER, we think that AEMC's review should seek to quantify (to the greatest practical extent) the costs and benefits of the alternative regulatory options, and

not only for the two stark alternatives of building blocks or a selected TFP-based approach, but also the hybrid and staged approaches mentioned by the AER.

We fully agree with the AEMC's preliminary finding that there should be a mandatory and standardised regulatory data set to be collected annually from all Australian energy utilities. We believe that there is an existing body of data, but it is incomplete and variable in quality. A more complete and consistent data set will enhance regulatory effectiveness under all approaches.

The debate about the specifics of TFP methodology is important and we intend to actively participate in this debate over the remainder of AEMC's review. However, it needs to be borne in mind that it is not necessary for AEMC to be prescriptive in regard to the precise methodologies for calculating TFP or other elements of the TFP-based approach. That is, it is not necessary to resolve the specifics of TFP calculation methodology in this review to enable the AER to utilise TFP measurement as an adjunct to its existing building blocks approach or for it to further develop a TFP-based regulatory option. We therefore don't see anything in the AEMC's findings to date that would impose an impediment to the changes sought to the NEL and the NGL.

Further, we don't believe it is necessary that such changes should be accompanied by a detailed set of rules as to precisely how TFP-based regulation should be employed by the AER. In our view, there is an important role for regulatory discretion to adopt methodologies that have close regard to the specific circumstances of a regulatory determination, while also appropriately balancing the needs for consistency and innovation in regulatory decision-making. In our experience, regulatory instruments that have set out quite detailed pricing methodologies have sometimes led to less than satisfactory outcomes due to the distance between the formulation of those methodologies and their application to specific cases.

It should also be remembered that TFP-based regulation will only be an option. The service providers themselves are therefore largely in control of whether this option is exercised. Each service provider can therefore evaluate its own specific conditions and determine whether the TFP-based option is a good fit with its circumstances. If not, service providers can stay with the building block approach, which is inherently specific to each company. The optional nature of the TFP-based option substantially reduces the work necessary to ensure that this approach must be tailored to specific business conditions for each provider.

For these reasons we continue to be strongly of the view that changes to the NGL and NEL to permit the AER to utilise TFP-based regulation are warranted.

2 Introduction

2.1 Our interest in this review

The ESCV has had a continuing interest in TFP-based regulation for more than five years, taking a leading role in sponsoring research on TFP estimation for electricity and gas distribution networks in Australia. This research has been conducted by the Pacific Economics Group (PEG), a recognised international leader in productivity estimation for regulated industries. In December 2004, PEG presented its first estimates of TFP trends for Victorian electricity distributors over the period 1995 to 2003 (the entire period since the privatisation of the Victorian industry). Since then, PEG has been commissioned to produce annual TFP updates for the Victorian distributors, with a further update to be provided this year. In 2009, PEG also estimated TFP trends for Victoria's gas distributors, with a further update to be provided this year. The ESCV therefore has a significant amount of experience with TFP estimation, and we have confidence in the TFP estimates that PEG has developed for the electricity and gas distribution networks in Victoria.

The ESCV also has considerable experience with the building block approach to regulation, as applied to both energy and water networks. Our experience as a building block practitioner has made us well aware of the limitations of this methodology. This experience and the deficiencies of the building block method was discussed in detail in our submission in response to the AEMC's Discussion Paper. Based on this "hands on" experience with building block regulation, we have strongly supported the adoption of a TFP-based regulatory option throughout this Review.

2.2 The scope of the AEMC's review

In addition to the current building block approach, the AEMC can also establish within the National Electricity Law (NEL) and National Gas Law (NGL), a regulatory methodology for the application of:

a) the TFP approach, and/or

b) the use of TFP as a regulatory tool to complement the building block approach.[1]

The AEMC's review has focussed on whether a "full" application of the TFP methodology should be permitted as an option in addition to the building block framework (rather than replacing it). While the AEMC has not focused on point b), the Preliminary Findings are that the adoption of the TFP methodology will provide benchmark information that can enhance the effectiveness of building block

[1] These two options correspond to subsections 26J(a) and (b) of Schedule 1 of the NEL.

regulation. We agree with this conclusion, and believe it indicates the need to commence work on developing a concrete TFP-based option immediately. Building block regulation will be employed exclusively until a concrete TFP-based option has been finalised. The TFP-based approach offers the prospect of benefits in the short-term, even if not immediately adopted by service providers. Given the benefits that may result from utilising TFP information in building block methods, there is no valid reason to delay work on the TFP methodology.

2.3 The nature of rule changes needed

AEMC states that a high level of prescription of the TFP methodology would be included in the National Gas Rules (NGR) and National Electricity Rules (NER). The AEMC states that:

> *All the TFP principles, key mechanics such as formulas, calculations and definitions), key rights and obligations and procedural requirements would be clearly and comprehensively established in the NER and NGR*[2]

While it is desirable to provide clear guidance on the application of the TFP approach in order to provide certainty to parties in regard to the consistency of the regulation regime in practice, there will also be areas where AER should be relied upon to exercise judgement as an economic regulator established with a considerable degree of expertise. Although clear criteria should be specified to guide the AER's decisions, an appropriate balance needs to be struck between prescription by AEMC and AER discretion. In our experience, pricing regimes that are very tightly specified in regulatory instruments carry significant risks of design error due to the distance (both in terms of elapsed time and degree of detail) between their formulation and application. We suggest that the AER retain a reasonable degree of discretion, but be required to explain how it would apply the TFP approach, if the application of the TFP approach were to otherwise meet the criteria specified by the AEMC (see below).

2.4 Implementing the TFP approach

The preliminary findings of the AEMC indicate that it can permit the use of the TFP approach, because it has found that:[3]

- a TFP-based regulation approach to determine regulated prices or revenues would positively contribute to the national electricity and national gas objectives
- it would increase the incentives of service providers to be efficient and innovative, and
- a TFP approach can provide a reasonable opportunity for service providers to recover efficient costs, although this might require safeguards to be introduced in

[2] AEMC (August 2009) 'Design Discussion Paper', p.11

[3] Approach b) is hybrid of approach a) and the building block model, so we assume if the AEMC can allow approach a) it can also allow approach b).

case an efficient service provider is unable to achieve the industry average productivity growth (eg. 'trigger events' or 'off-ramps').

Given these findings, we recommend that the AEMC make rules to enable the AER to adopt both options a) and b) (as defined above). However, AER's use of options a) should be subject to a number of criteria. These are discussed in the course of this submission, but some of the key criteria should include:

- the TFP approach should include periodic reviews to re-determine price or revenue levels in line with costs, and with the X-factor to be based on industry-wide productivity trends[4]
- the TFP methods must be practically implementable
- the TFP option must not impose onerous new data collection or reporting burdens on service providers
- the TFP specification must be consistent with the underlying algebra that establishes the mathematical link between changes in regulated service prices and changes in TFP
- AEMC through this review, and AER subsequently, should seek to establish a sufficient degree of consensus over the TFP estimation methodology to be employed
- AER should have sufficient confidence that the TFP estimates are robust
- the TFP approach could only be used if the service provider chooses to opt into that approach, and with constraints to opting out.

[4] Minister for Energy and Resources, letter to AEMC dated 23 June 2007, 'National Electricity Rules: Rule Change Proposal to Allow the Use of Total Factor Productivity Methodology in Distribution'. Note: If CPI is used for price escalation, then a further adjustment to X is required for the input price differential. Alternatively an input price index may be used for price escalation.

3 Key Practical Issues

This Chapter will discuss what we view as some of the key practical issues associated with the establishment of a TFP-based regulatory option.

3.1 Incentive properties of TFP-based regulation

We acknowledge the AEMC's finding that using TFP-based approach to determine revenues and prices of energy distributors would increase the incentive for service providers to be more innovative and increase cost efficiency compared with building blocks. However, it is important to recognise that being innovative involves more than just cutting costs. It also involves adapting to unforeseen circumstances, being forward-looking, and helping to unlock the full benefits of technologies being introduced in network industries. TFP-based regulation also has the potential to encourage innovative behaviour of this type.

It is also noteworthy that (in Section 6.3) the AEMC has found that TFP-based regulation creates stronger incentives to pursue demand management than building block methodologies. The ESCV has emphasised this point in its submissions. Given the importance of promoting energy efficiency and enhanced demand management, this is a further and important reason why the regulatory framework should be broadened to allow for TFP-based regulation.

AEMC makes the observation that "the risk to the service provider of not innovating and matching the performance of its industry peers would be greater under a TFP methodology" than building blocks (p.16). Firms will need to match the TFP gains of the industry as a whole just to keep their profits from falling. This is an important motivation for staying efficient and innovative, and we believe it is difficult to integrate this same type of incentive into the building block model.

3.2 The need for reform

The AEMC's survey of service providers found that there is a perception that the building block process is becoming more heavy handed over time, with reviews being conducted in a forensic manner, and a sense of being 'micro-managed' by the regulator. Low incentives for cost efficiency are evidenced by the sense that efficiency gains are subsequently lost in the next regulatory review.

The resource and cost intensiveness of the building block model and the "ex ante incentives" for gaming cost projections have also been reinforced by AEMC's findings, and it is clear they impose significant social costs. Stakeholders will be looking to AEMC to establish a proactive program of regulatory reform that can be seen to be clearly addressing the problem of these substantial and mounting social costs.

3.3 Use of TFP to complement building block regulation

We agree with the AEMC[5] that TFP analysis could assist the AER to complement building blocks regulation by providing a "benchmark" against which the AER can assess a service provider's expenditure forecasts or evaluate its past cost performance. This shows that the rule change application will not only create a TFP-based regulatory option, but can simultaneously provide important benchmark information that may improve the effectiveness of energy sector regulation more generally. Thus, even if the TFP-based option is not immediately adopted by a large number of service providers, it can still provide valuable information to the AER that should enhance the effectiveness of its regulation, thereby generating benefits immediately in Australia.

3.4 The Procedure for Resolving Debates on the TFP Specification

The "Way Forward" for preparing a Draft Report (April 2010) and Final Report for Stage I (July 2010) includes further assessment of TFP specification issues, including information provided by stakeholders on how to develop a TFP methodology and on the regulation of gas and electricity providers in Australia and overseas.

Because the AER will have the practical task of implementing the TFP-based regulatory option, we believe it should also have responsibility for resolving TFP specification issues. Since the AER is the entity directly involved with data collection and regulatory price reviews, it is far better placed to evaluate the practicality of alternative TFP designs and the costs and benefits that may be associated with existing or enhanced data reporting requirements. AEMC's Final Decision on the Rule Change should not be prescriptive about TFP methodology. This is an issue that should be addressed by the AER, which is tasked with implementing the broad policies set by the AEMC. In our view, the methodology issues associated with actually estimating industry TFP indexes should clearly fall within the purview of the AER.

3.5 Index Stability

The Report puts considerable emphasis on the criterion that a TFP measure should lead to "a stable (TFP) index and be able to provide a stable price path." At least as those issues are discussed in the Preliminary Findings Report, it should be noted that these are in reality two separate issues. The discussion of the stability of the index in the Report essentially refers to its year-to-year volatility. This has no necessary implications on the "stability of the price path," which depends on how stable the long-term trend is likely to be over a multi-year trend.

While there is year-to-year volatility in the TFP research sponsored by the ESCV, we believe a clear trend in electricity distributors' TFP has emerged. It is also straightforward to identify the one-time TFP gains associated with privatisation of

[5] p.1

the Victorian industry. These one-time gains were observed between 1995 and 1998. The TFP trends reported by PEG for the industry eliminate these one-time TFP gains.

The AEMC report arguably puts too much emphasis on year-to-year stability when evaluating alternate TFP specifications. Ultimately, the year-to-year change in an index does not translate into year to year variability in prices under TFP-based regulation. Instead, allowed price trends would normally be determined by the average change in TFP growth over a multi-year period – such as the preceding ten years, although the appropriate period used to estimate the TFP trend inevitably involves some judgment. Observed data from Victoria and other jurisdictions shows that this longer-term trend is far more stable than year to year changes in TFP may indicate. We believe AEMC should focus more on the stability of trend estimates over 8 to 10 years because these are more relevant to the operation of a TFP-based approach.

3.6 Availability of data

One of our most significant concerns with the Preliminary Findings report is the conclusion that TFP-based regulation could not be implemented for at least eight years due to a lack of adequate data.

We agree with AEMC's emphasis on the need to develop a "robust and credible data-set" that can be used to estimate industry TFP trends, including consistency across jurisdictions and completeness in terms of both financial and statistical information. However, we have concerns about the assessment of the information presently available, and the implications of data-incompleteness for the ability to calculate TFP trends.

Our concerns may be summarised as follows:

- Economic Insights (EI) has assessed the adequacy of data availability at least in part on the assumption that its own approach will be used to estimate TFP trends. We do not support this approach, which is more data intensive than the method proposed by PEG. EI's conclusions about data adequacy do not apply more generally, since their assessment is contingent on a TFP specification that is itself more data intensive than the specification used in conventional TFP estimates.
- EI has emphasised that much of the available data is not in the public domain. We can't see the relevance of this point, as the regulator would not be constrained from utilising commercially sensitive data in its analysis.
- Data quality is just as important for building block regulation. In spite of data limitations that currently exist, the AER is currently using existing data to set prices under the building block methodology. Clearly, waiting for better data to become available is not an option for regulation per se, and therefore the issue must be whether the risks of using incomplete information under the TFP-approach are greater than under the building block model – a question which has not been addressed.
- For the measured TFP trend to be distorted, there may need to be a systematic error in data across companies. "Random" errors are likely to balance out across

companies. At present there is insufficient information to support such a claim. Any further requests for imposing new data collection burdens must carefully balance the costs of these mandates against the benefits that would be expected in terms of eliminating biases in the *rate of change* of TFP. The first step in this cost-benefit analysis is to ascertain if there are, in fact, systematic biases, rather than random errors and inconsistencies, in the currently available data in Australia.

- The TFP research conducted on behalf of the ESCV by PEG for electricity and gas distributors in Victoria supports the view that such trends can be estimated with confidence and accuracy. We believe this analysis can serve as a foundational methodology and could be readily employed to a wider dataset for estimating TFP trends for gas and electricity distributors nationwide.

We do not support waiting eight years before introducing the ability to use TFP-based regulation. While we agree with all of the information gathering reforms proposed by the AEMC, in our view detailed analysis of nationwide TFP trends in the electricity and gas industries should commence straight away. As confidence builds in these estimates they can and should have a greater role providing useful benchmarks for the AER to consider when carrying out its regulatory tasks. Once fully robust measures have been developed, a greater application of TFP-based regulation should be available to the AER.

There is no valid reason to wait eight years to achieve a greater degree of data comparability rather than using and building on existing well-designed TFP studies to improve regulation right now.

4 Methodological Issues

This chapter discusses some of the review findings in more detail as they relate to the method of estimating industry-wide measures of TFP trends.

4.1 Method of estimating TFP trend

There are four main practical points of difference between EI and PEG's TFP specifications:

- the use of physical or deflated monetary values for capital input quantities
- the outputs to be included in the output quantity index and, in particular, the merits of including "unbilled" outputs
- the weights that should be applied to individual outputs when they are aggregated into a comprehensive index of output quantity and
- EI's approach for ensuring financial capital maintenance.

A less important point of difference between EI and PEG is whether the TFP trend should be measured based directly using the TFP index values or as the slope in an auxiliary regression of the TFP index on time.

EI and PEG agree largely, or entirely, on the issues of:

- using the Fisher Ideal index form to measure TFP growth (in practical terms, little different from the TFP estimates that would be obtained from the other "superlative" form, the Tornqvist index)
- the choice of input price deflators to use when computing opex input quantities. These same input price deflators will measure the trend in opex input prices and be reflected in the industry's overall input price trend.

The ESCV has a significant amount of experience with TFP estimation since we have sponsored a series of TFP studies for the gas and electricity distribution sectors in Victoria for more than five years. We have considered the critiques that were put forward in Victoria by EI personnel regarding PEG's specification, as well as PEG's previous responses to those critiques, and we note that EI is making similar critiques in this proceeding. We also note that EI has modified its approach at a number of points, but PEG's fundamental methodology has remained consistent, which increases confidence in the stability of PEG's method and its suitability for providing a foundation for a TFP-based regulatory option.

The Commission intends to make a further supplementary submission to this review that presents its further and more detailed views on the question of TFP specification.

4.1.1 Measurement of capital quantities

The ESCV and Dr Kaufmann have both addressed the issue of the merits of physical and monetary capital measures in previous submissions. The material presented in EI's December 2009 report does not change our opinion regarding the deficiencies of EI's preferred physical metrics. Indeed, this material strengthens our preference for monetary measures. This point will be addressed further in our supplementary submission.

4.1.2 Unbilled Outputs and the Recovery of Efficient Costs

One of the Report's findings (p. 54) is that "(i)t is desirable that a TFP methodology include all outputs of the service provider. This would include outputs that are not directly billed to users of the asset as well as billable outputs". Furthermore, the document asserts that if relevant but unbilled activities are not included as outputs:

> *the TFP index may not be a reliable measure of the sector's productivity. If this is the case, the TFP index will not set a price path that recovers industry cost.*

This is an issue on which both Dr Lawrence of EI and Dr Kaufmann of PEG have offered differing opinions.

However, based on our experience with building block regulation, it appears that there is no way to recover the costs of 'unbilled' outputs other than through the prices that are paid for billed outputs. Costs are recovered through the revenues earned from customers, and revenues can only be earned from the outputs that are billed to customers. The issue of "unbilled outputs" therefore appears irrelevant in building block regulation. There are many utility activities for which customers are not billed explicitly, yet the costs of these activities will still be recovered from the prices charged on the outputs that are billed.

The same would appear to be true in TFP-based regulation. The P0 in TFP-based regulation is clearly analogous to the building block model; initial prices reflect the costs of energy security and other unbilled outputs. Any changes in these costs are necessarily recovered through the prices that are charged for the billed outputs. The only change in output quantities that can recover the costs of these activities are billed outputs. These are the outputs that, accordingly, should be reflected in the measure of industry TFP which are used to set price changes.

The Preliminary Findings Report conclusion therefore seems inconsistent with our regulatory experience. If the TFP index includes changes in outputs that are not billed to customers, it will drive a wedge between changes in costs and changes in revenues, and will imperil rather than promote cost recovery. This is true for the same reason that, if a unbilled output was inserted into a building block model, it would drive a wedge between costs and the recovery of costs. Unbilled outputs do not, and cannot, recover costs. It therefore seems logical that they should not be included when setting either initial prices (the P0) or the rate of change in prices (i.e. the industry rate of TFP growth in TFP-based regulation).

We believe that all parties can resolve this issue to their satisfaction through direct and detailed empirical modelling of the regulatory alternatives. Spreadsheet

models can examine whether the addition of unbilled outputs to a TFP specification will frustrate rather than promote cost recovery. We are heartened that the AEMC found the ESCV's spreadsheet model comparing the building block and TFP-based models to be instructive (p. 39). We believe spreadsheet tools can be similarly effective in explored the unbilled outputs issue, and we would be happy to work with AEMC and AER on this topic.

4.1.3 Weights

EI personnel contend that information on both prices and marginal costs are needed to aggregate individual output quantities into a comprehensive index of output quantity. Because the output quantity index is constructed using individual company data, the EI weighting approach would require information on both prices and marginal costs for each output provided for each company in the industry. In the PEG approach, individual outputs are aggregated into an output quantity index using the share of each output in overall regulated revenue.

We believe PEG's choice of weights is far more practical in Australia. The EI approach requires marginal cost data for individual outputs that have not been used to date in Australian regulation and, for most companies, likely do not exist. Developing marginal cost estimates is also not a straightforward exercise. In addition, the costs of this exercise would be exacerbated by the need to develop very detailed marginal cost estimates, for each service provided by each service provider. Thus, for example, EI's approach would appear to require information on the marginal cost of providing capacity in the Sydney CBD, the marginal cost of providing access to the distribution network in Tasmania, and the marginal cost associated with throughput in rural areas of the Northern Territory. Even attempting to develop these estimates would appear to require a tremendous amount of data, and there is no assurance that the attempts to estimate these detailed marginal costs would prove successful.

In contrast, PEG weights outputs using revenue data that are available and used now in price and revenue regulation. Moreover, PEG's approach has been used in a large number of TFP studies, including the TFP research sponsored by the ESCV. We believe a rigorous cost-benefit analysis should be applied to moving from PEG's selected weights (which are used in Victoria's current TFP estimates) to EI's preferred alternatives. All parties must be confident that, not only can marginal cost estimates be feasibly developed, but that the incremental costs associated with developing this information do not exceed the incremental benefits that would result in terms of obtaining more accurate industry TFP trends.

4.1.4 Financial capital maintenance

The issue of financial capital maintenance has recently been stressed in EI's work. However, we do not believe that EI has presented any evidence to demonstrate that its approach will actually promote financial capital maintenance. It must also be remembered that EI's approach remains experimental and has not been fully implemented anywhere in the world, including New Zealand. We intend to address this issue in more depth in our supplemental submission.

4.1.5 Other Concerns and Design Issues

The ESCV also has a number of less fundamental concerns with the AEMC's proposed design of the TFP-based option, as well as some parts of the Report, which we briefly discuss below:

- On p. 16, the Report concludes that TFP-based regulation does not reduce the incentive for service providers to build RAB. The Report points to evidence which shows there is a range of leverage among service providers and no clear indication that highly-leveraged companies are less innovative. But this evidence necessarily compares utilities that are subject to building blocks regulation; it does not compare utilities under building blocks to those subject to TFP-based regulation. The AEMC's evidence is therefore not conclusive and, in fact, is to a large extent beside the point. Moreover, the Report did not assess the "analytical" arguments put forward in our response to the *Framework and Issues Paper*, and which we believe remain compelling (i.e. that returns depend directly on RAB under building blocks, but are far less dependent on TFP-based regulation; it therefore follows that profit-maximising companies are more motivated to increase RAB under building blocks).
- It should also be noted that the finding on p. 21 (Section 2.3.2) assumes that companies do not have stronger incentives to build RAB under building blocks than TFP-based regulation. If they do, they clearly have differing incentives to control capital vis-à-vis operating expenditures. It should also not one of the key concerns regarding asymmetric information is that companies almost always have more ability to game projections of capital than operating expenditures. The ability to game cost projections is entirely absent from TFP-based regulation.
- Page 16 of the Report concludes that cost allocation issues will remain under TFP-based regulation where prices are periodically reset to costs. While it is true that the issue does not go away entirely companies have far less ability to profit from cost reallocations under TFP-based regulation than building blocks, and they would typically have to concentrate their cost reallocations in a single year in order to profit. The ESCV has presented a mathematical analysis which demonstrated this point.
- On a conceptual level, we believe the TFP-based option is more conducive to longer regulatory periods than building blocks, simply because it becomes increasingly difficult to forecast costs and conditions for more distant periods. TFP-based regulation relies on historical information, which can be easily projected into the future. Thus if the potential to extend the regulatory period is an important regulatory concern, we believe this objective is facilitated by TFP-based regulation. It should also be noted that PEG has presented examples of seven, eight and ten-year TFP-based plans in Massachusetts.

5 Summary Conclusions

In broad terms, the AEMC's Preliminary Findings Report represents another significant step forward in adding a TFP-based regulatory option to Australia's regulatory framework. The ESCV fully supports this policy and believes it will generate significant benefits for energy sectors. However, we do not believe it is necessary to wait eight years to develop an ideal dataset for these benefits to be realised. We believe that this delay is unnecessary and will impose social costs. We also recommend that further analysis of TFP specification issues be vested in the AER, which will ultimately be charged with developing and administering the option