



## **SENATE INQUIRY INTO ELECTRICITY NETWORK COMPANIES**

**Response to Inquiry Terms of Reference**

**18 December 2014**

## CONTENTS

Executive Summary.....	1
Background .....	2
Context for the inquiry .....	2
Network regulatory Framework.....	3
Information provision under regulatory framework.....	5
Regulatory cost of capital issues .....	6
Whether AER has pursued lowest cost outcomes.....	8
Enforcement role of the Australian Energy Regulator.....	10
Connection and pricing issues.....	11
Long-term lease arrangements .....	13
Adequacy of oversight .....	14
Opportunities for improvement.....	15

## EXECUTIVE SUMMARY

The Energy Networks Association (ENA) welcomes the opportunity to contribute to the current inquiry by the Senate Standing Committees on Environment and Communications into the performance and management of electricity network companies (the inquiry).

Consumers have a direct interest in an effective regulatory regime which ensures rigorous oversight under a rules-based framework focused on the long-term interests of consumers. Given the vital significance of safe, reliable and efficient electricity networks services to Australian households, communities and employers, it is equally important that public policy debate is informed by a clear understanding of the existing regulatory policy environment and the amendments recently made which are yet to take effect.

Energy networks provide an essential service to consumers in one of the most stringently regulated sectors of the Australian economy. The recoverable capital expenditure, operating expenditure, and rates of return of network businesses are regulated according to regular determinations by the Australian Energy Regulator (AER) under the *National Electricity Law* and associated Rules.

Since 2011, a significant number of reviews have examined virtually every aspect of the economic regulation of networks. These reviews have resulted in the AER being recently granted new wide discretionary powers to challenge, interrogate and reject network price and revenue proposals. These powers are currently being exercised in determination processes that are well advanced across New South Wales, Tasmania and the ACT, and commencing in South Australia, Queensland and Victoria. The Australian Energy Market Commission expects prices to fall across most States and Territories over 2014-17, and attribute this to falling costs in the regulated network sector.

ENA seeks to provide information in this submission which highlights the genuine opportunities to improve electricity system performance and services for customers. These include the very real opportunities to establish a technology neutral, enabling environment for new electricity uses and applications, particularly distributed energy resources (DER). Through the reform of electricity network tariffs and the review of the Demand Management and Embedded Generation Incentive Scheme, Australia is in a position to:

- » deliver average savings of \$250 per year in network charges by 2034, compared to current electricity tariffs;

- » provide greater choice and control to consumers in their use of electricity and new technologies;
- » ensure fairness by addressing existing unintended cross subsidies of up to \$700 per annum to some air-conditioning customers and avoiding cross-subsidies to customers with distributed energy resources increasing to \$655 per annum by 2034;
- » enable the integration of non-network solutions including demand side participation, embedded generation; intelligent storage solutions; electric vehicles, with the potential for a ten-fold increase in the current capacity of installed Solar PV;
- » contribute to economic productivity, achieving a \$17.7 billion saving through more efficient investment by 2034.

This submission addresses:

- » the existing regulatory powers available to the AER, including in relation to information provision;
- » the existing capacity of the AER to reject inefficient expenditure, and its current and long-standing legal requirement to do so;
- » the existing enforcement framework, including in relation to misleading information and the availability of appeals; and
- » the existing barriers precluding the differential treatment of a publicly-owned business because of potential future leasing or other changed ownership arrangements.

ENA also seeks to clarify some misconceptions, including those behind some proposals which are sometimes put forward as a “free kick” for consumers. It highlights:

- » consumer’s direct interest in sustainable operating expenditure, given the potential for unsustainable funding cuts to change the risk profile of network operations and service delivery; and
- » the high cost to consumers of proposals for the write-down of network regulatory asset values put forward by some commentators.

Australia’s electricity networks are being transformed by two-way energy flows, unprecedented customer engagement and the role of new technology. In this environment, there are diverse approaches to improving performance, reducing costs and sustainable service models. All are premised on the value provided to consumers, their meaningful engagement in decision-making and the enabling of their energy needs.

ENA would be pleased to be of any further assistance to the Senate Committee in relation to its Inquiry.

## BACKGROUND

The Energy Networks Association is the national industry association representing the businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia. ENA members own assets valued at over \$100 billion in energy network infrastructure.

## CONTEXT FOR THE INQUIRY

### Review of network regulatory framework

The current Senate Committee Inquiry into the performance and management of electricity network companies follows an intensive cycle of regulatory and energy policy reviews examining issues relating to network regulation.

Since 2010 there have been 17 major regulatory reviews in the energy network sector, including a previous Senate Committee inquiry relating to electricity prices. In many cases, the outcomes of these reviews remain in the process of implementation by policy, rule-making and regulatory

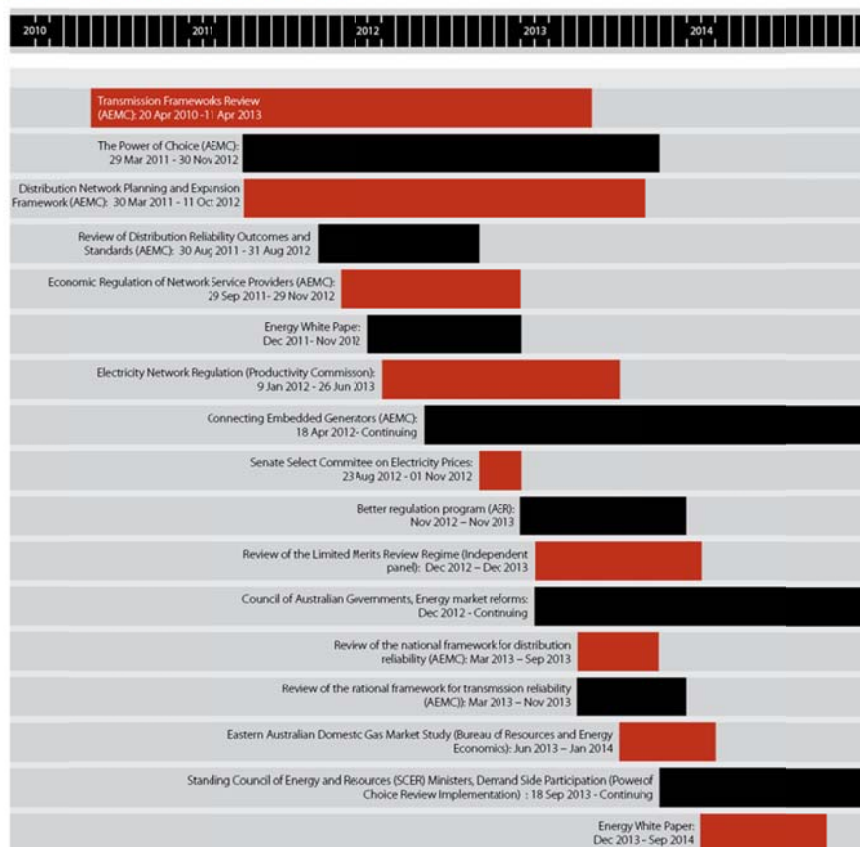
agencies (See below – *Regulatory reviews over 2010-2014*).

These reviews made a series of overlapping recommendations on a set of network regulatory issues. Most of the accepted recommendations are in the process of implementation and some are yet to take effect. The ENA strongly recommends that the Committee recognise the extent of regulatory change already in place and as yet untested in practice. It is not apparent that further regulatory review of the same issues at this time can be informed by a meaningful evaluation of the impact of these changes on the effectiveness of existing regulatory framework.

An example of this is the significant recent reforms made to the economic regulatory framework for electricity and gas networks. The Australian Energy Market Commission (AEMC) finalised amendments to these rules in November 2012. Due to the staggered commencement times of network regulatory periods, it was only in November 2014 that the first full and substantive draft determinations were made by the AER under the revised regulatory rules.

These draft determinations, covering electricity transmission and distribution networks in NSW, ACT and Tasmania. The outcomes of these determinations are discussed further below. The AER is scheduled to make final determinations on charges by these transmission and distribution networks in April 2015. These determinations will be the first of a set across Australia to occur under a revised regulatory

#### REGULATORY REVIEWS OVER 2010-2014



framework which, for example:

- » Clarifies the scope of the AER's powers to reject and amend proposed expenditure proposals;
- » Includes the capacity of the AER to deny the recovery of capital expenditure which is deemed to be imprudent and in excess of regulator approved forecasts;
- » Establishes a new capital expenditure incentive scheme to reward the efficient deferral or cancellation of capital expenditure
- » Promotes a greater role for economic benchmarking to be considered alongside other evidence of efficient costs; and
- » Allows for the cost of debt – a major share of the overall cost of capital – to be set on a trailing average basis to reflect changing market conditions.

These new revised rules will also apply to all future network determinations undertaken by the AER, with significant reviews having already commenced in Queensland and South Australia, and pending in Victoria. This outcome is the result of specific transitional rules designed by the Australian Energy Market Commission to ensure the earliest possible entry into operation of the revised framework they have approved.

## NETWORK REGULATORY FRAMEWORK

The comments in this section are most specifically relevant to the following Terms of Reference:

- (g) *whether network monopolies should have the right to recover historic overspending that has delivered unwanted and unused infrastructure;*

### Nature of the regulatory framework

This section provides a summary of the operation of the current network regulatory process which sets revenues and prices for network services.

Under this process, early consultation and engagement occurs between networks, their customers and the AER on the scope and form of regulation to apply to a range of services over the next regulatory period (typically, a five year period). The network service provider then prepares a detailed regulatory proposal, which outlines a proposed operating and capital expenditure forward program and the forecasts and planning assumptions underlying those proposed expenditures.

This proposal is assessed against the requirements of the *National Electricity Rules*, with the AER required to consider

a range of factors in its approval, including benchmarking information, consideration of non-network alternatives, past expenditure and consumers views.

In making major investment decisions, network service providers are also required to follow the application of a specific 'regulatory investment test', which determines the most efficient investment decision by undertaking a cost benefit analysis of both the network and non-network options.<sup>1</sup>

Forecasts are based on the best available information at a point in time. Forecasts can be established to be incorrect after the fact – but this does not provide a reasonable basis for concluding either that the AER has been misled, or that the business has 'gamed' the process.

For example, the reduction in average demand and in some areas, peak demand since about 2008 is widely acknowledged as an unexpected change in the observed pattern of historical growth.<sup>2</sup> As a practical example of the network impacts of this, through the previous regulatory determination process over 2008-09 in NSW the largest electricity distribution firm, Ausgrid (then EnergyAustralia) revised down its forecasts through the year long regulatory process from 1.6 per cent per annum expected growth to an absolute contraction in sales volumes.<sup>3</sup>

It is notable that when in January 2009 Ausgrid, forecast substantial reductions in energy sales by 2013-14, the AER concluded in its final determination that a reduction of 10 per cent in energy sales in 2008-09 was 'unlikely'.<sup>4</sup> Regulatory energy sales data recently released by the AER show that total sales in the Ausgrid network had actually declined by around 14 per cent from 2008-09, based on figures the last year that data was available (2012-13).<sup>5</sup>

This development has been described as a 'decoupling' of energy volume growth from economic growth and has not been unique to Australia, requiring significant revisions of forecast methodologies. The degree of uncertainty in forecasting has been challenging for all parties. For instance, it is noteworthy that from the 2013 *National Electricity Forecasting Report* produced by AEMO, to the

---

<sup>1</sup> Non-network options can include finding ways to use network infrastructure more efficiently or working with consumers to manage or reduce their demand.

<sup>2</sup> AEMO *National Electricity Forecasting Report 2012*, p.3-1

<sup>3</sup> AER *Final Decision – NSW Distribution Determination*, April 2009, p.113

<sup>4</sup> AER *Final Decision – NSW Distribution Determination*, April 2009, p.111

<sup>5</sup> AER Regulation Information Notice Data, Ausgrid, Variable DOPED01

equivalent 2014 report, the gap between the high and low projections for 2020, doubled (from approximately 20,000 GWh to 40,000 GWh).

Under the *National Electricity Rules*, the AER is under a legal obligation to reject a networks' forecast operating and capital expenditure proposal if they consider it does not reasonably reflect the efficient costs a prudent operator would incur in delivering the regulated services.<sup>6</sup> This obligation has existed since the comments of the Rules.

Both the AER and the network business also have obligations to take into account the quality, reliability and security of supply in making and approving forecast expenditures.<sup>7</sup> When making its decision on the revenue which a network business can recover, the AER must also be satisfied that a business has appropriately examined and included, where efficient, provision for non-network alternatives to deliver regulated services.

## Recovery of past network investments

The electricity regulatory regime provides for the recovery of past network investments over their economic lives.

The capacity to recover the costs of past network investment ensures that both current and future consumers meet the costs of network assets which underpin the safe and reliable supply of network services. The recovery of the economic life of the asset ensures inequitable outcomes of either current consumers fully paying for asset investments which will serve the needs of both and future consumers, or unfairly deferring the costs of these required investments onto future consumers.

A predictable and credible cost recovery regime also benefits consumers by allowing for minimising of the cost of financing of required network investments. In recognition of the interest of consumers in providing for large network investments to be financed most efficiently (for example, through the capacity to use long-term investment-grade corporate bond issuances), over the past two decades of energy market reform policy makers, rule makers, and regulatory bodies have systematically sought to provide greater certainty around the treatment of the regulatory asset base (or 'RAB').

This is because it represents one of the principal mechanisms by which long-term cost recovery is achieved. This provision for regulatory stability and certainty around

the asset bases is a feature of regulatory frameworks across major developed economies.

Original regulatory asset valuations were made under jurisdictional electricity regimes, which were then transferred across to a revised nationally consistent electricity framework from 2004. Through typically five year regulatory periods these values are updated to reflect capital expenditure made, to provide a mechanism for current and future customers to equitably share the cost of long-lived network infrastructure.

By lowering the risk of asset write-downs (i.e. regulatory 'stranding') and acting as an enduring regulatory commitment, the mechanism of a predictably updated regulatory asset base provides the critical foundation for low cost financing of new and ongoing network investments. This allows for the minimising of network charges to consumers. This lowering of financing costs has played a historically important role in constraining the overall cost of electricity network investment. With the CSIRO recently estimating required total investment in electricity networks of at least \$300 billion by 2050, it should continue to play a critical role in constraining final electricity costs.

In August 2014, ENA released a Research Paper *Written - Down Value? Assessing proposals for electricity network write-downs* ([Attachment A](#)). This examined the implications for consumers of a number of past proposals to abandon current regulatory commitments to provide for recovery of past investments.

Initial analysis of three representative scenarios indicated that consumers would face overall increases in network charges in any of the scenarios modelled (over \$320 million per annum in some scenarios), due to the impact of required increases in future rates of return to compensate investors for the risks of future network write-downs. The analysis also showed that far from benefitting customers:

- » Write-downs would tend to reverse existing downward pressures on the cost of capital and prices;
- » Increasing the scale of any proposed write-down would not lead to tariff falls for consumers;
- » Write-downs would, by increasing financing and network costs, likely worsen the risk of any 'utility death-spiral', not lower it; and
- » Even a small increase in the future cost of capital resulting from the risk of write-downs would completely offset any notional 'savings' of such write-downs.

This analysis found that under the scenarios modeled, households across individual Australian states would

---

<sup>6</sup> *National Electricity Rules*, Clause 6.5.6 (d)

<sup>7</sup> *National Electricity Rules*, Clause 6.5.6 (a)



experience increases of up to about 7 per cent in the prices paid for network services. Australian consumers could pay the equivalent of over \$320 million in increased network charges each year leading to unnecessary increases in average electricity bills of up to 2.4 per cent.

This outcome occurs because reductions in required networks revenues from the denial of a return on and of capital (i.e. rate of return and depreciation) on the written-down component of the assets base are more than outweighed by the impact of a higher required rate of return applying to the remaining regulatory asset base. This is true for all scenarios investigated, which range from significant multi-billion dollar write-downs to extreme stranding events with few historical precedents.

This analysis is likely to be a highly conservative lower bound estimate, because it completely excludes consideration of the costs to finance new capital investment in the future. Initial analysis, however, indicates that were this factor included it would be likely to significantly compound the impacts already outlined. As an illustrative example, assuming an average capital expenditure of around \$7.0 billion undertaken each year on Australian networks, network charges would have to recover an additional \$345 to \$915 million over the next five years to recover the associated increased financing costs arising from the implementation of any regulatory asset write-downs.

Finally, these proposals ignore a number of rule changes which have already been made which more effectively incentivise efficient capital expenditure. For example, in the National Electricity Amendment (Economic Regulation of Network Service Providers) Rule change process completed in 2012, the AEMC amended the *National Electricity Rules* to include several new mechanisms for the AER to utilise to ensure that only capital expenditure that is deemed to be efficient should enter the regulatory asset base. These mechanisms include:

- » application of a Capital Expenditure Shared Scheme (CESS) to incentivise efficient capital expenditure;
- » reviewing efficiency of past capital expenditure, including the ability to preclude expenditure from being rolled into the RAB; and
- » deciding whether to depreciate the RAB using actual or forecast expenditure for electricity transmission.

These additional mechanisms provide safeguards that allow the AER the option to remove inefficiently incurred expenditure from the RAB, avoiding the high cost to energy customers of a proposal for network regulatory asset value write-downs.

## INFORMATION PROVISION UNDER REGULATORY FRAMEWORK

The comments in this section are most specifically relevant to the following Terms of Reference:

- (a) *the manner in which electricity network companies have presented information to the Australian Energy Regulator (AER), and whether they have misled the AER*

ENA is not aware of any evidence that any network has provided misleading information to the AER in relation to any cost of capital or regulatory valuation issue. ENA has regular engagement with the AER on these issues, and would expect to be aware of any issue that had arisen.

Network regulation involves the exchange of significant amounts of information between the regulated firm and the regulator, both intensively through the regulatory review process, and then continuously through the five year period of a regulatory determination.

The *National Electricity Law* sets out a detailed and extensive information-gathering power framework applying to the AER in its economic and regulatory enforcement roles. This framework includes:

- » the capacity to issue Regulatory Information Notices to require the provision or maintenance of information required by the regulator;
- » the power to make general Regulatory Information Orders, to require the collection of the same information across firms;
- » legislative penalties for the provision of false or misleading information (Section 28R);
- » the power, if insufficient information is provided to make its own reasonable assumptions around the information, or make a decision on the basis of the information it already has;
- » a duty of commercial confidence, or breach of contract, not constituting a valid grounds to refuse compliance;
- » the power to re-open and remake any decision based on false or misleading information.

Typically through a network determination process the AER will issue one or more Regulatory Information Notices which will specify the type of information, current and historical, that the AER will require carrying out its review. At times, this is followed up with further specific information requests. Information provided by network businesses under formal information requests from AER is usually signed off as full and correct by CEOs, Directors or the company board.

The AER has just released its first full annual benchmarking reports which are designed to provide an annual snapshot of the comparative performance of electricity transmission and distribution network businesses, and assist in its role of determining network prices. The AER and its consultations have stated that its early review of the data from networks provided for this report represents one of the best data sets in a comparative international sense that its consultants have seen.<sup>8</sup> By contrast, it has been the network sector itself that has cautioned against excessive reliance on the collected data, without sufficient recognition of differences in basis of preparation and the comparability of datasets. ENA estimates that the cost of this data collection process across network businesses to date would exceed \$15 million.

Regulatory asset valuations are transparently set in the rules, and reported on annually by networks to the regulator. They are updated in a consistent manner set out in the *National Electricity Rules* and according to an AER developed methodology which is set out in a published handbook. This is detailed in *National Electricity Rules* Clause 6.5.1, Schedule 6.2 and the AER's *Electricity distribution network service providers Roll forward model handbook*.

There is no potential for a network to mislead a regulator about its regulatory asset value, without breaching these rules, and ENA is not aware of any instance of such conduct being claimed.

## REGULATORY COST OF CAPITAL ISSUES

The comments below relate most particularly to the following Terms of Reference:

- (a) *the manner in which electricity network companies have presented information to the Australian Energy Regulator (AER), and whether they have misled the AER in relation to:*
  - (i) *their weighted average costs of capital,*
  - (ii) *the necessity for the infrastructure proposed,*
  - (iii) *their regulated asset valuations, and*
  - (iv) *actual interests rates claimed against actual borrowing costs;*
- (b) *how electricity companies, including state government owned electricity companies such as Energex, have calculated the weighted average cost of capital and how this measure has changed over time;*

- (e) *whether the arrangements for the regulation of the cost of capital are delivering allowed rates of return above the actual cost of capital;*

## Setting the cost of capital

All regulated electricity networks estimate the weighted average cost of capital (WACC) in accordance with the detailed *National Electricity Rules* when making their regulatory proposals. Electricity networks fully set out the basis for their WACC estimate in their regulatory proposals, which are routinely published and subject to multiple stages of consultation (typically over 18-24 months).

Importantly, the AER makes its own decision on the actual WACC used in network determination in accordance with the relevant *National Electricity Rules* provisions, taking into account all of the relevant information its has been presented. This includes information submitted by the regulated network in its proposal, expert and market evidence independently sought by the AER through the process, views and evidence from other stakeholders. The AER also takes into account the outcomes of its own *Rate of Return Guideline*.

Under the *National Electricity Rules* the AER's approved WACC estimate must meet the 'allowed rate of return objective'. The AER is not bound to apply a regulated firms' proposed WACC, and there have been no instances of an electricity network having its proposed WACC estimate simply accepted by the regulator. [Figure 1](#) sets out the median approved cost of capital for electricity networks determined by regulators such as the AER and previous jurisdictionally responsible agencies.

In November 2012, the Australian Energy Market Commission revised the WACC provisions of the *National Electricity Rules* to provide the AER with even greater flexibility to apply its regulatory judgment to a range of WACC estimation issues.

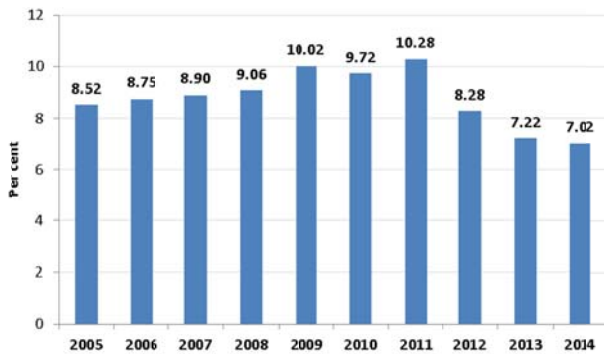
This includes scope for the AER to draw on a wider range of models, data and evidence in determining an efficient cost of equity, and the option for the AER to determine new approaches to establishing the cost of debt.

Electricity network WACCs submitted to the regulatory have over time, as would be expected given the Rule requirements, varied on the basis of capital market conditions.

<sup>8</sup> Equivalent statements are made in public advice from Economic Insights to the AER released in November 2014



**Figure 1 – Approved cost of capital (2005-2014)**



WACCs in the first round of determinations were significantly affected by the Global Financial Crisis which impacted on the cost of equity and the cost and availability of debt finance. As a result the median cost of capital in regulatory determinations has fallen considerably since 2008-09. Current quantitative easing policies and low government bond rates mean that regulated WACCs are falling, and generally exerting a downward pressure on final energy prices.<sup>9</sup>

Separately to the regulatory process networks, like any large business, can and do develop their own internal estimates of their cost of capital, which are used for business planning purposes, scenario testing, and to inform investment and capital allocation decisions.

Networks owned by State governments calculate their WACC in the same manner as privately owned networks, and regulators apply the same rules across all networks in setting WACCs. This approach reflects the opportunity cost of the use of public resources, and is adopted consistent with competitive neutrality policies agreed under intergovernmental agreements relating to the Hilmer competition policy reforms.

## Information and the weighted average cost of capital

Network businesses' regulatory cost of capital is determined by the regulator, which uses a benchmark cost of equity and cost of debt. This means no business is able to argue to the regulator for a higher cost of debt or equity on the basis of its individual business circumstances.<sup>10</sup>

This means that consumers are never required to pay more due to any potential inefficiency in businesses financing. For example, if a network raises debt or equity capital at a

higher cost than an efficient firm would be deemed to have incurred, consumers are insulated from these additional costs.

Under the regulatory framework networks provide their initial estimate of a WACC for a 'benchmark efficient' entity delivering a comparable range of services, that is, it is not part of the revenue-setting process for any firm to report its own WACC.

The AER makes its independent decision on the WACC that will apply based on provisions of the *National Electricity Rules*. In 2013, the AER released its final Rate of Return Guideline setting out its preferred approach to applying its discretion under the regulatory rules. The AER and network businesses have the choice of applying this guideline, or deviating from it. Any deviation by a network business from the guideline must be accepted by the AER. Where the AER or a network business deviates from the guideline it must provide reasons for doing so. In the case of the AER, its task is to estimate an applicable rate of return that is consistent with the relevant rules, taking into account legislative revenue and pricing principles and the *National Electricity Objective* – which is focused on the long-term interests of consumers.

## Actual interest rates and borrowing costs

The cost of debt is a major component of the overall cost of capital for regulated networks. The cost of debt has typically been set in the past on the basis of the sum of the yield on 10 year Commonwealth government bonds and a debt risk premium, which is a benchmark value set equivalent to a benchmark investment grade credit rating

The approach of using a benchmark cost of debt, rather than an individual firms own borrowing cost, is designed to provide incentives to minimize the cost of financing, and to avoid consumers bearing borrowing any costs that are higher than efficient. This benchmark approach is analogous to the 'efficient cost' standard applied across operating and capital cost allowances, which ensures consumers pay network charges based on those that would be incurred by an efficient firm.

In a set of National Electricity and Gas Rule changes approved in November 2012, the AER was empowered to develop alternative cost of debt approaches based on a 'trailing average' of the cost of debt over the past ten years, applied annually. This approach has the advantage of more closely matching costs over time, and the actual efficient debt management practices of infrastructure providers. It

<sup>9</sup> Figure 2.7 AEMC Electricity Price Trends 2013, p.22

<sup>10</sup> *National Electricity Rules*, Clause 6.5.2

protects consumers from undue volatility in network charges between regulatory periods by allowing for annually adjustment that reflect changes in borrowing costs through time.

The use of actual borrowing costs would be an inappropriate way to set cost of debt allowances and would result in poor outcomes for consumers generally. As an example, this approach would:

- » Remove incentives for efficient financing decisions (as the firm would simply recoup its incurred costs), exposing consumers to the cost of inefficient firm financing decisions;
- » Result in network charges varying across service areas based on individual network firms financing decisions, with consumers bearing the costs of poor financing decisions; and
- » Distort users decisions around investment in distributed generation and energy efficiency measures, and impact on the commercial viability of non-network solutions.

It is for these reasons that a range of international regulatory regimes and regulators apply, including regulators in the United Kingdom and New Zealand apply conceptually similar benchmark cost of debt allowances.

## WHETHER AER HAS PURSUED LOWEST COST OUTCOMES

The comments below relate most particularly to the following Terms of Reference:

- (f) *whether the AER has actively pursued lowest-cost outcomes for energy consumers;*

As noted above, the AER has a legal obligation to make its determinations in the economic regulation of network businesses in the long-term interests of consumers.

Clearly, price is a critical concern for consumers and there is a significant, appropriate focus among the network businesses, regulators and customers on achieving efficient cost savings and putting downward pressure on network charges. It is not true to say, as the Terms of Reference implies, that the AER should seek to achieve the lowest cost outcomes for consumers regardless of other considerations. This is reflected in the National Electricity Law (NEL) which sets out the National Electricity Objective, which is to -

*"promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -*

*(a) price, quality, safety, reliability and security of supply of electricity; and*

*(b) the reliability, safety and security of the national electricity system"*

Consumers in Australia have indicated through independent research on the value of customer reliability, and other quantitative and qualitative research that they place significant value on performance in relation to safety, reliability, amenity, environmental performance and power quality, to name a few non-price factors.

Indeed, there are significant risks in a regulatory environment where a regulator does seek to narrowly maximize least cost outcomes at the expense of other service dimensions that customers' value. An example of this would be a failure to approve a profile of network operating expenditure that supports programs designed to minimise the risk of electricity networks contributing to bushfire risk. This is one of a range of issues intensively in focus in the recent Victorian bushfire royal commission.

## Recent network determinations

On 27 November 2014, the Australian Energy Regulator released its first full draft determinations on proposals received by four New South Wales networks, the ACT electricity distribution network, and the Tasmanian electricity transmission network. These decisions represent the first full application of the revised economic regulatory rules in electricity to networks across Australia.

Each of the decisions differ and result from the AER's initial assessment of detailed regulatory proposals, evidence from each network business, and an assessment of proposal allowances against the *National Electricity Rules*.

A key concern is the application of economic benchmarking to deterministically set 'top down' operating allowances. The ENA and affected members have raised significant concerns with the AER regarding the robustness of the inputs and outputs of the benchmarking analysis. Some of ENA's specific concerns are:

- » **Data quality** – extensive use has been made of international data from just two jurisdictions (New Zealand and Ontario) to 'back fill' a lack of sufficient data points in analysis to establish the relative efficiency of Australian networks. This has been mixed with 'backcast' Australian estimates of data points, rather than outturn data, introducing further uncertainty.
- » **Comparability** – benchmarking outputs do not appear to have been robustly tested for the different basis on

which input data was collected and maintained by networks existing reporting and IT systems.

- » **Model stability and performance** – the application of the underlying benchmarking and cost models produce outcomes which are unrealistic. As an example, the benchmarking model adopted by the AER implies efficient operating expenditure for Essential Energy which is implausible without impacting on service outcomes, reliability or safety. After excluding vegetation management costs (which are generally outsourced through competitive contracting) the benchmarking model implies Essential Energy could operate with operating funding which could only support a workforce of about 10 per cent of the current staffing. Further, it would leave Essential Energy operating with less operating expenditure than the largely urban-based Endeavour Energy, despite having a network over 5 times the line length. Similarly, ActewAGL has estimated that the efficient frontier would imply an 80 per cent reduction in its operating expenditure, despite the fact that the proposed reduction in the Draft Determination is already lower than real operating expenditure at any time in the last 10 years.

The Australian energy network industry remains strongly supportive of the appropriate, robust use of economic benchmarking based on valid information as a regulatory tool, while avoiding its use in a mechanical or deterministic manner to determine revenue allowances.

Due to the significant concerns of Australian gas and electricity network businesses about the process, outcomes and application of the benchmarking analysis by the AER and its consultants industry has requested a briefing from the AER to address these issues. This engagement is particularly important given the AER's benchmarking reports were released two months after the requirements of the *National Electricity Rules*, coincident with the Draft Determinations.

The industry is concerned that the AER's current approach to the development of the benchmarking analysis and its application within the Draft Determination is inconsistent with the rigor and transparency required for good regulatory practice and may actually undermine confidence in benchmarking as a regulatory tool.

The ENA has urged the AER and the Australian Government, to seek a review of the AER benchmarking approach and model outputs by a recognised independent body with substantial expertise in benchmarking issues. The Productivity Commission is well-placed to undertake this

function, having recently examined the issue in its *Review of Electricity Network Regulation*.

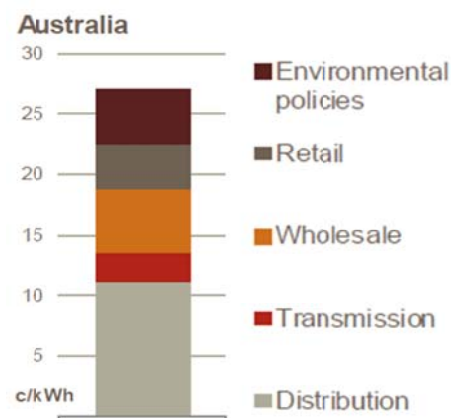
## Other factors impacting consumer prices

As noted above, electricity network prices are subject to stringent regulatory scrutiny based on efficient costs of a benchmark entity. The key drivers of network price in the last regulatory period have been non-discretionary exogenous factors including: the impact of the global financial crisis on debt markets; asset replacement cycles; forecast growth in connections and peak demand; and government imposed reliability requirements in some jurisdictions. Many of these factors are in decline providing downward pressure on network charges.

By contrast, some factors which result in higher consumer electricity bills are discretionary or policy-based.

In a range of jurisdictions, environmental measures represent one of the fastest growing sources of increased prices over the last several years. These measures are frequently not subject to rigorous policy evaluation, cost-benefit assessment or consultation with other electricity market participants prior to their introduction. Data from the Bureau of Resources and Energy Economics provides a national snapshot of the magnitude of these costs, showing for example that final energy costs attributable to environmental policy measure has exceeded the overall retail component of the bill, and approach that of the wholesale (generation) component (Figure 2).

**Figure 2 – Supply chain component costs – national average**<sup>11</sup>



<sup>11</sup> BREE *Energy in Australia 2014*, Figure 4.10

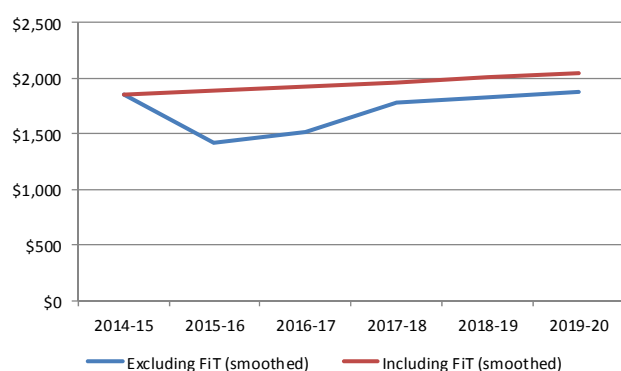
In some cases, particularly those promoting or subsidising the uptake of renewable energy technologies these schemes have had important second-round impacts on network charges. This arises due to the delivery of these schemes through network charges, or the ‘smearing’ of scheme costs to all network customers. This has created a growing issue of inequitable cross-subsidisation between customers (for example, between households able to install solar PV and those unable to, for financial reasons, or because installation is physically impossible at their property).

As an example of the magnitude of some of these impacts, the AER highlighted in its initial *Issues Paper* in respect of Queensland network charges in 2015-2020:

*...In the absence of the Qld Government's Solar Bonus Scheme, the network price impacts of Energex's regulatory proposal would be lower, particularly in 2015-16. Without Solar Bonus Scheme costs, Energex's proposed network prices would be around 9 per cent lower in 2015-16 compared to 2014-15. For reference, Ergon Energy submitted that, without Solar Bonus Scheme costs, its proposal would result in network prices around 4 per cent lower in 2015-16.<sup>12</sup>*

The impact of these policies on the profile of prices is further illustrated by [Figure 3](#), showing the expected revenue profile with and without the solar feed-in tariff measure.

**Figure 3 – Revenue profile requirement – ENERGEX 2015-2020<sup>13</sup>**



Across the next regulatory period covering 2015-2020, it is estimated that recovery of the past and expected costs of the Solar Bonus Scheme will increase Queensland customers’ network charges nearly \$1.5 billion.

<sup>12</sup> AER *Issues Paper – Queensland electricity distribution regulatory proposals 2015-2020*, December 2014, p.26

<sup>13</sup> AER *Issues Paper – Queensland electricity distribution regulatory proposals 2015-2020*, December 2014, p.27

In other cases, consumers face higher bills due to the discretionary pricing strategies and retail margins of retail market participants. The Australian Energy Market Commission’s *2014 Residential Electricity Price Trends report* found significant differences in the market offers by retailers to customers.

*Variation in the c/kWh value is larger in Victoria (between 9 c/kWh and 12 c/kWh) and South Australia (10 c/kWh) than in New South Wales (between 6 c/kWh and 8 c/kWh) and South East Queensland (around 6 c/kWh). For the representative consumer, the highest offer is around 40 per cent more than the lowest one in Victoria, compared to 34 per cent in South Australia, 26 per cent in New South Wales and 21 per cent in South East Queensland.<sup>14</sup>*

The annual impacts of these pricing strategies are significant. In Victoria, a customer could pay up \$550 per year more due to accepting a market offer proposed by some retailers.

## ENFORCEMENT ROLE OF THE AUSTRALIAN ENERGY REGULATOR

The comments below relate most particularly to the following Terms of Reference:

- (c) *where anomalies are identified in relation to price structuring or allegations of price rorting by electricity companies, such as Energex, are raised, the possibility of these matters being investigated by a national independent body created by the Federal Government with the required powers and reach to investigate and prosecute, where necessary.*

The AER is a nationally independent body created by the Federal government with powers to investigate and take statutory enforcement action for non-compliance with the *National Electricity Law* and *National Electricity Rules*. The AER is a constituent element of the ACCC, but legally separate. The Law and Rules apply with the force of Law throughout every State or Territory (except WA and NT)

In 2013-14 three infringement notices were issued for alleged breaches of the Rule – none relating to any electricity network business (two were issued to energy retailers, one to a transmission pipeline owner).

Under the *National Electricity Rules* the AER must not approve forecast operating or capital costs that do not

<sup>14</sup> AEMC, *2014 Electricity Price Trends*, December 2014, p.72

reasonably reflect the efficient costs of a prudent operator facing the cost and demand conditions.<sup>15</sup> Similarly, there is no scope in the WACC rules, or in AER practice, to approve other than a rate of return commensurate with the efficient financing costs of an efficient entity.<sup>16</sup> Over 2014 the rule-making body has also been in the process of finalising a rule determination further refining already existing obligations that network prices be based on efficient costs of providing network services.

The regulatory framework contains a set of detailed rules by which the AER approves tariffs on an annual basis, for compliance with its regulatory revenue and pricing decisions. In some States, tariff structure issues are also effectively subject to a second-layer of review and approval (such as by the QCA in Queensland).

Under the 'revenue cap' form of regulation increasingly being required by the AER of network businesses across eastern States, the total amount of revenue collected by the network business for regulated services is largely fixed during the period. This means prices only vary through time to allow for the collection of the AER approved target revenue and any AER-approved passing through of the costs of any significant unanticipated cost events.

The enforcement regime under the energy regulatory framework is currently undergoing a scheduled review by the CoAG Energy Council.

## CONNECTION AND PRICING ISSUES

The comments below relate most particularly to the following Terms of Reference:

- (i) *whether the arrangements for the connection and pricing of network services is discriminating against households and businesses that are involved in their own electricity production;*

### Pricing arrangements

Australian electricity networks are currently accommodating levels of solar PV penetration that are very high by global standards, following a range of policies including solar feed in tariffs, direct subsidies and the operation of broader policy tools such as the Renewable Energy Target

Customers have increasingly diverse load profiles, depending on their use of air-conditioning, energy efficiency, solar panels and other technology.

Despite these varying uses of the network, most Australian electricity distribution network tariffs rely on volumetric charges (cents per kilowatt hour) which do not vary by time. They bear little relation to drivers of network cost, resulting in unfair cross-subsidies between customers today and a failure to signal the costs of increased network investment which would be required in the future.

To protect Australia's residential and small-to-medium business customers, the ENA supports a comprehensive reform program for electricity distribution network tariffs and enabling metering.

The implementation of network tariff reform in a timely way with customer support can make electricity bills fairer and avoid significantly higher electricity bills in the long term. Electricity distribution network tariff reforms would mean that customers would be charged tariffs that are more cost-reflective rather than paying a flat or "average" rate based on their electricity usage.

This will allow customers to make more informed decisions about how they want to use electricity network services and about their investment in technology to help manage their use.

It is apparent that current tariff structures result in some distributed generation customers unknowingly receiving a wealth transfer or cross subsidy, from other electricity users meeting part of their network cost of service. A range of independent entities such as the Australian Energy Market Commission, and Oakley Greenwood have quantified the extent of this cross-subsidy as between \$120 and \$163 per annum for typical customer with solar PV.<sup>17</sup> These cross subsidies are currently far less than, for instance, the cross subsidies caused by the use of air-conditioning units at peak times.

These issues were recognized recently by the COAG Energy Council, who have collectively expressed as a key guiding principle of market and regulatory design that:

*The Council supports consumers' right to take up new technologies, but recognises that this should not be on the basis of cross-subsidies from other end users*

Network businesses have an obligation to establish fair and efficient tariff structures which minimise cross-subsidies, reward efficient use of energy and distributed energy resources and help to lower the long-term average costs of

<sup>15</sup> *National Electricity Rules*, 6.5.7 (d)

<sup>16</sup> *National Electricity Rules*, 6.5.2 (b)

<sup>17</sup> NERA, *Economic Concepts for Pricing Electricity Network Services*, A Report for the Australian Energy Market Commission, 21 July 2014 and Oakley Greenwood, *Value of the Grid to Distribution Generation Customers*, November 2014



network services. As discussed below, ENA supports a comprehensive approach to tariff reform based on close engagement with customers to achieve these outcomes.

It is recognised that distributed energy resources can, and do, lower the cost of network supply services in some circumstances. The benefits provided to the grid-connected embedded generation customers and the benefits they contribute are discussed in the attached ENA publication *Enabling Embedded Generation: Turning Australian electricity on its head*.

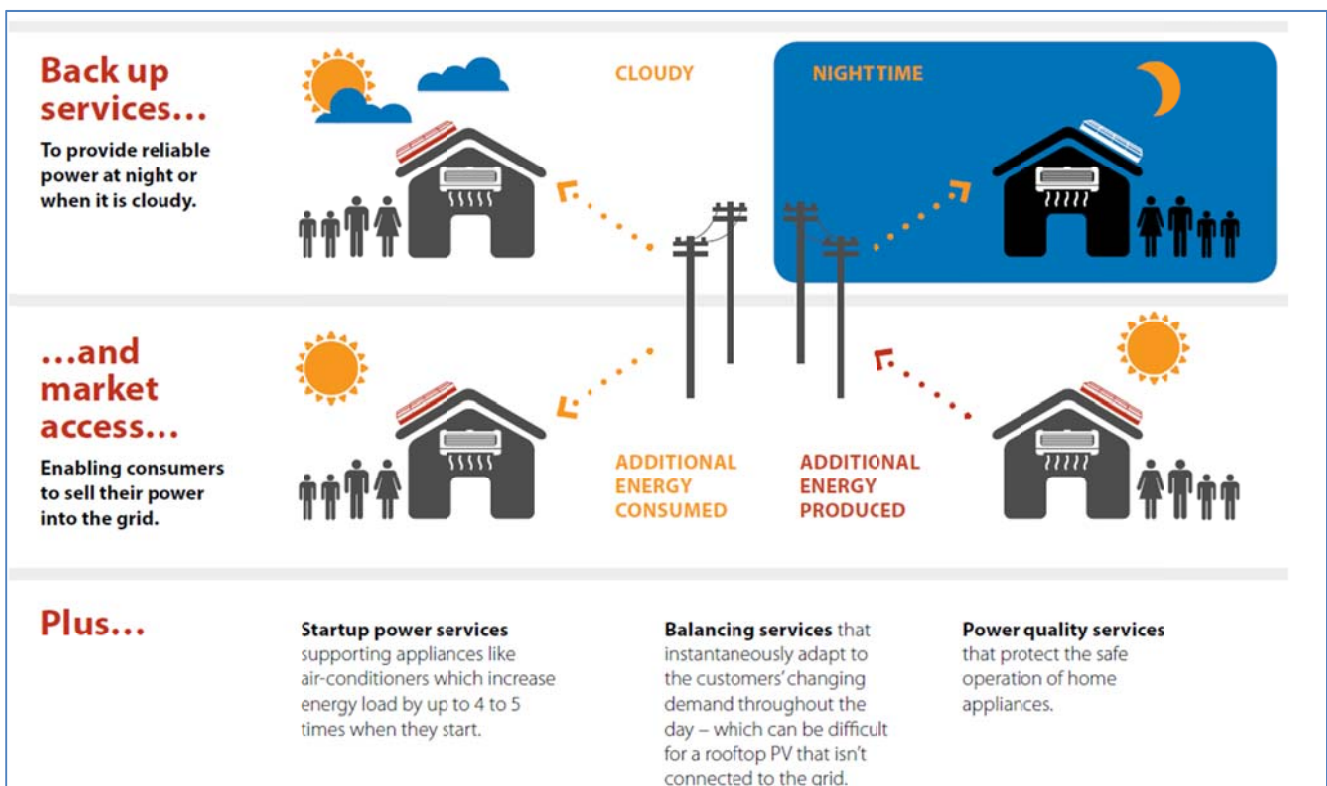
The ENA also recently commissioned Oakley Greenwood to

## Distribution connection arrangements

Networks are required to allow, as far as technically and economically practicable, a person to connect to a network on fair and reasonable terms. Networks are also required to operate, maintain and protect their supply network to ensure the adequate, economic, reliable and safe connection and supply of electricity to its customers.

The connection process has recently been reviewed by the AEMC and network companies are working closely with the Clean Energy Council, Standards Australia and other

**Figure 4: The Value of the Grid to a customer with Solar**



evaluate the benefits provided to, and received from, the Grid by a customer with Solar PV. It found that:

- » Grid services to solar customers were valued at \$69 per month in benefits, including \$61 in backup energy which would be otherwise unserved and \$8 in export sales to the Grid; and
- » A solar customer helps to lower the cost of network services, estimated at approximately \$10 per month.

stakeholders to improve the transparency of the connection process and identify common issues.

The initial enquiry stage of the connection process is a key opportunity to clearly address the applicant's needs and the potential network issues and minimise delays.

Networks support the connection of small (household) sized embedded generation, including the connection of over 1.3 million rooftop solar panels around Australia in recent years. Generally the connection process for these systems is a simple form and installation by a qualified electrician.

These connections are usually organised through the seller of the PV system. However, networks still require the ability



to assess proposed solar PV connections, to avoid compromising network efficiency and impacting on voltage levels outside statutory ranges. Network businesses may require risk mitigation if the connection presents risks to the network or to individual premises.

## LONG-TERM LEASE ARRANGEMENTS

The comments below relate most particularly to the following Terms of Reference:

(d) *to ascertain whether state-owned network companies have prioritised their focus on future privatisation proceeds above the interests of energy users;*

State governments in NSW and Queensland have publicly announced proposals for the long-term leasing of electricity network infrastructure.

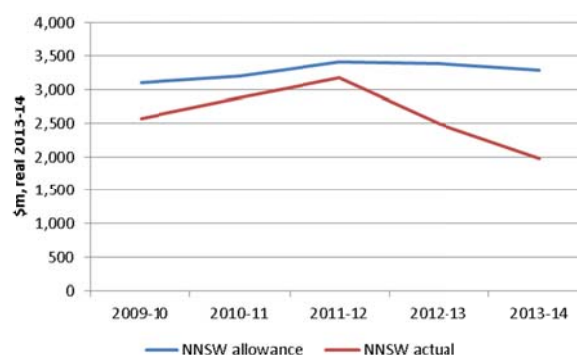
Queensland and NSW electricity network businesses are on the public record as having cost reduction programs which are aimed at driving business efficiency and lowering costs to consumers.

As an example, Networks NSW has outlined that its efficient programs have removed \$2.8 billion from forward expenditure, and reduced the workforce by the equivalent of around 2,300 full time employees. The NSW Government has also announced a measure by which it will be a condition of a long-term lease transaction that network prices will be set so as to recover a lower revenue target than that ultimately determined by the AER.

Network businesses reducing proposed capital expenditure programs, deferring major investments, and underspending current regulatory allowances is not consistent with claims that networks are engaging in unnecessary expenditure or 'gold-plating' (See [Figure 5](#) based on AER data for NSW – that is, Networks NSW electricity distribution businesses).

For instance in the previous regulatory period, network businesses in NSW and Queensland underspent their capital expenditure allowances by at least \$6 billion or 23%, which is clearly inconsistent with any claim that these businesses have sought to maximise the regulatory asset base to the benefit of current or future shareholders. The removal of prescriptive distribution reliability standards by governments in NSW and Queensland has allowed networks to scale down capital investment to meet the reliability which customers value, resulting in over \$2.2 billion in avoided expenditure.

**Figure 5 - Network expenditures – allowances vs actual**



Network businesses are required to submit to regulatory processes operating and capital forecasts which reflect the expenditure that they consider necessary. Provision of false or misleading information is a breach of the *National Electricity Law* (s.28R). Regulatory proposals are also typically supported by statutory declarations signed by directors or senior executive staff of the network firms indicating that they are compliant with the rules, and that the forecasts contained within them are best estimates made on a reasonable basis.

The AER has the same tasks and powers to assess the proposed costs and revenues of businesses in NSW and Queensland as every other network business, whether private or publicly owned. Under the *National Electricity Rules* the AER must not approve forecast operating or capital costs that do not reasonably reflect the efficient costs of a prudent operator facing the cost and demand conditions.<sup>18</sup> Similarly, there is no scope in the WACC rules, or in AER practice, to approve other than a rate of return commensurate with the efficient financing costs of an efficient entity.<sup>19</sup>

Not only is there no scope for the network business to seek a different level of revenue or prices based on planned long-term lease arrangements, there is no obligation on the AER to accept any costs it considers as inflated, and in fact, a legal duty to do just the reverse – to not accept any such inflated costs.<sup>20</sup>

The outcome of this rules framework is that regardless of the final decisions made by any State government regarding future leasing arrangements, network revenues and prices are set by the same rules that govern, and in a manner completely consistent with, how revenues and prices for privately-owned networks are set.

<sup>18</sup> *National Electricity Rules*, 6.5.7 (d)

<sup>19</sup> *National Electricity Rules*, 6.5.2 (b)

<sup>20</sup> *National Electricity Rules*, 6.5.7 (d)

This means that in respect of the Draft Decisions recently released by the AER for NSW electricity networks, any proposed operating cost reductions deemed appropriate in the AER's final decisions due in April would be implemented and passed as savings to consumers irrespective of any decision taken by State governments relating to long-term leasing. It also means that to the extent any AER decisions are based on unrealistic cost reduction targets, or outcomes inconsistent with prudent risk management, these concerns will persist regardless of any final ownership arrangements and may impact on the value received by State taxpayers in such transactions.

## ADEQUACY OF OVERSIGHT

The comments below relate most particularly to the following Terms of Reference:

(i) *whether the current system provides adequate oversight of electricity network companies*

The preceding sections have demonstrated the significant responsibilities of the Australian Energy Regulator to:

- » oversee the economic regulation of electricity network companies;
- » employ regulatory tools such as information requirements, incentive schemes and robust benchmarking in the regulatory process; and
- » enforce compliance by regulated entities as appropriate.

At a time of increasing competitive pressure on conventional network service delivery models, it is noted that the extent and cost of regulation is intensifying in a framework which is exemplified by Regulatory Information Notices which has imposed additional costs of approximately \$15 million on network businesses to date.

Network businesses have embraced increasing forms of consumer engagement and stakeholder transparency in recent years including in the development of regulatory proposals, tradeoffs between customer service, reliability and cost outcomes, pricing proposals and the planning of network infrastructure or non-network solutions.

As noted in earlier comments on the context of the Senate Committee inquiry, any evaluation of the adequacy of existing network regulatory oversight must be informed by full consideration of the recent regulatory reforms introduced and yet to take full effect.

## Review of decisions

ENA strongly supports the role of the Australian Competition Tribunal in hearing limited merits review matters relating to key regulatory determinations made by the AER, WA Economic Regulation Authority (in the case of as of in Western Australia), and the NCC.

Merits review remains a fundamental part of ensuring accountable, high-quality regulatory determinations, and promoting the required investor confidence for major long-lived network infrastructure investments required to be made on an ongoing basis.

For these reasons, availability of merits review on decisions of a national access and pricing regulatory body is a fundamental principle.

## OPPORTUNITIES FOR IMPROVEMENT

The comments below relate most particularly to the following Terms of Reference:

(h) *how the regulatory structure could be improved*

There are significant challenges and opportunities to be addressed in the energy supply system in Australia, which will require concerted action by a number of stakeholders, and improvements to the regulatory framework.

### Electricity network tariff reform

The most critical priority is progressing electricity network tariff reform to provide tariffs which are fairer, minimizing existing cross subsidies and reward customers for their contribution to lower network costs.

Detailed analysis by the energy research firm Energeia has highlighted the potential benefits to the Australian community of achieving timely electricity distribution network tariff reform. Currently most customers pay a retail price based on the amount of energy they use, either a flat rate or an increasing amount as consumption increases, plus a small fixed supply charge.

The analysis compared outcomes from three alternative network tariff scenarios to the base case of an inclining block network tariff scenario, assuming that the network tariffs are fully passed through into the retail tariff. The analysis finds that:

- » up to \$655 per year (\$2014) in unfair cross subsidies in 2034 could be avoided for residential customers which cannot or do not invest in distributed energy resources;
- » network tariff reform could achieve average residential electricity bills up to \$250 (in \$2014) per year lower in 2034, when compared to the base case scenario;
- » network tariff reform could make the difference between network prices increasing by only 7% by 2034, compared to a cumulative increase under the base case scenario of over 30%; and
- » while network tariff reform could remove the current incentives for \$17.7 billion (\$2014) in overinvestment in distributed energy resources by 2034, it remains technology neutral and results in rooftop solar photovoltaic (PV) and storage capacity increasing more than 1000% to 35 gigawatts (GW) by 2034.

The recent changes to the *National Electricity Rules* as a result of the Distribution Network Pricing Arrangements Rule change 2014 will make a positive contribution to the implementation of distribution network tariff reform,

including: greater engagement between networks and stakeholders; greater transparency of network tariff structures and indicative pricing levels in a tariff structure statement (TSS); and earlier finalisation of network prices in the annual pricing proposal process.

However, these changes to the NER do not address the key constraints presented by the current metering asset base and existing and proposed jurisdictional policies and obligations. It is these constraints, and not a lack of firm obligations in the NER, that are the main reason that cost-reflective network tariffs have not been more widely introduced by networks or adopted by residential and small-to-medium business customers. ENA has recommended an integrated approach to electricity network tariff reform including:

- » a national approach to support electricity network tariff reform and enabling metering;
- » a balanced approach to the economic deployment of smart meters following the introduction of contestability;
- » better information and decision making tools for customers considering new tariff offers;
- » the review of customer hardship programs to support vulnerable customers; and
- » the deregulation of retail electricity prices in remaining jurisdictions to encourage innovation.

A national approach to electricity tariff reform is needed to establish a clear, enduring policy and regulatory environment, and to remove the risk of the “ad hoc” imposition of jurisdictional requirements and obligations. This would provide for greater stability and certainty for customers and investors over the longer term and enable the system-wide benefits of network tariff reform for customers to be realised.

Existing regulatory barriers to cost-reflective network tariff design should be removed. While a transitional approach and close consumer engagement will be necessary, all stakeholders should recognise that tariff assignment will be needed for some customers to protect fair outcomes for all customers.

ENA is seeking to engage with stakeholders on an Industry Standard for Network Tariff Reform, recognising the shared responsibilities of networks, retailers, governments and market participants. The Industry Standard for Network Tariff Reform could support tariff development, co-operative models for retailer pass-through, assistance to vulnerable customers and the development of information and decision making tools for customers. ENA will shortly

release an options paper on supporting vulnerable electricity and gas customers.

ENA has proposed Foundation Policies for transitioning to Smart Tariffs including:

- » a new and replacement meter policy which provides for 'smart ready' meters to facilitate future tariff reforms outside Victoria;
- » the ability for network businesses to assign new or upgrading customers to cost-reflective network tariffs, without scope to opt-out to an unfair tariff; and
- » the ability for network businesses to assign existing customers to a cost-reflective network tariff above a consumption threshold of 40 MWh, or based on a capacity requirement.

While these policies and principles provide an important context for fair, efficient tariffs, individual network businesses will consult with their customers on network tariff proposals that provide the best outcomes in their locations.

Transmission businesses are also exploring potential industry approaches to reform transmission charges, including any opportunities to achieve stronger locational incentives for customers and transparent pass-through to larger business customers on the distribution network

## **Demand management and embedded generation incentive scheme**

The ENA supports the proposed review of the Demand Management and Embedded Generation Incentive Scheme, recommended in the Power of Choice report by the Australian Energy Market Commission.

Demand management activities by network businesses have been undertaken in the context of the network responsibilities to find the most cost effective and efficient solutions to address demand growth within the context of network investment. To enable demand management options to be used to offset network augmentation, it is critically important that the loads controlled are reliably removed from peak periods. Retention of control of these loads is essential to maintaining network security and ensuring that expansion of the networks to offset this currently managed load is not needed.

Network businesses are facilitating new supply and demand options, new market opportunities and new consumer services. ENA recognises the importance, value and role of customer choice, built upon improved information and understanding of options to manage their energy use with innovative product developments and offerings to

customers by all parties within requisite customer protections.

Electricity network businesses are already engaging directly with residential, commercial and industrial consumers for the provision of demand side participation (DSP) initiatives and pioneering pilots and trials to advance DSP throughout the grid. ENA members have achieved significant reductions in peak demand through initiatives such as managing peak hot water systems, rebates for efficient air conditioners, direct load control of major appliances and pricing agreements with large customers.