

SUBMISSION TO THE AUSTRALIAN ENERGY REGULATOR (AER)

LOCAL GOVERNMENT RESPONSE TO THE VICTORIAN ELECTRICITY DISTRIBUTION PRICE REVIEW (EDPR) 2016-20

Prepared by the Victorian Greenhouse Alliances

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Prepared by the Northern Alliance for Greenhouse Action (NAGA) and the Eastern Alliance for Greenhouse Action (EAGA) on behalf of the Victorian Greenhouse Alliances and their member councils.

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EXECUTIVE SUMMARY

On behalf of their council members, the Victorian Greenhouse Alliances are pleased to make this submission to the Australian Energy Regulator (AER) to the 2016-20 Victorian Electricity Distribution Price Review (EDPR).

This submission provides supporting evidence and rationale for a number of key recommendations in the areas of public lighting, demand management, energy and demand forecasts and capital expenditure (capex).

Public lighting

A survey of councils across Victoria shows that a clear majority (56% of 46 responses) are opposed to the proposed negotiated service framework for dedicated street lighting. Survey responses demonstrate that councils share the following views:

- There is wide spread scepticism around the ‘fairness’ of negotiations as there is no real alternative if negotiations fail
- Many councils are wary that they do not have the capability and capacity to negotiate with Distribution Network Service Providers (DNSP) in the already technically challenging area
- There is concern that regional/less resourced/growth area councils maybe more disadvantaged than metropolitan councils under the negotiated framework

In addition, councils are concerned that the only national example of negotiated street lighting services (in South Australia) has resulted in a “fundamental dispute” between the parties that has resulted a lack of success in negotiating street light maintenance prices for five years.

Recommendation:

- The AER retains its role in regulating prices for dedicated public lighting assets

The review of public lighting prices and other issues addressed by this submission was completed by sourcing information from relevant stakeholders and preparing an evidence based approach to the data. The process involved the comparison of the different cost build up models (from all five DNSPs) and an analysis of the pricing of labour rates and material costs, failure rates and the efficiency of their management systems. It involved the comparison of these prices to alternative pricing from suppliers and council sourced pricing and consideration of other relevant technical information. This was conducted in parallel with an assessment of the vegetation management proposals put forward by each DNSP.

Recommendations:

- For labour rates and fault repairs, the lowest rate achieved by a given DNSP should be applied to each DNSP
- For material rates utilise the prices that can be achieved by local government procurement processes (such as through the MAV tender), or the lowest price achieved by any DNSP (whichever is lower)
- The failure rate of 11.4% over four years be applied to T5 luminaires, as recommended by the attached reports
- United Energy's proposed expenditure for a three year vegetation management trial be supported by the AER

Demand Management

There is a concerning lack of priority given to demand management in the proposals put forward by Victorian DNSPs. This highlights the fact that the current regulatory framework creates significant barriers to the uptake of demand management by and provides a clear capex bias in network businesses operations.

This bias means the AER has a crucial role in ensuring efficient costs for consumers within the 2016-20 regulatory period - particularly through the application of an appropriate Demand Management Incentive Scheme (DMIS) allowance and ensuring support for other forms of demand management expenditure where DNSPs can demonstrate a compelling business case.

Recommendations:

- The AER provides clear and strong incentives for the DNSPs to undertake pilot and trial projects to fully assess the costs and benefits of new innovations (where a clear development pathway to 'business as usual' can be demonstrated)
- The AER provides support for other forms of demand management expenditure where DNSPs can demonstrate a compelling business cases
- The AER work inclusively with stakeholders on the design of the new DMIS/DMIA scheme
- Jemena, United Energy and AusNet Services be granted their full requested allowance under the DMIS
- CitiPower and PowerCor provide additional documentation in their revised proposals outlining the types of projects requiring funding through the DMIS
- AER work collaboratively with DNSPs to determine the most efficient means of increasing current funding caps
- That demand management activities and associated expenditure be afforded the same

level of transparency as other forms of expenditure in all regulatory proposals in future (i.e. AER should require the businesses to provide this)

- Forecasted expenditure (opex/capex/augex) on broad based demand management initiatives and a description of each activity are included in the revised proposals for United Energy, Jenema, CitiPower and PowerCor
- The effectiveness of tariffs on reducing demand and their ability to interact with demand management activities be clearly documented and considered in the next 'Framework and Approach' for the 2021-24 regulatory period

Energy and demand forecasts

We do not accept that the forecasts take an approach that is in the long term interests of consumers. In particular we recommend the AER review the assumptions regarding:

- a continual increase in the uptake of solar PV and other embedded generation
- the increased uptake of battery storage by households and businesses
- the impacts of network tariff reform, and the results of shifting to cost reflective tariffs such as a demand tariff
- demand management and other non-network augmentation solutions to peak demand
- the effect of new Victorian government policies such as Environmental Upgrade Agreements and the Energy Efficiency and Productivity Statement
- continued investment in energy efficiency
- adoption of fewer technologies
- fuel switching and increased uptake of electric vehicles

It is our view that many of these forecasts have underestimated the growth of new technologies and services, embedded generation and energy efficiency.

Recommendations:

- That the AER review the underlying assumptions for forecasting demand and consumption and compare the methodologies between AusNet Services and the other distribution businesses
- That forecasts consider the latest Australian Energy Market Operator (AEMO) forecasts and be revised downwards as a conservative position for protecting consumers long term interests

Capex

All of the Victorian distribution businesses are proposing higher capex allowances compared to the previous regulatory period, ranging from 4% to 33%. This is concerning given that over-investment in the networks over recent regulatory periods has led to excess levels of network capacity and declining network utilisation. It is also concerning that such high levels of revenue proposals are being put forward at a time of declining capacity utilisation, a reduced average asset age for most asset categories, static or falling demand and consumption, and reductions in the excessive reliability standards.

Recommendations:

- The AER recognises the historical over-investment in the Victorian network has led to increasing levels of excess capacity and network under-utilisation, and that historical overspends be considered in assessing each of the distribution businesses capital efficiency
- The AER rejects the proposed increases in capex put forward by the distribution businesses, given current market conditions and excess expenditure in the networks in the previous periods
- The AER request more information from distribution businesses on repex spending, particularly the proportion of bushfire safety measures and further information on asset condition and consideration of revised AEMO Value of Customer Reliability estimates

The local government sector is happy to work with the AER on the implementation of these recommendations to ensure outcomes which represent the best value proposition for the Victorian community, industry and all levels of government

1. INTRODUCTION

On behalf of their council members, the Victorian Greenhouse Alliances are pleased to make this submission to the Australian Energy Regulator (AER) to the 2016-20 Victorian Electricity Distribution Price Review (EDPR).

The Greenhouse Alliances are formal partnerships of varying numbers of councils (and other organisations) driving climate change action across 70 of the State's 79 municipalities. The Alliances work across their networks, communities and partners to deliver regional mitigation and adaptation programs. This includes the implementation of joint initiatives that provide economies of scale and enable projects typically beyond the reach of individual councils. Our project work is complemented by targeted advocacy, capacity building activities and regional partnerships. Read more [here](#).

Critically, the existing governance structures and capabilities within the Alliance networks facilitates a coordinated dialogue between local government and both state and federal governments on a range of key issues relevant to the energy sector. This was demonstrated in the 2011-15 EDPR process where the Alliances coordinated a submission dealing exclusively with issues and costs relating to the operation, maintenance and replacement (OMR) for public lighting. The outcomes of that submission and determination process were successful in generating over \$20M in savings for the local government sector¹.

2. SUBMISSION SCOPE

On 24th June 2014, representatives from over 35 Victorian councils participated in a workshop at the Municipal Association of Victoria (MAV) to define the scope of issues to be included in a sector wide response to the 2016-20 EDPR. Participants identified the following five key issues to be addressed through the EDPR process and via a coordinated engagement program with DNSPs:

- Public Lighting
- Demand Management
- New Technologies
- Data Exchange
- Climate Change Adaptation

These priority issues were subsequently developed into a series of policy statements which detail the specific outcomes that councils are seeking to achieve through responding to the EDPR and engaging with distributors more broadly. The *DNSP Local Government Policy Framework* policy is provided in Attachment I.

¹ Estimated savings over the 20 year lifetime of assets. Analysis provided by Ironbark Sustainability.

Whilst the EDPR process provides local government with the opportunity to influence DNSP investment in initiatives that will assist in realising the objectives in the policy framework, councils recognise that many of the policy framework's outcomes can be better achieved through ongoing collaboration between the sectors. Both DNSPs and councils acknowledge that a collaborative approach is necessary to achieve a more sustainable electricity network, thereby improving economic, social and environmental outcomes for all consumers.

The scope of this submission therefore mostly pertains to issues that are most material to local governments and their communities under the regulatory framework. The following sections of this submission deal with:

- Public lighting issues, including the proposed move to a negotiated framework for dedicated street lights, operation, maintenance and repair (OMR) costs and vegetation management
- Demand management, including our assessment of the types of activities being proposed, the appropriateness of their costs and the AER's role in supporting demand management initiatives
- Energy and demand forecasts and their underlying assumptions
- The amounts of capital expenditure (capex) proposed by the DNSPs

3. PUBLIC LIGHTING

3.1 Proposed negotiated service framework for 'dedicated street lighting'

For the 2016-2020 period the Australian Energy Regulator (AER) has proposed a change to the structure of street lighting regulation. In the past, lighting maintenance costs on electricity distribution poles and lighting on dedicated street light poles were regulated by the AER. These costs were based on submissions from relevant stakeholders including DNSPs, councils, consultants and other interested parties.

From January 2016, it is proposed that only street lights on electricity distribution poles will be regulated. Operation, maintenance, repair and replacement of dedicated public lighting assets (largely in newer estates with underground electricity) are proposed to be classified as a negotiated service. This means that in Victoria, councils will be required to negotiate with the five DNSPs for the services and charges associated with these assets.

A move to negotiated pricing may have a significant impact on councils' time and resources. For several councils this may mean negotiating with two, or possibly three, DNSPs. While it may be more effective for councils to operate in groupings, a third party will likely need to be engaged to act on councils' behalf. The costs involved in pursuing the negotiations to a successful outcome are unclear, but are possibly substantial. These cost burdens are likely to be concentrated in growth areas where most dedicated lights are located.

3.1.1 Survey findings

To inform this submission, a survey was released to council officers involved in Assets and Environmental Management (during the week of Monday 29th June 2015). The survey was distributed with the AER Public Lighting Note on “Negotiation for Dedicated Public Lights” (29 June 2015) attached as background and the following commentary on the proposed change to negotiated service dedicated public lighting:

“From January 2016, the Australian Energy Regulator (AER) will adopt a new framework where only street lights on electricity distribution poles will be regulated, while street lights on dedicated street light poles will require a negotiated process. Through the regulated process councils are able to negotiate directly with DNSPs to achieve better outcomes. This has already occurred on many occasions – for example in June 2014 a group of councils in the AusNet Services distribution region negotiated a 34% reduction in price of the OMR for LEDs. The difference in the proposed changes is that councils will be required to negotiate with the distribution businesses that operate within your municipality for the services and charges associated with street lights on dedicated street lighting poles.”

The survey participants were then asked “Do you support this change (forced negotiation) or would you prefer for all assets to be regulated (current situation)?” Recipient responses are provided in Table 1. Full survey responses are provided in Attachment II.

Table 1: Local Government survey results

Question: “Do you support this change (forced negotiation) or would you prefer for all assets to be regulated (current situation)?”		
Response	# responses	Percent
Yes, I support the change to a negotiated framework	8	17.39%
No, all assets should remain regulated	26	56.52%
Unsure	12	26.09%
Total	46	100%

The responses show that a clear majority (56%) of councils are opposed the proposed changes, whilst only 18% were supportive of the move. Even with the AER note and information on the topic 26% were unsure. The various comments provided by survey recipients demonstrate that councils share the following views:

- There is wide spread scepticism around the ‘fairness’ of negotiations as there is no real alternative if negotiations fail
- Many councils are wary that they do not have the capability and capacity to negotiate with DNSPs in the already technically challenging area
- There is concern that regional/less resourced/growth area councils maybe more disadvantaged than metro councils under the negotiated framework

3.1.2 Outcomes of the negotiated framework in SA

The following summary was provided by David Hitchcock, the Director Infrastructure at the Local Government Association of South Australia (on request 1/07/2015). It summarises the experience of councils in South Australia, where street lighting has been contestable since 2010:

“The cost of operating public street lighting is facilitated through the Street Lighting Use of System (SLUOS), Customer Lighting Equipment Rate (CLER) and Energy Only (EO) rates provided by SA Power Networks (SAPN), formerly ETSA Utilities. Collectively this is a cost to South Australian Councils of \$15 million per annum (\$16 million total with Department of Planning, Transport and Infrastructure (DPTI) included).

SLUOS pricing includes operation and maintenance, provision and replacement of street lighting assets including poles, standards, brackets, and lanterns, etc. SLUOS pricing is a 'Negotiated Distribution Services' under the National Electricity Rules (NERs) which is regulated by the Australian Energy Regulator (AER). South Australia is the only state with street lighting charges as 'Negotiated Distribution Services'. This regime provides Councils and DPTI, as public lighting customers, with opportunity to negotiate service levels and charges directly with SAPN.

The objective of the negotiation process with SAPN is to establish regulatory compliant and cost reflective SLUOS charges for 2010-2015, together with a transparent process for establishing year-on-year SLUOS increases beyond 2015. The Local Government Association (LGA) is negotiating, in partnership with the State Government (DPTI) and LGA consultants. Following receipt of a public lighting costing proposal from SAPN, the LGA and DPTI provided an extensive submission which indicated concerns with regulatory compliance in establishing depreciation methodology and determination of actual versus accrued costs.

Current Status and Process

Throughout these discussions it has been clear that SAPN and the LGA (and DPTI) have a fundamental difference (dispute) in view of the process SAPN has undertaken in correctly calculating and establishing public lighting costs as required pursuant to the Australian Energy rules and regulations.

The LGA and DPTI offered to have the dispute mediated in December 2012 and again in April 2013. Mediation of the dispute was rejected by SAPN in May 2013. Discussions had continued until October 2013 and it is now clear we are at impasse. The AER acknowledged receipt of the dispute lodgement by the LGA and DPTI and requested supporting information which was and provided over the period March - June 2014. AER recommended the parties enter a voluntary arbitration process which has been agreed.

Commencing December 2014 the LGA and DPTI have engaged with SAPN to undertake a non-binding arbitration process to determine the mechanism for calculating Public Lighting costs under Negotiated Distribution Services. As such all parties have collectively appointed a case advisor and an expert independent panel to provide determination on agreed questions, which subsequently will inform the parties how their dispute position is placed. The LGA Board has resolved to fund the associated arbitration and legal costs Local Government on behalf of Councils for this process.

Following the independent panel determination all parties will then be in a position to consider their dispute position to see if their argument is supported or otherwise needs review and or opportunity for negotiated resolution. Should agreement not be reached next steps would be reference to the AER seeking binding arbitration.”

We are concerned to see that the only national example of negotiated street lighting services has resulted in a “fundamental dispute” between the parties that stalled negotiations on street light maintenance prices for five years. The amount of resources and effort required to get the process to its current stage must be enormous and the LGA should be applauded for their efforts. However, for several reasons, it is clear the negotiated process has been unsuccessful.

Based on the views put forward by local government officers involved in the management of public lighting assets and the outcomes of the negotiated process in South Australia, there is a clear lack of support for the proposed changes to dedicated street lights in Victoria.

Recommendations

- The AER retains its role in regulating the prices for dedicated public lighting assets

3.2 Public lighting costs

The review of the public lighting prices and other issues addressed by this submission was completed by sourcing information from relevant stakeholders and preparing an evidence based approach to the data. In order to assess the validity of the DNSPs Public Lighting pricing models and submissions, the process involved:

- Collation and compilation of the different cost build up models² (from all 5 DNSPs) and comparison and analysis of:
 - the pricing of rates and material costs
 - failure rates and the efficiency of their management system
- Comparison of these prices to alternative pricing from suppliers and council sourced pricing
- Consideration of other technical information of relevance
- Identification of any relevant feedback to the DNSPs written submissions

This section addresses the key inputs used by each DNSP to the modelling of O&M (Operation and Maintenance) tariffs. It is structured in order to outline key views on:

- the inputs to all lamps
- the material costs

² See Attachment V

- the number of bulk lamp changes; and
- inputs for specific lamp types
- explanatory notes provided by each DNSP

3.2.1 Inputs - all lamps

Some inputs for all lamps are unusually varied. Each of the inputs summarised in Table are discussed further below.

Table 2: Comparison of inputs for all lamps (2016)

Inputs - all lamps	UNITED ENERGY	POWERCOR	CITIPOWER	AUSNET	JEMENA
Labour rate (per hour)	\$90.24	\$123.77	\$123.77	\$95.83	\$90.43
Labour rate for night patrols (per hour)	\$132.00	\$145.35	\$145.35	\$119.78	\$104.00
Elevated platform vehicle (per hour) - urban MV, urban T5	\$40.42	\$77.70	\$77.70	\$45.38	\$40.78
Elevated platform vehicle (per hour) - rural MV, rural T5, S-HP	\$40.42	\$57.55	\$57.55	\$82.00	\$52.43
Patrol vehicle (per hour)	\$10.00	\$42.91	\$25.51	\$31.08	\$11.65

Labour rate (per hour)

The labour rates are consistent for Jemena, United Energy (UE) and AusNet Services at between \$90 and \$97 per hour. The rates for CitiPower and Powercor are clearly not competitive, as they are over 35% higher than other DNSPs. It is unreasonable for these rates to be so different. It could be argued that rural prices may be higher, however, the price differential between AusNet and Powercor (who have a very similar rural combined with urban/urban fringe coverage) shows significant variation in pricing. In addition highly urbanised areas such as CitiPower and Jemena can be considered similar. We note that costs for hourly rates should not vary much, although the actual costs of traffic management etc. may reasonably be considered to be higher (and which are considered elsewhere in the calculations) in urban areas.

We propose the lowest costs be applied across all DNSPs.

Labour rate for night patrols (per hour)

Similarly to the labour rates above, the labour rates for night patrols vary widely. The prices for Jemena are clearly the lowest, whilst CitiPower and Powercor are clearly the highest. For the reasons discussed above, it is unreasonable for this range to be the case.

Without further input from DNSPs we consider it reasonable that AusNet Services and Powercor prices be similar (and hence the lower of these applied) and that the remaining DNSPs use the lower of the hourly rates (i.e. Jemena's rate applies).

Elevated platform vehicle (per hour) – urban or rural, MV and T5 and Patrol vehicle (per hour)

The range of costs for these items (EPV costs in urban and rural areas and patrol vehicles) is large. Without specific reason for this it appears that some rates are uncompetitive. Given that each of the DNSPs meet both Energy Safe Victoria (ESV) and Victorian Electricity Supply Industry (VESI) guidelines it is unreasonable for some prices to be as much as double those of other DNSPs (if the actual tenders are this different then we would assume the procurement process to reduce costs has been ineffective). We would propose the lowest rates be used across the board.

3.2.2 Inputs – Material costs

United Energy comparison

Prices for materials for United Energy are lower than all other DNSPs. A Comparison of inputs for SHP 150W (2016) demonstrates this for two inputs in the 150W HPS luminaire (See Table 3). This difference (of an increased cost of over 15%) has been applied to all materials (lamps, PE cells and luminaires for all technologies). The similarity of the price increase for the other four DNSPs is such that it appears a generic overhead has been applied to these material costs. We would question the justification for this overhead, whether this overhead is allowed. If not then the overhead should be removed for the other four DNSPs.

Table 3: Comparison of inputs for SHP 150W (2016)

	UNITED ENERGY	POWERCOR	CITIPOWER	AUSNET	JEMENA
Unit cost – lamp	\$35.67	\$41.30	\$41.18	\$40.28	\$41.17
Unit cost - PE cell	\$19.37	\$22.43	\$22.37	\$21.88	\$22.36

Comparative tender pricing - MAV

To assist councils in managing the complex procurement landscape associated with the transition to energy efficient street lighting, MAV Procurement has formed a partnership with Ironbark Sustainability to support councils from the start to the end of a bulk change program.

The first part of this process included establishing a tender panel for all approved (by any Victorian DNSP) energy efficient lighting products. This panel is open to all Victorian councils and allows for a competitive and transparent process for councils to order lights from manufacturers.

This has enabled councils to directly understand the costs of lighting from suppliers. The MAV has approved this information to be supplied on a confidential basis to the AER for the purpose of understanding the pricing in the determination³.

³ Provided as confidential Attachment C

We submit that the pricing in the determination should utilise the MAV tender panel of prices wherever they are relevant. In particular the pricing is provided based on differing volumes: 0 to 1000, 1,001 to 5,000, 5,001 to 9,999 and 10,000+. For the purpose of the determination we propose that the volumes for the main light types (all of which have tens of thousands of products within a given DNSP area) utilises at least the 1,001 to 5,000 rates. These rates should be applied for the following products:

- T5 luminaires (both 2x24W and 2x14W)
- LED luminaires
- PE Cells (D2)

Importantly these rates apply to the specific products and model numbers that are approved by the relevant DNSP. There is no difference in the products being supplied.

Comparative tender pricing - Quote

To inform this submission quotes were sought around unit prices for certain items. These quotes⁴ were based on supplying volumes of between 1 and 500 units (i.e. very low numbers). The information has been supplied confidentially (and released to the AER). Below is a summary of the items of relevance.

- T5 lamp prices
 - 2x14W \$4.71 (x2 = \$9.42)
 - 2x24W \$6.85 (x2 = \$13.70)
- SHP lamps
 - 150W - \$31.00
 - 250W - \$34.50

We note that all prices listed here should be significantly higher than those achieved under DNSP contracts where the numbers involved are much larger and the purchasing much more regular. We also note all pricing provided in the DNSP models are higher than those listed above, some significantly higher. We would recommend the lowest of the DNSP prices be used or the prices listed above if no price is lower.

3.2.3 Number of bulk lamp changes (applies to 80W MV and T5's)

The volume of lamp changes that can be completed in the Jemena and UE areas seem inordinately low (see Table 4). Given that each of the DNSPs meet both Energy Safe Victoria (ESV) and Victorian Electricity Supply Industry (VESI) guidelines the contractors should be operating as effectively in each area. A consistent bulk lamp change rate should be applied in each urban area and across the rural and remote categories. Best practice management outcomes should be required of all DNSPs and the higher number applied per day used for all DNSPs (in this case Powercor).

⁴ Provided as confidential Attachment D

Table 4: Number of bulk lamp changes in each DNSP area per day (MV 80)

Number of bulk lamp changes in 1 day	UNITED ENERGY	POWER COR	CITI POWER	AUSNET	JEMENA
Urban	60	86	86	85	65
Rural	40	72		70	55
Remote		60		50	

If management practices are such that the large difference in efficiency is accurate then at worst an improving rate of efficiency such that at the end of the five year period best practice should be applied for all DNSP areas. This approach can also be applied to Section 3.2.4 below.

3.2.4 Inputs for specific light types

3.2.4.1 S-HP150 & 250

Number of lamps patrolled in 1 day – urban and rural

We note that the only DNSP who appears to have very accurate data is that provided by United Energy (see Table 5). Unless specific data has been provided by other DNSPs to justify the number of lamps patrolled per day, it is recommend that the United Energy numbers be applied where relevant.

Table 5: Number of lamps patrolled in each DNSP area per day

Number of lamps patrolled in 1 day	UNITED ENERGY	POWERCOR	CITIPOWER	AUSNET	JEMENA
Urban	3,300	3000	3,000	3,000	2,500
Rural	2,200	2000		2,000	2,000

Number of repairs in 1 day – urban, rural and remote

Efficiency should be rewarded. Best practice in repairs is clearly led by UE (Powercor for remote) (see Table 6). We recommend the numbers used by United Energy be applied to the other DNSPs and the PowerCor numbers for AusNet Remote.

Table 6: Number of repairs in each DNSP area per day (MV 80)

Number of repairs in 1 day	UNITED ENERGY	POWERCOR	CITIPOWER	AUSNET	JEMENA
Urban	18	29	19	15	10
Rural	10	24		12	9
Remote		19		9	

NEMA PE cells - frequency of replacement

In practice no DNSP replaces NEMA cells in bulk. As stated in United Energy’s supporting documents, “*There is no bulk change of PE cells or globes on main roads. Instead, the lights are replaced on failure.*”⁵

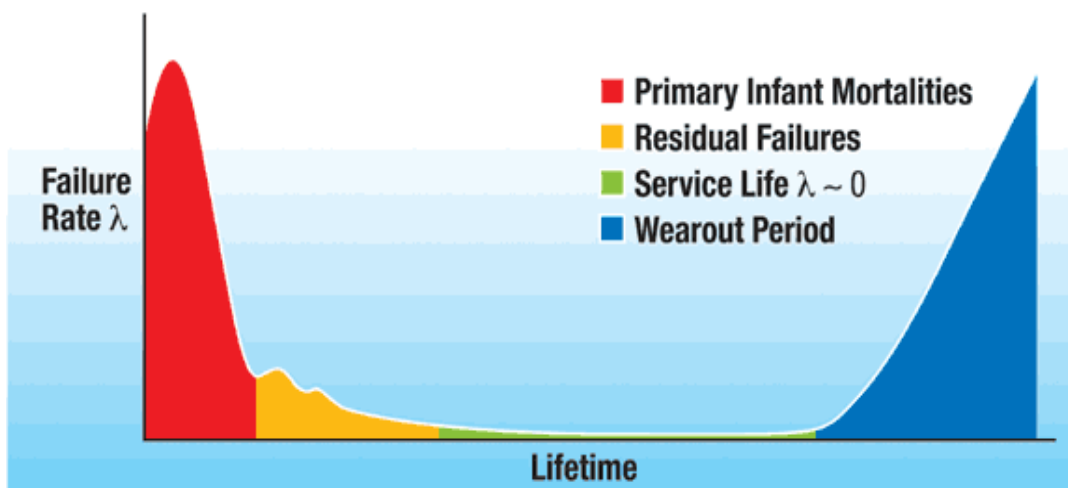
Allowing for a full replacement of all NEMA cells after 10 years within the model is unreasonable because the failure rates for NEMA cells are not confirmed and other similar cells have far superior failure rates⁶. Instead we would propose that these cells have a 20 year life with a failure rate over this time period being applied. This failure rate should be based on provided evidence from DNSPs or from PE cell manufacturers. Data has been supplied with this submission (on a confidential basis) around PE cell failure for D2 cells. It is expected that NEMA cells will provide a similar failure rate to that of D2s. Based on this manufacturer data the rate of failure (over 20 years) is expected to be between 3% and 6.6% (details provided in confidential Attachments C and D).

3.2.4.2 Inputs - T5 (2x14W and 2x24W)

Proportion of luminaires that fail between bulk change

An important consideration for lifetime failure rates of many types of equipment (including lighting) relates to failures early in the life cycle of assets, often referred to as ‘infant mortality’. This is commonly portrayed using the “bathtub curve”. Figure 1 shows the bathtub curve as it applied to power supplies.

Figure 1: This “bathtub curve” shows occurrence of power-supply infant mortalities.⁷



⁵ United Energy, Public Lighting Alternative Control Services – Supporting Paper, page 14

⁶ See Confidential Attachments C & D

⁷ <http://electronicdesign.com/>

A peak during the first 6 to 24 months is common and it is typical that during installation a range of failure will become evident. Importantly, this cannot be used to determine lifetime failure rates. In fact the failures over the first time period need to stabilise, such that the time period is past the primary infant mortality and residual failure stages. Once this has occurred the service life and failure can be more accurately estimated.

Product manufacturers complete extended lifetime analysis of lamps and other electrical components during product development. Fortunately for low energy lights (with electronic control gear and ballasts and lamps) much of the manufacturers' data has been compiled⁸ and independently assessed by all five DNSPs and councils and provided as Attachment III. This data is relevant for the T5 and CFL lights being considered in this determination. See Section 5.2 for detail on predicted failure rates over the product life based on field data and manufacturers information.

Table 7 provides clear data on infant mortality failures for complete luminaires for 3,132 audited luminaires as part of the state wide energy efficient street light replacement program (see Attachment IV). This was based upon a sample of 16 quality audits across 10 different councils. The lights audited as part of this process involved 3,132 luminaires, with a mix of T5 and LED luminaires considered. All lights that were found to be faulty were replaced and as such cannot be included in the light failure rates from DNSPs. What is shown is that the infant mortality rate of 1.5% compares favourably for the T5 predicted failure rates and the LEDs are slightly higher than the annual rate predicted (of 0.5%). For the LED this is to be expected (as discussed above and by considering the bathtub curve).

Table 7: Infant mortality rates from bulk luminaire replacement programs

	LIGHTS AUDITED	FAILURES	FAILURE RATE
Total Lights	3132	48	1.53%
Total T5	2200	41	1.86%
Total LED	932	7	0.75%

For the first two recommendations below, we acknowledge higher rates can be achieved, however, it is clear there is no incentive for DNSPs to aim for the most competitive rates or best practice management. If councils can achieve significantly lower rates (sometimes by only picking up the phone) then incentive for DNSPs to reduce their costs need to be entrenched in this price review.

Recommendations:

- For labour rates and fault repairs, the lowest rate achieved by a given DNSP be applied to each DNSP

⁸ Evaluation of Low Energy Lights for Minor Road Lighting, Victorian Sustainable Public Lighting Action Group, March 2008 (Attachment III)

- For material rates utilise the prices that can be achieved by local government procurement efforts (such as through the MAV tender), or the lowest price achieved by any DNSP (whichever is lower)
- The failure rate of 11.4% over four years be applied to T5 luminaires, as recommended by the attached reports

3.2.5 Explanatory notes provided by each DNSP

United Energy

United Energy indicate that in the forward period they are predicting increased O&M cost allowance for sustainable lighting, due to the increased numbers of sustainable lights now within the system. However, the AER should note that these costs have been recouped historically (for example bulk lamp charges were included in their fee based offering – as is proposed within the regulated model) so would not expect O&M charges to increase as a result.

Powercor & Citipower

The Powercor and Citipower LED O&M price assumes the same failure rate as that applied for the T5 (as discussed in Section 3.2.4.2). In Jemena's proposal, information was provided as follows: "*The manufacturer has advised a failure rate of 10% for the LED luminaire over its 20 year life – that is 0.5% per annum.*"⁹ Based on this evidence we recommend this be applied for all models.

Jemena

Jemena have indicated an annual failure rate of 6.4% has been applied to all minor road lights. As noted by the other DNSP submissions, failures for older lights (such as 80W MV's) have accelerated over the last few years. Applying a generic failure rate to all minor road lights is not reasonable and as mentioned in Section 3.2.4.2 we recommend the rate of 11.4% over four years be applied for T5 lighting in all jurisdictions.

3.3 Barriers to energy efficient public lighting

Although we note the inability of the AER to progress directly the issue of energy efficiency in pricing determinations, we also note that over the past 10 years the AER has provided useful support to this transition. Specifically we see the opportunity for the AER to improve DNSP incentives to accelerate energy efficient activities in public lighting in the following manner:

- Altering the Victorian Public Lighting Code to address this (we will also contact the Essential Services Commission (ESC) in this regard)

⁹ Jemena - Attachment 11-03 - Public lighting charges explanatory statement - April 2015.pdf

- Ensuring that OMR pricing does not become a barrier to energy efficiency. As well as the specific comments on pricing and failure rates that we have addressed in this report, we note the example of Endeavour Energy in NSW where the majority of the maintenance pricing is spread across all light types such that there is no incentive for councils to progress lower maintenance luminaires (such as LEDs). Whilst the Victorian pricing does not have this scale of issue we ask that the AER continues to require the DNSPs to use the current process and framework for pricing determinations
- Where requested by customers that the AER continues to be supportive of moves to:
 - accelerate energy efficiency
 - incentivise DNSPs in this regard; and
 - more broadly encourage (and provide opportunities for) collaborative and constructive dialogue between DNSPs and customers

3.4 Vegetation management

In its regulatory proposal, United Energy has proposed \$3 million for a three-year trial of dedicated vegetation management crews to work with councils in its network area. We support this proposal.

Throughout metropolitan Melbourne and in several regional and rural centres, there are a number of streetscapes that are highly valued by the community because of the number and quality of mature street trees. Unfortunately, management of these street trees in relation to power line clearance has proven extremely difficult for councils because community expectations and councils' imperative to protect street trees is in direct conflict with the safety regulator's expectations.

Under the Electricity Safety Act 1998, the two main parties responsible for managing trees around power lines ('responsible persons') are the DNSPs and councils. Following the introduction of the 2010 version of the Electricity Safety (Electric Line Clearance) Regulations, which effectively increased the clearance space to be maintained between power lines and vegetation, the MAV and councils have advocated for a line clearance regime that better balances safety, amenity and environmental considerations.

Urban street trees are critical infrastructure that delivers a range of community benefits, including shading and cooling, reduced stormwater runoff, reduced air pollution, enhanced biodiversity, improved community health outcomes, reduced energy costs and increased property values¹⁰. A 2002 study of the economic value of trees in urban areas concluded

¹⁰ For further detail on the benefits of street trees, we encourage the AER to refer to: Moore, Greg. Urban trees more than pay their way during climate change. Australian Garden History, Vol. 21, No. 4, Apr-June 2010: 13-17; P. Killicoat, E. Puzio, & R. Stringer, 'The economic value of trees in urban areas: estimating the benefits of Adelaide's street trees', Treenet Proceedings of the 3rd National Street Tree Symposium: 5-6 September 2002, University of Adelaide, pp.94-106; City of Melbourne Urban Forest Strategy 2012-2032

that a conservative estimate of the gross benefits of a typical Adelaide street tree is \$172 per annum¹¹.

There is a pressing need for the distribution businesses to work collaboratively with councils to investigate solutions that enable mature trees to remain and be managed in close proximity to power lines. In recent discussions, United Energy has expressed a willingness to undertake a three year pilot project with councils to achieve better solutions for the management of vegetation, taking into consideration safety, amenity and environmental values. We would welcome the same commitment from other DNSPs.

In a warming climate, the importance and value of street trees will only increase. We urge the AER to support UE's proposed pilot project so as to enable the development of management approaches that preserve high value vegetation in our urban areas.

Recommendation

- United Energy's proposed expenditure for a three year vegetation management trial be supported by the AER

4. DEMAND MANAGEMENT

4.1 The importance of demand management and an incentive scheme

Demand management is a flexible and relatively low cost network solution compared to traditional asset replacement or augmentation. Its value is enhanced in periods of flat, declining or uncertain demand and by its ability to deliver additional societal co-benefits, such as the associated reduction in greenhouse gas emissions. The Australian Energy Market Commission (AEMC) has identified substantial demand management opportunities in the Australian electricity system, opportunities that could lead to savings of \$4–\$12 billion over the next ten years.¹²

Despite this, there is a concerning lack of priority given to demand management in the proposals put forward by Victorian DNSPs (See Table 8). This highlights the fact that the current regulatory framework creates significant barriers to the uptake of demand management by and provides a clear capex bias towards the way in which network businesses operate.

¹¹ P. Killicoat, E. Puzio, & R. Stringer, 'The economic value of trees in urban areas: estimating the benefits of Adelaide's street trees', Treenet Proceedings of the 3rd National Street Tree Symposium: 5-6 September 2002, University of Adelaide, pp.94-106

¹² Australian Energy Market Commission, 2012, Power of Choice Review - Giving consumers options in the way they use electricity (Final Report).

TABLE 8: Summary of proposed demand management expenditure

Real (\$M Real 2015)	UNITED ENERGY	AUSNET SERVICES	CITIPOWER	POWERCOR	JEMENA
Broad based demand management (business as usual OPEX/CAPEX)	8.0	13.0	No Data	No Data	0.7
Demand management incentive scheme (DMIS) allowance	6.6	10.0	1.0	3.0	5.5
Total demand management spend	6.6	23.0	1.0	3.0	6.2
Total proposed network expenditure	1,995	3,220	1,351	3,662	1,340
Portion of total expenditure on DM	0.73%	0.71%	0.07%	0.08%	0.46%

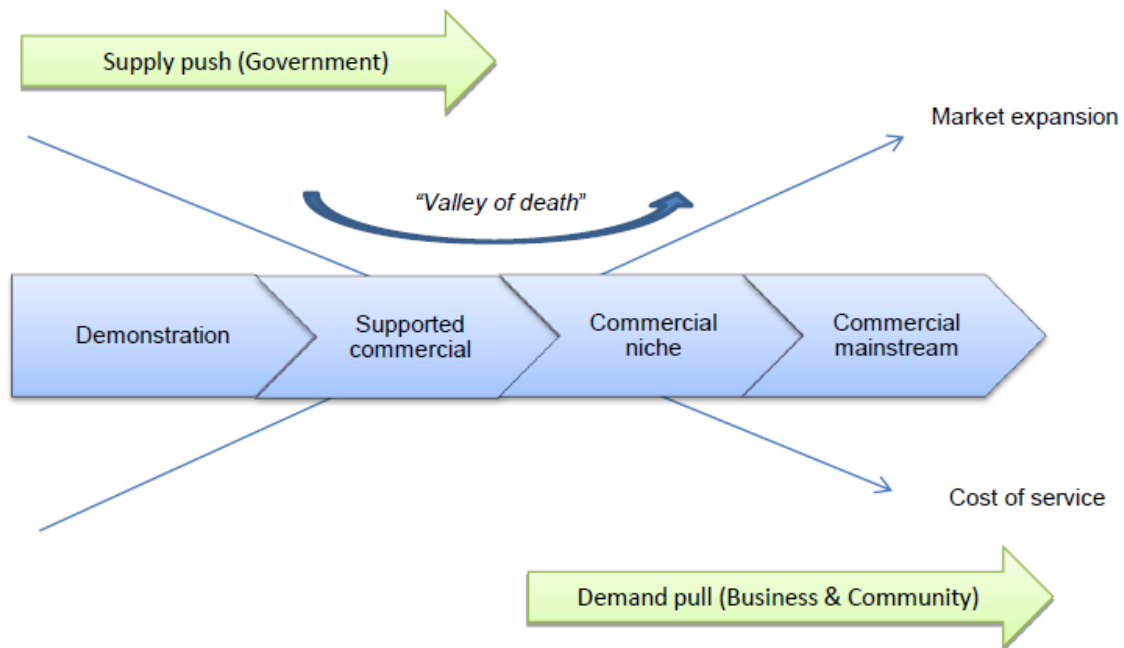
The current EDPR process comes at a time when the Victorian energy industry is facing unprecedented change. The rapid advancements and widespread adoption of solar PV and smart technologies combined with a fall in electricity use is already having a material impact on energy providers and consumers. Unlocking investment in demand management will therefore be critical in ensuring a smooth transition to more sustainable, intelligent energy networks.

To make this transition, energy providers will need to build new capabilities that enable them to capture and scale up new opportunities and tap into unconventional markets. This will mean establishing business models with stakeholders with whom they have previously had little interaction, including local government agencies.

Demonstrating a continued need for government intervention within the energy market is critical for ensuring the AER can make informed decisions about which investments and activities require supporting and incentivising. Support for innovation should be considered within the context of existing market forces, which can be characterised as the supply push and demand pull of new products or services. Using an adaptation of the innovation chain (Grubb 2004¹³), Figure 2 illustrates the stages of providing new services and programs within a market.

¹³ Grubb (2004), 'Technology Innovation and climate change policy', KEIO Economic Studies 41, p,103-132 ([link](#))

Figure 2: Innovation chain activities and market forces

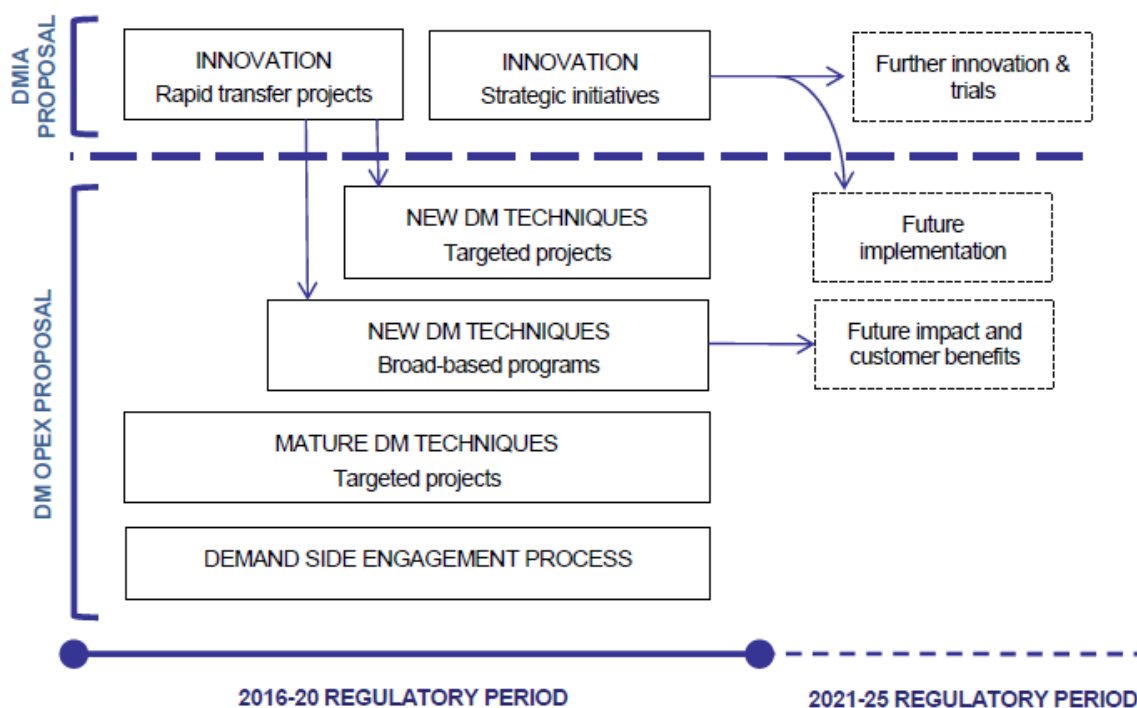


In the early phases of a new process or product development – such as the use of virtual power plants to alleviate network constraints – a level of government support can assist in overcoming the market failures (i.e. proof of concept, lack of skills and knowledge etc).

Government intervention to support or stimulate innovation is required in areas where the benefits of such innovation cannot be fully captured by the businesses that initially invest in research, development and commercialisation. Supply push support from government should be expected to be time limited, with market driven demand pull becoming the main driver of growth and development over time.

The use of incentives should therefore be contingent on distribution businesses committing to a clear development pathway that demonstrates the transition to a business as usual approach (i.e. funded through OPEX/CAPEX). This pathway is illustrated in Figure 3.

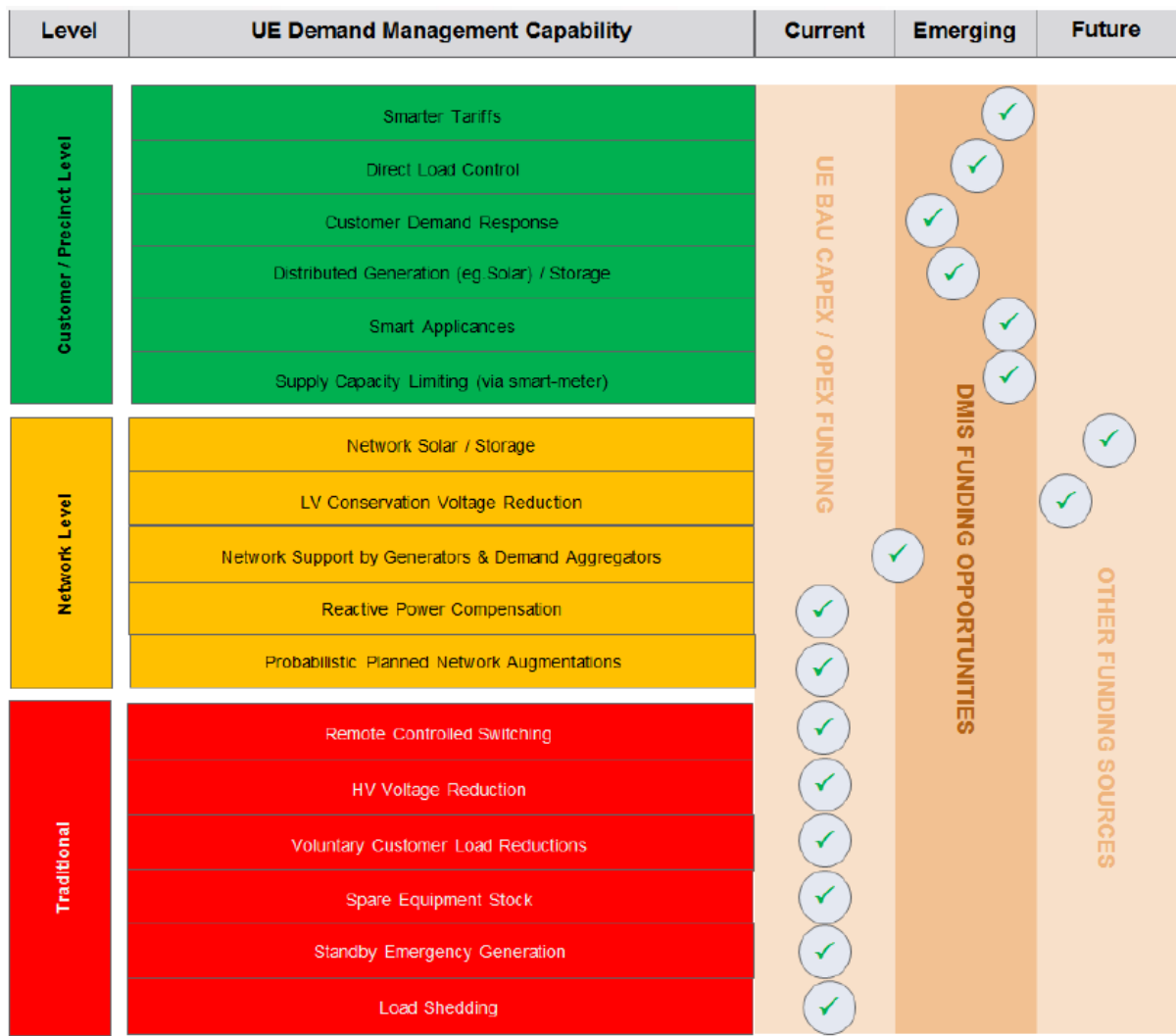
Figure 3: Development pathway for DMIS funded activities (Source: AusNet Services)



Understanding the distinction between innovation in demand management (emerging solutions) and more traditional forms of demand management is therefore critical for determining the types of activities that should receive ‘supply push’ through the DMIS (see Figure 4). These emerging solutions are increasingly customer focused and related to the low voltage component of the network (i.e. precinct and residential scale) where business cases and supporting business models are still uncertain. Opportunities at this scale are typically more fragmented and related solutions therefore have higher transaction costs associated with their implementation.

Providing incentives that support network business to pilot and trial emerging technologies that address these challenges (i.e. through aggregation of opportunities) will assist in fast tracking the economic and technical viability of the solutions. Ensuring these new and emerging approaches are efficiently adopted into business as usual practices of the networks businesses will help to fulfil the National Electricity Market’s original objective of serving ‘the long-term interests of consumers’.

Figure 4: A typical distribution businesses approach to funding demand management
(Source United Energy)



4.2 AER’s role in providing support for demand management

Section 2.4.3 of the AER’s Frameworks and Approach¹⁴ states:

We expect the potential long-term efficiency gains resulting from improved distributor capability to undertake demand management initiatives to outweigh short-term price increases. Price impacts will be minimal as adjustments to annual revenue under the DMIA are capped at modest levels and allowances are provided on a 'use it or lose it' basis.

Despite making these assertions, the AER has not adopted this approach in the most recently regulatory process in NSW where incentives are capped at \$1M and support for broad based demand management was extremely limited. We are concerned that if the AER adopts the same approach in the Victorian determination, it will lead to a particularly poor

¹⁴ AER, *Final Framework and approach for the Victorian Electricity Distributors, Regulatory control period commencing 1 January 2016*, October 2014

outcome for Victorian consumers. It is our view that it is the responsibility of the AER to intervene and correct for the traditional capex bias of network businesses and ensure that there is sufficient support available for demand management to ensure efficient costs for consumers.

We note that the AEMC's recent Draft Rules Determination on the demand management incentive scheme (28 May 2015)¹⁵, requires the AER to develop and publish a demand management incentive scheme and demand management innovation allowance by 1 December 2016. Page 61 states:

The Commission does not consider it is appropriate to provide for the application of the new DMIS or DMIA midway through a regulatory control period.

We do not believe that this absolves the AER of its responsibility to ensure efficient costs for consumers within the 2016-20 regulatory period - particularly through the application of an appropriate DMIS allowance and ensuring support for other forms of demand management expenditure where DNSP can demonstrate a compelling business case. Providing consistent and ongoing support to demand management will assist in developing efficiency focused cultures within DNSPs, provide greater investor confidence and stimulate ancillary services and supply chains.

This establishment of the new DMIS/DMIA provides the Australian energy sector with an opportunity to incorporate best practice (international) approaches within the schemes to encourage DNSPs to pursue more efficient non-network options. This could include design elements similar to those in the United Kingdom¹⁶ where innovation funding is tiered with significantly higher allowances available through competitive funding rounds. Those receiving funds are required to share their learnings with other networks, similar to the current practice of Victorian businesses in the trials of Rapid Earth Fault Current Limiters. The local government sector is happy to work with the AER on the design of the DMIS/DMIS and can assist in knowledge transfer between DNSP through the existing council networks.

Recommendations:

- The AER provides clear and strong incentives for the network business to undertake pilot and trial projects to fully assess the costs and benefits of new innovations (where a clear development pathway to 'business as usual' can be demonstrated)
- The AER provides support for other forms of demand management expenditure where DNSP can demonstrate a compelling business case
- The AER work inclusively with stakeholders on the design of the new DMIS/DMIA scheme

¹⁵ AEMC 2015, Demand management incentive scheme, Rule Determination, 28 May 2015, Sydney

¹⁶ OFGEM, Low Carbon Networks Fund, 2015 ([link](#))

4.3 Proposed DMIS expenditure

Table 8 demonstrates that the combined DMIS allowance requests for all five business equates to \$26.1M. This represents just 0.23% of the total network investment proposed across the period. This amount is clearly insignificant when compared with other industrialised businesses where expenditure on research and development is often higher by several orders of magnitude.¹⁷

It should be noted that three of the five businesses (Jemena, United Energy and AusNet Services) have provided clear documentation for how they intend to use their DMIS allowance in the next period. In contrast, CitiPower and PowerCor provide no justification for their continued request for DMIS funding (\$1M and \$3M respectively) and a proposed increase in their DMIS cap.

Despite this, PowerCor makes the following assertion in their proposal¹⁸ (reiterated in the CitiPower proposal):

We consider a capped DMIS constrains the ability of distributors to invest in innovation. Given the rapid rate of technological change, a well-functioning DMIS should facilitate our ability to respond and realise greater benefits for consumers.

Whilst we agree with this statement in principle, it is unreasonable for the AER to approve DMIS expenditure where there is no transparency around the types of activities that it will be 'incentivised'. Should the two DNSPs provide appropriate evidence in their revised proposals later this year, councils will reconsider their support for their requests for funding under the incentive scheme.

In the case of Jemana, United Energy and AusNet Services, we believe their DMIS allowance proposals are reasonable given the types of activities proposed by the businesses are clearly pilots and trials (i.e. in 'demonstration phase' of the innovation curve). Table 9 provides a non-exhaustive summary of these type of activities and initiatives.

Table 9 highlights that there is often high degrees of complementarity with existing and emerging local government programs. Indeed, there are already several examples where councils are partnering with DNSPs to collaboratively develop and implement initiatives funded through the DMIS. For instance, the City of Manningham has signed a formal Memorandum of Understanding with United Energy to facilitate the development of a district energy scheme on Doncaster Hill¹⁹. Since then, councils have begun actively working with the DNSPs to identify opportunities for replicating such schemes (which typically have the broader municipal co-benefits, such as the significant reductions in greenhouse gas emissions). Jemena has also been actively working with Hume City Council on the *Energy Smart Neighbourhoods* project which is providing free In Home Displays (provided by

¹⁷ 2014 EU Industrial R&D Investment Scoreboard ([link](#))

¹⁸ Powercor Regulatory Proposal 2016 – 2020, 2015, p.196

¹⁹ City of Manningham, Getting up Close with Your Distributor, 2015 ([link](#))

Jemena) to three groups of residents who are undertaking ongoing energy efficiency and energy literacy education.

Further evidence is clearly demonstrated in the AusNet Services proposal where local government is listed as a key stakeholder within three of six DMIS projects.²⁰ Many of the DMIS funded initiatives proposed show clear alignment to the goals and objectives stated within the Local Government DNSP Policy Framework (see Attachment I).

TABLE 9: Examples of projects proposed under the DMIS and alignment with local government initiatives (non exhaustive list)

Network	Example proposed initiative
UNITED ENERGY	<p>Summer Saver Trial – a pilot to test the feasibility of UE directly controlling customer demand, focused on pool pump control and supply capacity limiting, complemented with financial incentives for households. Discussions are already underway with councils across the region to assess how the program can leverage existing council household engagement channels to add value to the program to further engage residents around energy efficiency and drive addition behaviour change. Partnering with councils is expected to increase customer participation in voluntary demand response to get more substantial reductions in demand.</p>
AUSNET SERVICES	<p>Mini grid or RAPS deployment for remote community – AusNet Services has been working with the community of Mallacoota and considering mini grid options to improve supply reliability given the occurrence of natural events (floods, fires etc) along the 300km long 22kV Bairnsdale feeder that can remove the town’s network connection. This work has included a collaborative project with East Gippsland Shire (Sustainable Energy for Mallacoota²¹) involving a feasibility study is to investigate and articulate the current context and feasible future options for low carbon energy supply and improved security to Mallacoota. The proposed DMIS funding would support real world trials of some of the outcomes of these studies.</p>
JEMENA	<p>Technology and economic assessment of residential energy storage – The project will evaluate technical and economic viability of residential scale energy storage solutions when deployed in conjunction with rooftop solar photovoltaic (PV) systems. This project closely aligns with work being currently undertaken in the local government sector to map and identify the areas of the State where the deployment of solar PV and battery storage is economically feasible, using solar radiation data and other cross sectoral data sources. This initiative has obvious implications for the rapid identification of the precise locations where solar and battery storage and solar can defer and/or eliminate network investment by addressing peak demand in areas of the network which are constrained. Councils are also presently evaluating new and emerging delivery models, such as the use of council rates as an underpinning financial mechanism to recoup capital investments, and other contractual models with third parties and customers, such as power purchasing agreements and solar leases.</p>

²⁰ AusNet Electricity Services Pty Ltd, Electricity Distribution Price Review 2016–20, Appendix 9A: DMIA Priority Projects, 30 April 2015

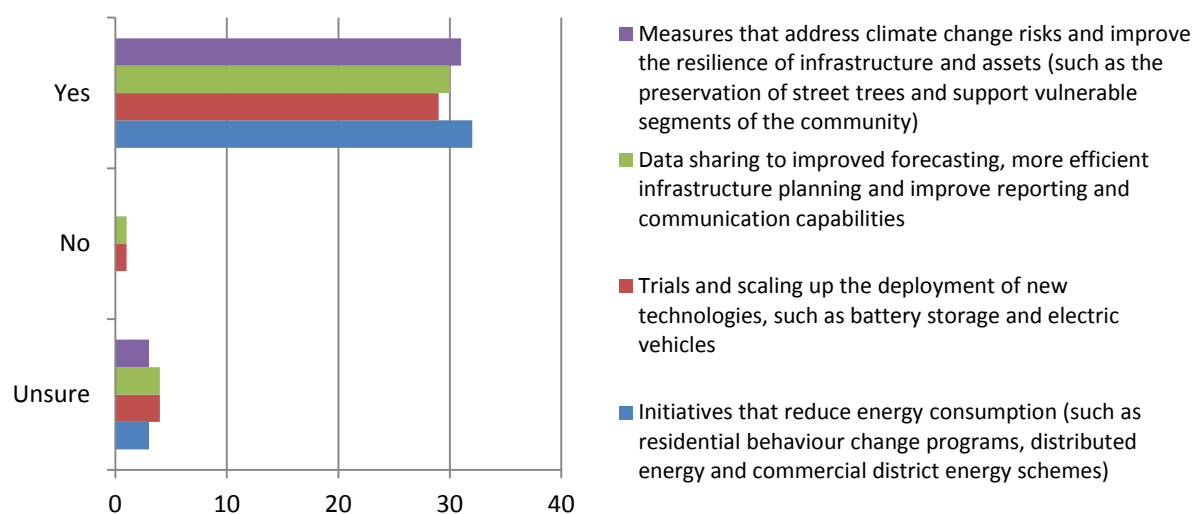
²¹ The Enhar Consortium, Mallacoota Sustainable Energy Feasibility Study Report Synopsis, March 2014 ([link](#))

Additional evidence of the support of the Local Government sector for innovation funding from the AER can be seen in responses to a sector wide survey conducted by the Victorian Greenhouse Alliances in June 2015 (see Attachment II for full survey results). Responses to Questions 3 and 4 are provided in Table 10 and Figure 5.

Table 10: Survey responses from local government stakeholders (June 2015)

Question 3: Do you support Victorian networks receiving allowances under the scheme to undertake new initiatives where benefits are yet to be proven		
Response	Number of responses	Percent
Yes	27	61.4%
No	2	4.6 %
Unsure	15	34.1 %
Total	44	100%

Figure 5: Survey responses from local government stakeholders to the types of activities they would like to see supported through the regulatory process



The Productivity Commission's 2013 Report on Electricity Network Regulatory Frameworks²² noted that:

'there are several reasons why, at present, the network business's decision might be skewed unduly towards undertaking network investments'.... 'in the short term, unless other changes are made to the DMEGCIS [Demand Management and Embedded Generation Connection Incentive Scheme] to encourage demand management, the innovation allowance should be increased'

²² Productivity Commission, 'Electricity Network Regulatory Frameworks', (Productivity Commission, Report No. 62, 2013), p,479 and 481

Given this recommendation and the points articulated above, we believe there is no justification for the AER to curtail the modest allowance request proposed by Victoria's distribution business in the 2016-20 period.

Recommendations

- Jemena, United Energy and AusNet Services be granted their full requested allowance under the DMIS scheme
- CitiPower and PowerCor provide additional documentation in their revised proposals outlining the types of projects requiring funding through the DMIS
- AER work collaboratively with the businesses to determine the most efficient means of increasing the current funding caps

4.4 Proposed broad-based demand management expenditure

With the exception of AusNet Services and Jemena, there is disappointing lack of transparency around the total expenditure proposed by the businesses on broad based demand management activities (i.e. business as usual opex, capex or augex). Table 8 demonstrates that there is no expenditure data available for CitiPower and PowerCor. Estimates for United Energy were provided on request and their responsiveness to data requests has been appropriate and timely. Where data is available (United Energy, Jemena, and AusNet Services) it is clear that broad based demand management is still not core business for the DNSPs, with just 0.23% of total network expenditure allocated to reducing demand.

We find almost no evidence that PowerCor and CitiPower are proposing to undertake any demand management initiatives, although it is anticipated that the trials of an embedded grid scale energy storage system (GESS) in Ballarat will continue in the next period, along with the embedded generation projects (documented through the RIN reset process).

Increasing the level of transparency in the regulatory proposals for the types of activities being planned as business as usual will be critical for the AER to distinguish between these types of initiatives that are likely to still require further incentives under the DMIS (as discussed in Section 4.1).

Victorian councils are also concerned with precedence set by the AER in the treatment of broad based demand management in the NSW determination. Specifically, the rejection of Ausgrid's demand management program on the grounds that network tariff reform will do the work of demand management. The AER's Draft Determination in response to Ausgrid's revenue proposal states:

In particular we are not satisfied that Ausgrid's proposal adequately takes into account forthcoming NER changes that will affect how network tariffs are set. Under new proposed rules, network tariffs will be based on the long run marginal cost of providing the service. That means consumers will in the future face better price

signals about usage of electricity during peak times. We would expect this will have a significant effect on how consumers use electricity during those times.

The AER's goes further to state its expectations of future customer behaviour is that:

If electricity network consumers face more cost reflective price signals regarding electricity usage during peak periods, we would expect consumers will take their own actions to reduce their usage during peak periods.

The AER's position implies that DNSPs will be able to defer investment in demand management on the grounds that price signals will result in significant changes to consumer behaviour, generating equivalent network outcomes as demand management activities. However, as Strengers and Maller have shown, households have limited ability to shift behaviours in responses to price signals and limited understanding of tariffs²³. In addition, research conducted for the Brotherhood of St. Laurence shows that there is little relationship between the charges passed on by DNSPs and those charged by retailers²⁴. Until the implementation of time of use pricing and the production of clearer tariffs to drive consumer responses (and the evaluation of the impacts which could take some years), justifying decisions on relation to demand management using price signal assumptions, as they are currently structured, is unreasonable.

Recommendations:

- That demand management activities and associated expenditure be afforded the same level of transparency as other forms of expenditure in all regulatory proposals in future (i.e. AER should require the businesses to provide this)
- Forecasted expenditure (OPEX/CAPEX/AUGEX) on broad based demand management initiatives and a description of each activity are included in the in the revised proposals for United Energy, Jenema, CitiPower and PowerCor
- The effectiveness of tariffs on reducing demand and their ability to interact with demand management activities be clearly documented and considered in the next 'Framework and Approach' for the 2021-24 regulatory period.

5. ENERGY & DEMAND FORECASTS

Among the most significant aspects of the distribution businesses proposals that warrant attention by the AER are the electricity demand and consumption forecasts.

²³ Strengers, Y. and Nicholls, L. (2015) *Changing Demand: Flexibility of energy practices in households with children, Final Report*, Centre for Urban Research, RMIT University, Melbourne.

²⁴ CME. (2015) *A critique of the Victorian retail electricity market*, Brotherhood of St. Laurence, Melbourne.

Whilst we recognise that there are many changes occurring in the energy market that make forecasting particularly difficult in the next five years, we do not accept that the forecasts take a conservative approach that are in the long term interests of consumers.

Victoria's energy consumption has declined in the past five years and AEMO forecasts this decline to continue. AEMO also forecasts peak demand to drop to around 20% below the 2009 peak over the next five years. Despite the AEMO projections, four of the five Victorian DNSPs are forecasting faster rates of growth for consumption and demand than has occurred in the past. Only AusNet Services forecast lower demand in the future compared to the past.

Forecasting is a sensitive variable in the price proposals and underlies many of the justifications for capex and opex spending being put forward. Thus we recommend that the AER reviews and assesses the key differences between the distribution businesses forecasts to the AEMO forecast. This may require the distribution businesses to better align their forecasts with the methodology used by AusNet Services, which used actual interval meter data.

In particular we recommend the AER review the assumptions regarding:

- a continual increase in the uptake of solar PV and other embedded generation
- the increased uptake of battery storage by households and businesses
- the impacts of network tariff reform, and the results of shifting to cost reflective tariffs such as a demand tariff
- demand management and other non-network augmentation solutions to peak demand
- the effect of new Victorian government policies such as Environmental Upgrade Agreements and the Energy Efficiency and Productivity Statement
- continued investment in energy efficiency
- adoption of fewer technologies
- fuel switching and increased uptake of electric vehicles

It is our view that many of these assumptions have underestimated the growth of new technologies and services, not to mention embedded generation and energy efficiency being a key focus area for the new Victorian government²⁵. The price proposals should be updated based on the AEMO National Electricity Forecasting Report 2015. This report suggests an increased estimate in the uptake of rooftop solar PV (see Figure 6).

The apparent overestimation of the quantity of services being proposed by the DNSPs places the risks unfairly on to the consumers, given that the businesses are operating under a revenue cap framework. This form of regulation insulates the DNSPs from lower than

²⁵ Victorian Energy Efficiency and Productivity Statement, *Saving Energy, Growing Jobs*, June 2015. ([link](#))

forecast energy volumes, and allows them to increase their prices to recover their guaranteed returns. This creates further disincentives for the businesses to deliver and work with the broader community on demand management solutions and energy efficiency.

Figure 47 Summary of rooftop PV forecasts for low, medium and high consumption scenarios in Victoria

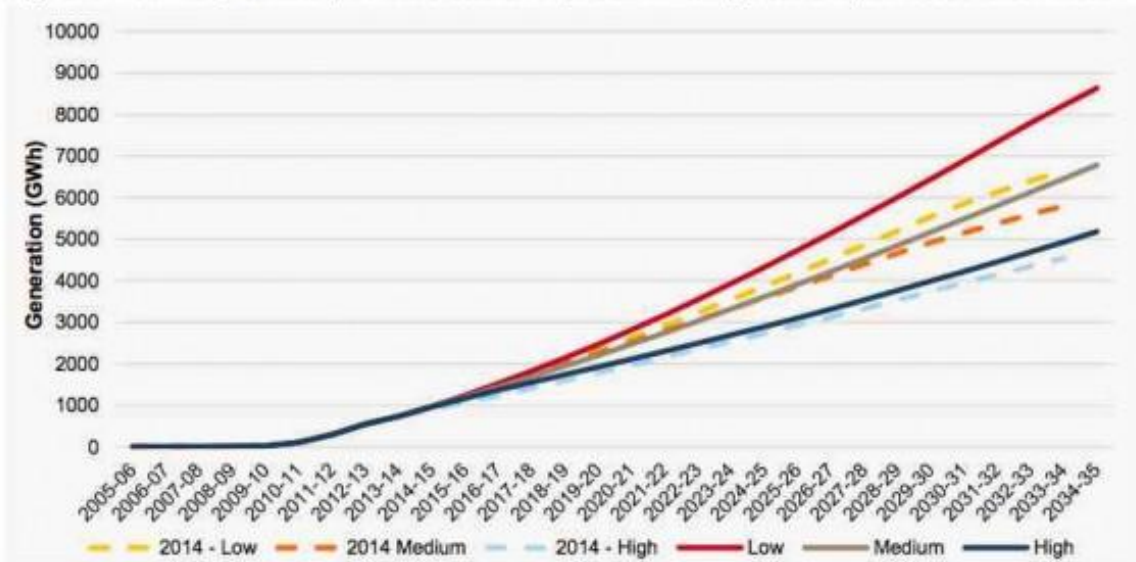


Figure 6: Updated rooftop PV forecasts for low, medium and high consumption scenarios in Victoria (AEMO National Electricity Forecasting Report 2015)

Recommendations

- That the AER review the underlying assumptions for forecasting demand and consumption and compare the methodologies between AusNet Services and the other distribution businesses
- That forecasts consider the latest AEMO forecasts and be revised downwards as a conservative position for protecting consumers long term interests

6. CAPEX

All of the Victorian distribution businesses are proposing higher capex allowances compared to the previous regulatory period, ranging from 4% to 33%. This is concerning given the over-investment in the networks over recent regulatory periods has led to excess levels of network capacity and declining network utilisation. It is also concerning that such high levels of revenue proposals are being put forward at a time of declining capacity utilisation, a reduced average asset age for most asset categories (according to the networks RINS data), static or falling demand and consumption, and reductions in the excessive reliability standards.

As mentioned above, load driven capex is tightly linked to the assumptions underlying demand and consumption forecasts, and so we request that the significant levels of load driven capex for the next five years be analysed carefully.

We recognise that much of the replacement capex spending proposed relates to bushfire safety measures that are mandatory from the Bushfire Royal Commission. However, there is a lack of transparency in the proposals detailing what proportion of capex spending relates to bushfire safety measures. We have seen this argument being used in the current appeal against the AER determination in NSW as a liability issue to justify the overall capex increases²⁶. Thus it is important to have clearer transparency on the proportion of repex that equates to bushfire safety measures and that which relates to the replacement of ageing assets.

Furthermore, there is little information in the proposals on asset condition information. This makes it difficult to assess the validity of these claims, and the DNSPs should provide greater transparency on asset age trends and asset condition data. Repex spending should also be appropriately assessed against the reduced “Value of Customer Reliability” (VCR) estimates from AEMO. Investment over the previous two regulatory periods have led to reliability levels above the requirements of the existing standards and well in excess of the willingness to pay levels of consumers. However we recognise that there may be valid justifications by some DNSPs such as the impact on vulnerable households during peak demand periods associated with heatwaves.

Considerations of these issues is critical to avoid higher pass on costs to consumers and to insulate consumers against the threat of the ‘death spiral’ whereby higher electricity prices lead to reduced demand below efficient levels for current and future consumers.

Recommendations

- The AER recognise the historical overinvestment in the Victorian network has led to increasing levels of excess capacity and network under utilisation, and that historical overspends be considered in assessing each of the distribution businesses capital efficiency
- The AER reject the proposed increases in capex put forward by the distribution businesses, given current market conditions and excess expenditure in the networks in the previous periods
- The AER request more information from distribution businesses on repex spending, particularly the proportion of bushfire safety measures and further information on asset management condition and consideration of revised AEMO Value of Customer Reliability estimates

²⁶ <http://www.abc.net.au/news/2015-07-01/court-case-could-result-in-higher-power-prices/6586724>

7. GLOSSARY

Term	Definition
AER	Australian Energy Regulator. Responsible for regulating pricing for electricity in the National Electricity Market (exc. WA and NT), including street lighting
DMIS	Demand Management incentive Scheme
Capex	Capital expenditure
Opex	Operating expenditure
Repex	Replacement expenditure
Augex	Augmentation expenditure
AEMO	Australian Energy Market Operator
CFL	Compact Fluorescent lamp
DNSP	Distribution Network Service Provider, also known as Energy Distribution Business (EDB) also known as distributors.
EPV	Elevated Platform Vehicle
ESC	Essential Services Commission
ESV	Energy Safe Victoria
Lamp	The light bulb in a luminaire
LED	Light emitting diode/luminaire
Luminaire	The lamp, fitting and control gear of the light
MAV	Municipal Association of Victoria
MV	Mercury Vapour lamp/luminaire
SHP/HPS	High Pressure Sodium lamp/luminaire
Street Lighting	Street lighting found in residential streets and main roads
T5	Efficient lineal fluorescent lamp/luminaire
VESI	Victorian Electricity Supply Industry
WDV	Written Down Value

8. ATTACHMENTS (PUBLIC)

- I. DSNP Local Government Policy Framework**
- II. Local Government survey responses (June 2015)**
- III. Evaluation of Low Energy Lights for Minor Road Lighting**
- IV. Bulk change luminaire failure rates**
- V. Public light cost build up summary**

9. ATTACHMENTS (CONFIDENTIAL)

- A & B PE Cell life – data for specific cells**
- C MAV Tender**
- D Luminaire and Lamp quotes**