27 February 2009

energex
positive energy
Office of the Chief Executive Officer

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

Dear Dr Tamblyn

Response: Review into the Use of Total Factor Productivity for the Determination of Prices and Revenues

ENERGEX Limited (ENERGEX) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) Framework and Issues Paper in relation to the "Review into the Use of Total Factor Productivity for the Determination of Prices and Revenues", released on 12 December 2008.

ENERGEX does not support the development of a TFP based methodology due to concerns regarding the impact of a range of unresolved methodological issues and the lack of a 'steady-state' across industry to support the development of a reliable productivity measure. The introduction of a TFP based methodology is considered to be premature and should not be undertaken until such time as the existing Chapter 6 methodology has been practically applied for a reasonable period and the current program of reform has been completed.

Further to this, ENERGEX supports the view of the Energy Networks Association that sufficient time should be taken to design a model which can accommodate the changing environment in which the regulated network sector is operating, including consideration of the high level goals that are sought to be achieved.

Please do not hesitate to contact Louise Dwyer, Group Manager Regulatory Affairs on 07 3407 4161 should you wish to discuss this submission in any way.

Yours sincerely

Terry Effeney
Chief Executive Officer

Attach.

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RESPONSE TO AUSTRALIAN ENERGY MARKET COMMISSION

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

27 FEBRUARY 2009

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ABN 40 078 849 055

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INTRODUCTION

This submission presents ENERGEX Limited's (ENERGEX) views in response to the Australian Energy Market Commission's (AEMC) Framework and Issues Paper (Issues Paper) *Review into the Use of Total Factor Productivity for the Determination of Prices and Revenues.*

As a general comment, ENERGEX does not support the introduction of a TFP based methodology due to concerns regarding the impact of a range of unresolved methodological issues and the lack of a 'steady-state' across industry to support the development of a reliable productivity measure. These concerns are discussed in detail in the remainder of this submission.

Although a TFP based methodology is not supported, ENERGEX has, for completeness, provided a detailed response to each of the 36 recommendations raised by the AEMC for comment in the Issues Paper. This is provided at **Annexure A**.

SCOPE

The driver for the introduction of a TFP based methodology remains unclear, although the Issues Paper refers to the theory that (at page 38): "TFP based approaches are often held to provide stronger productive efficiency incentives than those present under the building block methodology".

ENERGEX believes that in circumstances where it can be demonstrated that the existing Chapter 6 framework (i.e. building block based) under the National Electricity Rules (Rules) is failing to satisfy the National Electricity Objectives (NEO), including with respect to the efficient use of and investment in electricity infrastructure, the AEMC must consider:

- Changes that could be made to the existing detailed parameters of the building block approach; and
- Alternative methodologies for determining revenues and prices.

That is, any review that is initiated by the AEMC should not be limited in its scope to an assessment of a specific alternative methodology (i.e. TFP) and should not discount the potential for an amendment of the existing building block approach as a means of rectifying or ameliorating the concerns raised.

Such an investigation would necessarily include:

- The identification of the perceived limitations of the existing building block approach and the outcomes that are sought to be achieved;
- The identification of the principles that will be used to guide the review and the identification of viable changes or alternatives. This must include recognition of COAG's intention for national energy market and governance reforms to harmonise regulatory arrangements[1];

[1] COAG, Communiqué, 8 June 2001.

- The development of the technical parameters of the changes or alternative methodologies; and

- A detailed assessment of the impact of the changes or alternatives, including: efficiency, investment certainty and risk, and costs (including the costs of administration and compliance).

Stakeholder consultation would be required on all aspects of the review, including direct stakeholder involvement in the initial and ongoing development of alternative methodologies.

TIMING

While ENERGEX recognises that there is scope for improvement to the existing form of regulation, such a review should not be undertaken until such time as:

- The existing Chapter 6 methodology has been practically applied by DNSPs and the AER, noting that Chapter 6 has been operational for less than two years and is only now being comprehensively applied through the Queensland and South Australian distribution determination processes. Until the building block methodology has been 'tested' through practical application over a reasonable period of time, the need and scope for change will be difficult to demonstrate; and

- Concurrent or pending reform processes have been completed and permitted to 'bed-down' such that their impacts can be assessed. For example, the Carbon Pollution Reduction Scheme, the roll-out of interval meters, the increased penetration of demand-side participation and the review of WACC parameters, will drive business change and impact the investment profile of DNSPs.

APPLICATION

The imposition of a TFP (or other alternative) methodology on a service provider without its consent would significantly increase the regulatory and investment risk to which it is exposed.

ENERGEX is concerned that the AEMC appears to re-open this issue for consideration despite the negative views of stakeholders received in response to the original Rules Change Process. ENERGEX believes that it is imperative that the AEMC clarify at an early stage in this or future reviews that service providers will be provided with the discretion to 'opt-in' to an alternative methodology. This should include clarification that a service provider would not be required to transition to an alternative methodology in circumstances where:

- One or more service providers in the relevant jurisdiction have expressed a desire to move to an alternative approach; or

- One or more service providers displaying comparable business or operating characteristics have expressed a desire to move to an alternative approach.

LACK OF A 'STEADY-STATE'

ENERGEX does not support the application of a TFP methodology until such time as industry has achieved a 'steady-state'. For example:

- Ongoing programs of reform which are driving change and significant investment, including the Carbon Pollution Reduction Scheme, smart networks and the roll-out of interval meters; and

- High growth and significant asset renewal and replacement programs, particularly in jurisdictions such as Queensland,

will result in material deviations between historic and actual expenditure and demand, adversely impacting the validity of historic data as an indicator of future performance.

In the absence of a steady-state, the gap between revenue and costs may lead to significant under-recoveries over the regulatory period and ultimately, material price shocks at the end of the regulatory period.

METHODOLOGICAL ISSUES

ENERGEX believes that the following methodological issues have the potential to adversely impact TFP effectiveness and require resolution:

- The need to develop an appropriate measurement of capital, including differences in capacity utilisation resulting from different investment and demand up-take cycles;

- The complexities of accounting for:
    - price change in inputs and having appropriate deflators;
    - quality changes in inputs. For example, a failure to adjust for quality increases would understate the volume of inputs used in production and overstate measured historical TFP growth; and
    - quality change in outputs, including through investments which improve network reliability and service quality. Productivity estimates should not be biased downwards for those firms who have invested to improve reliability or service quality;

- The risk of deviations between historical performance and future performance given performance variability within and between businesses over periods, high levels of growth in jurisdictions such as Queensland and ongoing programs of reform driving change and significant investment;

- Susceptibility to forecasting errors and extrapolation errors. There is no reason to believe that errors in using historical TFP as an indicator of performance in the future regulatory period are less than the errors in forecasting expenditure and demand under the building block approach;

- The difficulties in developing an industry definition which:
    - is based on comparable businesses with comparable operating environments;
    - is comprised of businesses where the expected productivity performance over the forthcoming regulatory control period is similar to the recent and historic industry-wide average; and

- only captures those businesses to whom a TFP based methodology applies (or where a business has flagged an intention to transition to a TFP based methodology).

- Electricity distribution businesses are inherently heterogeneous in their underlying characteristics (e.g. density, geography, climate and investment profiles) as well as their historic and anticipated future productivity performance. Any attempt to create a single industry definition through the exclusion of material business-specific characteristics will only serve to compound the inefficiencies caused by the decoupling of prices from firm-specific cost factors; and

- The need to derive, collect and maintain data to support TFP implementation or implementation of an alternative methodology. This is discussed in detail below.

DATA

As stated in the Issues Paper (at page 17), "having data that is accurate and consistent – both over time and across businesses – is an essential prerequisite" to the measurement of productivity.

ENERGEX believes that implementation of an effective TFP framework will be undermined by:

- An absence of data – much of the data that would be required to calculate an industry-wide TFP is not currently maintained and/or reported by DNSPs. It is also important to note that data that is currently maintained and reported may be subject to definitions and methods of calculation which vary between jurisdictions or may only be available at an aggregate level;

- An inability to obtain data of the required quality, and thereby the required consistency and accuracy – as noted above, productivity performance within the distribution sector is heterogeneous. Relatively few DNSPs would be classified as sufficiently 'average' for the calculation of an industry-wide TFP; and

- The lack of data across an appropriate time-series – there will be limited available information to analyse 'long-run' TFP growth for service providers.

Data integrity is paramount to the successful adoption of a TFP based methodology and therefore there is little or no acceptable 'trade-off' between data precision and data availability.

Further to this, ENERGEX would strongly oppose the imposition of a requirement for service providers to populate a national database of TFP related data, regardless of whether they are subject to TFP based regulation.

Such a requirement would be administratively onerous and impose significant additional compliance costs on industry, for little demonstrated benefit - for example, the level of service provider participation under a TFP based methodology is likely to be limited and the suggestion in the Issues Paper of "other public policy benefits from having such a database available" is currently unsupported. ENERGEX firmly believes that the compliance and reporting burden faced by service providers should not be increased without a clear and demonstrated need.

ENERGEX also rejects the suggestion that regulatory costs are automatically lowered under a TFP based methodology since the need to form detailed firm specific forecasts of costs and revenues is reduced. The framework canvassed by the Issues Paper may see the regulatory burden on many service providers increased through a requirement for information to be collected and provided concurrently under both a building block and TFP based methodology – for example:

- In the course of a business transitioning to a TFP based methodology;
- Through the population of a national database; or
- As a consequence of any requirement for comparable businesses to provide data to support TFP application.

ANNEXURE A: DETAILED COMMENT ON AEMC RECOMMENDATIONS

Scope of the Review	
1. Is the Commission's proposed scope of the Review appropriate?	ENERGEX does not support the proposed scope or timing of the AEMC's review. Scope ENERGEX believes that in circumstances where it can be demonstrated that the existing Chapter 6 framework (i.e. building block based) under the National Electricity Rules (Rules) is failing to satisfy the National Electricity Objectives (NEO), including with respect to the efficient use of and investment in electricity infrastructure, the AEMC must consider: • Changes that could be made to the existing detailed parameters of the building block approach; and • Alternative methodologies for determining revenues and prices. That is, any review that is initiated by the AEMC should not be limited in its scope to an assessment of a specific alternative methodology (e.g. TFP) and should not discount the potential for an amendment of the parameters of the existing building block approach as a means of rectifying or ameliorating the concerns raised. Such an investigation would necessarily include: • The identification of the perceived limitations of the existing building block approach – under the current review, the driver for the introduction of a TFP based methodology remains unclear; • The identification of the principles that will be used to guide the review and the identification of viable changes or alternatives; • The development of the technical parameters of changes or alternative methodologies; and • A detailed assessment of the impact of the changes or alternatives, including (but not limited to: efficiency, investment certainty and risk, and costs (including the costs of compliance administration). Stakeholder consultation would be required on all aspects of the review, including direct stakeholder involvement in the initial and ongoing development of alternative methodologies. Timing While ENERGEX recognises that there is scope for improvement to the existing form of regulation, such a review should not be undertaken until such time as: • The existing Chapter 6 methodology has been broadly applied by DNSPs and the

	AER, noting that Chapter 6 has been operational for less than two years and is only now being comprehensively applied through the Queensland and South Australian distribution determination processes. Until the methodology has been 'tested' through practical application over a reasonable period of time, the need for change will be difficult to demonstrate; and • Concurrent or pending reform processes have been completed and permitted to 'bed-down' such that their impacts can be assessed. For example, the Carbon Pollution Reduction Scheme, the roll-out of interval meters, demand-side participation and the review of WACC parameters, will drive business change and impact the investment profile of DNSPs.
Assessment Framework	
2. Are the Commission's proposed assessment criteria appropriate? Are there other desirable criteria?	ENERGEX broadly supports the AEMC's proposed assessment criteria, including the inclusion of the Revenue and Pricing Principles. ENERGEX is concerned to ensure however that the AEMC's assessment does not unduly focus on the high-level relative merits of an alternative methodology (TFP based or otherwise) versus the building block methodology (i.e. the counterfactual assessment). With respect to TFP, this issue has already been considered by the Expert Panel which concluded that (at page 103): *There is no basis for concluding that one approach has intrinsically stronger or weaker efficiency incentives that the other – this depends on the detailed parameters adopted under any particular application of either model.* Any methodology should be assessed on its own merits against the criteria. Similarly, the introduction of an alternative mechanism should not imply that it is preferred to, or intended to supplant, the building block approach.
Designing TFP Based Approaches	
3. If TFP were to be available for revenue and pricing decisions, what would be the correct industry definitions for the respective each sectors? Also, in determining an industry definition for a TFP based approach, would adjustments for operating environment conditions be necessary and, if so, under what conditions?	ENERGEX believes that the industry definitions must: • Be based on comparable businesses with comparable operating environments; • Be comprised of businesses where the expected productivity performance over the forthcoming regulatory control period is similar to the recent and historic industry-wide average; and • Only capture those businesses to whom a TFP based methodology applies (or where a business has flagged an intention to transition to a TFP based methodology) ENERGEX is concerned that any attempt to broaden the industry definition through a

	process of normalisation will only serve to compound the inefficiencies caused by the decoupling of prices from firm-specific cost factors. Even once an industry definition has been derived, the TFP methodology itself should not be applied to firms that are materially different to the average – i.e. 'outliers' should be excluded from its application.
4. What is the appropriate method for determining TFP growth estimates? (a) How should the outputs and inputs for the different energy sectors be classified? (b) What should be the approach for determining the weightings for inputs and outputs?	It is difficult to address questions regarding the method for classifying outputs and inputs or their respective weightings without a concurrent consideration of the availability of supporting data. For example, using physical or volume measures of capital input may better reflect the actual depreciation characteristics of network assets however available data in firm-level datasets may restrict the quality of the measurement of capital. To the extent that changes in capital inputs are poorly measured, TFP growth will also be incorrectly measured.
5. What are the variables that would be needed to compute a TFP growth estimate for the gas and electricity transmission and distribution sectors?	ENERGEX does not believe that a suite of output and input parameters can be developed in isolation of a detailed consideration of: • The availability and cost to derive data supporting the input and output parameters – i.e. can the parameters be supported with data that is of a sufficient quality; and • The operating environments of the participant businesses – i.e. can a sufficiently comparable suite of data be produced. ENERGEX also notes that the appropriate suite of output and input variables (and their respective weightings) required to calculate a TFP growth estimate may differ between energy sectors (i.e. distribution and transmission) and energy types (i.e. electricity and gas).
6. What is the current availability of TFP-relevant data and its quality and consistency?	Implementation of an effective TFP framework will be undermined by: • An absence of data – much of the data that would be required to calculate an industry-wide TFP is not currently maintained and/or reported by DNSPs. It is also important to note that data that is currently maintained and reported may be subject to definitions and methods of calculation which vary between jurisdictions or may only be available at an aggregate level; • An inability to obtain data of the required quality, and thereby the required consistency and accuracy – productivity performance within the distribution sector is heterogeneous. Relatively few DNSPs would be classified as sufficiently 'average' for the calculation of an industry-wide TFP; and • The lack of data across an appropriate time-series – there will be limited available information to analyse 'long-run' TFP growth for service providers.

	ENERGEX does not believe that the required level of accuracy and consistency could be established without the imposition of significant costs to both industry and the AER. Further to this, ENERGEX would strongly oppose the imposition of a requirement for service providers to populate a national database of TFP related data, regardless of whether they are subject to TFP based regulation. This would impose significant additional compliance costs on industry and is unlikely to deliver a robust dataset that addresses all of the data concerns identified above.
7. What would be the appropriate balance between precision and availability of data for the calculation of TFP?	As stated in the Issues Paper (at page 17), "having data that is accurate and consistent – both over time and across businesses – is an essential prerequisite" to the measurement of productivity. Data integrity is paramount to the successful adoption of a TFP based methodology and therefore there would little or no acceptable 'trade-off' between data precision and data availability.
8. If a TFP based approach is adopted, what sample period would be appropriate for the data and what adjustments, if any, would be needed for it to be extrapolated for future circumstances?	Regardless of the length of the sample period adopted, ENERGEX believes that it is far from clear that past performance is a reasonable indicator of future performance. For DNSPs, performance from period to period tends to be highly variable and highly heterogeneous across businesses. It also cannot be assumed that businesses within an individual jurisdiction will reach a 'steady-state' concurrently and therefore that a 'staged' approach to the introduction of TFP, based on jurisdictions, could be applied.
9. If a TFP based approach is used, should any Australian data be supplemented with overseas data? Under what conditions would this be appropriate?	The use of overseas data to supplement the industry dataset is not supported given the fundamental differences that exist in regulatory and operational environments. ENERGEX does not believe that this data could be normalised to confidently account for these variations.
10. What characteristics of the dataset would need to be met for a TFP calculation to be robust and credible? Should the regulator be permitted to 'clean up' data?	As discussed above, the dataset would need to display the following characteristics: • Complete; • Consistent; • Accurate; and • Cover a sufficiently lengthy time-series. Each data variable would need to be assessed against these characteristics. A requirement for the AER to 'clean up' data would suggest that either the source data is either incomplete or of an inadequate quality or that the initial data request has been ill-

	defined. These issues should be resolved through discussion with the relevant business, not through the regulator itself adjusting the data.
11. What should be the pre-conditions relating to industry characteristics required for the implementation of a TFP based approach?	Participants would need to be from the same sector (i.e. gas and electricity distribution service providers would not be comparable) and exhibit homogenous productivity performance – i.e. expected productivity performance over the forthcoming regulatory control period similar to the recent and historic industry-wide average.
12. If implementing a TFP based approach, should adjustments to an industry wide X be allowed to account for specific business characteristics?	While ENERGEX supports the principle of recognition of business specific characteristics, it is difficult to see how this can effectively be addressed purely through adjustments to the industry-wide X. It is also noted that movement form a 'pure' form of TFP to acknowledge business specific characteristics would further contribute to regulatory uncertainty and compliance costs.
13. If a TFP based methodology was to be introduced, should fixed or rolling X factors be used? Alternatively, should the regulator have the option to choose between these in applying the TFP based methodology?	The use of a fixed or rolling X factor should be a matter for detailed discussion between the service provider and the AER and will be influenced by the service provider's capacity to manage the increase in revenue uncertainty associated with the application of a rolling X factor.
14. If a full application of a TFP based approach were to be introduced: (a) Should periodic assessments of efficient costs and the resetting of the X factor be undertaken? (b) Would it be appropriate for the building block approach be applied to an assessment of single year of costs? (c) Does the building block approach need amending to allow it to work within a TFP framework (particularly in relation to the asset base, depreciation, new capital expenditure and the rate of return)?	It is difficult to respond to these detailed questions in the absence of a clear understanding of how the TFP methodology is intended to operate. ENERGEX believes however that, should a TFP methodology be introduced, there should be a requirement for the initial level of prices to be set through the application of a building block approach.
15. Under a full application TFP approach, what should be the length of the regulatory period?	ENERGEX believes that the length of the regulatory control period is a matter to be considered through the Framework and Approach and Regulatory Proposal processes and should not be predetermined for TFP. As a general principle, the longer the regulatory control period, the greater the DNSP's potential exposure to reward (e.g. the ability to achieve above average productivity) and

	risk (e.g. exogenous events or deviations from historic expenditure or demand). A DNSP's appetite for, and ability to manage, this exposure over the course of the regulatory control period will be materially impacted by: • The availability and effectiveness of X-factor resets, off-ramps and re-opening mechanisms; and • Whether rewards are retained in subsequent regulatory control periods.
16. If a TFP based methodology was introduced, could earnings based re-openers or cost pass through mechanisms be used? What features of these mechanisms would be desirable (or not desirable)?	ENERGEX believes that any framework must be capable of recognising and capturing the impacts of exogenous events so as to ensure that a DNSP's efficient costs are recovered. These cost impacts (whether positive or negative) must be considered relative to the specific-DNSP – i.e. they must reflect an actual or likely increment in costs. While ENERGEX believes that the existing symmetrical cost pass through provisions in the Rules (clause 6.6.1) should be maintained and that alternative forms of 'off-ramps' are worthy of consideration under a TFP approach, there is a very real concern that the AER and TFP-participants will be forced into an over-reliance on these mechanisms to correct fundamental flaws in the design of the TFP framework and its operation.
17. If a TFP based methodology was introduced, what would be the appropriate index for measuring input prices?	ENERGEX does not support the use of CPI as a proxy for the measurement of changes in industry input price growth. There is significant recent evidence of electricity industry input prices increasing at a rate significantly higher than general inflations, most markedly with respect to materials and labour. For example, a report prepared by Econtech for the AER on labour cost growth in September 2008, has forecast that wage inflation is expected to grow faster than CPI for the period 2007/08 – 2016/17, by between one and two percentage points[2].
Application of TFP to National Energy Markets	
18. Is a TFP based methodology consistent with a revenue cap form of control?	ENERGEX does not believe that a TFP based methodology is consistent with a revenue cap form of control. ENERGEX agrees with the suggestion in the Victorian Rule Change that the relationship between allowed prices, TFP and inflation which justifies the use of TFP in a CPI-X framework is based upon the assumption that the control applies to prices rather than to revenue or average revenue.

[2] Econtech Pty Ltd, Labour Cost Growth Forecasts 2007/08 – 2016/17, 19 September 2008, at page 9.

19. If a TFP based methodology was introduced, should it be a requirement for service providers to consent to an application of TFP to determine allowed revenue/prices?	ENERGEX believes that it should be for the relevant service provider to nominate whether to transition from a building block to a TFP methodology – i.e. an 'opt-in' approach. It would be inappropriate for a TFP methodology to be imposed on a service provider. Similarly, it would be inappropriate for a service provider to be required to collect and provide data to support another service provider's election to adopt a TFP methodology.
20. Would a TFP based approach be suitable to determine the revenue path for electricity transmission service providers?	No comment is provided.
21. If a TFP based methodology was to be introduced, should it be applied in electricity distribution determinations? Are there such significant differences in the DNSPs across the jurisdictions that classifying the sector as a single industry would be difficult or inappropriate?	At a practical level, ENERGEX does not believe that the AER will be able to develop an appropriate industry definition. As noted above, the industry definition must: • Be based on comparable businesses with comparable operating environments; • Be comprised of businesses where the expected productivity performance over the forthcoming regulatory control period is similar to the recent and historic industry-wide average; and • Only capture those businesses to whom a TFP based methodology applies (or where a business has flagged an intention to transition to a TFP based methodology) Electricity distribution businesses are inherently heterogeneous in their underlying characteristics (e.g. density, geography, climate and investment profiles) as well as their historic and anticipated future productivity performance. Any attempt to create a single industry definition through the exclusion of material business-specific characteristics will only serve to compound the inefficiencies caused by the decoupling of prices from firm-specific cost factors.
22. Would a TFP based approach be suitable for determining the price path for gas transmission pipeline service providers?	No comment is provided.
23. Can a TFP based methodology be applied to the gas distribution sector? Are there such significant differences in the gas distribution systems across the jurisdictions to make classifying the sector as a single industry inappropriate?	No comment is provided.
Whether to Introduce a TFP Based Approach	

24. What would be the ability of a TFP based methodology to address any perceived problems with the current applications of the building block approach?	As noted above, TFP should be assessed on its own merits against the NEO / NGO and assessment criteria. Similarly, any introduction of a TFP mechanism should not imply that it is a preferred alternative to, or intended to supplant, the building block approach. ENERGEX does not however believe that TFP lowers regulatory costs or provides increased regulatory certainty (thereby reducing the prospect of disputes) relative to the building block approach. In particular, the following methodological issues have the potential to adversely impact both regulatory certainty and investment incentives: • The need to develop an appropriate measurement of capital, including differences in capacity utilisation resulting from different investment and demand up-take cycles; • The complexities of accounting for: o price change in inputs and having appropriate deflators; o quality changes in inputs. For example, a failure to adjust for quality increases would understate the volume of inputs used in production and overstate measured historical TFP growth; and o quality change in outputs, including through investments which improve network reliability and service quality. Productivity estimates should not be biased downwards for those firms who have invested to improve reliability or service quality; • The risk of deviations between historical performance and future performance; • Susceptibility to forecasting errors and extrapolation errors – there is no reason to believe that errors in using historical TFP as an indicator of performance in the future regulatory period are less than the errors in forecasting expenditure and demand under the building block approach; and • The need to derive, collect and maintain data to support TFP implementation or implementation of an alternative methodology.
25. Under a TFP based approach, what would be the impact on the incentives to make efficiency improvements and make efficient investments?	The uncertainties of the TFP approach are likely to result in investment risk and inefficiencies due to the decoupling of prices from firm-specific cost factors over the regulatory period. For example: • The failure of price trajectories to take account of firm-specific characteristics, such as climate or density; • Differences in capacity utilisation resulting from different investment and demand up-takes; • The use of historic TFP performance to predict TFP performance over the regulatory period; and • The fact that there will be error in the 'X' factor and that it will change between regulatory periods, and between regulatory periods if a rolling 'X' approach is supported. While these risks may be mitigated in part by the frequency of reviews, the use of off-

	ramps or the application of external incentive mechanisms, these mechanisms do not themselves provide regulated businesses with certainty as to their outcome and may involve material regulatory costs. ENERGEX believes that the ultimate outcome may be counter to what is intended – a weakening of the incentives for regulated businesses to achieve ongoing efficiency improvements, rather than a strengthening of incentives.
26. If a TFP based methodology was to be introduced, would the existing incentives schemes be needed? And if so, do they require any amendment?	While ENERGEX acknowledges that certain external expenditure allowances could be captured under a TFP based methodology via an additional term in the CPI-X formula, this does not address the potential failure of the TFP methodology to effectively deliver the incentives that the existing incentives schemes seek to achieve. The Chapter 6 incentive schemes are intended to reward or penalise a DNSP's 'actual' performance, while a TFP based methodology is based on performance 'relative' to a representative firm or industry measure. Perverse incentives would be created if, for example, a service provider was rewarded for 'above average' performance that did not in fact reflect improvements in its actual performance. For this reason, service quality measures under a TFP based methodology would need to be regulated externally of the CPI-X formula and the output measures. There is also the risk of existing schemes and the TFP framework competing against, or counteracting, the respective incentives that they are intended to deliver. ENERGEX believes that the Chapter 6 schemes (and supporting AER Guidelines) should be retained in their existing form. The application of similar efficiencies or the delivery of equivalent incentives to participants under a TFP based methodology should be separately consulted upon and addressed as required in the Rules.
27. If a TFP based methodology was to be introduced, how should service quality be regulated?	As noted above, service quality measures under a TFP based methodology should be regulated externally of the CPI-X formula and the output measures. Consideration could be given to the application of minimum service standards (MSS). MSSs are the minimum standards of service delivery (e.g. SAIDI, SAIFI and CAIFI reliability measures) against which a DNSP periodically reports. No financial reward or penalty attached to the MSS and therefore, there would be no requirement for their inclusion in the CPI-X formula.
28. What would be the benefits and costs from having two forms of control in the regulatory framework?	ENERGEX does not believe that an effective TFP based methodology can be introduced. Further to this, ENERGEX strongly opposes the suggested development of a national

	database, requiring service providers to collect and provide additional information in support of a TFP methodology. Such a requirement would be administratively onerous and impose significant additional compliance costs on industry, for little demonstrated benefit. In particular, the level of service provider participation under a TFP based methodology is likely to be limited and the suggestion in the Issues Paper of "other public policy benefits from having such a database available" is currently unsupported. ENERGEX firmly believes that the compliance and reporting burden faced by service providers should not be increased without demonstrated need. ENERGEX also rejects the suggestion that regulatory costs are automatically lowered under a TFP based methodology since the need to form detailed firm specific forecasts of costs and revenues is reduced. The framework canvassed by the Issues Paper may see the regulatory burden on a number of service providers increased through a requirement for information to be collected and provided concurrently under both a building block and TFP based methodology – for example: • In the course of a business transitioning to a TFP based methodology; • Through the population of a national database; or • As a consequence of any requirement for comparable businesses to provide data to support TFP application. It is imperative that the AEMC clarify that service providers subject to a building block approach will not be required to effectively participate in the TFP scheme through the provision of supporting data.
29. Would giving service providers the option between either a TFP based methodology and a building block methodology be appropriate? Would the option create any perverse incentives?	ENERGEX believes that services providers must be given the option of whether a TFP based or building block methodology should apply - i.e. an 'opt-in' approach. It would be inappropriate for a TFP methodology to be imposed on a service provider or for its application to become a matter of 'negotiation' with the AER (although some discretion should be permitted for the AER to reject a proposed transition to TFP in circumstances where a representative data set cannot be derived). The risk of a service provider attempting to 'game' the regulatory process or seek short term financial benefit could be addressed through a requirement for the AER to approve any subsequent reversion to a building block approach (e.g. on the basis of evidence of a material change in circumstances).
30. What would be the likely participation by service providers under a TFP based methodology?	ENERGEX believes that the inherent uncertainties and risks associated with a TFP based methodology means that service provider participation would remain limited, both initially and in the long-term.

Implementation and Transition	
31. If a TFP based methodology was to be introduced, what should be the procedures for collecting the TFP dataset? Should confidential data which have previously been provided to the regulator for regulatory determinations now be allowed to be used for calculating TFP growth estimates?	As previously stated, ENERGEX believes that it would be inappropriate for a service provider to be required to collect and provide data to support the possible future application of a TFP based methodology or another service provider's election to adopt a TFP methodology. Confidential data should not be used for any purpose other than that for which it was provided. It is also noted that Rules constrain the AER in its ability to release confidential information into the public domain, including information identified as confidential by a DNSP in its Regulatory Proposal. There is a high risk that this information would enter the public domain through its use in the calculation of TFP growth estimates. It is also suggested that no data (confidential or otherwise) previously provided to the regulator should be applied in the development of TFP growth estimates without consultation with the relevant service provided. As noted above, data that is currently maintained and reported may be subject to definitions and methods of calculation which vary between service providers or jurisdictions.
32. What are the costs of implementation a TFP based methodology?	Depending on the data variables chosen and the time series over which it is required, the costs to both service providers and the AER may be significant, particularly where information is required to be collected and provided concurrently under both a building block and TFP based methodology. Even in circumstances where data variables appear to be common between approaches, definitions are likely to differ as is the level of the data segmentation required.
33. What is the required level of specification on a TFP based methodology that needs to be included in the Rules?	Any methodology (TFP or alternative) should be reflected in the Rules with the same degree of specification as currently exists for the building block approach. For TFP, regulatory certainty would require the Rules to clearly specify its key parameters, including inputs and outputs, the preconditions to its application and the availability of X-factor resets, off-ramps and re-opening mechanisms. The Rules should also clearly identify the limits of AER-discretions in applying the methodology and the scope and content of any Guidelines to be produced by the AER.
34. What are the criteria for assessing whether a TFP based methodology should be applied?	ENERGEX broadly supports the criteria proposed in the Issues Paper. ENERGEX is concerned to ensure that services providers are not forced to participate in

	the TFP scheme (whether through its application or the provision of data), merely to ensure that the behaviour of a single regulated business does not unduly influence the growth measure (i.e. in satisfaction of criterion 1).
35. If a TFP based methodology was to be introduced, what would be the appropriate timing for its introduction? Should implementation process include a trial period?	ENERGEX does not support the introduction of a TFP methodology in any form until such time as a 'steady-state' has been achieved. For example: • Ongoing programs of reform which are driving change and significant investment, including the Carbon Pollution Reduction Scheme, smart networks and the roll-out of interval meters; and • High growth and significant asset renewal and replacement programs, will result in material deviations between historic and actual expenditure and demand, adversely impacting the validity of historic data as an indicator of future performance. In the absence of a steady-state, the gap between revenue and costs may lead to significant under-recoveries over the regulatory period and ultimately, material price shocks at the end of the regulatory period Changes in the quality of inputs may also require recognition to avoid understating the volume of inputs used in production and overstating measured historical TFP growth. ENERGEX also does not believe that it would be appropriate to conduct a TFP trial on an industry-wise basis. Whether a trial is required with respect to an individual service provider or a sub-set of service providers who express interest in a future transition to this form of regulation should be a matter for discussion between those service providers and the AER, in the context of their regulatory determination process.
36. How could the balances under the existing incentive schemes be carried over from a building block methodology to a TFP based methodology?	ENERGEX believes that it is premature to comment on the transitional arrangements that would need to apply in the absence of detail as to how the TFP based methodology would operate.