ESSENTIAL SERVICES COMMISSION

Level 2, 35 Spring St
Melbourne 3000, Australia
Telephone +61 3 9651 0222
+61 1300 664 969
Facsimile +61 3 9651 3688

SUPPLEMENTAL SUBMISSION TO THE AEMC REVIEW INTO THE USE OF TOTAL FACTOR PRODUCTIVITY FOR THE DETERMINATION OF PRICES AND REVENUES

ESC RESPONSE TO SUBMISSIONS TO THE FRAMEWORK AND ISSUES PAPER

MAY 2009

An appropriate citation for this paper is:

Essential Services Commission 2009, *Supplemental submission to the AEMC Review into the use of Total Factor Productivity for the determination of prices and revenues*, May 2009

CONTENTS

1 INTRODUCTION

The Australian Energy Market Commission (AEMC) has commenced a review into the use of Total Factor Productivity (TFP) for the determination of prices and revenues. This review is examining the proposal by the Victorian Government to amend the National Electricity Rules (NER) to allow the use of a TFP-based methodology to regulate energy network prices. Currently, the only legally permissible method for network price regulation is the "building block" approach that has been used to date in Australia. Under the proposed amendment, the TFP-based approach would be added as an option to the NER, but it would not supplant the building block method methodology.

In December 2008, the AEMC issued a *Framework and Issues Paper* which organises and directs its review of the rule change proposal. This Paper requested comment on more than 30 questions related to the merits and design of a TFP-based methodology for Australia. Sixteen submissions were received in response to the *Framework and Issues Paper*. Several of these submissions – particularly from network service providers – raised concerns about the application of a TFP-based approach.

This supplemental response by the Essential Services Commission (ESC) of Victoria will address the broad, thematic concerns expressed in these submissions. We will also provide additional information and perspective on more detailed points raised in individual submissions. In both cases, the ESC will be drawing on its extensive experience with these issues, including research that we have sponsored on TFP-based regulation. We hope this information will assist the AEMC as it evaluates whether the TFP-based approach should be added as an option to Australia's regulatory framework.

Finally, to improve the understanding of the TFP-based regulatory option and how it compares with building block regulation the ESC has engaged PEG to construct a spreadsheet model that simulates how both would operate. The model is attached to this submission.

2 THEMATIC POINTS

2.1 Broad purpose of review and Information Requirements

Several submissions stated that the review could be improved by detailing the deficiencies with the building block model. For example, the AER said:

> *…the review would benefit from a clearer statement outlining the key problem(s) regarding the current regulatory arrangements that the review seeks to address. Without clear identification and understanding of the problem(s) at hand, there is a risk that any measures or interventions that are taken will not address the problem(s), or only partially address it, or that alternative interventions will be overlooked which could address the problem(s) more effectively or efficiently.*

The ESC believes that this and similarly-expressed concerns misinterpret the purpose of this review. The rule change proposal is not an "intervention" designed to identify and address specific problems with the current regulatory model. Rather, the rule change would only expand the range of regulatory options available to network service providers. Evaluating whether it is worthwhile to expand the regulatory "menu" does not require a detailed, side-by-side comparison of the strengths and weaknesses of two, potentially competing regulatory models. Such an analysis would only be warranted if the AEMC was deciding whether to *replace* the building block model with a mandatory TFP-based approach. This is clearly not the case, and nothing will prevent network service providers from selecting a building block methodology if that is their preference. Since the building block model will remain part of the regulatory framework in any event, the ESC believes that little will be gained by making a detailed analysis of building block regulation the focus of the review.

Because the proposed rule change is to add a TFP-based option to the regulatory framework, the issue before the AEMC is whether the *incremental* benefits of adding this option to the regulatory framework will more than offset the incremental costs. On this point, the ESC agrees with SPAusNet that there is likely to be considerable "option value" in having an alternative regulatory approach available to network service providers. Our submission provides a very detailed assessment of the benefits that can result from a TFP-based regulatory approach, compared with the counterfactual of exclusive reliance on the building block model.

There are two types of incremental costs associated with TFP-based regulation: the costs of establishing a TFP-based regulatory model; and the costs of updating industry TFP studies (i.e. the costs of administering a TFP-based regulatory approach). The ESC believes that both of these costs are likely to be modest, partly because of the considerable research that we have sponsored on energy distribution networks' TFP. Additional costs will be incurred to extend this research

to other energy networks in Australia, primarily to develop a more comprehensive and consistent dataset for different States and Territories.

However, we believe these costs will also largely be incurred if there is an exclusive reliance on building block regulation. One reason is that, to reduce the costs of revisiting basic regulatory accounting issues in each building block review, the regulator will inevitably be moved to develop more standardised and internally consistent reporting protocols across Australia. The UK experience also indicates that successive applications of building block methods lead over time to greater use of cost benchmarking, and robust benchmarking analyses require consistent national datasets and relatively stable corporate structures. In its submission, the AER says it is already contemplating a more systematic and uniform data collection process, in part to provide a foundation for more extensive benchmarking studies within the building block framework.[1] While the ESC believes that greater reliance on benchmarking is unnecessary and will be ultimately counterproductive, the relevant point for this Review is that benchmarking and the concomitant need to develop more standardised cost accounting will likely be a significant component of the counterfactual scenario of exclusive reliance on building block regulation. Accordingly, we believe there will be very modest incremental costs of implementing and administering TFP-based regulation compared to this counterfactual. In fact, since a TFP-based regulatory option may reduce the emphasis on costly benchmarking studies in price reviews (compared with the exclusive building block counterfactual, where these costs are likely to be substantial and increasing), adding this option to the regulatory framework can actually *reduce* regulatory costs over time.

The ESC believes that it is critical for the AEMC to focus its attention on assessing the incremental costs and benefits of a TFP-based option, compared with the counterfactual where this option is not available. Such an evaluation should naturally be forward-looking, and evaluate the sources of "option value" that TFP-based regulation may bring, as well as the additional costs associated with establishing and administering this option. Delineating and proposing remedies for the deficiencies of the building block model is less relevant to this analysis and, indeed, is likely to divert the AEMC's attention from the main issues to be considered in this review.

2.2 TFP as a Metric vs. TFP-Based Regulation

Several submissions view TFP as a benchmarking tool or metric that can be integrated into building block regulation. While this is true, this perspective misses what is fundamental about the TFP-based regulatory alternative. The AEMC should recognise that TFP-based regulation is a complete regulatory system (or institution), not simply a measurement technique. Broadly speaking, the ESC believes there are three main elements that differentiate TFP-based regulation from the building block approach as an approach for setting allowed rate adjustments:

[1] The AER also views TFP as one tool among many that can be used to benchmark network service providers; we address this point below.

- *Data requirements*: TFP-based regulation relies on historical, observed data for estimating the empirical parameters of CPI-X formulas; building block regulation requires a substantial amount of prospective, forecast information.
- *Objectivity*: because TFP-based regulation utilises observed data, it computes objective empirical measures; building block regulation depends greatly on projections that are far more subjective and difficult to evaluate or verify.
- *Industry versus company parameters*: TFP-based regulation sets rate adjustment formulas using measures of industry TFP and input price trends; building block regulation calibrates rate formulas using company-specific information.

The greater reliance on company-specific and forecast information in building block regulation has significant regulatory consequences. Network service providers have the ability and incentive to game forecasts of their future operating and capital costs. Attempting to "de-game" these forecasts is an almost impossible task, owing to information asymmetries and the uncertainties regarding companies' future requirements. Since TFP-based regulation relies overwhelmingly on observed industry trends, companies have essentially no ability or incentive to game the metrics that establish their price adjustment formulas.

Using observed, objective, industry measures also leads to both stronger performance incentives and lower regulatory costs for TFP-based regulation compared with the building block alternative. Research by Pacific Economics Group (PEG) shows that using historical industry benchmarks, rather than prospective company specific forecasts, to set rate adjustment formulas can have very significant welfare implications. In fact, PEG's incentive power model concludes that the gaming incentives in building block regulation can lead to higher customer prices than traditional cost of service regulation, where prices are based on historical cost information. This is an extremely sobering result, because it suggests that the ability and incentive to game prices under the building block method can completely undermine the rationale for establishing incentive regulation (relative to cost of service regulation) in the first place.

It is true that TFP-based regulation typically relies on cost-based price resets when price controls expire. However, if cost-based price resets take place, they are again tied to historical, observed costs in a base year, not prospective costs. PEG's incentive power indicates that cost-based price true-ups do reduce the power of an incentive regime, as might be expected, but customer welfare remains greater compared to the building block alternative.

In addition, there are examples of TFP-based plans that have not relied entirely on cost-based price resets. These options were discussed in the ESC's submission, and we believe they deserve consideration in a TFP-based regulatory application. PEG's incentive power results show that only partially "truing up" prices to company costs dramatically improves incentives, and the welfare of both customers and shareholders improves as a result. This simulation result increases the ESC's confidence that price reviews under TFP-based regulation could be more light-handed than building block reviews and *not* focus on extracting every dollar of rent from network prices, which is not realistic in any event (especially given the difficulties in identifying a firm's underlying costs). Less intrusive price

reviews can further distinguish the TFP-based option from the building block alternative and allow for a more truly light-handed regulatory regime for Australia's energy networks.

Overall, the ESC believes that Australian energy regulation would be improved if companies have access to a relatively simpler TFP-based option, where price adjustments are derived and updated according to well-established rules. Price resets under such an approach are likely to be "approximately right" rather than "precisely wrong." The simultaneous operation of alternative regulatory methodologies could also provide a more valuable, steady and "real time" flow of information to regulators than quixotic and controversial attempts to enhance available information via benchmarking.[2] TFP-based regulation may demonstrate that more light-handed price reviews can prove beneficial to customers and shareholders alike, but this information can clearly only be obtained if more than one regulatory option is available.

2.3 Regulatory Objectives Promoted by TFP-Based Regulation

Some commentators questioned whether TFP-based regulation will actually improve incentives, or whether such a methodology is appropriate given the current regulatory objectives in Australia. In the Summary of the responses to the *Framework and Issues Paper*, the AEMC says that

> *[o]pinions differ on whether a TFP methodology can (or is necessary to) improve the strength of incentives of service providers. Some parties suggested alternative measures that they considered would achieve similar results to TFP. The question of whether stronger incentives are desirable was also raised.*

The ESC notes that these comments have focused almost entirely on the incentives for what economists call "productive efficiency," or operating as close to possible to the minimum cost of providing service. While productive efficiency is important, the ESC believes that TFP-based regulation can prove to be even more important in encouraging dynamic efficiency. This point has scarcely been recognised to date, but it is critical for understanding why TFP-based regulation may be especially beneficial at the present time. As we stated in our submission:

> *…the ESC believes that utility incentives to make efficiency improvements and efficient investments are very strong under TFP-based regulation, and generally stronger than under the alternative building block approach. We also believe that encouraging efficient investments is especially important in the current environment, which is responding to the imperatives of climate change. Addressing these challenges requires an industry*

[2] It is noteworthy that New Zealand's TFP-based regulatory regime is being updated, and new price controls (rather than the previous price "thresholds") will take effect on April 1, 2010. The default price paths will be calibrated using only TFP and input price information, rather than relative benchmarking studies, largely because of controversies surrounding previous benchmarking of electricity lines businesses in New Zealand.

structure that is flexible and able to respond quickly to new and uncertain developments. One of our concerns with exclusive reliance on a building block model is that it may not encourage energy networks to make their full contribution in addressing broader energy market objectives.

There are several inter-related reasons why the ESC believes this is the case (outlined in detail in our response to Issue Number 25), but the fundamental issue is that building block regulation does not create sufficient incentives for network service providers to encourage efficiency on the demand side of the energy marketplace. Under building blocks, company profits are tied directly and explicitly to the regulatory asset base (RAB), so any demand-side efforts that reduce the growth in the RAB are naturally resisted. In addition, networks have no incentive to gain revenues from providing energy efficiency and demand-side services, since any profits obtained through such activities will be quickly returned to customers at the next building block price review.

The ESC believes that energy networks can play a far more active and direct role in promoting broader energy objectives than has been the case. Many utility assets that are used in energy delivery (such as metering and the meter data management information technology) can also be potentially valuable in encouraging efficient energy consumption. However, under current building block regulation, energy networks have almost no ability to profit from providing these services, or from vertically integrating into other businesses such as distributed generation which can also promote policy goals. The ESC strongly believes that networks should have profit-driven motives to integrate efficiently into both downstream and upstream energy market activities. This is the essence of dynamic efficiency in the current environment. This objective can also be furthered through TFP-based regulation since, compared to the building block counterfactual, it facilitates and encourages efficient network diversification by substantially weakening the link between allowed network prices and the revenues gained through diversification activities.

It is crucial that all energy sectors make their maximum contribution towards Australia's broader energy market objectives. We believe that this is unlikely to be the case if Australia relies entirely on a single, relatively inflexible building block model for regulating energy networks. One of the largest sources of "option value" related to the TFP-based alternative is that it can encourage networks to diversify efficiently into energy-related activities that will simultaneously profit shareholders, benefit customers and promote broader social welfare. Given the high potential value of such an outcome and the likelihood that networks will not be appropriately incentivised to pursue these goals under building block regulation, the ESC believes that dynamic efficiency concerns are one of the strongest reasons for expanding Australia's regulatory framework to include a TFP-based option.

2.4 Flexibility in Design and Accommodating Capital Investment

Several submissions questioned whether TFP-based regulation can allow networks to recover their costs of efficient capital spending. As discussed in our submission,

the ESC believes these concerns are likely to be over-stated, particularly for distribution companies. Investment spending tends to be fairly smooth in these industries and concerns about a "bow wave" of future investment spending are almost invariably exaggerated. The experience with building block regulation in Victoria is that distributors' actual capital spending is almost always below company forecasts. This experience has also been amply verified under nearly two decades of building block regulation for energy networks in the UK.

However, the ESC's preferred model for TFP-based regulation contains two features that are likely to ameliorate potential concerns with capital spending. The first is the use of a rolling X factor, which will necessarily reflect recent capital investment spending patterns (including any upward trend in capital expenditures that may be occurring) for the regulated industry. The second is an optional capital investment "module." This module would be available to all companies but would in general only allow for capital investments that have already been made (rather than prospective, multi-year capital forecasts) and are deemed to be prudent. The module will also contain relatively straightforward features to ensure that there is no "double counting" of capital expenditures through the CPI-X formula and the module itself. The ESC's proposed capital module is based closely on a similar module that was approved in 2008 for electricity distributors in the Canadian Province of Ontario, which are also subject to a CPI-X indexing plan. We believe such a mechanism can accommodate any potential surge in prudently incurred investment expenditures that are not otherwise reflected in the indexing formula. Since this has been a persistent concern in the consultation, we believe the capital investment module approved in Ontario should be investigated carefully by network service providers and the AEMC.

2.5 Cost recovery, Differences in Business Conditions and the "Steady State"

Closely related to the concern about capital cost recovery is the issue of whether network industries are in a "steady state" and TFP-based regulation can accommodate differences in costs across companies. Some submissions suggested that "industries" could only be defined for networks that operate under very similar business conditions, such as comparable levels of customer density. It was argued that computing different TFP trends for these industry sub-groups would complicate the operation of any TFP-based regulatory approach.

The ESC believes that these concerns about whether the industry is an a "steady state," or different TFP trends would need to be computed for subsets of the industry that operate under similar conditions, are over-stated for two main reasons. First, it is not necessary for the industry to be in a "steady state" for TFP-based regulation to be applied. The relevant issue is simply whether long-run historical TFP trends are a reasonable basis to use for setting future price trends. In practice, the main issue for assessing whether past TFP will be appropriate going forward is the extent to which a company's investment spending under the plan differs from the industry's historical capital investment. As discussed above, the ESC believes these concerns are often exaggerated, but in the cases where there are legitimate differences they can be accommodated through the capital investment module.

Some networks also do not appear to understand the relationship between business conditions that impact cost and TFP growth. Differences in conditions such as line undergrounding or customer density do affect cost and price levels across networks, but they do not have any necessary impact on networks' TFP growth rates. Business conditions lead to divergent TFP trends across companies only if: 1) there are *changes* in these conditions across networks (e.g. the growth rate in percent of lines underground differs between networks); and 2) these divergent trends have a material impact on TFP growth. This is an empirical issue which has been investigated for electricity distributors in the UK and Victoria, and these studies find little evidence that differences in business conditions lead to substantial differences in TFP growth. Differences in business conditions therefore impact networks' cost and price *levels* rather than their TFP *growth*, and these conditions will appropriately be reflected in individual company prices at the outset of a TFP-based regime. There is no evidence to support the view that business conditions materially impact the potential for TFP gain across different segments of the industry, or that industries used for TFP-based regulation need to be defined so that they only contain networks that operate under similar business conditions.

2.6 TFP Measurement Issues

Some submissions noted that there has been a significant amount of debate in Australia on TFP measurement. It was suggested that these issues could be addressed through a "strawman" TFP-based regulation model that parties could evaluate and test. It was also proposed that TFP estimation issues be explored in more detail through a working group process.

The ESC strongly concurs with these views. We believe that understanding of the TFP-based option would be greatly enhanced through the development of a strawman model and a working group dedicated to in-depth exploration of TFP measurement. We also believe such a process could lead to a high degree of consensus on the estimation of industry TFP and the design of a TFP-based regulatory regime. We would again point to the experience in Ontario as being hopeful in this regard. The most recent CPI-X plan for Ontario electricity distributors was initiated with a working group that included regulatory staff, industry representatives, customer groups and the Power Workers Union. This group explored a wide range of issues related to the design of TFP-based regulation and, through this process, greatly narrowed the range of disagreement among different parties. For example, the difference between the industry TFP trends proposed by regulatory staff and the industry was only 0.33%. We believe this compares quite favorably to the widely divergent views between regulators and companies in a typical building block review.

To improve understanding of the TFP-based regulatory option and how this compares with building block regulation, the ESC asked PEG to develop a spreadsheet model that simulates how both would operate. PEG's spreadsheet begins with basic data on company operations for two hypothetical companies (one urban and one rural) and works from these underlying data to develop price adjustments and profit/loss statements for the companies, and the overall industry, under TFP-based and building block models. Of course, a spreadsheet simulation is necessarily stylised, but this model has been designed to be as transparent as

possible and, for simplicity, does not assume any differences in company behaviour under different regulatory approaches. In reality the behaviour of firms is likely to be significantly different under the two regulatory approaches. Because the TFP-based and building block models work from the same company data, the spreadsheet is designed to illustrate the operation and relationships between these regulatory models.[3] The ESC has provided a copy of this spreadsheet model with this submission. We encourage all stakeholders to test different scenarios by inputting alternative data into the spreadsheet and examining the output. We believe that these exercises will enhance stakeholders' understanding of and confidence in the TFP-based regulatory option.

[3] However, it should be noted that PEG's incentive power model does conclude that there are very significant differences in incentives and company behaviour under the TFP-based and building block regulatory approaches. Incentives are stronger and costs are lower under the TFP-based approach. If this behaviour was factored into this spreadsheet model, it would allow profits to be higher, and customer prices to be lower, under the TFP-based approach.

3 SPECIFIC POINTS

The ESC will not undertake a detailed, point by point assessment of all the submissions provided to the AEMC, but we do believe it will be valuable to address some particular issues or statements that appear in individual submissions.

- The AER submission says that the level of X has no impact on incentives, which is true only after the level of X has been derived (i.e. ex post). However, the regulatory method used to derive and update the X has a very material impact on incentives. As discussed, PEG's incentive power demonstrated this was the case by showing that the gaming incentives under the building block model can lead to higher prices for customers than traditional cost of service regulation. The ESC also notes that the AER's statement (apparently) applies to the incentives for productive efficiency, but dynamic efficiency objectives are at least as important for Australia's energy networks. We believe TFP-based regulation will be more effective in promoting dynamic efficiency and helping energy networks contribute to broader energy market objectives, as we have discussed at length in our submission.
- The Energy Australia (EA) submission states that its submission draws on its own circumstances; while this is not irrelevant (obviously for EA), it does represent a limited perspective. The issue before the AEMC is not whether TFP-based regulation is appropriate for any individual company, but instead whether the incremental costs of adding this option to this regulatory framework are more than offset by the incremental benefits. It is certainly possible that there may be significant incremental benefits associated with TFP-based regulation for one or more other companies, and for the industry as a whole, even if this does not prove to be true for EA.
- The EA submission mentions the difficulty of integrating "qualitative outputs" into the TFP specification; for reasons that are discussed in our submission (Issue Numbers 4 and 27), we believe that qualitative or service quality-related outputs should not be included in the TFP specification.
- On page 11 of the EA submission, the company noted that spending to meet new infrastructure standards would not have a corresponding output and would accordingly be registered as a decline in TFP. This is not necessarily problematic under a TFP-based regulatory approach; TFP growth is simply equal to the growth in outputs minus the growth in input quantities and is not synonymous with changes in a company's efficiency. Any increase in the industry's input quantity that is not associated with a change in output quantity would be registered as decline in TFP and, all else equal, would be associated with an increase in prices. This is appropriate, since price increases would be required to recover the costs of the increased spending on the input. If this spending was associated with a particular company rather than the industry, it could also potentially be accommodated under the capital investment module, which is a component of the ESC's preferred TFP-based regulatory model.

- In its submission, SPAusNet expressed support for a TFP-based regulatory option and said that the term of such a plan should be at least 10 years long. The ESC notes that several approved TFP-based plans do in fact have terms of ten years. Examples include the plans for National Grid in Massachusetts, Boston Gas, Berkshire Gas, Bay State Gas and Bangor Gas.
- Envestra's submission discusses the disagreements associated with estimating partial factor productivity (PFP) for operating expenditures in the ESC's last Gas Access Arrangement Review (GAAR). The ESC believes that this experience has little relevance for TFP-based regulation, for at least three reasons. One is that PFP is often more variable across companies than TFP, because it is a less comprehensive measure and accordingly more sensitive to changes in business condition variables that can vary across networks. Second, the PFP growth rates for the GAAR were developed using econometric methods, which are more complex and difficult to understand than the index-based methods which are feasible for estimating TFP growth trends. Third, the PFP growth rates for the GAAR were projections and relied on forecast information provided by the gas distribution businesses. TFP-based regulation uses objective, historical TFP trends as the basis for setting X factors rather than the more subjective forecasts (including PFP forecasts) which are necessary in a building block framework. TFP-based regulation therefore avoids the very projection controversies that Envestra discusses. It should also be noted that, while the ESC's PFP projections were appealed during the GAAR, the Appeal Panel upheld those forecasts and concluded that the ESC's method for projecting PFP growth was "objective."
- Envestra says the Brattle Report is an important part of the review but that it "provided little support for the introduction of TFP in Australia." The ESC notes that this is not necessarily the case, since the Brattle report did not explicitly address the incremental benefits and incremental costs of adding TFP-based regulation as an option. More fundamentally, the Brattle report was selective and often inaccurate, and we do not believe it provides a reliable summary of the experience with TFP-based regulation. PEG's February 2008 report to the Ontario Energy Board is far more comprehensive and provides a more useful and accurate summary of this experience.
- Jemena's submission refers to PEG's 2007 TFP study for electricity distributors in Victoria, and claims that the large decline in input quantities (and consequent increase in TFP growth) between 2005 and 2006 was due to the decline in revenues that year resulting from the building block review. This is not the case; revenues do not factor into the computation of input quantities in PEG's TFP specification, although they do have a second-order impact on the weight that is applied to capital input quantities. PEG reports that if the weights applied to capital and opex inputs had not changed because of the revenue declines resulting from the price review, TFP growth for 2006 would have actually increased by a small amount in 2006 (by an additional 0.2%). Thus, not only was the price review not responsible for the measured TFP increase in 2006, it actually had a modest dampening effect on measured TFP growth in that year.
- Jemena's submission suggests an alternate "glide path" option that can be added to the regulatory framework rather than the TFP-based option. The ESC

believes this suggestion is not relevant for the current review, which is assessing the desirability of adding TFP-based regulation only.

- The submission by the Total Environment Centre (TEC) contains a number of inaccurate statements. Most importantly, it is not true that TFP-based regulation can only be applied with price caps and not with revenue caps. The ESC addressed this point in Issue 18 in our response. Our submission also notes that the Netherlands is better described as an example of benchmarking rather than TFP-based regulation, and that it is not true that California operates under cost of service regulation rather than incentive regulation (p. 41). It is also not that separate investment programs are "required" under price cap regulation (p. 44); in fact, nearly all TFP-based price cap plans have not included such programs, although the recent plan in Ontario contained an optional capital investment module, which could also be valuable in Australia. Our submission also explains in detail (e.g. response to Issue 5) that TFP-based regulation does not create incentives to expand demand and consumption (p. 45). There is also no foundation for TEC's statement that TFP-based regulation "assumes" that networks have made efficient investments but does not necessarily encourage efficient investment (pp. 45-46). On the contrary, we believe that TFP-based regulation will be more effective than building blocks in encouraging efficient investment and dynamic efficiency, for the reasons outlined in our original submission.

4 CONCLUSION

The ESC reiterates our view that TFP-based regulation is likely to have a significant option value for Australia. Building block regulation has been costly and contentious in practice, and its deficiencies will likely become more difficult to rectify given the lack of physical and legal separation that is needed to support rigorous cost-based regulation. Continued, exclusive application of building block regulation is also likely to lead regulators into greater forensic examination of company costs and/or more extensive cost benchmarking. Indeed, there are already calls for the industry to go down this path, which will only amplify the cost and contention of building block reviews.

Given these conditions, we believe the potential value of having a TFP-based regulatory option is clear. The incremental costs associated with establishing and administering the TFP alternative are also likely to be modest, particularly when it is recognised that the need for more standardised cost accounting and enhanced data collection will likely be at least as strong under exclusive building block regulation. We would also emphasise that the AEMC is essentially making a one-off decision about whether TFP-based regulation should be added to the regulatory framework; if this option is rejected, it will be exceedingly difficult to revisit this decision at a later date. The ESC's submission has outlined a gradual, evolutionary approach for integrating the TFP-based option into Australia's regulatory framework. We believe the development of a "strawman" TFP-based regulatory model and a working group to explore TFP measurement will further enhance understanding of this option and build consensus on critical regulatory design issues. Given it feasibility, high potential benefits and low incremental costs, the ESC strongly urges that the AEMC recommend that TFP-based regulation be added as a regulatory option.