Consumer Challenge Panel (CCP2 Panel) Submission

AER Preliminary 2015-20 Revenue Determinations

Energex and Ergon Energy Revised Revenue Proposals

Hugh Grant

AER Consumer Challenge Panel Member

3rd September 2015

1 KEY POINTS

1.1 Price Impacts

There are a number of drivers that should result in significant reductions in the Queensland distributors' 2015-20 prices. The AER's preliminary determinations do not reflect those drivers and would result in the distributors' prices being retained at excessive levels.

1.2 Return on Capital

- **The AER's Failure to Incorporate the Impact of Asset Indexation in its Return on Equity Determinations**

The AER has materially erred in its calculation of its return on equity allowances by failing to incorporate the impact of asset indexation.

The AER's methodology for the determination of its percentage return on equity (ROE) is based on the assumption that the networks' assets are valued at historical costs. However, when calculating its return on equity allowances, the AER has incorrectly multiplied its percentage ROE to an equity base that includes 'revaluation reserves' - i.e. the AER has multiplied its percentage ROE to an incorrect equity base.

This error would result in the distributors achieving annual return on equity levels of over 25% over the next 5 years – around 3.6 times the AER's theoretical 7.1% return on equity.

These are extraordinary returns and well in excess of the returns being achieved by the best performing ASX50 entities. Importantly, these returns would be achieved, despite the Queensland distributors being amongst the least efficient distributors in the National Electricity Market (NEM).

- **The AER's Proposed Weighted Average Cost of Capital (WACC)**

The AER's Preliminary WACC determination of 5.85% is excessive and is based on inappropriate cost of equity input parameters and excessive cost of debt allowances.

This submission outlines evidence that demonstrates that an overall WACC of well below 5% would best meet the National Electricity Objective, whilst still delivering very generous returns to the Queensland distributors.

- **The Queensland Distributors' WACC Proposals**

The Queensland distributors are proposing major unjustified departures from the AER's *Rate of Return Guideline* that would result in much higher Weighted Average Cost of Capital (WACC) allowances than appropriate.

The AER's *Rate of Return Guideline* was developed through extensive consultation over a 12-month period with a broad range of stakeholders, including the Queensland distributors.

By contrast, the Queensland distributors' proposed departures have not been submitted to any rigorous analysis or stakeholder consultation. Furthermore, most of the information used by the distributors to support their departures was already considered by the AER during the development of the rate of return guideline.

The distributors have not demonstrated how their proposed departures and the resulting excessive returns would better meet consumers' long-term interests.

1.3 Capital Expenditure

- **Augmentation Capex**

There are a number of major deficiencies in the AER's augmentation capex allowances, arising from:

- The AER's acceptance of the distributors' load forecasts, which are well in excess of AEMO's most recent forecasts
- Inadequate scrutiny of the distributors' claimed "pockets of demand growth" and insufficient demonstration of associated local capacity constraints
- Insufficient consideration of the distributors' excess capacity and declining system utilisation levels
- Insufficient consideration of the distributors' capital efficiency and the prudency /efficiency of the distributors' proposed augex spend
- Inadequate scrutiny of reliability drivers or consumers' willingness to pay for reliability capex

The AER needs to revise it augmentation capex allowances by performing more detailed assessments having greater regard to the above considerations.

- **Customer Connection Capex**

The AER did not subject the distributors' proposed connection capex forecasts to an appropriate degree of scrutiny. The AER needs to perform a more detailed analysis of the distributors' forecast customer numbers, together with a detailed assessment of the prudency and efficiency of the distributors' proposed unit connection costs.

- **Replacement Capex**

The AER's proposed repex allowances are materially higher than the required levels, due to:

- Insufficient consideration of asset condition information
- An over-reliance on the AER's Repex Model - which Is heavily reliant on asset age, trend analysis and an acceptance of the networks' past asset replacement practices
- Insufficient consideration of the distributors' declining asset utilisation
- Insufficient consideration of the distributors' major repex programs over the previous period – which have effectively 'pre-installed' a large proportion of their repex needs for the next period
- Insufficient demonstratIon of the outcomes (e.g. system performance outcomes) that the major proposed repex allowances will deliver

The AER needs to revise it replacement capex allowances by performing more detailed assessments having greater regard to the above considerations.

- **Non-Network Capex**

The AER predominantly determined the Queensland distributors' non-network capex allowances on the basis of their actual spend during the previous regulatory period, rather than determining efficient expenditure allowances.

The AER is required to determine its allowances based on efficient costs – not historical costs.

The AER needs to revise its non-network capex allowances, having greater regard to:

- The prudency and efficiency of the distributors' major increases in non-network capex spend from the 2001-2005 period to the following periods
- Capturing the major efficiency improvements opportunities outlined by the Queensland Government's *Independent Review Panel (IRP) on Network Costs*
- Ensuring alignment with the distributors' projected reductions in workforce numbers

- **Capitalised Overheads**

The AER's capitalised overhead allowances would increase Ergon Energy's overhead ratio to 44% and Energex's overhead ratio to 35% - the highest overhead ratios of all distributors in the NEM.

These allowances are well in excess of efficient levels, predominantly due to:

- The AER's acceptance of the Queensland distributors' assertions that the majority of their overheads are "fixed"
- The AER's acceptance of the distributors' widely differing claims regarding the sensitivity of their capitalised overheads to direct capex
- The AER's acceptance of the distributors' proposed ICT costs, despite extensive evidence that the 'benchmark efficient costs' are around 65% lower than the distributors' proposed costs

The AER needs to determine capitalised overhead allowances based on benchmark efficient costs, not on the distributors' historical costs, which have been demonstrated to be materially inefficient.

1.4 Operational Expenditure

The AER's proposed opex allowances for the Queensland distributors are well above the efficient levels and would deliver 'windfall gains' to the Queensland distributors of around:

- $600 million ($120 million per annum) for Energex
- $700 million ($140 million per annum) for Ergon Energy

The key reasons for these excessive allowances include:

- **Base Year Opex**

- The AER made two major errors of judgement in its base year opex determinations:
  - Its decision to adjust the *benchmark comparison point* to 18 percentage points below the benchmark efficient level; and
  - Its decision to apply major unwarranted operating environment factor adjustments of 24.4% for Ergon and 17.1 % for Energex
- These errors of judgement reduced Energex's target efficiency level down to 65.6% and reduced Ergon Energy's target efficiency level down to 61.7%
- These adjustments are grossly excessive and well in excess of adjustments that could be considered reasonable to account for "potential modeling and data errors"

- These adjustments have produced absurd and illogical outcomes - i.e.:
  - Fully accepting Energex's proposed opex, when all of the evidence points to the need for reductions of 35-40%
  - Only applying a modest 10% reduction to Ergon Energy's proposed opex, when all of the evidence points to the need for reductions of 55-60%
- These unwarranted adjustments are inconsistent with the AER's obligations under the National Electricity Law (NEL) and the National Electricity Rules (NER)
- They have severely undermined the AER's sound benchmarking and the principles outlined in its *Expenditure Forecasting Assessment (EFA)* Guideline
- It is unacceptable for the AER to apply such adjustments without seeking feedback from stakeholders regarding its intention to adopt such major departures to its opex assessment approach

The AER needs to correct these material errors of judgement by:

- Setting the target efficiency level at the level of the most efficient distributor - i.e. 0.95
- Reverting to the operating environment factor (OEF) calculation methodology that it applied in its preliminary decisions for the NSW/ACT determinations, and restricting its adjustments to the calculated factors rather than applying arbitrary round-ups.

- **Overall Rate of Change**

The AER has not justified its decisions to apply total rate of change factors of around 13 times the rate proposed by Energex, and over twice the average rate of change factor that the AER determined in its recent preliminary decision for SAPN.

- **Labour Price Change**

The AER has not considered the specific drivers of labour prices in the Australian electricity network sector.

The Australian electricity network sector is currently in a major contraction phase.

Industries in contraction do not face real labour price increasing drivers.

The AER has not demonstrated why it considers the Queensland distributors' labour costs (which have been demonstrated to be significantly less efficient than SAPN's labour costs) need to increase at twice the rate of SAPN's labour costs.

The AER needs to determine efficient labour price change factors for the Queensland distributors, taking into account:

- The electricity network sector is in contraction
- The extensive evidence that demonstrates that the Queensland distributors' labour costs are grossly excessive
- The interaction between labour price change and productivity change – i.e. real labour price increases need to be compensated by offsetting productivity improvements

Appropriate consideration of the above issues will confirm that the Queensland distributors' labour prices should be reducing rather than increasing.

- **Output Growth**

The AER has not justified its decisions to apply higher output growth factors than proposed by the Queensland distributors, and over twice the average annual factor that the AER provided in its recent preliminary determination for SAPN.

- **Productivity**

The AER's decision to apply zero productivity change factors to the Queensland distributors is illogical and is not supported by the evidence.

It conflicts with:

- The AER's expectation that the distribution sector will deliver positive productivity improvements over the next regulatory period
- The Queensland distributors' proposals – with both distributors proposing positive productivity factors
- The AER's intention to apply real labour price increases of 0.66%/annum - such levels of real price growth need to be accompanied by offsetting productivity improvements

The AER needs to determine positive productivity change factors for the Queensland distributors, aimed at bringing their productivity back into line with their previous productivity levels and into line with the levels being achieved by the electricity transmission, gas distribution and other asset intensive industry sectors.

2 Putting the AER's Preliminary Decisions into Context

2.1 Price Increases During The Previous Regulatory Period

The Queensland distributors' prices more than doubled over the previous regulatory period, presenting significant hardship for residential consumers and major competitiveness challenges to Queensland businesses.

As the AER is well aware, numerous reviews have concluded that a large proportion of those price increases were unnecessary and arose from the AER's provision of excessive allowances, including:

- **Weighted Average Cost of Capital (WACC) allowances** well in excess of efficient funding costs, enabling the networks to achieve extraordinary profitability levels
- **Excessive augmentation capex allowances** - driven by the distributors' non-credible load forecasts, resulting in the distributors achieving around $1 billion in windfall profits from their forecasting errors
- **Excessive replacement capex allowances** – resulting in the premature replacement of assets
- **Excessive opex allowances -** based on the distributors' historical costs rather than efficient costs, resulting in the distributors spending opex at 36% (Energex) and 58% (Ergon Energy) above the efficient levels
- **Excessive incentive scheme payments** - due to the AER setting targets well above the efficient level

2.2 What We Should Be Seeing - Significant Price Reductions

The Queensland distributors are currently experiencing very different business drivers compared to the circumstances that they claimed to exist when the AER last determined their revenues in 2009.

In particular, there are a number of drivers that should result in significant reductions in the Queensland distributors' 2015-20 revenues, including:

- **Significantly lower cost of capital requirements** - current costs of finance are significantly lower than the record high cost of capital allowances that the AER set for the distributors for the 2010-15 period. Consequently, significantly lower rates of return are now more appropriate.
- **The significant downturn in electricity demand and consumption** - demand and consumption dropped over the previous regulatory period and are expected to remain flat over the next period
- **Less onerous network security and reliability standards** – the major network investments over the previous two regulatory periods are now delivering reliability levels well above the requirements of the revised reliability standards introduced in 2014, and well in excess of 'consumers' willingness to pay' levels
- **Excess system capacity** - over-investment in the networks over the previous two regulatory periods has resulted in major levels of excess capacity and declining network utilisation
- **Reforms driven by the Queensland Government Network Reform Program** – that claims to be delivering major savings in capital and operating costs across the Queensland networks

The above drivers should result in the Queensland distributors' prices reverting to price levels (in real terms) that applied prior to the previous regulatory period.

2.3 The AER's Preliminary Determinations

Rather than delivering the major price reductions that consumers justifiably expect, the AER's Preliminary Determinations would result in the Queensland distributors' prices being retained at excessive levels.

This unacceptable outcome arises from a number of major deficiencies in the AER'S preliminary determinations, including:

The ongoing provision of excessive return on capital allowances – due to:

- The AER's material error of judgement in failing to incorporate the impact of asset indexation in its calculation of the distributors' return on equity allowances
- The AER's insufficient consideration of relevant information in determining its WACC parameters
- The AER consistently and inappropriately exercising its discretion in favour of the networks

The ongoing provision of excessive capex allowances - due to

- Inadequate scrutiny of the distributors' load forecasts
- Insufficient consideration of the distributors' growing levels of excess capacity and declining system utilisation
- Insufficient consideration of asset condition information
- The AER predominantly basing its capex allowances on the distributors' historical expenditure, rather than determining efficient expenditure allowances
- Insufficient consideration of the distributors' capital efficiency, and the prudency /efficiency of the distributors' proposed capex

The ongoing provision of excessive opex allowances - due to:

- Two key errors of judgement in the AER's base year opex determinations:
  - Its decision to adjust the *benchmark comparison point* to 18 percentage points below the benchmark efficient level; and
  - Its decision to apply major unwarranted operating environment factor adjustments of 24.4% for Ergon and 17.1 % for Energex
- Further material errors of judgement in the AER's determination of rate of change factors

My detailed perspectives on the above issues are outlined within this submission.

3 Return on Capital

This section should be read in conjunction with the submissions of the other CCP2 Members [1] [2], which provide detailed critiques of the AER's preliminary return on capital determinations.

3.1 The AER's Failure to Consider the Impact of Asset Indexation in its Return on Equity Determinations

CCP2's previous advice [3] outlined a highly material issue regarding the AER's failure to consider the impact of asset indexation when calculating its 'return on equity' allowances.

The CCP is extremely disappointed that this advice does not appear to have been considered by the AER in its Preliminary Determinations for the Queensland distributors. I therefore expand upon the CCP's advice in this submission in a further attempt to persuade the AER of the materiality of the issue.

The AER's methodology for the determination of its return on capital percentages is based the assumption that the networks' assets are valued at historical costs.

The AER then applies those percentage returns to assumed debt and equity bases, based on the assumption that the networks fund their investments by borrowing 60% per cent and raising the remaining 40 per cent from equity - an assumption that the AER formed based on the networks' reported 'total equity' levels.

However, in practice, the networks apply annual asset indexation to their RABs, and allocate the cumulative value of their asset indexation to a 'revaluation reserves' account within their total equity.

The AER's calculation of its return on equity allowances does not reflect this reality.

When calculating its return on equity allowances, the AER incorrectly multiplies its calculated percentage ROE to an equity base that includes 'revaluation reserves' - i.e. the AER is multiplying its percentage ROE to an incorrect equity base.

In order to correct for this error, the AER needs to either:

- Alter its methodology for the calculation of its percentage ROE return to reflect that it will be applied to an equity base that is artificially inflated; or
- Remove the value of revaluation reserves from the equity base when calculating its return on equity allowances

I acknowledge that there are different approaches to addressing this issue, and I don't claim to have the definitive answer.

However, to illustrate the materiality of the issue, I hereby provide some calculations of the impact of removing the value of revaluation reserves from the equity base.

---

[1] Bruce Mountain (CCP2) - Advice on AER preliminary decision and revised proposals from Energex, Ergon Energy and SA Power Networks – July 2015

[2] Bev Hughson (CCP2)) - Advice to the AER: AER's Preliminary Decision for SA Power Networks for 2015-20 and SA Power Networks' Revised Regulatory Proposal, September 2015

[3] CCP2 Submissions on the Queensland Distributors' Revenue Proposals
CCP2 Presentations to the AER Board and to the AER Public Forums

3.1.1 The Impact on the AER's Return on Equity Allowances for the Previous Regulatory Period

The table below outlines the materiality of the AER's error on its calculation of the return on equity allowances for Energex for the previous regulatory period.

It highlights that the AER provided a total return on equity allowance of over $2.2 billion, whereas the appropriate allowance should have been around $1.24 billion – i.e. the AER's total return on equity allowance was around $960 million higher than the required level.

ENERGEX	**2010/11**	**2011/12**	**2012/13**	**2013/14**	**2014/15**	**Total**
2010-15 Allowances						
Return on Equity (%)	10.84%	10.84%	10.84%	10.84%	10.84%	-
Assumed Equity Base ($M)	3,146,920	3,595,960	4,063,880	4,532,720	4,996,360	-
Return on Equity Allowance ($M)	341.13	389.80	440.52	491.35	541.61	2,204.4
Appropriate Allowances (excluding revaluation reserves)						
Revaluation Reserves ($M)	1,339,900	1,586,800	1,803,900	1,896,400	2,228,000	-
Revised Equity Base excluding revaluation reserves ($M))	1,807,020	2,009,160	2,259,980	2,636,320	2,768,360	-
Required Return on Equity Allowance ($M)	195.9	217.8	245.0	285.8	300.1	1,244.5
Difference ($M)	**145.3**	**172.0**	**195.5**	**205.6**	**241.5**	**959.9**

3.1.2 The Impact on the AER's Return on Equity Allowances for the Next Regulatory Period

The table overleaf outlines the materiality of the AER's error on its proposed return on equity allowances for Energex for the next regulatory period.

It highlights that the AER is proposing to provide a total return on equity allowance of $1.73 billion, whereas if the AER was to set its allowances on its assumed equity less revaluation reserves then it would set a total allowance of around $481 million - i.e. the AER is proposing to provide a total return on equity allowance of around $1.25 billion higher than the required level.

This would result in the distributors achieving annual return on equity levels of around 25.5% over the next 5 years – around 3.6 times the AER's theoretical 7.1% return on equity.

ENERGEX	2015/16	2016/17	2017/18	2018/19	2019/20	Total
AER Preliminary Determination						
Return on Equity (%)	7.1%	7.1%	7.1%	7.1%	7.1%	
Opening Regulated Asset Base (RAB)	11,333,700	11,767,500	12,201,600	12,584,900	12,956,500	-
Assumed Equity Base (assumes 40% equity)	4,533,480	4,707,000	4,880,640	5,033,960	5,182,600	-
Return on Equity Allowance ($M)	321.9	334.2	346.5	357.4	368.0	1728.0
Appropriate Allowances (excluding revaluation reserves)						
Revaluation Reserves ($M)	2,891,727	3,191,830	3,502,930	3,823,830	4,154,230	-
Revised Equity Base (excluding revaluation reserves)	1,641,753	1,515,173	1,377,713	1,210,133	1,028,373	-
Revised Return on Equity Allowance ($M)	116.6	107.6	97.8	85.9	73.0	480.9
Difference ($M)	**205.31**	**226.62**	**248.71**	**271.49**	**294.95**	**1247.1**

3.1.3 The Queensland Distributors' Actual Return on Equity

CCP2's previous submissions [4] outlined that the Queensland distributors are consistently achieving much higher returns that the returns assumed by the AER.

The table overleaf outlines Energex's actual return on equity for the first 4 years of the previous regulatory period.

It highlights that Energex achieved actual return on equity levels of 19-35%, compared to the AER's theoretical allowance of 10.84% - i.e. Energex achieved actual return on equity levels of 2-3 times the level assumed by the AER.

[4] CCP2 Submissions on the Queensland Distributors' Revenue Proposals
CCP2 Presentations to the AER Board and to the AER Public Forums

ENERGEX	2010/11	2011/12	2012/13	2013/14	2014/15
AER Assumed Return on Equity (%)	**10.84%**	**10.84%**	**10.84%**	**10.84%**	**10.84%**
AER Assumed Equity Base ($M)	3,146,920	3,595,960	4,063,880	4,532,720	4,996,360
AER Return on Equity Allowance ($M)	341.13	389.80	440.52	491.35	541.61
Actual Return on Equity					
Total Equity ($M)	2,575,000	2,922,000	3,117,000	3,335,000	3,825,000
Revaluation Reserves ($M)	1,339,900	1,586,800	1,803,900	1,896,400	2,228,000
Actual Equity excluding revaluation reserves ($M)	1,235,100	1,335,200	1,313,100	1,438,00	1,597000
Net Profit After Tax ($M)	235.0	282.0	351.0	508.0	-
Actual Return on Equity (%)	**19%**	**21%**	**27%**	**35%**	**-**

Data sourced from Energex's Annual Reports (data only available for the first 4 years)
Note – the above figures include non-regulated profits, which are estimated to add around 3% to NPAT

Furthermore, an analysis of Energex's actual outcomes during the previous period, identified that:

- Energex's actual debt costs were about 67% of the AER's debt allowances – Energex paid an interest rate of around 6.1% compared to the AER allowance rate of 8.98%
- Energex's actual depreciation was around 3.7 times the AER's depreciation allowances
- Energex's annual opex was 50-83% higher than the AER's opex allowances
- Energex's actual tax payments were between 1.2 - 2 times the AER's allowances
- Energex's equity (excluding revaluation reserves) averaged around 13% of RAB

Therefore, despite incurring much higher opex, much higher depreciation costs and much higher tax, Energex still achieved return on equity levels of 19 -35%.

These are clearly extraordinary returns and well in excess of the returns being achieved by the best performing ASX50 entities. Importantly, these returns are being achieved despite the Queensland networks being amongst the least efficient distributors in the National Electricity Market (NEM).

Furthermore, it is important to note that Energex's actual annual returns for the previous period are understated, as Energex will be provided with additional revenue and associated returns in future years to cover their previous "under recovery" shortfalls (e.g. FIT under recoveries).

I trust that the above examples provide an indication of the materiality of the issue and demonstrate that the AER needs to seriously consider and respond to the information provided.

I therefore again call upon the AER to correct its methodology to take into account the impact of asset indexation in its determination of efficient return on equity allowances for the Queensland distributors for the next regulatory period.

3.2 The AER's Weighted Average Cost of Capital (WACC) Determination

As outlined in the table below, the AER's Preliminary Decision has determined an overall Weighted Average Cost of Capital (WACC) of 5.85% - incorporating a return on equity of 7.1% and a return on debt of 5.01%.

	AER Preliminary Decision
Nominal risk free rate	2.55 %
Equity risk premium	4.55%
Market Risk Premium (MRP)	6.5%
Equity beta	0.7
Nominal post–tax return on equity	7.1%
Nominal pre–tax return on debt	5.01 %
Nominal vanilla WACC	**5.85 %**

However, the AER has received extensive evidence that substantiated an overall WACC well below 5%. I elaborate on that evidence below.

3.3 The Queensland Distributors' WACC Proposals

The Queensland distributors are proposing major departures from the AER's *Rate of Return Guideline* that would result in much higher Weighted Average Cost of Capital (WACC) allowances than appropriate.

My key perspectives on the distributors' proposed departures are as follows:

- The AER *Rate of Return Guideline* was developed through extensive consultation over a 12 month period with a broad range of stakeholders, including the Queensland distributors
- By contrast, the Queensland distributors' proposed departures have not been submitted to any rigorous analysis or stakeholder consultation
- Most of the information used by the Queensland distributors to support their departures was already considered by the AER during the development of the Rate of Return Guideline
- The distributors have not demonstrated how their proposed departures and the resulting excessive returns would better achieve the rate of return objective or better meet consumers' long-term interests

3.4 The AER's Insufficient Consideration of "Market Data and Other Evidence"

The Rules require the AER to take into account "market data and other evidence" when making its return on capital determinations.

In that regard, the AER has received extensive evidence that demonstrates that:

- Australia's electricity networks are far more profitable than the AER assumes
- Equity markets and investors are valuing regulated businesses significantly higher than their regulated asset bases (RABs) – with some valuations at over 150% of RAB
- Lenders are lending to the regulated business at significantly lower rates than the 'cost of debt' allowances provided by the AER
- The AER is inappropriately applying the discretion it has been provided under the rules, by selecting WACC input parameters at the top end of the possible ranges
- The AER has consistently set higher WACCs than other comparable regulators in Australia and overseas

As outlined below, the AER had insufficient regard to the above evidence in its determination of the Queensland distributors' return on capital allowances.

3.5 The AER's Return on Equity Determination

The AER's Preliminary Decision has applied an equity risk premium (return on equity minus risk free rate) of 4.55%, which is similar to the equity risk premium that the AER provided to the Queensland distributors during the previous regulatory period – **i.e. in the midst of the Global Financial Crisis**

My perspectives on the AER's return on equity parameters are as follows:

3.5.1 Market Risk Premium (MRP)

The AER's preliminary decisions have applied a Market Risk Premium (MRP) of 6.5%.

The AER has received numerous submissions from a diverse range of stakeholders providing evidence that the regulatory framework for Australia's monopoly networks provides an extremely low business risk environment, and that supports the market risk premium (MRP) being set at the bottom or below the AER's specified range (i.e. 5.0% or below).

3.5.2 Equity Beta

The AER's Preliminary determinations have applied an equity beta of 0.7 – i.e. the top end of the 0.4-0.7 range outlined in the AER's *Rate Of Return (ROR) Guideline*.

Over the past year, the AER has received numerous submissions that referred to Professor Olan Henry's April 2014 expert report [5], commissioned by the AER as part of its Better Regulation Program, which provides compelling evidence that the AER should be applying an equity beta of 0.4 or lower.

Of the nineteen calculations on which Professor Henry based his recommended range, most of the calculations were clustered at the lower end, with fourteen calculations between 0.3 and 0.5.

Importantly, Professor Henry's results included distributors that were regulated under a 'price cap' – i.e. it includes distributors that were subjected to volume risk. However, the AER applies a 'revenue cap' to the

[5] Henry O. T., Estimating Beta: An Update, April 2014

Queensland distributors, thereby insulating them from any volume risk. This further strengthens the argument for an equity beta of 0.4 or below to be applied to the Queensland distributors.

I assert that the AER has not provided any substantial evidence that supports its decision to apply an equity beta significantly higher than Professor Henry's estimate of 0.4.

3.6 The AER's Return on Debt Determinations

The AER's preliminary determinations have determined return on debt allowances of 5.01%. This represents a debt margin (nominal debt less the nominal risk free rate) of around 2.5%, which is:

- Similar to the debt margin that the AER provided to the Queensland distributors for the previous regulatory period **– i.e. during the Global Financial Crisis**
- Around 2.5 times the debt margin provided by IPART in previous regulatory periods
- Around 4 times the debt margin currently provided by Ofgem for the UK distribution networks

3.6.1 The Use of BBB+ Ratings

The AER claims that it has used BBB+ ratings in the development of its return on debt allowances.

However it is well understood that due to limitations in the availability of Australian BBB+ data, in practice BBB ratings are used. Consequently the AER's cost of debt determination has predominantly been based on more expensive debt ratings – i.e., the AER has provided significantly higher cost of debt allowances than appropriate.

As highlighted above, the Queensland distributors' actual debt interest rates were around 3% points below the AER's allowance rate. This delivered around $2 billion in 'windfall profits' to the distributors over the previous regulatory period.

I strongly assert that the AER's Preliminary cost of debt allowance of 5.01% is well in excess of the actual debt costs that the Queensland Distributors' will incur, and will result in the networks continuing to deliver extraordinary windfall profits over the next regulatory period.

That is clearly not in consumers' long-term interests.

3.7 My Overall Perspectives on the AER's Preliminary Return on Capital Determination

In summary, I consider that the AER's preliminary return on capital allowances are well in excess of the efficient level, due to:

- The AER's major error of judgement in applying its calculated 'return on equity' percentages to artificially inflated equity bases
- The AER's Insufficient consideration of relevant "market data and other information"
- The AER consistently and inappropriately exercising its discretion in favour of the networks

I consider that a materially preferable WACC decision would incorporate a fuller consideration of the above evidence, together with and a more balanced application of the AER's discretion towards the long-term interest of consumers.

4 Capital Expenditure

In my previous submission, I outlined a number of drivers that are producing significant downward pressure on the Queensland distributors' capex requirements, including:

- **The significant downturn in electricity demand and consumption** - demand and consumption dropped over the previous regulatory period and are expected to remain flat over the next regulatory period
- **Less onerous network security and reliability standards** – the major network investments over the previous two regulatory periods are now delivering reliability levels well above the requirements of the revised reliability standards introduced in 2014, and well in excess consumers' willingness to pay levels
- **Excess system capacity** - over-investment in the networks over the previous two regulatory periods has resulted in major levels of excess capacity, declining network utilisation and significantly younger asset ages compared to interstate distribution networks
- **Reforms driven by the Queensland Government** - aimed at delivering major savings in capital and operating expenditures across the Queensland electricity network businesses

In light of these drivers, I asserted that the Queensland distributors' capex requirements should revert to the long-term historical levels that applied prior to the previous two regulatory periods.

4.1 The Queensland Distributors' Proposed Capex - Comparison with Historical Capex

The Queensland distributors' proposals did not reflect the above drivers:

As outlined in my previous submission:

- Ergon Energy proposed a total capex similar to its total capex spend for the previous period
- Energex proposed a total capex around 21% below its capex spend for the previous period
- The networks' proposed capex levels are similar to their capex allowances for the 2006-10 period - a period that involved major increases in capex to meet the excessive reliability standards introduced in response to the 2004 EDSD review
- The networks' proposed total capex levels are 2-2.5 times their capex allowances for the 2001-05 regulatory period - a period with expenditure drivers closest to the current circumstances
- Both networks have consistently proposed capex levels significantly in excess of their actual requirements

4.2 The Queensland Distributors' Capex Forecasting Methodologies and Assumptions

In my previous submission, I outlined a number of concerns with the distributors' capex forecasting methodologies and their associated governance arrangements and assumptions, including:

- **An Over-Reliance on "Bottom Up" Forecasting Methodologies**

I asserted that the networks' capex forecasts were predominantly based on 'bottom-up' methodologies, with insufficient regard to top-down considerations. Bottom-up assessments have a tendency to overstate expenditure requirements, as they do not adequately account for inter-relationships and synergies between projects or areas of work, which are more readily identified at a portfolio level.

Supplementing bottom-up forecasts with top-down assessments is essential for ensuring that some level of overall restraint has been brought to bear.

- **Overly Conservative Risk Management/Risk Assessments**

I asserted that the distributors' capex forecasts were based on risk-averse and overly conservative risk assessments, together with multiple contingency allowances that systematically overstated project risks and costs

- **Inadequate Project Justifications**

I asserted that the networks' proposed capex projects were very poorly justified, e.g.:

- Insufficient justifications of demand drivers for augmentation capex
- Insufficient justifications of asset conditions for replacement capex
- Insufficient consideration of the networks' excess system capacity and declining system utilisation
- Insufficient justifications of reliability drivers and consumers' willingness to pay
- Lack of cost benefit analyses
- Insufficient justifications of the prioritisation and timing of projects/programs over both the short and long-term

- **Non-Credible Assumptions**

I asserted that the manner in which the networks had formulated and applied their key assumptions in relation to demand, customer forecasts, reliability drivers and materials and labour escalation rates was strongly biased towards over-estimating their capex requirements.

4.3 The Queensland Distributors' Capital Efficiency

In my previous submission, I highlighted that the AER's benchmarking identified that the Queensland distributors' capital efficiency levels are significantly lower than the levels achieved by other distributors in the NEM, e.g.:

- Ergon Energy is one of the least productive distributors in the NEM
- Energex's productivity is also relatively low and deteriorating
- Ergon Energy had the highest levels of 'capex per customer' and 'RAB per customer' in the NEM, with levels of around 4.5 times the Victorian distributors
- Energex's 'capex per customer' and 'RAB per customer' was also very high, at around 2.5 times the levels of the Victorian distributors
- Energex's 'asset cost per customer' was over double the Victorian distributors' costs

I asserted that the above information indicated that there was the potential for significant efficiencies to be found in the Queensland distributors' forecast capex.

I highlighted that the AER's benchmarking results were strongly reinforced by the findings on the distributors' capital efficiency by the *Queensland Government Independent Review Panel (IRP) on Network Costs,* including*:* [6]

- *"An industry engineering* ***culture biased toward expanding the network infrastructure and enlarging the capital base*** *of the NSPs -* ***driving inefficient expenditure****"*
- *"A* ***deficient commercial model*** *in that there was* ***no rigorous capital rationing*** *by the Government, as shareholder and provider of capital, to guide investment decisions"*
- *"A* ***regulatory model that does not allow*** *the Australian Energy Regulator (AER) to drive* ***the networks to deliver efficient capital*** *and operating programs"*

The above findings are also reinforced by the study by AMP Capital into the capital efficiency of Australia's Electricity Distributors [7], which identified that:

"The capital efficiency of Australia's state-owned distributors is far poorer than their privately owned peers, with several exhibiting RABs more than double what would be expected"

This was particularly the case for Energex and Ergon Energy.

Overall, all of the evidence identifies that the Queensland distributors have grown their RABs dramatically and unnecessarily during a period of flat/declining demand, resulting in the networks having grossly excessive levels of excess capacity, very poor utilisation levels, and much younger networks than their interstate peers.

It is therefore very disappointing that, despite extensive evidence of material levels of capital inefficiency, the AER did not explicitly take the distributors' capital efficiency into account. As outlined by the AER:

"We consider this high level benchmarking at the overall capex level is suitable to gain an overall understanding of Ergon Energy's proposal in a broader context. However, in our capex assessment we have not relied on our high level benchmarking metrics set out below other than to gain a high level insight into Ergon Energy's proposal. ***We have not used this analysis deterministically in our capex assessment"***

4.4 Peak Demand and Energy Consumption Forecasts

4.4.1 The Queensland Distributors' Poor Demand Forecasting Record

In my previous submission, I highlighted that the peak demand and energy delivered forecasts used by the Queensland Distributors to justify their record-high capital investment programs for the previous regulatory period were dramatically overblown. Rather than increasing significantly, as predicted by the distributors, peak demand and energy delivered both reduced during the previous period.

As outlined in the table overleaf, the Queensland Distributors over-estimated their 2015 peak demand forecasts by 33.2-41.4%, and over-estimated their energy delivered forecasts by 14.2-25.2%. [8]

It is important to note that when the AER set the capex allowances for Energex and Ergon in 2009, there were many submissions from stakeholders that strongly challenged those forecasts.

---

[6] Queensland Government Independent Review Panel (IRP) on Network Costs, Final Report

[7] AMP Submission to the Productivity Commission - The Capital Efficiency of Australian Electricity Distributors, Results of a Benchmarking Study, November 2012

[8] CCP2 (Bruce Mountain) Submission on Energex and Ergon 2015-20 Revenue Proposals, Pages 4-6

	2015 Forecasts	2015 Actuals	Difference
Energex			
- Peak Demand	5,940 MW	4,200 MW	**41.4 % over-estimation**
- Energy Delivered	24,042 GWhrs	21,055 GWhrs	**14.2% over-estimation**
Ergon			
- Peak Demand	3,330 MW	2,500 MW	**33.2% over-estimation**
- Energy Delivered	16,874 GWhrs	13,496 GWhrs	**25.2 % over-estimation**

It is also very important to note that the Queensland distributors were rewarded with 'windfall profits' of around $1 billion for these forecasting errors, as their revenue allowances included returns and depreciation on capex that they did not incur. [9]

The Queensland distributors' track records of consistently over-estimating their demand and energy delivered forecasts was highlighted by the Queensland Government Independent Review Panel on Network Costs [10]:

*"Another factor contributing to the escalation in capital programs has been the **consistent over-estimation of demand by the NSPs.** The Panel also notes that the current revenue cap control mechanism places volume risk on customers. Where demand is over-estimated, capital programs will be excess to requirements and network tariffs to customers will increase during the regulatory control period to ensure the NSPs are able to recover the allowable revenue"*

4.4.2 The Queensland Distributors' 2015-20 Demand Forecasts

The Queensland distributors are forecasting demand growth levels well in excess of AEMO's forecasts: [11]

- Ergon is forecasting an average annual growth in peak demand of 2.2% over the 2015-20 period
- Energex is forecasting an average annual growth in peak demand of 1.1% percent over the 2015-20 period
- Both networks are forecasting growths in energy delivered over the 2015-20 period

By contrast, AEMO [12] is predicting that Queensland's recent flat/declining peak demand and energy consumption trends will continue over the next regulatory period. AEMO's key relevant projections include:

- Excluding LNG demand (which has minimal impact on the distributors' regulated networks) the networks' peak demands are not expected to return to their previous peaks until 2028–29
- Energy consumption per capita will continue to decline over the next 20 years

[9] CCP2 (Bruce Mountain) Submission on Energex and Ergon 2015-20 Revenue Proposals, Page 7
[10] Queensland Government Independent Review Panel on Network Costs, Final Report
[11] AER Issues Paper - Qld electricity distribution regulatory proposals, December 2014
[12] AEMO National Electricity Forecasting Report 2015

In my previous submission, I urged the AER to apply a very high degree of scrutiny to the distributors' demand forecasts, particularly in light of their track records of realising extraordinary windfall profits from overestimating their previous demand forecasts.

4.5 The AER's Total Capex Allowances

As outlined in the tables below, the AER is proposing to provide total capex allowances of over $4.5 billion to the Queensland distributors over the next regulatory period.

	Energex	Ergon Energy	Total
Distributors' proposals ($M)	3,239.6	3,397.0	6,637
AER preliminary decision ($M)	2,361.5	2,182.0	4,543
Difference ($M)	-878.1	-1,215.0	-2,093
Percentage difference (%)	-27 %	-36 %	-31.5 %

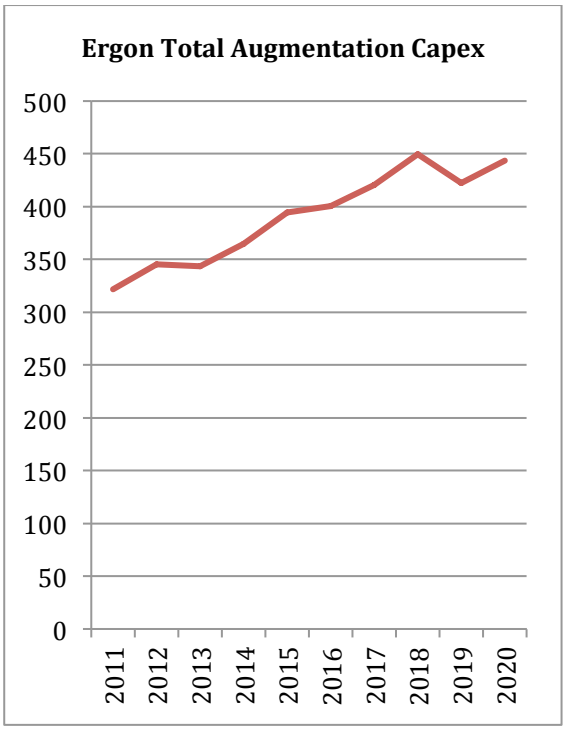
Overall, I consider that there are a number of major deficiencies in the AER's capex assessment approach that have resulted in the AER's proposed capex allowances being materially higher than efficient levels.

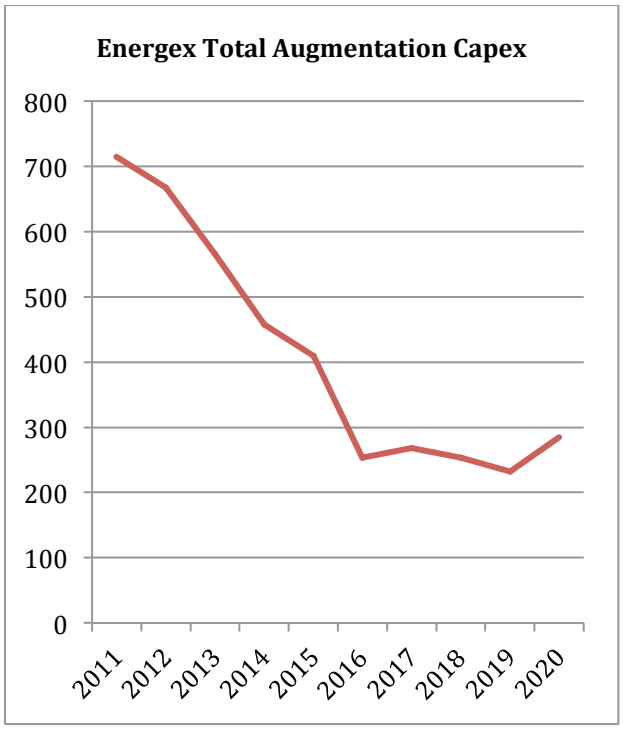
My specific concerns regarding the AER's proposed allowances for each capex component are outlined below.

4.6 Augmentation Capex

4.6.1 The Queensland Distributors' Augmentation Capex Proposals

The charts below outline the Queensland distributors' historical and proposed total augmentation capex.





In my previous submission, I asserted that:

- The distributors' proposed levels of augmentation capex were extremely high considering the declining/flat load trends and the relaxation of the excessive planning and reliability standards that drove their major capex increases in the previous regulatory periods
- That was particularly the case for Ergon Energy, which included a 30% increase in customer connection initiated capital works, and a 10% increase in augmentation capex compared to the previous regulatory period
- The distributors' proposals provided very scant justifications or evidence of their "pockets of demand growth" claims
- The distributors proposals contrasted sharply with the augmentation capex proposals from interstate distributors, many of which proposed augmentation capex levels of around 10% of their spend in the previous regulatory period
- Ergon Energy's proposal did not provide any credible justifications regarding why it needs to maintain its augmentation capex at record high levels, or why its augmentation capex drivers differ so dramatically from Energex and the interstate distributors
- All of the available information suggests that Ergon Energy is facing similar augmentation capex drivers to Energex and the interstate distributors
- Specific factors, such as excessive network capacity, declining system utilisation and declining asset ages should result in the Queensland distributors' augmentation capex needs being lower than those of interstate distributors

In light of the above issues, I considered that the Queensland distributors' augmentation capex proposals were highly likely to be materially overstated.

4.6.2 The AER's Augmentation Capex Assessment – Key Findings

The AER identified a number of deficiencies with the Queensland distributors' augmentation capex forecasts, acknowledging the above deficiencies to a large degree.

Some key findings of the AER's augex assessments included:

- The available evidence points to very low demand growth over the 2015−20 regulatory control period
- Since 2004, the Queensland distributors have invested significantly in duplicating network assets to increase network security. Coupled with declines in demand during the previous period this has resulted in significant declines in the Queensland distributors' utilisation levels
- The majority of Energex's substations are forecast to be utilised between 20 and 50 per cent, with only a low amount of highly utilised substations
- The majority of Ergon Energy's substations are not forecast to be heavily utilised over the next 5 years (e.g. less than 60 per cent utilised), and the number of highly utilised substations is forecast to decline
- The distributors have applied insufficient top-down constraints for limiting capex
- The distributors' augex proposals demonstrated significant over-estimation of project scopes and project costs
- The distributors' augex forecasts lacked adequate cost-benefit analyses and risk assessments
- The distributors did not consider the potential to defer some proposed augmentation projects based on risk analysis or the likelihood that forecast demands may not eventuate in all parts of their networks

- Systemic deficiencies with the distributors' forecasts (particularly Ergon Energy's forecast) means that their forecasts are materially overestimated
- EMCa identified a number of opportunities for the distributors to optimise their capex programs, including project deferrals, greater tolerance of risk and the more optimal timing of capex [13] [14]

4.6.3 The AER's Augmentation Capex Allowances

As outlined in the table below, despite extensive evidence of material over-estimation of their augex needs, the AER only applied some modest reductions to the distributors' proposed augex levels.

AER's Preliminary Determination Augex Allowances ($2014–15, million, excluding overheads)

	Proposed	AER Preliminary Determination	Difference
Energex	$513 M	$406 M	20% decrease
Ergon Energy	$660 M	$558 M	15% decrease
Total	**$ 1,173 Million**	**$ 964 Million**	**18% decrease**

I have a number of concerns with the AER's proposed augmentation capex allowances, including:

- The AER's acceptance of the distributors' load forecasts, which are not supported by AEMO's most recent forecasts
- The AER's inadequate scrutiny of the distributors' proposed capex for "pockets of demand growth"
- The AER's insufficient consideration of the distributors' excess capacity and declining utilisation
- The AER's inadequate scrutiny of reliability drivers or consumers' willingness to pay for reliability projects
- The AER's insufficient consideration of the distributors' capital efficiency, and the prudency /efficiency of the distributors' proposed capex spend
- The AER's over-reliance on trend analysis, rather than a focus on efficient costs

I elaborate further on these issues in the following sections.

---

[13] *EMCa,* Review of Proposed Network Augmentation and Replacement Expenditure in Ergon Energy's Regulatory Proposal 2015–20*, April 2015, p. 63–64.*

[14] *EMCa, Review of Proposed Network Augmentation and Replacement Capital Expenditure in Energex's Regulatory Proposal 2015-2020, 20 April 2015, pp. 35-36 and 64*

4.6.4 The AER's Acceptance of the Queensland Distributors' Load Forecasts

The AER's preliminary decisions provide very limited information regarding the extent to which the AER scrutinised the Queensland distributors demand forecasts. In essence it appears that the AER simply accepted the distributors' forecasts, whilst indicating that it will take account of AEMO's Transmission Connection Point (CP) forecasts in its Final Decision.

4.6.5 The AER's Insufficient Scrutiny of Proposed Capex for "Pockets of Demand Growth"

The distributors are claiming that they need to invest in capacity to meet "pockets of demand growth" in their networks, despite declining demand through the rest of their networks and despite the significant number of substations that expect negative demand growth during the next period.

The distributors' proposals provided very scant justifications or evidence of their "pockets of demand growth" claims.

In my previous submission I urged the AER to determine the distributors' augmentation capex needs by utilising credible demand forecasts at the zone substation level, together with a detailed analyses of local capacity constraints taking into account local system utilisation and excess capacity levels.

That level of analysis was not performed by the AER in its preliminary determinations.

4.6.5.1 AEMO's Connection Point Forecasts

AEMO released its transmission connection point forecasts for Queensland in June 2015. [15]

The key relevant projections in those forecasts include:

- An overall average annual increase in maximum demand of 0.9%/annum
- The greatest rate of increase is from new LNG loads in Queensland – which have minimal impact on the Queensland distributors' regulated networks
- 73% of connection points are forecast to have summer average annual growth rates of less than 1.9% (the forecast average population growth rate)
- The highest forecast demand increases are at several large connection points in Brisbane, the Gold Coast and Sunshine Coast – i.e. outside of the Ergon Energy region
- **On the whole, maximum demand at connection points in rural Queensland is forecast to increase at comparatively slower rates in response to expected population trends**

Clearly, these connection point forecasts do not support the levels of augmentation capex proposed by the Queensland distributors – particularly the extremely high augmentation capex proposed by Ergon Energy.

I accept that a very minor level of augmentation capex may be required to alleviate local capacity constraints in the Queensland distributors' networks over the next regulatory period. However, the need for such augmentation projects needs to be justified by sound evidence of local demand growth, together with a detailed demonstration of genuine local capacity constraints.

Such evidence has not been provided within the distributors' proposals or within the AER's preliminary determinations.

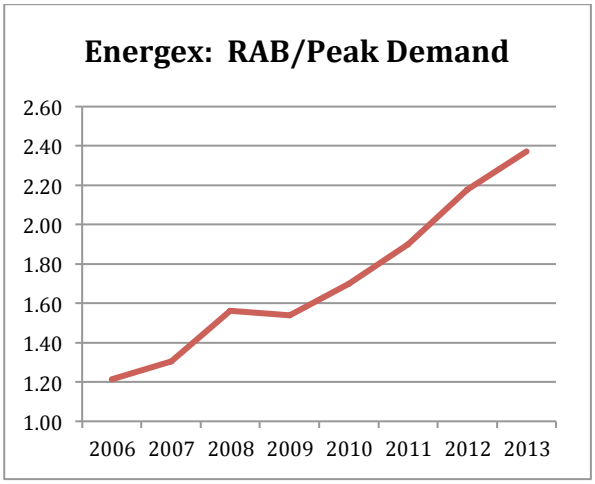
---

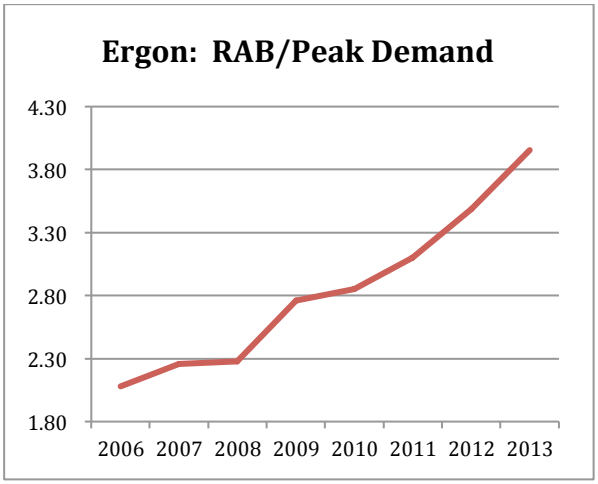
[15] AEMO - Transmission Connection Point Forecasting Report for Queensland, June 2015

4.6.6 Excess Network Capacity

In my previous submission, I outlined that the Queensland distributors' major investments in the previous regulatory periods have resulted in a large degree of excess system capacity and significant declines in their asset utilisation levels.

The charts below illustrate that the Queensland distributors' RAB/Peak Demand ratios have more than doubled over the past 7 years.





Neither the distributors' proposals, nor the AER's preliminary determinations, have appropriately taken these excess capacity trends into account.

The AER's preliminary decisions acknowledged the trends in the networks' excess capacity. However, the AER did not quantify the impacts of this excess capacity, or demonstrate that it has been appropriately considered in its augmentation capex assessments.

The AER's preliminary determinations will result in the continuation of these unsustainable trends over the next regulatory period – the AER is proposing that the distributors' RABs will grow by around 18% during a period of flat/declining load.

It is important to note that the Queensland Distributors' returns on their inflated RABs are currently driving around 70% of their prices. The natural outcome of the continuation of these trends is the well documented "death spiral" [16] - i.e. as demand continues to decline and the move towards distributed generation increases, the burden of paying for the networks' costs will be placed on a smaller consumer base until those consumers can no longer afford to stay connected to the network.

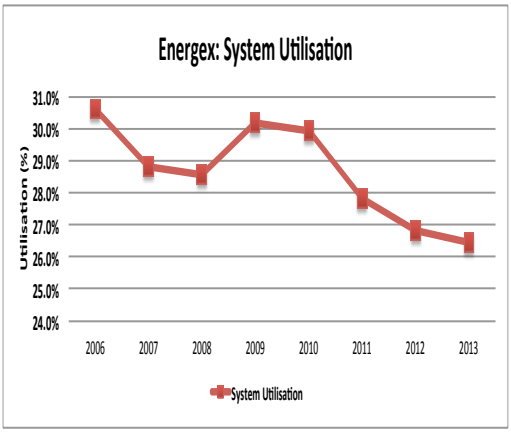
In summary, I assert that the AER's augmentation capex assessments for the Queensland distributors did not appropriately consider the unsustainable growth in the distributors' excess capacity levels.

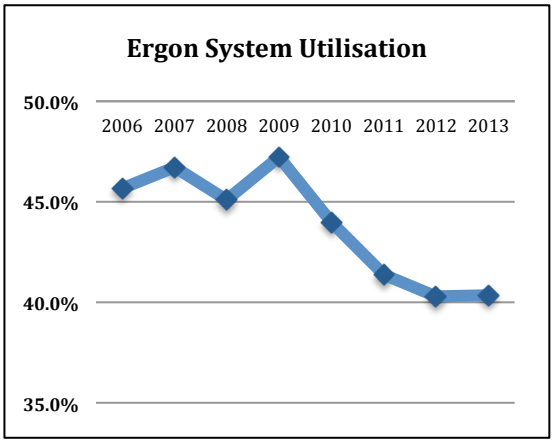
I therefore urge the AER to revise its preliminary augmentation capex allowances to ensure that the Queensland distributors' excess capacity is much more efficiently utilised ahead of any additional augmentation investment.

[16] The Energy Market Death Spiral - Rethinking Customer Hardship, Paul Simshauser and Tim Nelson

4.6.7 System Utilisation

In my previous submission, I outlined that the Queensland distributors' major investments in the previous regulatory periods have resulted in significant reductions in asset utilisation. The charts below outline the declines in the networks' system utilisation over the past 7 years. [17]





The AER's preliminary determinations acknowledged the networks' declining utilisation, identifying that the vast majority of the distributors' zone substations decreased in utilisation over the previous regulatory period and are forecast to continue to decrease significantly over the next period to historically low levels.

As stated by the AER:

"With such major declines in their asset utilisation rates it is expected that the Queensland distributors' augmentation capex requirements should reduce significantly"

However, those trends did not materially affect the AER's augex determinations.

I consider this to be a major omission in the AER's preliminary determinations. I assert that system utilisation is much more material to the determination of efficient augmentation capex needs than the AER's assessment has determined. This also has implications for the AER's repex assessments, which are discussed in Section 5.9 below.

I therefore urge the AER to revise its augmentation capex allowances to more fully take into account the implications of the Queensland distributors' declining utilisation.

4.6.8 Reliability Performance Is Well in Excess of the Current Standards

A key driver of the Queensland distributors' major capex programs over the previous two regulatory periods was meeting the excessive system security and reliability requirements that were introduced in 2005 in response to the EDSD Review.

As the AER is aware, these standards have been the subject of extensive criticism by various stakeholders since their introduction, as they have been a key driver of the Queensland distributors' over-investment and excessive price increases over the past 2 regulatory periods.

[17] Bev Hughson analysis of Energex and Ergon RINs Data

As outlined by the *Queensland Government Independent Review Panel (IRP) on Network Costs:* [18]

"The panel considers that the network security standards:

- ***are overly prescriptive**;*
- *have resulted in over-engineering of the network and **driven excessive capital and operating costs**;*
- *have **not sufficiently involved economic analysis** of the benefit of network capital expenditure relative to **outcomes that are acceptable to customers** in terms of both reliability and cost; and*
- *have **driven excessive increases in network tariffs** that affect the affordability of electricity supply for households and business"*

The Queensland Government revised the reliability standards on 1 July 2014, moving to a less deterministic approach and requiring an economic cost/benefit approach to be undertaken to take into account the value consumers place on reliability

In essence, the new reliability standards require the Queensland Distributors to take account of customer expectations in terms of reliability of supply and affordability – i.e., they should only be undertaking reliability capex where the benefits clearly outweigh the costs.

The Queensland Government has claimed that the reduced reliability standards will save an estimated $2 billion in capital expenditure over the next 15 years. [19]

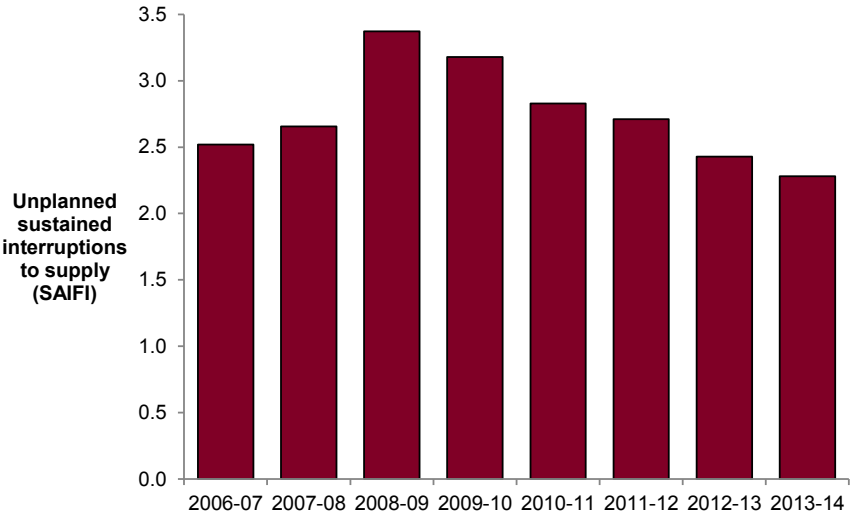
It is also important to note that the networks' previous capex programs have delivered a very high level of excess network capacity that will ensure that they significantly exceed the requirements of the new reliability standards for many years to come.

As outlined in Ergon Energy's revenue proposal: [20]

"Over the last five years the performance of the network has significantly improved…..this significant achievement is a result of a substantial investment in network improvements over the past decade"

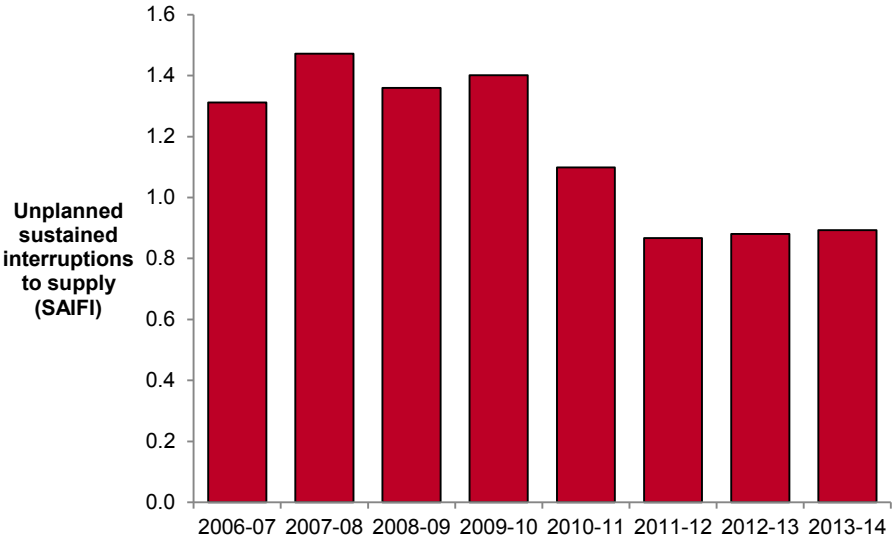
The charts below illustrate that the Queensland distributors' reliability performance steadily improved over the previous regulatory period.

ERGON ENERGY'S RELIABILITY PERFORMANCE (SAIFI) 2006–2014



[18] Queensland Government Independent Review Panel (IRP) on Network Costs, Final Report
[19] https://Queensland.dews.qld.gov.au/policies-initiatives/electricity-sector-reform/supply/electricity-network-reliability-standards
[20] Ergon Energy 2015-20 Revenue Proposal

ENERGEX'S RELIABILITY PERFORMANCE (SAIFI) 2006–2014



4.6.9 The Value Consumers Place on Reliability

In November 2014, AEMO published the results of its national *Value of Customer Reliability (VCR) review*. [21] The VCR represents, in dollars per kilowatt-hour, the willingness of customers to pay for the reliable supply of electricity.

The results of AEMO's study reveal that current VCRs are significantly lower than previous Australian estimates.

In general, these lower VCRs indicate that consumers place less value on additional reliability-driven capex and opex if it leads to higher electricity prices – i.e. customers are more accepting of risk in terms of reliability of electricity supply.

As the AER is aware, that view has been consistently reinforced by feedback from Queensland consumers. The overwhelming feedback that the CCP has received from Queensland consumers is that they do not support further expenditure on reliability-driven capex, other than in some specific areas in the networks where performance is particularly poor.

In my previous submission I asserted that the Queensland distributors have not appropriately taken into account consumers' willingness to pay for their proposed reliability-driven capex and that minimal reliability-driven capex should be required for the next regulatory period.

In its preliminary determinations, the AER made some reductions to Energex's proposed reliability capex, and fully accepted Ergon's proposed reliability capex. However, it does not appear that the AER has appropriately considered consumers' willingness to pay for its proposed reliability capex allowances.

The AER needs to ensure that the Queensland Distributors' reliability capex allowances more appropriately reflect the revised reliability standards together with consumers' willingness to pay.

[21] AEMO Value of Customer Reliability, Final Report, 28 November, 2014

4.6.10 My Key Perspectives on the AER's Augmentation Capex Allowances

In summary, I consider that the AER's preliminary augmentation capex allowances are excessive, due to:

- The AER's acceptance of the distributors' flawed demand forecasts - which are well in excess of AEMO's most recent forecasts
- The AER's inadequate scrutiny of the distributors' claimed "pockets of demand growth" and insufficient demonstration of associated local capacity constraints
- The AER's insufficient consideration of the networks' excess capacity and declining asset utilisation
- The AER's inadequate scrutiny of reliability drivers or consumers' willingness to pay for reliability capex
- The AER's insufficient consideration of the networks' capital efficiency, or the prudency /efficiency of the networks' proposed augex projects

I therefore urge the AER to revise it augmentation capex allowances by performing more detailed assessments that take the above considerations more fully into account.

4.7 Customer Connection Capex

The AER is proposing to provide a total of $379.1 million in customer connection capex allowances for the Queensland distributors.

Category	Energex	Ergon	Total
Connections expenditure ($M)	271.9	437.8	709.7
Customer contributions ($M)	172.3	158.3	330.6
Net connections capex ($M)	**99.7**	**279.5**	**379.1**

In determining these allowances, the AER:

- Accepted Ergon Energy's proposed customer connection capex in full
- Accepted Energex's proposed customer connection capex, with the exception of one poorly justified project associated with the Brisbane CBD bus and train tunnel project (for which Energex has provided revised costs in its Revised Revenue Proposal).

4.7.1 Efficient Connection Costs?

The AER has received submissions [22] [23] identifying that the Queensland distributors' connection costs are increasing significantly, asserting that their connection costs are higher than the costs of other Australian distributors and requesting the AER to more fully analyse the reasons for those differences.

The AER acknowledged that such an assessment is required to determine efficient costs, but claimed that it was unable to perform that analysis for these revenue determinations due to the difficulty in obtaining the required data.

[22] AGL Energy Submission on the AER's Preliminary Decisions, Page 12
[23] Alliance of electricity consumers - Submission on Ergon Energy's regulatory proposal 2015–20, 30th January 2015, p. 16

As stated by the AER:

"We agree that comparing the proposed unit costs for Energex's new connections with those of other distributors will help us be satisfied that the connections forecast is prudent and efficient.

"For this preliminary decision, we do not have the required data to effectively undertake this comparison. On this basis, we have relied more primarily on trend analysis of forecast construction activity in Queensland. However, we intend to work with distributors to ensure that data is collected that would enable meaningful unit cost comparisons to be undertaken for future decisions"

4.7.2 Credible Customer Number Forecasts?

The AER has also received submissions identifying anomolies and strongly challenging the distributors' customer number forecasts and the AER's proposed allowances. [24] [25]

I appreciate that the AER has limited resources. However, there are a number of uncertainties in the Queensland distributors' customer connection forecasts and the AER has received various submissions challenging the assumptions underlying the forecasts and challenging the prudency and efficiency of the distributors' proposed expenditure.

I therefore consider that the AER needs to apply a greater degree of scrutiny to the distributors' connection capex forecasts, including a detailed analysis of the prudency and efficiency of the distributors' connection costs.

4.8 Replacement Capex

The distributors' proposed repex levels were well in excess of the AER's expectations.

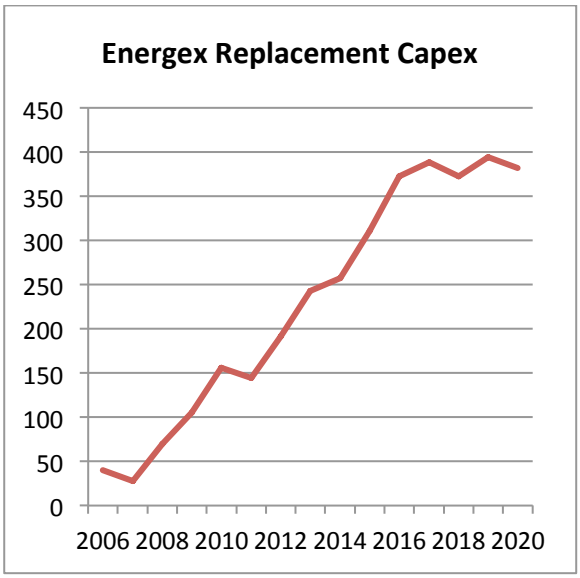
As outlined within the AER's Issues Paper: [26]

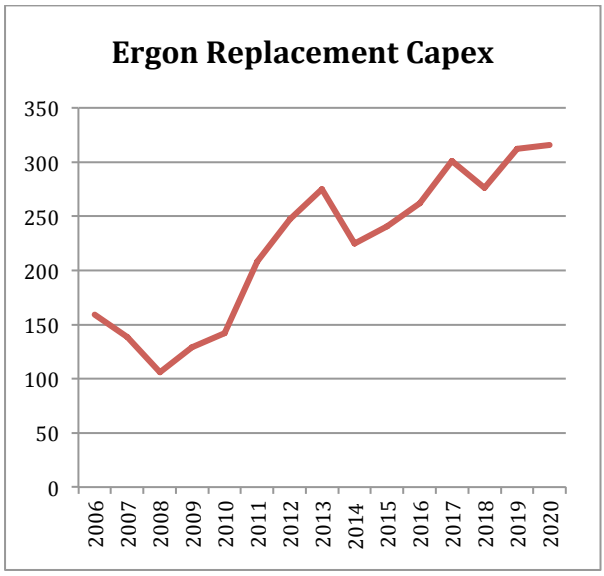
*"We consider the distributors' repex proposals to be a key issue for our assessment of their regulatory proposals overall……**our general expectation is that repex levels should remain relatively constant over time**"*

In my previous submission, I outlined that the distributors were proposing record-high levels of replacement capex, despite having undertaken major replacement capex programs over the previous regulatory period.

For example, as indicated in the charts overleaf, Energex proposed to increase its replacement capex to an average spend of around $390m/annum, compared its average repex spend of around $230m/annum for the 2010-15 period, and its average repex spend of around $80m/annum during the 2005-2010 period.

[24] Total Environment Centre (TEC) Submission on the AER's Preliminary Decisions, Page 10
[25] Queensland Council of Social Services (QCOSS) Submission on the AER's Preliminary Decisions, Pages 17/18
[26] AER Issues Paper - Qld electricity distribution regulatory proposals, December 2014, Page 15





In my previous submission, I outlined a number of concerns with the distributors' lack of justifications for their proposed repex increases, including:

- **The Distributors Repex Proposals Were Not Justified On Asset Condition Information**

The distributors provided very scant asset condition information within their proposals. Rather, their repex proposals were heavily reliant on unsubstantiated statements suggesting that their assets are ageing.

In my previous submission, I referred to the CCP2's analysis based on the distributors' RINS data that demonstrated that the Queensland distribution networks were amongst the youngest in Australia, and that their average asset ages were decreasing, rather than increasing as claimed by the distributors. [27]

- **Insufficient Justifications of Risks and Drivers**

I asserted that the distributors had not provided any substantial justifications regarding the risks or drivers of their major repex programs. In particular, I asserted that the distributors had failed to identify the system performance outcomes that their major replacement capex programs would deliver.

- **Insufficient Consideration Of The Distributors' Major Repex Spend Over The Past Decade**

I asserted that the distributors' repex proposals did not reflect the impact of their major repex programs over the past decade, which I consider have effectively 'pre-installed' a large proportion of their repex needs for the next period.

Overall, I asserted that the distributors had materially overstated their replacement capex needs. I outlined some detailed expectations regarding the AER's repex assessment process, including:

- A review of actual asset condition information – ensuring that asset replacements are justified on the basis of robust assessments of asset condition
- Consideration of the extent to which the distributors' major repex programs in the previous period have "pre-installed" their repex needs for the next period
- Consideration of the networks' excess capacity and poor asset utilisation

[27] Bev Hughson Analysis of Energex RINS Data

- Options analysis – ensuring that alternative options to asset replacement (e.g. revised maintenance strategies, asset refurbishments, life extensions, and other risk mitigation options) are appropriately considered

I asserted that such assessments would confirm that the Queensland distributors' had materially overstated their repex needs.

4.8.1 The AER's Replacement Capex Assessment

The AER applied four techniques to its assessment of the Queensland distributors' repex forecasts:

- Trend Analysis
- Predictive Modelling
- A "Technical Review" (by EMCa) of the distributors' approaches to forecasting, costs, work practices and risk management
- Consideration of asset health indicators

4.8.1.1 Trend Analysis

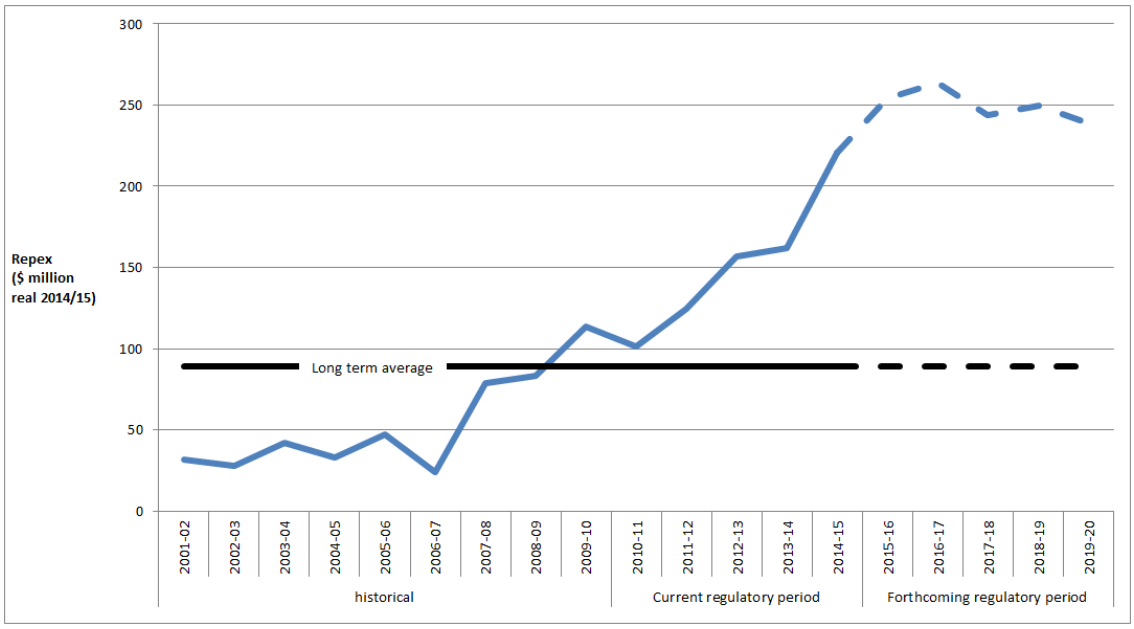
The AER's trend analysis confirmed my concerns regarding the distributors' unjustified major increases in proposed repex levels – particularly for Energex.

As outlined by the AER:

"Energex's repex proposal for the 2015–20 regulatory control period is well above that it incurred in the previous regulatory control period and the early 2000s"

As illustrated in the diagram below, Energex's proposed repex is around 2.5 times its long-term average.

ENERGEX'S REPEX - HISTORIC ACTUAL AND PROPOSED FOR 2015–20 REGULATORY CONTROL PERIOD (REAL $ MILLION JUNE 2015)



Source: Historical years: *Energex 2010-15 Revised Regulatory Proposal - RIN response - Table 2 - Capital expenditure by purpose.* Current and forthcoming regulatory periods: *Energex - Regulatory Proposal 2015-20 - Reset RIN - Table 2.1.1 - Standard Control Services Capex*

The AER outlined that the Queensland distributors' repex drivers for the next regulatory period should be reduced compared to the previous period, particularly in light of the relaxation of reliability standards away from the deterministic EDSD Review N-1 security standards.

4.8.1.1.1 The Queensland Distributors' 2010-15 Replacement Capex Spend

In my previous submission, I highlighted that the Queensland distributors' repex spend during the previous regulatory period was 2-3 times their repex spend during the prior period. I asserted that this spend was well in excess of the distributors needs and consequently the distributors had 'pre-installed' a good deal of their replacement capex requirements for the next regulatory period. I urged the AER to consider the prudency of the distributors previous repex spend and the extent to which it represented pre-installation of their future repex needs.

This was not appropriately considered or taken into consideration in the AER's preliminary repex determinations.

4.8.1.2 Predictive Modeling (The AER's Repex Model)

The AER applied its repex model to around 66 per cent of Ergon Energy's proposed repex and to around 61 per cent of Energex's proposed repex.

The AER's repex model aims to predict the volume of assets that may need to be replaced over the next 20 years – based on the number and age of assets in commission, the assumed asset replacement ages and their corresponding unit costs.

Importantly, the AER's repex model uses asset age as a proxy for asset replacement drivers. [28]

The data used in the model is derived from the distributor's regulatory information notice (RIN) responses and from the outcomes of the unit cost and replacement life benchmarking across all distributors in the NEM.

The AER's predictive modeling identified a number of major flaws with the Queensland distributors' forecasting assumptions – particularly in relation to their assumed asset lives and unit costs.

4.8.1.2.1 Standard Asset Lives?

The AER's analysis identified major anomolies with the Queensland distributors' assumed asset lives that severely damaged the credibility of their repex proposals.

In essence, it confirmed that the distributors' proposals have assumed asset lives much shorter than they actually achieve in practice.

As outlined by the AER:

"The distributors' estimated replacement lives do not reflect their actual replacement practices"

"Based on our analysis of the base case scenario outcomes we consider that Ergon Energy's estimated replacement lives are not credible or reliable"

"Energex's estimated replacement lives are shorter than those it achieves in practice"

"Energex's base case lives do not reflect Energex's actual replacement practices"

An analysis of the asset lives being used by Australian distributors identifies that there are major variations in the "standard asset lives" being used. These variations have major implications for the distributors' repex, depreciation, and 'return on capital' allowances.

---

[28] *AER,* Electricity network service providers, Replacement expenditure model handbook*, November 2013, p. 10.*

I assert that the AER is providing the networks with far too much discretion in the setting of asset lives and that the AER needs to enforce a much more standardised approach to the determination of "standard asset lives", rather than continuing to allow the networks to choose asset lives that optimise their returns for each revenue reset.

4.8.1.2.2 The Queensland Distributors' Assumed Asset Replacement Costs

The AER's repex modeling also identified that the Queensland distributors proposed unit costs further over-estimated their forecasts by around 20-25% compared to forecasts using their actual unit costs for the previous regulatory period.

As outlined by the AER:

"In the absence of a reasonable explanation, we would not expect forecast unit costs to be higher than historical unit costs given the incentive framework encourages a distributor to become more cost efficient over time. We compared Energex's historical unit costs to benchmark unit costs. This suggested Energex's historical unit costs are more likely to reflect a realistic expectation of future input costs than its forecast unit costs"

4.8.1.3 Technical Reviews

The engineering reviews performed by EMCa identified a number of systemic issues with the Queensland distributors' repex forecasts.

4.8.1.3.1 EMCa's Review of Energex's Repex Proposal

The key finding's of EMCa's technical review of Energex's repex proposal included:

- **Systemic Overestimation of Risks**

  "Energex's risk management framework reflects a bias towards over-estimation of risk and an exaggeration of its forecast for required repex activity"

  "Energex has an overly conservative risk management approach, and a bias towards overestimation in its repex forecast"

  "Energex's risk assessment has been undertaken at too high a level to assist meaningful decision-making both within and across the program"

  "Energex's application of its risk assessment framework to its proposed repex programs did not provide sufficient justification of risk-based prioritisation"

  "Energex's forecast contained an inappropriately high number of projects with "Low" and "Very low"" risk ratings in Energex's capital expenditure forecasts"

- **Insufficient Top Down Constraint**

  "Energex's repex forecasting did not incorporate an adequate top-down challenge"

  "A CPI price outcome objective in the governance of Energex's expenditure forecast is not a meaningful discipline that will ensure the forecast is optimised"

  "Programs that appear to align with the timing of the revenue reset cycles were without adequate forecasting rigour, and, if subject to a robust top-down review process, would be likely to result in a reduction to the forecast expenditure"

- **A Systemic Bias to Over-Estimation of Needs**

  "Energex's proposed forecast is not reasonable and exhibits a degree of upwards bias"

  "There is inadequate justification of the significant proposed step increases in expenditure"

- **Insufficient Project and Program Analysis**

  "Energex has conducted insufficient project and program analysis to support the timing and volume of activity. Further, its replacement targets appear to coincide with regulatory period end points"

  "The aggregate repex modelling prepared by Energex presents alternative outcomes that are so wide as to be of little merit for use in a top-down challenge to validate the proposed expenditure levels"

4.8.1.3.2 EMCa's Review of Ergon Energy's Repex Proposal

The key finding's of EMCa's technical review of Ergon Energy's repex proposal included:

- **Systemic Overestimation of Costs and Risks**

  "Ergon Energy's risk management framework has elements that are likely to have led to a degree of engineering conservatism contributing to a degree of upwards bias in Ergon Energy's forecast"

  "Ergon Energy's proposed forecast is not reasonable and exhibits a degree of upwards bias reflecting cost and risk over-estimation"

  "The application of risk assessments that result in a reactive approach to identified issues"

- **Repex Not Justified on Asset Condition**

  "A lack of identified condition data on which to make informed asset management decisions using CBRM tools"

  "Step changes in expenditure that are not a result of a condition based risk management (CBRM) methodology or trend data, but appear to align with regulatory control periods"

  "Network health indicators concerning asset conditions did not support the distributors' significant increases in proposed repex"

- **Insufficient Top Down Constraint**

  "A CPI price objective driving the top-down governance of Ergon Energy's expenditure forecast does not provide a meaningful discipline that would lead Ergon Energy to a prudent and efficient capex level"

- **A Systemic Bias to Over-Estimation of Needs**

  "Ergon Energy's repex forecast was likely to have excessive costs over that which is prudent and efficient"

  "A strong bias in Ergon Energy's replacement programs towards bulk replacements of targeted asset categories, with insufficient justification for choosing the 2015–20 regulatory control period as the replacement period"

- **Insufficient Project and Program Analysis**

  "Insufficient project and program analysis supporting the timing and volume of activity"

In essence, the EMCa technical reviews confirmed that the Queensland distributors had materially overstated their repex needs.

4.8.1.4 Asset Health Indicators

The AER's preliminary determinations include a number of statements that emphasise the criticality of the distributors' repex allowances being determined on the basis of actual asset condition information, e.g.:

"We consider a major determinant of variations in repex levels over time is the condition of network assets. We expect distributors will have regard to the condition of its network assets when forecasting the capex it requires to maintain the quality, reliability and security of supply"

The AER also asserted that for such dramatic increases in the distributors' proposed repex, it would be expected that there would be a demonstrable deterioration in the condition of their assets:

"We would expect that this increase would be reflective of a deterioration in the condition of its network assets in recent years, and/or Energex's age profile, which would support a need for substantial increases in asset replacement expenditure"

To inform its understanding of the distributors' asset condition, the AER considered two high-level indicators of network health:

- Trends in the remaining service life
- Trends in asset utilisation

Importantly, whilst these issues were considered by the AER, they did not materially impact on the AER's repex determinations, which were predominantly based on the conclusions of its repex model.

4.8.1.4.1 Asset Utilisation

As stated by the AER:

"Changes in asset utilisation can provide an indication as to whether the distributors' assets are likely to deteriorate more or less than would be expected given the age of their assets"

"All else being equal we expect a positive correlation between asset condition and lower network utilisation exists for certain asset classes"

The AER's key findings and observations regarding the distributors' asset utilisation levels included:

"Ergon Energy has experienced a steady decrease in utilisation levels over the previous regulatory period"

"We are satisfied this demonstrates that Ergon Energy's network has significant spare capacity in its network based on past investments to meet expected demand that did not eventuate and due to the higher security standards required under the Distribution Authority"

"Energex has significant spare capacity in its network based on past investments to meet expected demand that did not eventuate and due to the higher security standards required under the Distribution Authority"

4.8.1.4.2 *Trends in the Remaining Service Life of Network Assets*

The AER performed a trend analysis of the distributors' residual asset lives.

That analysis concluded that the distributors' residual asset lives have been stable since 2006 and are forecast to remain relatively stable through the 2015−20 regulatory control period.

4.8.1.1 Un-Modeled Repex

For the un-modeled expenditure categories (including SCADA, pole top structures and "other repex"), the AER predominantly relied upon the distributors' historical expenditure when setting its repex allowances.

These categories amounted to 39 per cent of Energex's proposed repex and 34% of Ergon Energy's proposed repex.

In essence, the AER and EMCa considered that the majority of the increases in the distributors' forecasts for these expenditure categories were unjustified and the AER predominantly set the allowances on the basis of the distributors' equivalent spend for the categories during the previous regulatory period.

4.8.2 The AER's Replacement Capex Allowances

On the basis of the above, the AER determined total replacement capex allowances for the Queensland Distributors of $1.3 billion, as outlined in the table below.

	Proposed Repex	AER Preliminary Determination	Reductions
Energex	$1.25 Billion	$622 Million	50 %
Ergon	$894 Million	$675 Million	24 %
Total	**$2.14 Billion**	**$1.3 Billion**	**39 %**

Whilst the above reductions may appear significant, they need to be considered in the context of the grossly excessive repex levels proposed. For example, Energex's proposed repex was around 3 times the level of its repex spend during the 200-2005 period - the period with repex expenditure drivers closest to the current circumstances.

In essence, the AER is proposing to provide repex allowances to the Queensland distributors well above their long-term historical average levels.

4.8.3 My Concerns with the AER's Preliminary Repex Determinations

I strongly assert that the AER's proposed repex allowances are materially higher than the required levels.

Whilst I consider that the AER's approach to assessing the Queensland Distributors' repex allowances represented an improvement compared to the approach that the AER applied to its previous determinations; I consider that the AER did not apply the degree of rigour required to fully address the major deficiencies with the networks' repex forecasts identified above.

This is particularly concerning in light of the grossly excessive levels of repex proposed by the distributors.

My key concerns with the AER's repex assessment approach are outlined below.

- **Insufficient Consideration of Asset Condition Information**

The AER's repex determinations have not appropriately considered actual asset condition information.

As outlined above, the AER's limited consideration of "Asset Health" indicators, simply involved some cursory observations of asset utilisation and remaining life trends. However, those observations did not materially affect the AER's repex determinations.

Rather, the AER's repex determinations were predominantly reliant on the AER's repex model, which is:

- Heavily reliant on using asset age as a proxy for asset condition
- Heavily reliant on trend analysis
- Heavily reliant on acceptance of the networks' past asset replacement practices

It is well understood that asset age is a very simplistic indicator and not a credible determinant of "asset health". Credible asset replacement justifications need to be based on robust assessments of asset condition, together with risk assessments that transparently identify the risks of replacement versus alternative options (e.g. revised maintenance strategies, asset refurbishments and other risk mitigation options).

Such assessments were not performed by the AER in its repex determinations.

I also assert that the AER's repex model was never intended to be a deterministic model, and it is therefore inappropriate for the AER to have placed such a heavy reliance on its results in the setting of its repex allowances for the Queensland distributors.

- **Insufficient Consideration of Asset Utilisation**

The AER's Preliminary Determinations acknowledged that the major increases in the networks' spare capacity and their declining asset utilisation trends will result in their assets ageing at reduced rates compared to previous periods.

Despite this observation, the AER did not use the outcomes of its asset utilisation analysis to any extent in determining the distributors' repex allowances.

I consider this to be a very critical omission in the AER's preliminary repex determinations.

- **Insufficient Consideration of the Distributors' Major Repex Programs Over the Previous Period**

As outlined in Section 5.8.1.1.1 above, I assert that the distributors' repex programs over the past decade have effectively "pre-installed" a large proportion of their repex needs for the next period.

- **Insufficient Justifications of Drivers or Performance Outcomes**

The AER has not demonstrated the outcomes (e.g. system performance outcomes) that the major proposed repex allowances will deliver.

I consider this to be a major deficiency in the AER's preliminary determinations.

I urge the AER to perform more robust repex assessments incorporating a fuller consideration of the above issues. I believe that such assessments will confirm the need for much more significant reductions to the distributors' proposed repex levels.

4.9 Non-Network Capex

In my previous submission, I highlighted some key areas of concern with the Queensland distributors' proposed non-network capex, including:

- The distributors' proposed capex levels appeared high compared to the levels of interstate distributors
- Ergon Energy proposed a 25% increase in fleet capex, despite its vehicle/staff ratio increasing by over 20% over the previous regulatory period.[29]
- The distributors' proposals did not incorporate the efficiency improvements outlined in the IRP report, and appeared inconsistent with their claims regarding their efficiency improvement programs
- The networks' proposals appeared to be inconsistent with their projected reductions in workforce numbers over the next regulatory period

I also reiterated the concerns outlined in the Queensland Government IDC/IRP reviews:

- *"The IDC was particularly concerned about the IRP's* ***reports of a noticeable cultural disregard for cost within the distribution network businesses"***
- *"The overhead expenses (indirect costs) of Ergon Energy and Energex have* ***grown rapidly in recent years and places the Queensland Distributors among the least efficient in the NEM"***
- ***"Additional impetus is needed to produce the level of savings required to restore affordability for customers"***

I asserted that an affective assessment of the networks' non-network capex forecasts would result in the AER determining the need for major reductions in the Queensland distributors proposed non-network capex levels.

4.9.1 The AER's Non-Network Capex Determination

As outlined in the table overleaf, the AER is proposing to provide total allowances of $664 million for the distributors' non-network capex.

In reaching these decisions, the AER:

- Accepted Energex's proposed $244.1 million non-network capex proposal in full
- Reduced Ergon Energy's non-network capex by 17%, by:
  - Removing a very poorly justified major property project proposed for Townsville (for which Ergon Energy has provided a revised justification in its Revised Revenue Proposal)
  - Retained Ergon Energy's fleet capex at the same level as the previous regulatory period

[29] *Ergon Energy, Revenue Proposal,* Ergon Energy - 0C.02.01.02 QLD - RESET RIN 2015–2020 - Consolidated Information - Public - October 2014*, October 2014, Table 2.11.1.*

	Proposed Capex	AER Preliminary Determinations	Reductions
Energex	$244 Million	$244 Million	-
Ergon	$506 Million	$420 Million	17 %
Total	**$750 Million**	**$664 Million**	**11%**

I have a number of concerns with the AER's non-network capex allowances. In essence, I believe that the AER predominantly set the distributors' allowances on the basis of their actual spend during the previous regulatory period, rather than determining efficient expenditure allowances.

For example, the AER identified a number of systemic deficiencies with Ergon Energy's Fleet Management practices, including:

- Poor governance arrangements and a lack of management oversight
- Systemic deficiencies in the setting of vehicle standards and the use of the highest estimated unit costs for all fleet assets, resulting in higher fleet capital and operating costs, e.g.:
    - The use of high end 4WD models such as the Toyota Landcruiser with a capital cost almost twice that of an alternative such as a Mitsubishi 4WD
    - The use of unnecessarily expensive vehicle marques for vans, such as Mercedes Benz when lower cost alternatives would be more than sufficient
- A higher frequency of fleet asset replacement than other Australian distributors
- Ergon's vehicle/staff ratio increasing by 22 per cent during the 2010–2015 regulatory control period

Despite these major systemic deficiencies, the AER simply set Ergon Energy's fleet expenditure allowance at the same level as Ergon Energy's spend during the previous regulatory period.

The AER adopted the same approach for other categories of non-network capex – i.e. it set the distributors' allowances on the basis of their actual spend during the previous regulatory period, rather than determining efficient expenditure allowances.

The AER is required to determine its allowances based on efficient costs – not historical costs.

I assert that if the AER had focused on providing efficient expenditure allowances, then it would have had much greater regard to:

- Challenging the prudency and efficiency of the distributors' major increases in non-network capex spend from the 2001-2005 period to the following periods
- Capturing the major efficiency improvements opportunities outlined in the IRP report
- Ensuring alignment with the distributors' projected reductions in workforce numbers
- The distributors' poor capital efficiency and the prudency and efficiency of their proposed capex projects

4.10 Capitalised Overheads

The Queensland distributors proposed major levels of capitalised overheads:

- Ergon Energy proposed $1,017.1 million in capitalised overheads, representing 30% of its total proposed capex of $3,397 million
- Energex proposed $900.4 million in capitalised overheads, representing 28% of its total proposed capex of $3,239 million

4.10.1 Fixed Overheads?

The AER accepted the Queensland distributors' assertions that the majority of their overheads are "fixed" and that only a small portion of their overheads should vary in relation to the size of their capex expenditure, i.e.:

- Energex's claim that approximately 80% of its capitalised overhead are "fixed"
- Ergon Energy's claim that 87% of its overheads are "fixed"

4.10.2 The Sensitivity of Indirect Capex to Direct Capex?

The AER also accepted the distributors' widely differing claims regarding the sensitivity of their capitalised overheads to direct capex, i.e.:

- Energex's claim that a $1million reduction in its forecast capex should result in a $0.096 million reduction in its capitalised overheads, and
- Ergon Energy's claim that a $1million reduction in its forecast capex should result in a $0.05 million reduction in its capitalised overheads

In doing so, the AER has accepted that Energex's capitalised overheads are twice as sensitive to direct capex as Ergon Energy's overheads.

The AER did not explain why it accepted such widely different claims.

By accepting the above claims, the AER's preliminary determinations have resulted in major increases in the distributors' overhead ratios - i.e. the AER is proposing to approve:

- $961.8 million in capitalised overheads for Ergon Energy - representing 44% of the AER's total capex allowance of $2,182 million, compared to Ergon Energy's proposed 30% overhead ratio
- $823.5 million in capitalised overheads for Energex - representing 35% of the AER's total capex allowance of $2,361 million, compared to Energex's proposed 28% overhead ratio

This is particularly concerning in light of the Queensland distributors very poor capital efficiency levels, and in light of the AER and EMCa's findings regarding the distributors' very high overheads compared to their peers. This is particularly the case for Ergon Energy, which has the highest level of overheads of all distrIbutors in the NEM.

4.10.3 SPARQ ICT Costs

Energex and Ergon Energy each hold a 50 per cent shareholding in SPARQ – their sole ICT service provider.

ICT costs account for over a third of the Queensland distributors' capitalised overheads.

The AER's assessment of the distributors' ICT Expenditure identified a number of major concerns:

- **SPARQ Services have Not Been Market Tested**

SPARQ is a related party and its costs have not been market tested, despite:

- Extensive evidence that there is scope for significant efficiencies
- The IRP concluding that the services provided by SPARQ would be delivered more efficiently by external distributors, and recommending that the distributors should test the provision of the services by competitive tender.[30]

As outlined by Deloitte:[31]

"*ICT costs are a material source of inefficiency within Energex's and Ergon Energy's opex … and we estimate that so far only 4 per cent of SPARQ's costs which were passed through to Energex and Ergon Energy in 2013−14 have been market-tested".*

"There appear to be material savings to be made from further reforms to the relationship between the DNSPs and SPARQ, and improvements to the distributors' ICT systems, processes and use of the market"

- **Benchmarking Indicates that the Distributors' ICT Costs are 61-65% higher than Efficient Levels**

Benchmarking by KPMG [32] suggests that the efficient level of ICT capex is:

- 61 per cent below Ergon Energy's forecast ICT capex; and
- 65 per cent below Energex's forecast ICT capex

- **Lack of Implementation of the IRP and ITNewcom Recommendations**

The distributors' proposed ICT costs do not capture the efficiencies identified by the *Independent Review Panel (IRP) on Network Costs.*

The AER's analysis concluded that the reforms undertaken to date do not reflect the IRP recommendations and have not yet significantly increased competitive pressures on SPARQ.

ITNewcom identified the potential to realise significantly greater cost reductions by outsourcing. Those recommendations have not been progressed.

- **Over-Recovery of ICT Costs**

The distributors' proposals will result in a material over recovery of ICT of financing costs via the SPARQ asset services fee, due to the distributors applying a significantly higher return on capital (WACC) than the AER's preliminary decision WACC.

---

30 Independent Review Panel on Network Costs, *Electricity Network Costs Review, Final Report*, p. 54.

31 Deloitte Access Economics, *Queensland Distribution Network Service Providers - Opex Performance Analysis*, March 2015, p.xii; Ergon Energy, Email 'RE: TRIM: AER Ergon 24 - follow up to SPARQ discussion [SEC=UNCLASSIFIED]', received 24 April 2015: AER Ergon024 Confidential SPARQ Followup Response to AER 006.pdf, question 1, p.1.

32 SAPN, Regulatory proposal, Attachment 20.31 KPMG Independent Prudence and Efficiency Review, p.68,

- **The Queensland Distributors are not transparently reporting their ICT costs**

The Queensland distributors are not transparently reporting their ICT costs. The off-balance sheet arrangement with SPARQ lacks transparency which hinders the AER's ability to assess and track the distributors' ICT expenditure across regulatory periods.

Despite the above evidence, the AER did not apply any reductions to the Queensland distributors' proposed ICT capex, concluding that:

"We have no evidence that this arrangement does not reflect arm's length terms but the following information does provide a starting point for further consideration at the time of our final decision"

4.10.4 The AER's Capitalised Overhead Allowances

Despite extensive evidence that supported major reductions in the distributors' capitalised overheads, the AER only applied very modest reductions as outlined in the table below.

	Distributors' Proposed Capex	AER Preliminary Determinations	Reductions
Energex	$900 Million	$824 Million	**8.5 %**
Ergon	$1,017 Million	$962 Million	**5 %**
Total	**$1,917 Million**	**$1,786 Million**	**7%**

In summary, I assert that the AER's proposed capitalised overhead allowances are well in excess of efficient levels. The key reasons for this include:

- The AER's inappropriate acceptance of the Queensland distributors' assertions that the majority of their overheads are "fixed"
- The AER's inappropriate acceptance of the distributors' widely differing claims regarding the sensitivity of their capitalised overheads to direct capex
- The AER's acceptance of the distributors' proposed ICT costs, despite evidence that the 'benchmark efficient costs' are around 65% lower than the distributors' proposed costs

I therefore urge the AER to determine efficient capitalised overheads allowances, based on benchmark efficient costs and not based on the Queensland distributors' historical costs – which have been consistently shown to be materially inefficient.

5 Operational Expenditure

In my previous submission I outlined:

- A number of concerns with the Queensland distributors' opex proposals
- A number of concerns regarding deficiencies and errors of judgement in the AER's approach to its opex determinations in its preliminary determinations for the NSW/ACT distributors, including;
    - The AER's decision to set the benchmark comparison point below below the efficiency frontier
    - The AER's approach to applying excessively conservative operating environment factor (OEF) adjustments
    - The AER's approach to determining 'rate of change' factors

I provided a detailed critique of the AER's approaches, and outlined my expectations regarding how the AER should more appropriately determine efficient opex allowances for the Queensland distributors.

I am therefore extremely disappointed that the above concerns have not been appropriately addressed or reflected in the AER's preliminary determinations for the Queensland distributors. Rather, the AER made further unwarranted adjustments to its approaches that further undermined the AER's sound benchmarking and violate the commitments outlined in the AER's *Expenditure Forecasting Assessment (EFA) Guideline.*

5.1 The AER's Operational Expenditure Allowances

As outlined in the table below, the AER is proposing to provide total opex allowances of around $3.3 billion, by:

- Accepting Energex's proposed opex in full
- Applying a 10% reduction to Ergon Energy's proposed opex

	Distributors' Proposed Opex	AER Preliminary Determinations	Reductions
Energex	$1,704 Million	$1,704 Million	-
Ergon Energy	$1,821 Million	$1,630 Million	**10 %**
Total	**$3.53 Billion**	**$3.33 Billion**	**5 %**

The AER arrived at the above allowances having adopted the 'base-step-trend' assessment process, i.e.:

- **Determination of the efficient base year opex** - using various techniques including benchmarking, trend analysis and technical reviews
- **Determination of rate-of-change factors** - determination of escalation factors to take account of likely changes to efficient opex over the regulatory period due to price changes, output and productivity
- **Application of step changes** – adjusting the base year expenditure to account for any other forecast cost changes over the regulatory control due to new regulatory obligations

I provide my detailed perspectives on the AER's approach to determining each opex element below.

5.2 The AER's Determination of Efficient Base Year Opex Levels

The AER's determination of efficient base year opex levels involved various steps, with the most material steps being:

- Identification of benchmark efficient opex levels
- Determination of the benchmark comparison point
- Application of operating environment adjustments

5.2.1 Comparison of Proposed Opex with Historical Opex

In my previous submission, I provided a detailed critique of the Queensland distributors' proposed opex, which demonstrated that:

- Both Energex and Ergon Energy are proposing increases in their opex compared to their record-high opex spend for the previous period
- The distributors' proposed opex levels are 33% higher (Ergon) and 22% higher (Energex) than their opex allowances for the 2006-10 regulatory period
- The distributors proposed opex levels are around twice the AER's opex allowances for the 2001-05 regulatory period - the period with opex drivers closest to the networks' current circumstances
- Over the past decade, Energex's opex increased by an average of 12.5% per annum, and Ergon Energy's opex increased by an average of 12% per annum

5.2.2 Determination of Relative Opex Efficiencies

In my previous submission, I highlighted the following key conclusions from the AER's benchmarking results:

- Ergon Energy has consistently been one of the least efficient distributors in the NEM
- Energex's efficiency is also low and has deteriorated by around 25% over the past 7 years, bringing it closer to Ergon's efficiency level
- Ergon had the highest "opex per customer" in the NEM, at around 3 times the costs of the Victorian distributors
- Ergon had the highest "total costs per customer" in the NEM, at around 4 times the costs of the Victorian distributors
- Energex's "total costs per customer" are around twice the costs of the Victorian distributors

Overall, as outlined in the table overleaf, [33] the AER's benchmarking results identified efficiency gaps of 58% for Ergon Energy and 36% for Energex.

[33] Economic Benchmarking Assessment of Operating Expenditure for NSW and ACT Electricity DNSPs – Economic Insights, November 2014

Table 4.2 **DNSP opex efficiency scores and implied opex reductions to reach full efficiency, 2006–2013**

DNSP	*Average opex efficiency score*	*Implied opex reduction to reach full efficiency*
CIT	1.000	0%
SAP	0.869	13%
PCR	0.857	14%
UED	0.730	27%
AND	0.665	34%
TND	0.657	34%
JEN	0.639	36%
ENX	0.639	36%
END	0.613	39%
ESS	0.482	52%
AGD	0.449	55%
ACT	0.445	56%
ERG	0.422	58%

5.2.3 Labour and Workforce Practices

5.2.3.1 The Queensland Government Independent Review Panel (IRP) on Network Costs

In my previous submission, I outlined concerns regarding the Queensland distributors' labour and workforce practices. I drew the AER's attention to the key relevant findings of the *Queensland Government Independent Review Panel (IRP) on Network Costs* [34] [35], including:

- *"The IDC was particularly concerned about the IRP's* ***reports of a noticeable cultural disregard for cost within the distribution network businesses"***
- *"The capital programs and operating costs of the GOCs have* ***increased sharply and unsustainably****"*
- *"The overhead expense (indirect costs) of Ergon Energy and Energex is more than $1 billion annually (Ergon Energy $543 million; Energex $510 million). This expense has* ***grown rapidly in recent years and places the Queensland Distributors among the least efficient in the NEM"***
- *"The three NSPs have all commenced programs to improve the efficiency of their operations and reduce both indirect and direct costs. The Panel acknowledges that these programs will yield results but believes that* ***additional impetus is needed to produce the level of savings required to restore affordability for customers"***
- ***"The need for cultural change as a driver for operational improvement*** *and refocus on cost effective outcomes that meet customer expectations"*
- *"Across the three companies,* ***647 employees earned in excess of 1.5 times their base pay….27 employees earned twice their base pay in 2011/12.*** *The Panel considers that such high ratios are likely to result in lower levels of productivity"*
- *"Contract resources are used inefficiently……****internal resources are being under-utilised****"*

[34] Queensland Government Independent Review Panel (IRP) on Network Costs Final Report

[35] The IRP found that through a series of reforms, Energex and Ergon could together achieve an estimated $1.4 billion reduction in operational costs over the 2015-20 regulatory control period. The IRP made 45 recommendations, many of which focused on operational efficiencies.

- *"The start times of work crews are often not matched to the requirements of particular projects.* ***A rigid adherence to these start times means that there is a mismatch, leading to reduced productivity*** *and possibly longer outage durations"*
- *"Each of the three network businesses has autonomous fatigue management policies with different rules governing the timing and duration of rest periods……****the differences in fatigue management policies*** *complicate crew scheduling and joint workforce management* ***leading to response delays, inefficiencies and potential safety issues****"*

5.2.3.2 Deloitte Review of the Queensland Distributors' Labour and Workforce Practices

The AER engaged Deloitte to review the Queensland distributors' workforce and labour practices and the extent to which they had implemented the recommendations of the Independent Review Panel (IRP). [36]

The key findings of the Deloitte review included:

- Both distributors (but Ergon Energy in particular) have high total labour costs compared to more efficient peers, resulting from having too many employees
- Ergon Energy has the highest labour costs per customer in the NEM
- Ergon Energy's EBA prohibits certain activities (such as switching) from being conducted by a single person. In other states these activities can be performed by a single person
- EBA provisions limit the distributors' ability to adjust their workforces flexibly and utilise them productively. This is magnified by the large proportion of employees engaged under EBAs. Examples include:
    - No forced redundancies
    - Contractors are unable to perform certain tasks, such as switching (unique to QLD)
    - Minimum apprentice numbers
    - Restrictions on outsourcing
- Both distributors (but Energex in particular) incurred significant overtime in expenditure in the base year
- Energex and Ergon Energy have not implemented the IRP's recommendation that they market test the ICT services that SPARQ (a joint venture owned by the two service providers) provides, resulting in inefficiency in base opex for both service providers
- Ergon Energy has not yet implemented a LSA model for its regional depots, despite the IRP's recommendation (based on Powercor's success with this model) to do so. Ergon Energy could realise significant efficiencies if it implemented an LSA model
- The main benefits arising from the distributors' opex improvement programs were achieved after the 2012–13 base year – i.e. any efficiencies realised are not reflected in their proposed base year expenditure
- The Queensland distributors had 'high' or 'very high' costs on labour and overheads metrics compared to their peers

---

[36] *Deloitte,* Queensland Distribution Network Service Providers—Opex Performance Analysis*, April 2015*

- Both businesses have forecast significant increases in opex overheads over the next period. For example, Energex is forecasting that its overheads will increase from 38% in 2012/13 to 45% in 2019/20. These forecast increases are very concerning given the major inefficiencies already identified in the AER's benchmarking
- Deloitte identified a number of areas where the distributors could reduce their opex costs, including a number of outstanding recommendations from the IRP that have not yet been addressed

All of the above evidence pointed to the Queensland Distributors' base year opex levels being materially inefficient.

5.2.4 The Queensland Distributors' Relative Efficiency Levels

In its determination of the Queensland distributors' relative efficiency levels, the AER applied its preferred economic benchmarking model - the *Economic Insights' Cobb Douglas SFA* model, which identified efficiency levels of:

- 61.8% for Energex
- 48.2% for Ergon Energy

It is important to note that the Cobb Douglas SFA model is more generous to the distributors than other benchmarking models considered by the AER. For example, the AER's *opex multilateral partial factor productivity* model identified an efficiency level of around 42% for Ergon Energy.

Irrespective, I consider that the AER's approach to identifying the efficiency gaps was comprehensive and that the results are consistent with the conclusions of various studies that have been performed over many years on the relative efficiencies of Australia's electricity distribution networks.

However - I have major issues with the AER's approach to the two other key steps in its determination of efficient base year opex levels:

- The AER's approach to the determination of the benchmark comparison point
- The AER's approach to determining operating environment factor (OEF) adjustments

Those issues are particularly concerning due to the AER adopting very different, and in my view, severely flawed approaches to their determination in its recent draft and final decisions - approaches which significantly undermined the AER's sound benchmarking and which I assert are inconsistent with the AER's obligations under the National Electricity Law (NEL) and the National Electricity Rules (NER).

To fully understand the deficiencies in the AER's approach, it is important to consider the evolution of the AER's approach in its recent draft and final determinations for the NSW/ACT distributors.

5.2.5 Determination of the Benchmark Comparison Point

5.2.5.1 The AER's Approach for the NSW/ACT Distributors' Preliminary Determinations

Rather than setting the target efficiency level at the level of the most efficient distributor, the AER decided to set a lower efficiency target for the NSW/ACT distributors.

Based on the AER's benchmarking, the frontier benchmark entity for Australian distributors is CitiPower, with an efficiency score of 0.95. However, rather than adopting 0.95 as the efficiency target, the AER decided to apply a modified efficiency target of 0.86 – which the AER calculated as the weighted average of the efficiency scores of the five most efficient distributors.

Consequently, in its preliminary determinations for the NSW/ACT distributors, the AER set the target efficiency level 9 percentage points lower than the frontier efficiency level.

The AER did not provide any justifications for choosing this lower efficiency target other than stating:

"Adopting a conservative approach *allows for general limitations of the models with respect to the specification of outputs and inputs, data imperfections and other uncertainties"*

Infact, the AER acknowledged the weaknesses and the generosity of this decision a number of times within its preliminary decisions, e.g.:

"This is equivalent to allowing an additional margin *on the frontier DNSP's input use* ***of 10 per*** *cent in calculating the benchmark for the NSW/ACT Distributors (0.95/1.1 = 0.86)* ***and is thus a relatively generous allowance"***

"A number of conservative decisions in favour of the distributors have been made in arriving at these figures. These include conservative setting of the benchmark as the weighted average of top quartile distributors rather than the frontier DNSP *and extra allowances for operating environment factors not explicitly included in the models"*

In my previous submission, I asserted that the AER had not justified its adoption of such a major reduction to the benchmark comparison point.

I asserted that the adjustment was inconsistent with the AER's obligations under the National Electricity Law (NEL) and the National Electricity Rules (NER). I asserted that the NEL/NER require that the benchmark reference point for efficient opex is to be set at the level of the most efficient service provider and therefore the AER was required to set the target efficiency level at the efficiency level of CitiPower.

I also highlighted that the AER had determined its frontier benchmark based on Australian distributors only and that if the AER had included international distributors in its calculations, then CitiPower would not be the frontier business, and the efficiency gaps of all Australian distributors (including Citipower) would be much larger.

Furthermore, the AER did not advise stakeholders of its intention to apply a benchmark comparison point below the efficiency frontier. This was not contemplated in the AER's *Expenditure Forecasting Assessment (EFA) Guideline*, which was developed through extensive consultation with a diverse range of stakeholders over a 12-month period.

In my submission, I urged the AER not to apply a reduced benchmark comparison point in its opex determinations for the Queensland distributors.

5.2.5.2 The AER's Approach for the NSW/ACT Distributors' Final Determinations

In its final determinations for the NSW/ACT distributors, the AER decided to lower the target efficiency level by a further 9 percentage points to 0.77, which the AER then calculated as the efficiency level of the 5th most efficient distributor (out of 13) - i.e. the AER reduced the target efficiency level to a level close to the middle of the pack, and 18 percentage points below the frontier efficiency score of 0.95.

The AER did not provide any justifications for this modified approach.

Clearly, setting the target efficiency level at the level of AusNet Services – a distributor which (according to the AER's benchmarking) exhibits a range of range of inefficiencies, has no sound basis and is not defendable.

5.2.6 Operating Environment Factor (OEF) Adjustments

5.2.6.1 The AER's Approach for the NSW/ACT Distributors' Preliminary Determinations

In its preliminary determinations for the NSW/ACT distributors, the AER performed an extensive analysis to determine whether its calculated efficiency gaps needed to be adjusted to account for operating environment factors (OEFs).

This involved a detailed assessment of 35 'operating environment factors' identified by the AER, the networks and other stakeholders. The AER's documentation of that analysis amounted to a few hundred pages.

The AER concluded from that analysis that only 3 out of the 35 factors merited the application of operating environment factor (OEF) adjustments:

- Differences in subtransmission configurations
- The impacts of different occupational health and safety regulations
- Differences in the cost of managing bushfire risk

As outlined in the table below, the AER calculated that total adjustments of between 0.6-3.6% were required to account for those three operating environment factors for the NSW distributors.

Summary of material operating environment adjustments for the NSW Distributors [37]

Service provider	Subtransmission adjustment	OH&S regulations	Bushfire regulations	Total
Ausgrid	5.5%	0.5%	-2.4%	3.6%
Endeavour	5.0%	0.5%	-2.4%	3.1%
Essential	2.5%	0.5%	-2.4%	0.6%

However, rather than applying those calculated adjustments, the AER decided to apply extremely conservative total operating environment adjustment allowances of 10% to **all three** NSW Distributors.

The AER did not provide any justification for applying those arbitrary adjustments. Rather, the AER acknowledged the weaknesses and generosity of its proposed adjustments many times in its draft determinations: [38]

*"Based on the available evidence, we are of the view that **it is reasonable to assume that the opex of the benchmark Victorian and South Australian Distributors would be considerably less than 10 per cent higher** if they had to operate under the same system sub-transmission intensiveness as the NSW DNSPs and if they faced the same occupational health and safety regulations as the NSW DNSPS"*

***"Nonetheless, we propose to make a conservative allowance of a 10 per cent input margin** on the benchmark Victorian and South Australian DNSPs to cover these factors. This includes allowance for a number of factors that, while individually not significant, may collectively be significant"*

In my submission on the Queensland distributors' revenue proposals, I endorsed the criteria and the assessment methodology that the AER adopted to calculate the magnitude of the operating environment

[37] AER Preliminary Decisions for the NSW DNSPs
[38] AER Preliminary Decisions for the NSW DNSPs

adjustments for the NSW/ACT distributors, and commended the AER on the rigour that it applied to that analysis.

However, I did not accept the AER's decision to round up the total operating environment adjustment allowances to 10% for all three NSW Distributors. I asserted that the AER had not justified the adoption of those major arbitrary adjustments and I asserted that the adjustments were inconsistent with the AER's obligations under the National Electricity Law (NEL) and the National Electricity Rules (NER).

I urged the AER not to replicate that approach in its determination of its operating environment factor (OEF) adjustments for the Queensland distributors.

5.2.6.2 The AER's Approach for the NSW/ACT Distributors' Final Determinations

In its final determinations for the NSW/ACT distributors, the AER decided to apply an even more generous approach to the distributors in its determination of environmental operating factor adjustments, resulting in the AER determining total adjustments of 10.7-13% for the NSW distributors.

l consider that there are a number of systemic deficiencies in the AER's approach to determining those adjustments, including:

- The AER's adjustments were arbitrary, unprincipled and in many cases illogical
- The AER applied major and contradictory changes to its assessment of individual OEFs between the draft and final decisions for the NSW/ACT distributors without sufficient supporting evidence or reasoning - e.g. changing the bushfire risk adjustment from 2.4% in its draft decision, to 0.5% in its final decision
- The AER automatically applied adjustments of + 0.5% for immaterial and unquantifiable OEFs, even though the actual impact of those OEFs was by definition less than 0.5%, and in most cases directionally ambiguous
- The AER applied adjustments for factors that were already accounted for in the AER's benchmarking results

The AER has received numerous submissions from a range of stakeholders outlining the major deficiencies in its approach to determining operating environment factor (OEF) adjustments.

In particular, I draw the AER's attention to the submission by the Public Interest Advocacy Centre (PIAC) to the Australian Competition Tribunal [39], which demonstrates in detail why the AER's adjustments are arbitrary, unprincipled and in many cases illogical.

It is important to note that the Australian distributors are also challenging the logic of the AER's operating environment factor adjustments, labeling the AER's approach as "fundamentally flawed", "unreliable", "unreasonable" and "arbitrary".

On that note, I am in heated agreement with the distributors.

[39] PIAC's Submission to the Australian Competition Tribunal (ACT) on the AER's Final Revenue Determinations for the NSW/ACT Distributors, available at http://www.competitiontribunal.gov.au/current-matters/listings

5.2.7 The AER's Determination of Efficient Base Year Opex Levels for the Queensland Distributors

The AER replicated the above flawed approaches to its determination of the efficient base year opex levels for the Queensland distributors, resulting in:

- The application of a modified benchmark comparison point of 0.77 - i.e. 18 percentage points below the efficient level
- The determination of total operating environment factors (OEF) adjustment of 24.4% for Ergon Energy and 17.1 % for Energex as outlined in the table below.

Factor	Energex	Ergon Energy
Bushfires	- 0.5%	- 2.6%
Cyclones	0.0%	4.6%
Extreme weather	2.7%	3.0%
Licence conditions	0.0%	0.7%
Network Access	0.0%	1.1%
OH&S regulations	0.5%	0.5%
Taxes and levies	2.7%	1.7%
Termite exposure	0.2%	0.5%
Sub-transmission	3.2%	4.6%
Vegetation management	3.4%	4.1%
Immaterial factors	**5.0%**	**6.1%**
Total	**17.1%**	**24.4%**

The combined effect of the above two changes resulted in reducing Energex's target efficiency level down to 65.6% and reducing Ergon Energy's target efficiency level to 61.7%.

Again, the AER acknowledged the generosity of these adjustments in its preliminary determinations: [40]

*"**An adjustment back to this appropriately conservative point** is sufficient to remove material inefficiency while still incorporating an appropriately wide margin for potential modelling and data errors for the purposes of forecasting"*

*"Given it is our first application of benchmarking, it is appropriate to **adopt a cautious approach**"*

*"We consider this approach achieves the NEO and RPP because it is **sufficiently conservative** to avoid the risks associated with undercompensating the service provider but also promotes efficiency incentives"*

It is my very strong view that the above adjustments are grossly excessive and are well in excess of adjustments that would be considered reasonable to account for "potential modeling and data errors".

It is extremely disappointing that every time the AER applies discretion to its decisions, it consistently chooses to apply that discretion heavily in favour of the networks' interests at the expense of consumers' interests.

For example, the above statements are heavily focused on applying an ultra-conservative approaches to avoid under-compensating the distributors – with no mention of the implications of **over-compensating** them.

5.3 The Australian Networks' Scare Campaigns

It is clear that the AER's decision to 'water down' its opex assessment approach by applying the above adjustments was predominantly driven by the coordinated scare campaigns run by the Australian networks.

Following the release of the AER's preliminary decisions for the NSW/ACT distributors, Australia's electricity networks embarked upon a major coordinated scare campaign, providing many emotive and unsubstantiated claims regarding the safety and reliability consequences of the AER's preliminary determinations.

My perspectives on the key claims being made by the distributors are outlined below.

5.3.1 Claims that Benchmarking is Untested and Unreliable

The distributors are claiming that benchmarking is untested and an unreliable tool that should not be used by the AER in its regulatory decision-making.

Those assertions are incorrect.

Benchmarking is an accepted and proven technique in regulatory practice. For example, the UK regulator (Ofgem) has effectively applied benchmarking in its revenue determinations for over 20 years.

All regulators that use benchmarking acknowledge its imperfections, and take those imperfections into account in their regulatory decision-making. As outlined above, the AER has acknowledged its imperfections by applying an extremely conservative approach to its application.

It is important to note that when Ofgem introduced benchmarking to its opex determinations 20 years ago, the UK networks raised the same criticisms that are currently being raised by the Australian Distributors. Such criticisms were rejected outright by Ofgem.

[40] AER Preliminary Determinations for Energex and Ergon – Attachments 7, Opex, pages 25-26

It is also important to note that for many years Ofgem's benchmarking techniques and datasets were nowhere near as sophisticated as the AER's benchmarking techniques, yet Ofgem still made extensive use of its benchmarking results in its decisions.

My only criticism of the AER's use of benchmarking is that it should have applied it to its previous regulatory decisions. Numerous stakeholders advocated for many years that the AER should have applied benchmarking to its previous determinations, and that the AER was required to do so under the previous Rules.

I strongly assert that if the AER had applied benchmarking to its previous determinations then the Queensland distributors' would not be so far removed from the efficiency frontier as they are today.

5.3.2 Claims that the AER has Placed Undue Weight on Benchmarking

The Distributors are asserting that the AER has placed undue weight on benchmarking.

That assertion is incorrect.

Benchmarking was one of many considerations in the AER's assessment of the distributors' opex efficiency, which also involved:

- **A review of 'operating environment factors'** - the AER reviewed over 60 operating environment factors to determine whether it was necessary to provide any adjustments to the base year opex determined by the benchmarking results
- **A review of labour and workforce practices** – which identified numerous examples of inefficient practices for the Queensland distributors
- **A review of the distributors' vegetation management practices -** which identified major inefficiencies in the distributors' practices and costs
- **Category Analyses** – involving comparisons of the costs of different service providers on discrete categories of opex

All of the above analyses confirmed that the Queensland distributors have much higher costs relative to most of their peers.

5.3.3 Claims that the AER has not appropriately considered public and employee safety

The Distributors' are making many emotive, unsubstantiated and inflammatory claims that the AER has disregarded employee and public safety considerations in its opex determinations, suggesting that they will be unable to comply with their WH&S obligations, and citing concerns regarding increased safety risks.

These claims are unfounded and grossly exaggerated, as:

- The AER's determinations involved an extensive analysis of the distributors' workplace health and safety obligations and applied adjustments to account for their specific WH&S obligations
- The AER's determination also involved an extensive analysis of the distributors' specific bushfire risks and regulations and provided adjustment to account for their specific regulations

Importantly, despite producing hundreds of pages of hyperbole at consumers' expense, the Queensland and NSW distributors have failed to explain how other interstate distributors (urban and rural) are able to deliver equivalent levels of safety and reliability at less than half of their costs.

5.3.4 Claims that the AER did not take account of Individual Circumstances

The distributors have asserted that the AER did not take account of their individual circumstances.

This assertion is incorrect. As outlined above, the AER performed an extensive analysis to determine whether the distributors' benchmark efficient costs needed to be adjusted to account for individual circumstances not accounted for in its benchmarking.

This involved the detailed assessments of over 60 'operating environment factors' identified by the distributors and other stakeholders, resulting in the AER making specific adjustments to accommodate their individual circumstances.

5.4 Rate of Change

The tables below outlines the Queensland distributors' and the AER's proposed average annual rate of change factors. It highlights that the AER is proposing to apply:

- A higher average annual real price change escalation factor than proposed by Energex, and twice the average annual factor that the AER provided in its recent preliminary determination for SAPN
- Higher average output growth factors than proposed by the Queensland distributors, and over twice the average annual factor that the AER provided in its recent preliminary determination for SAPN
- Zero productivity growth, compared to proposed productivity growth factors of 0.97 for Ergon Energy and 0.58 for Energex
- Total rate of change factors of around 13 times the rate proposed by Energex, and over twice the average rate of change factor that the AER determined in its recent preliminary decision for SAPN

Energex Average Annual Escalation Factors (Per Cent, Real)

	Energex	AER Preliminary Determination	AER SAPN Decision
Price Change	0.31	0.41	0.22
Output Change	0.394	1.206	0.57
Productivity	0.578	0	0
Total Rate of Change	**0.126**	**1.626**	**0.79**

Ergon Energy Average Annual Escalation Factors (Per Cent, Real)

	Ergon	AER Preliminary Determination	AER SAPN Decision
Price Change	1.236	0.414	0.22
Output Change	1.264	1.304	0.57
Productivity	0.97	0	0
Total Rate of Change	**1.53**	**1.722**	**0.79**

I provide my perspectives on these differences in the following sections.

5.4.1 Price Change

The table below outlines the Queensland distributors' proposed average annual price change factors compared to the factor determined by the AER in its recent determination for SAPN.

Average Annual Real Price Change Escalation Factors (Per Cent)

	Proposed	AER Preliminary Determination	AER Recent SAPN Decision
Ergon Energy	1.236	0.414	**0.22**
Energex	0.31	.414?	**0.22**

It illustrates that the AER is proposing to apply price change factors of around twice the level that it allowed for SAPN.

The AER's preliminary determinations do not provide any explanation as to why the AER expects the Queensland distributors' input costs to increase at double the rate of the South Australian distributor.

5.4.1.1 Price Change Weightings

The AER's approach to determining overall price change is to weight the forecast price growth to account for the proportion of labour and non-labour. The AER adopts a 62 per cent weighting for labour costs and a 38 per cent weighting for non-labour costs.

The Queensland distributors proposed different weightings to the AER resulting in some material differences between the AER and the distributor's overall price growth factors.

For example, Ergon Energy's proposed a much higher proportion of labour costs (forecast to grow above CPI) and a lower proportion of non-labour costs (forecast to grow at around CPI).

I consider that the AER's weightings are more appropriate, as they represent the weightings for a prudent service provider, as outlined in the economic benchmarking analysis performed by Pacific Economics Group Research and Economics Insights. [41]

5.4.1.2 Labour Price Change

As outlined in the table overleaf, the Queensland distributors are proposing average real labour price increases of between 0.83-1.6%, compared to the AER's preliminary determination of 0.67% and the AER's most recent decision of 0.36%/annum for SAPN.

[41] Economics Insights' Response to Consultants' Reports on Economic Benchmarking of Electricity DNSPs Report prepared for Australian Energy Regulator, 22 April 2015

Average Annual Real Labour Price Change Escalation Factors (Per Cent)

	Energex	Ergon	AER Preliminary Determination	AER Recent SAPN Decision
Labour escalation	0.83	1.6	0.67	**0.36**

In its determination of labour price change factors for the Queensland distributors, the AER adopted the average of Deloitte Access Economics and Pricewaterhouse Coopers' wage price index for the Electricity, Gas, Water and Waste Services (EGWSS) industry - resulting in the AER applying an average annual real labour price growth factor of 0.67%.

This is almost twice the 0.36% average labour price change factor that the AER determined for its recent preliminary decision for SA Power Networks (SAPN). The SAPN factors were determined by utilising forecasts from Deloitte Access Economics' forecast for the Electricity, Gas, Water and Waste Services (EGWWS) industry.

The AER has not demonstrated why it believes that the Queensland distributors' labour costs will increase at twice the rate of the South Australian distributor.

The Queensland distributors used different methodologies to determine their proposed labour price escalation factors, resulting in some significant differences between the distributors' and the AER's labour price growth factors, particularly for Ergon Energy.

5.4.1.3 The Interaction Between Labour Prices and Productivity

Two of the rate of change factors – *labour price change* and *productivity* are inextricably linked.

It is well understood that, over the long term, labour price growth adjusted for labour productivity closely tracks the Consumer Price Index (CPI). For example, Professor Borland demonstrated that, on average from 1997–98 to 2009–10, CPI plus labour productivity matched the average weekly ordinary time earnings (AWOTE).[42]

Prudent businesses only allow labour costs to rise above CPI if they are accompanied by offsetting productivity improvements. The Queensland distributors' labour forecasts therefore need to be assessed in conjunction with their productivity forecasts.

As outlined above, the distributors proposed that their labour rates would increases by 0.83-1.6 % per annum above CPI over the next regulatory period, with some offsetting productivity improvements.

The AER's preliminary determinations have applied average annual labour price increases of 0.66%. For such levels of real price growth, the distributors would be expected to deliver offsetting productivity improvements.

However, both the distributors and the AER are proposing to apply productivity improvements significantly lower than their proposed labour price increases. Consequently, both the distributors' proposals and the AER's preliminary determinations would result in further ongoing declines in the distributors' productivity levels.

[42] Labour Cost Escalation: Choosing between AWOTE and LPI, Professor Jeff Borland, March 2012

5.4.1.4 The Electricity Network Sector is in Contraction

The Australian electricity network sector is currently in a major contraction phase due to a number of forces that are driving a declining demand for its services.

Industries in contraction do not face real labour price increasing drivers.

Neither the distributors', nor the AER's labour forecasting approaches appropriately consider the specific drivers of the Australian electricity network sector.

There is currently minimal wage pressure within the Australian economy. The mining boom has passed and skilled labour is readily available.

Delloite Access Economics (DAE) expects utility sector wages growth to fall in the near term. DAE also notes that the skill shortages that underpinned strong wage growth in utilities in the past decade have diminished.[43]

5.4.1.5 The Distributors' Inclusion of External Labour Costs

The Queensland distributors are proposing to apply labour growth factors for their internal labour and for the labour in their contracted services. This differs from the AER's approach, which includes contracted services in its non-labour price growth (which the AER assumes will move in line with the CPI).

5.4.1.6 The Distributors' Enterprise Agreement Costs

The extent to which the Queensland distributors' current/anticipated enterprise agreement rates have influenced their proposed labour price growth factors is unclear.

Irrespective, I do not accept that the distributors' enterprise agreement rates represent efficient labour costs.

The *Queensland Government Independent Review Panel (IRP) on Network Costs*[44] highlighted that the Queensland networks' labour costs are significantly higher than they should be.

The IRP review is consistent with other extensive evidence that the Queensland distributors' enterprise agreements are delivering wages well above the efficient level. The AER is required to only allow efficient costs. The AER must ensure that the Queensland distributors are not allowed to continue with their previous approach of effectively treating inefficient EBA outcomes as a "pass through".

5.4.1.7 My Key Perspectives on the AER's Labour Price Change Determination

I consider that the Queensland distributors' and the AER's proposed labour escalation rates are materially overstated. I expect the AER to determine efficient labour price changes for the Queensland distributors, taking into account:

- The electricity network sector is in contraction
- The Queensland distributors' historical and proposed enterprise agreement labour rates are inefficient
- The interaction between labour price change and productivity change – i.e. real labour price increases need to be compensated by offsetting productivity improvements

---

[43] Deloitte Access Economics, *Forecast growth in labour costs in NEM regions of Australia*, 23 February 2015, p. 44

[44] Queensland Government Independent Review Panel on Network Costs Final Report

- The AER has not demonstrated why it considers the Queensland distributors' labour costs (which have already been demonstrated to be significantly less efficient than SAPN's labour costs) should increase at twice the rate of SAPN's labour costs.

I assert that an appropriate consideration of the above issues will conclude that the Queensland distributors' labour prices should be reducing rather than increasing.

5.4.1.8 Non Labour Price Change

In determining its non-labour price change factors for the Queensland Distributors, the AER adopted CPI.

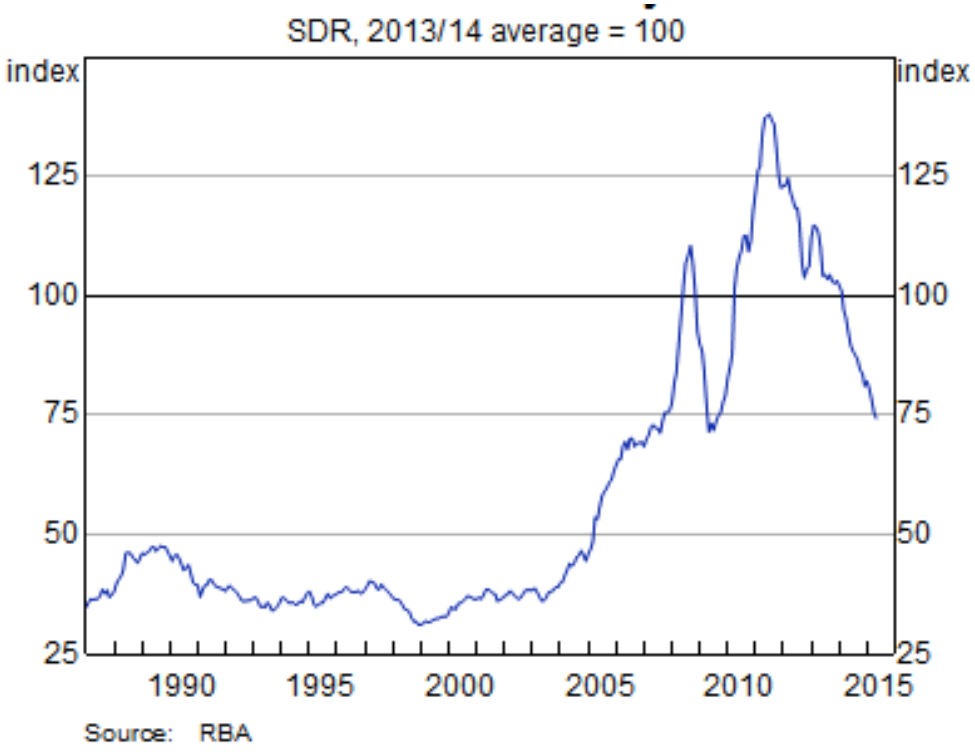
The AER's rationale for applying CPI is predominantly based on regulatory simplicity – i.e. avoiding the difficulty of attempting to predict movements in commodity prices and exchange rates.

Whilst I understand these difficulties, I am concerned that the prices of a number of the distributors' non-labour inputs are trending downwards and consequently the application of CPI is likely to over-estimate their costs.

As outlined in the chart below, over the past six months the prices for commodities (including copper, aluminium and steel) have fallen considerably. For example, the RBA Commodities Price Index has dropped by around 20% in the past year.

The AER has not demonstrated that the benefits of regulatory simplicity outweigh the risks of excessive non-labour price changes.

Figure 8 - RBA Index of Commodities Prices (AUD)



5.4.2 Output Change

The table below outlines the Queensland distributors' proposed average annual output escalation factors in comparison with the AER's preliminary determination and the AER's recent output factor determinations for SAPN.

Table 26 – Average Annual Output Change Escalation Factors

	Proposed	AER Preliminary Determination	AER SAPN Decision
Energex	0.394 %	1.206 %	**0.57%**
Ergon	1.264 %	1.304 %	**0.57%**

The AER's methodology for determining output change factors is based on applying the weighted average increase in:

- Customer numbers (67.6% weighting)
- Circuit length (10.7% weighting)
- Ratcheted Maximum Demand (21.7 % weighting)

The Queensland distributors proposed various output change factors, including:

- Customer growth – based on forecast customer numbers
- Solar PV growth – based on the forecast of installed PV capacity
- Network growth - based on forecast increases in line length, distribution transformer numbers and installed substation capacity

The AER's preliminary determinations note that the distributors' proposed output growth factors cannot be directly compared with the AER's factors as the distributors' methodologies have incorporated economies of scale, which the AER considers to be a part of productivity.

Irrespective, I have a number of concerns with the Queensland distributors' proposed output factors, particularly their proposed 'installed capacity' factors. Such factors would result in the provision of increased opex for newer assets, rather than the reduced opex required due to their lower maintenance costs.

This is also an issue that I believe the AER should have applied greater scrutiny to in its assessment of the 'operating environment adjustments'.

I consider that the AER's 'ratcheted maximum demand' factor is a more appropriate measure of the distributors' output than installed capacity factors. This is particularly important given the distributors' growing levels of excess network capacity. Contrary to the distributors' proposed factors, ratcheted maximum demand takes into account the actual network capacity used.

Whilst I have some issues with the AER's approach, overall I consider that the AER's methodology is more reflective of the change in outputs required, and I expect the AER to determine output change factors on a consistent basis across all Australian distributors.

5.4.3 Productivity Change

As outlined in the table below, both Queensland distributors proposed positive productivity improvements, whereas the AER decided to apply zero productivity improvements for the next 5 years.

Average Annual Productivity Change Factors (Per Cent)

	Energex	Ergon	AER Preliminary Determination	AER Recent SAPN Decision
Productivity	0.58	0.97	0	**0**

My key concerns with the AER's proposal to apply zero productivity factors to the Queensland distributors are outlined below.

5.4.3.1 Inconsistency with the AER's Claims

The AER claims that:

"In estimating forecast productivity for the distribution industry we have also had regard to the electricity transmission and gas distribution industry, and distribution network service provider's productivity forecasts".[45]

That claim is inconsistent with the fact that both of the Queensland distributors have proposed positive productivity improvements, and the fact that the electricity transmission and gas distribution industries are both achieving positive productivity improvements. It is therefore unclear how the AER can justify zero productivity improvements for the Queensland distributors.

5.4.3.2 Productivity Declines Should Be Temporary

The AER's expectation is that the electricity distribution sector should deliver positive productivity improvements in the next regulatory period.

As outlined in the AER's Preliminary Determinations

"While data from 2006–13 period indicates negative productivity for distribution network service providers on the efficient frontier, we do not consider this is representative of the underlying productivity trend and our expectations of forecast productivity in the medium term. The increase in the service provider's inputs, which is a significant factor contributing to negative productivity, is unlikely to continue for the forecast period"

As Economic Insights notes:

"We also note that a situation of declining opex partial productivity is very much an abnormal situation as we normally expect to see a situation of positive technical progress rather than technical regress over time. While we acknowledge the distinction between the underlying state of technological knowledge in the electricity distribution industry and the impact of cyclical factors that may lead to periods of negative measured productivity growth, the latter would be expected to be very much the exception, step change issues aside"

[45] AER Preliminary Decisions for the Queensland Distributors, Appendix 7 (Opex)

5.4.3.3 Other Similar Sectors Are Achieving Positive Productivity improvements

The electricity transmission and gas distribution sectors both achieved positive productivity growth during the 2006–13 period, and both sectors are forecasting continued positive productivity improvements. For example, from 2006-13 the electricity transmission sectors' productivity improved by an average of 0.85%/annum.[46]

As outlined by the AER: [47]

"Cyclical factors and regulatory obligations for the distribution sector may be the reason for the lower measured productivity in the distribution industry compared to the transmission and gas distribution industries. Over the medium to long term, however, we expect the distribution network service providers to have productivity growth rates comparable to the electricity transmission and gas distribution industries"

"This is because the specific factors that have resulted in declining productivity for the distribution industry are unlikely to apply over the medium to long term and the distribution industry should be broadly similar to other energy networks"

In my previous submission I outlined that many businesses that operate within asset intensive industry sectors delivered positive opex productivity growth during the 2006-13 period..[48]

I asserted that there is no justification for the electricity distribution sector to have lower productivity expectations than those sectors and I urged the AER to determine positive productivity change rates for the Queensland distributors aimed at bringing their productivity back into line with their previous productivity levels, and into line with the levels being achieved by the electricity transmission sector and other asset intensive industry sectors.

The AER has responded to this feedback in its preliminary determinations by stating that: [49]

"We consider if there is robust evidence provided to us to support positive productivity in industries that are comparable to the electricity distribution industry. We will take this evidence into our consideration in assessing forecast productivity"

I reiterate that the AER has already highlighted that the electricity transmission and gas distribution industries - both of which operate under the same regulatory framework and are highly comparable with the electricity distribution industry - are both achieving positive productivity improvements. I am therefore perplexed as to why the AER is requesting stakeholders to provide evidence of other industry sectors' productivity trends.

Nevertheless, I would be very pleased to engage with the AER on this issue and to assist the AER in assessing the relevant evidence. For example, the AER may wish to consider the evidence provided in the Reserve Bank of Australia's recently published research report - "Why is Wage Growth So Low?" [50].

That report identified that wages growth has declined markedly in Australia over the past few years, whereas strong growth in labour productivity during the same period has effectively contained growth in labour costs.

---

[46] AER, TransGrid transmission determination – draft decision, Attachment 7, Appendix A, November 2014; AER, JGN gas distribution determination – draft decision, Attachment 7, Appendix A, November 2014

[47] AER Preliminary Decision - SA Power Networks determination 2015−16 to 2019−20

[48] CCP (Hugh Grant) Submission on Energex and Ergon Energy 's capex and opex proposals, 30 January 2015, p. 25

[49] AER PreliminaryDterminations on the Queensland Distributors' 2015-20 Revenues – Appendix 7, Opex.

[50] Jacobs D and Rush Alexander, "Why is Wage Growth So Low", RBA Bulletin, June Quarter 2015, p 9

However, I assert that it is not the responsibility of the CCP to provide evidence of this nature. The AER is required to proactively seek out such evidence for its regulatory decisions - particularly when the AER's decisions are clearly not supported by the most readily available evidence.

5.5 Step Changes

The AER's preliminary decisions included a $5.8 million demand management step change for Energex, and no step changes for Ergon Energy.

In essence, the AER declined most of the Queensland Distributors' proposed step changes as they relate to activities that the AER had explicitly considered in determining the networks' efficient base level opex.

I consider the assessment process for its step changes was sound and I agree with the AER's decisions.

5.6 My Key Positions on the AER's Opex Determinations

In summary, I consider that the AER's proposed total opex allowances for the Queensland distributors are around $1.3 billion above the efficient levels, and would result in delivering 'windfall gains' to the Queensland Distributors of:

- $600 million ($120 million per annum) for Energex
- $700 million ($140 million per annum) for Ergon Energy

The key reasons for these excessive allowances are as follows:

The AER's Base Year Opex Determinations

- The AER made two major errors of judgement in its base year opex determinations:
  - Its decision to adjust the *benchmark comparison point* to 18 percentage points below the benchmark efficient level; and
  - Its decision to apply major unwarranted operating environment factor adjustments of 24.4% for Ergon and 17.1 % for Energex
- These errors of judgement reduced Energex's target efficiency level down to 65.6% and reduced Ergon Energy's target efficiency level down to 61.7%
- These adjustments are grossly excessive and well in excess of adjustments that could be considered reasonable to account for "potential modeling and data errors"
- These adjustments have produced absurd and illogical outcomes - i.e.:
  - Fully accepting Energex's proposed opex, when all of the evidence points to the need for reductions of 35-40%
  - Only applying a modest 10% reduction to Ergon Energy's proposed opex, when all of the evidence points to the need for reductions of 55-60%
- These unwarranted adjustments are inconsistent with the AER's obligations under the National Electricity Law (NEL) and the National Electricity Rules (NER)
- They have severely undermined the AER's sound benchmarking and the principles outlined in its *Expenditure Forecasting Assessment (EFA)* Guideline
- It is unacceptable for the AER to apply such adjustments without seeking feedback from stakeholders regarding its intention to adopt such major departures to its opex assessment approach

The AER needs to correct these material errors of judgement by:

- Setting the target efficiency level at the level of the most efficient distributor - i.e. 0.95
- Reverting to the operating environment factor (OEF) calculation methodology that the AER applied in its preliminary decisions for the NSW/ACT determinations, i.e.:
  - Applying the calculation methodology that resulted in total OEFs of 0.6-3.6%
  - Restricting the adjustments to the actual calculated factors rather than applying arbitrary round-ups
  - This should result in **total** OEF adjustments for the Queensland distributors of less than 5%

The AER's Rate of Change Determinations

The AER has not justified its decisions to apply total rate of change factors of around 13 times the rate proposed by Energex, and over twice the average rate of change factor that the AER determined in its recent preliminary decision for SAPN.

Labour Price Change

The AER has not considered the specific drivers of labour prices in the Australian electricity network sector.

The Australian electricity network sector is currently in a major contraction phase due to a number of forces that are driving a declining demand for its services.

Industries in contraction do not face real labour price increasing drivers.

Furthermore, the AER has not demonstrated why it considers the Queensland distributors' labour costs (which have already been demonstrated to be significantly less efficient than SAPN's labour costs) need to increase at twice the rate of SAPN's labour costs.

The AER needs to determine efficient labour price change rates for the Queensland distributors, taking into account:

- The electricity network sector is in contraction
- The extensive evidence that the Queensland distributors' enterprise agreement labour rates are grossly inefficient
- The interaction between labour price change and productivity change – i.e. real labour price increases need to be compensated by offsetting productivity improvements

Appropriate consideration of the above issues will conclude that the Queensland distributors' labour prices should be reducing rather than increasing.

Output Growth

The AER has not justified its decisions to apply higher output growth factors than proposed by the Queensland distributors, and over twice the average annual factor that the AER provided in its recent preliminary determination for SAPN

Productivity

The AER's decision to apply zero productivity change factors to the Queensland distributors is illogical and is not supported by the evidence.

It conflicts with:

- The AER's expectation that the distribution sector will deliver positive productivity improvements over the next regulatory period
- The Queensland distributors' proposals – which both proposed positive productivity improvements
- The AER's intention to apply real labour price increases of 0.66%/annum - such levels of real price growth need to be accompanied by offsetting productivity improvements.

The AER needs to determine positive productivity change factors for the Queensland distributors, aimed at bringing their productivity back into line with their previous productivity levels and into line with the levels being achieved by the electricity transmission, gas distribution and other asset intensive industry sectors.