

Australian Energy Regulator (AER)
Victorian Electricity Distribution Businesses
Access Arrangements 2016–20
Regulatory Proposals


Public Forum, Melbourne – Monday 22 June 2015

Presentation by AER's Consumer Challenge Panel
(CCP) sub-panel 3

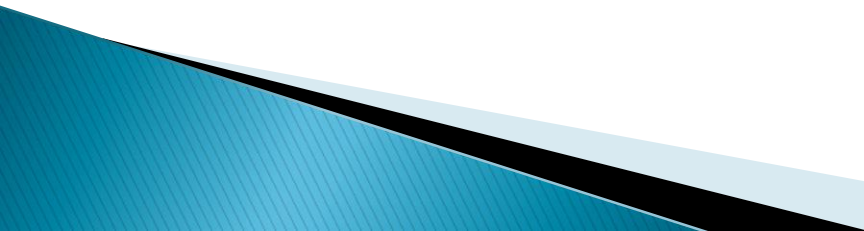
David Prins, Bev Hughson and David Headberry



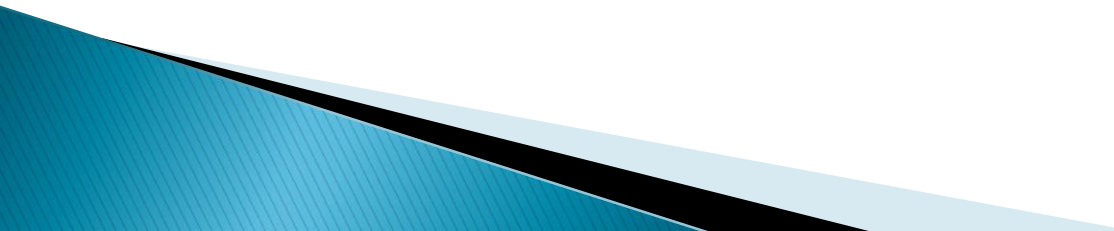
AGENDA

- ▶ Role of the Consumer Challenge Panel (CCP)
 - ▶ Consumer engagement
 - ▶ Forecasting
 - ▶ Pricing
 - ▶ Rate of return
 - ▶ Benchmarking
 - ▶ Operating expenditure (opex)
 - ▶ Capital expenditure (capex)
 - ▶ Incentives and reliability
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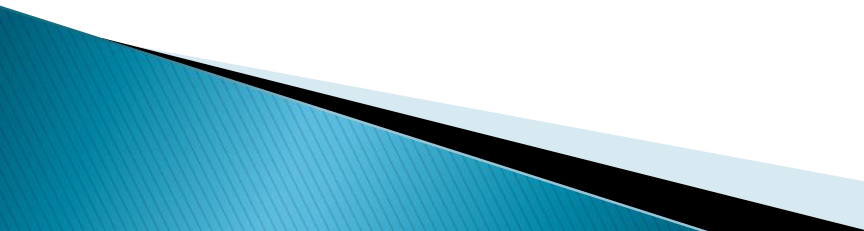
Role of the Consumer Challenge Panel

- ▶ Challenge the businesses and the AER
 - ▶ Review documentation
 - ▶ Meet with the AER and the network businesses
 - ▶ Meet with individual customer representatives
 - ▶ Attend consumer engagement activities initiated by the networks
 - ▶ Tour some network facilities
 - ▶ Provide formal published advice to the AER
 - ▶ Discuss issues with AER staff and AER Board
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Our approach at this public forum

- ▶ Draw on the businesses' proposals and the AER Issues Paper
 - ▶ A snapshot of aspects of the proposals
 - ▶ Highlight some elements that we believe are of interest to stakeholders
 - ▶ Provide input to stakeholders' thinking
 - ▶ Stimulate discussion on the regulatory proposals
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Context of changes in the previous and next five-year periods (1)

- ▶ Global Financial Crisis and its aftermath and effects on financing costs
 - ▶ Changes in the Australian and Victorian economy
 - ▶ Consumer engagement
 - ▶ Smart meter rollout
 - ▶ Uptake of solar PV and other renewables
 - ▶ Storage
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Context of changes in the previous and next five-year periods (2)

- ▶ Smart grids / appliances / buildings / homes
 - ▶ Electric vehicles
 - ▶ Tariff changes
 - ▶ Gas price changes
 - ▶ Consumer interaction with their energy usage
 - ▶ Web portals, in premise displays, smartphone apps
 - ▶ Changes in network security and liability standards
 - ▶ Bushfire awareness and mitigation / safety obligations
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Consumer engagement – overview

- ▶ What consumer engagement has been undertaken by the businesses
 - ▶ How effective and appropriate are the consumer engagement activities
 - ▶ How has consumer engagement influenced the business' regulatory proposals
 - ▶ What can be learnt from consumer engagement to influence the AER's determination
 - ▶ What can be said about the cost effectiveness of the consumer engagement
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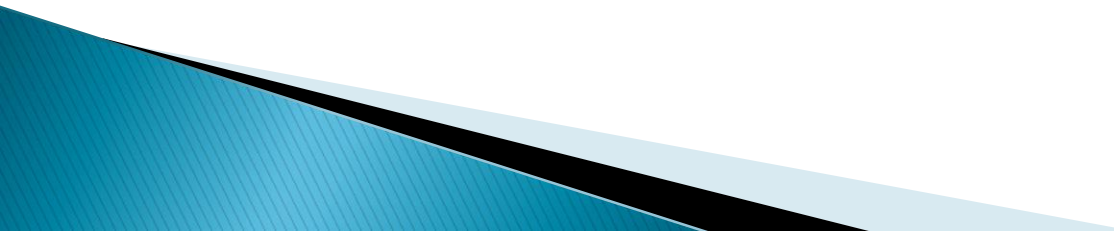
Consumer engagement – activities (1)

	AusNet	CitiPower	Powercor	Jemena	United Energy
Research and analysis of existing customer research	X	X	X	X	X
Telephone surveys	X				X
Online surveys		X	X	X	
Forums (community, retailers or stakeholders, deliberative)	X	X	X	X	
Meetings				X	X
Workshops	X			X	X
Focus groups	X	X	X	X	X
Interviews		X	X	X	X
Follow-up sessions	X				
Community relations activities / shopping centre kiosks				X	X


Consumer engagement – activities (2)

	AusNet	CitiPower	Powercor	Jemena	United Energy
Industry engagement	X				
Asset tours		X	X		
Website		X	X	X	
Social media (Twitter / Facebook)		X	X		
e-newsletters		X	X		
Letters		X	X		
Consultation paper and submissions		X	X		
Customer consultative committee /	X			X	
Customer council					
Customer literacy programs					X

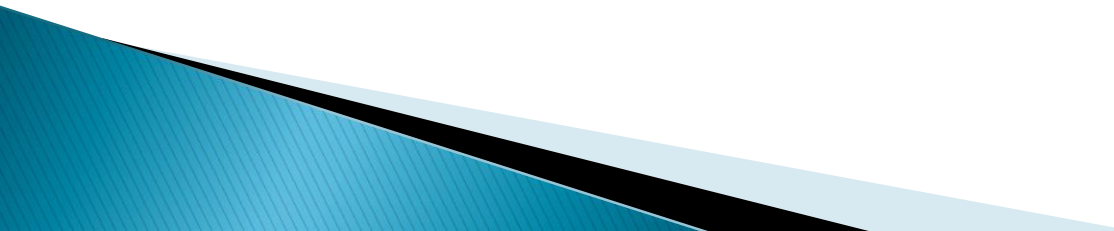
Consumer engagement – selection of claims (1)

- ▶ CitiPower and Powercor customers want the distributors to pay close attention to safety and maintenance and they support additional investment in activities that reduce risk of fire danger
 - ▶ CitiPower and Powercor customers say future needs are best met by a smart grid to enable choice and flexibility
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Consumer engagement – selection of claims (2)

- ▶ AusNet Services found consumers want high levels of reliability and safety
 - ▶ With respect to the costs of mitigating bushfire risk, AusNet Services reported that its regional customers consider urban customers should contribute because they benefit from regional products and services such as agricultural output and tourism
 - ▶ Jemena customers want to be informed to make their own energy decisions, and they prioritise reliability and safety
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Consumer engagement – selection of claims (3)

- ▶ United Energy customers do not want to accept lower reliability in exchange for lower prices
 - ▶ United Energy customers perceive electricity to be a basic utility. Electricity supply should be constant and of high quality, and customers do not see any reason to pay a premium for improved reliability
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Forecasting – customer numbers

- ▶ All of the distribution businesses provided either actual customer numbers or forecast growth in customer numbers over the next regulatory period.
- ▶ Table 3.1 compares the forecast customer numbers for each distributor with the historic rate of growth in customer numbers over the previous two regulatory periods. The businesses' proposed growth in customer numbers is broadly in-line with recent historic growth rates, with the exception of CitiPower and Jemena. These two businesses forecast faster growth in customer numbers than has occurred in previous regulatory periods

Forecasting – customer numbers

- ▶ Historic and forecast growth in customer numbers

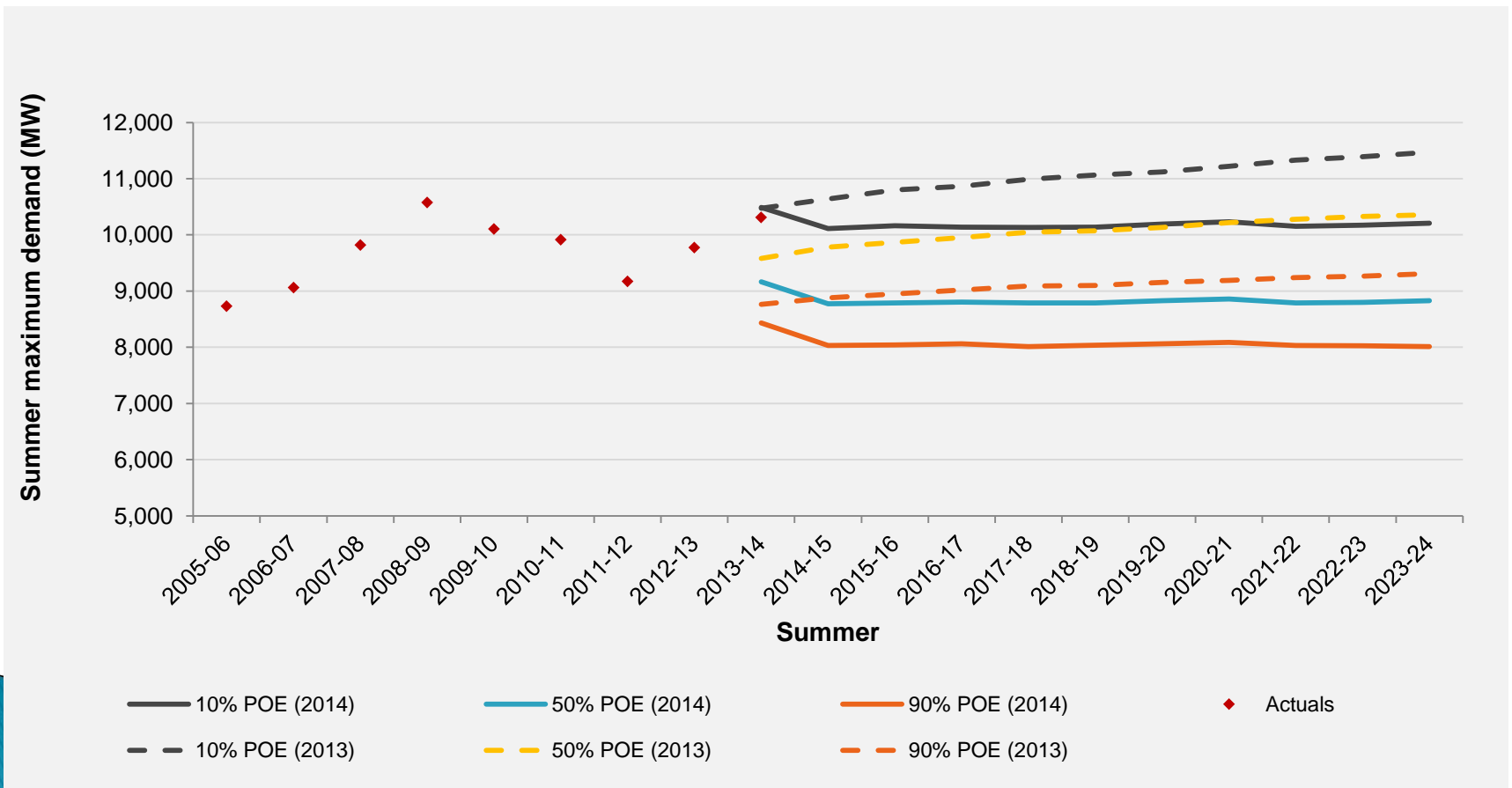
Distributor	2006–2010	2010–2014	2016	2017	2018	2019	2020
AusNet Services	1.62%	1.50%	NA	1.61%	1.57%	1.49%	1.46%
CitiPower	1.26%	1.25%	2.00%	1.60%	1.60%	1.60%	1.60%
Jemena	1.37%	0.71%	NA	1.24%	1.24%	1.25%	1.25%
Powercor	1.88%	1.70%	1.70%	1.80%	1.80%	1.80%	1.80%
United Energy	0.85%	0.96%	1.00%	1.00%	1.10%	1.00%	1.00%

Forecasting – customer numbers

- ▶ How do forecast customer numbers compare with
 - Historical trends
 - Other statistical forecasts

Forecasting - peak demand

- ▶ AEMO 2014 National Electricity Forecasting Report operational summer maximum demand forecasts for Victoria (10-year outlook - MW)



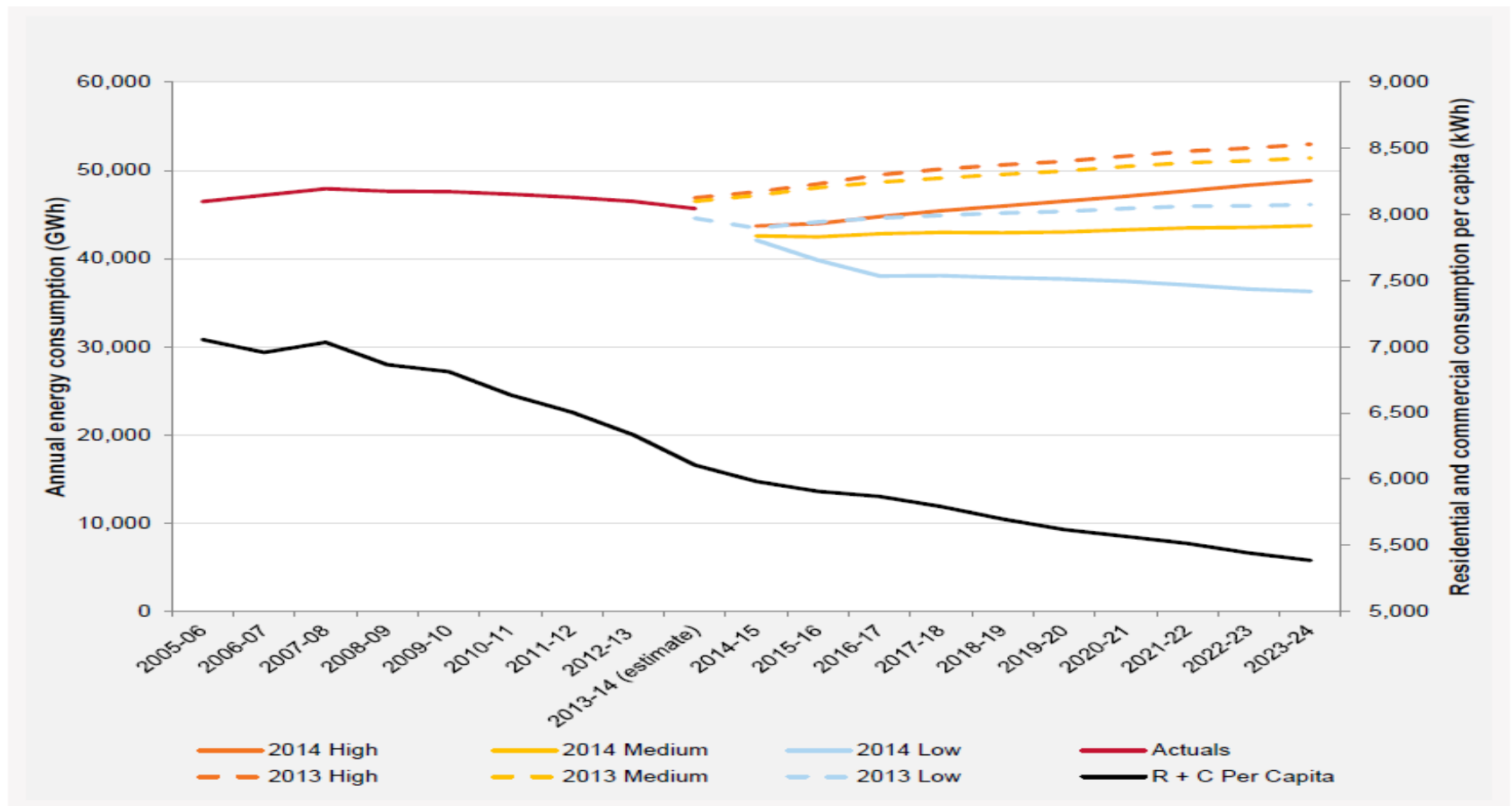
Forecasting – peak demand

- ▶ Forecast growth in peak demand (Summer, POE10)

Distributor	Period	Regulatory Proposal Forecasts	AEMO forecast
AusNet Services	2015–2020	1.07%	-0.09%
CitiPower	2015–2024	2.38%	0.40%
Jemena	2015–2024	1.46%	-0.10%
Powercor	2015–2024	3.54%	0.27%
United Energy	2015–2024	2.05%	0.14%

Forecasting - energy consumption

▶ Historic and Forecast Annual Energy Consumption for Victoria



Forecasting – energy consumption

- ▶ Historic and forecast growth rate of annual energy consumption by distributor

Distributor	Historic energy growth 2006–2013	Forecast energy growth 2016–2020
AusNet Services	0.20%	–0.08%
CitiPower	0.02%	2.16%
Jemena	–0.08%	1.20%
Powercor	0.56%	1.38%
United Energy	–0.11%	0.51%

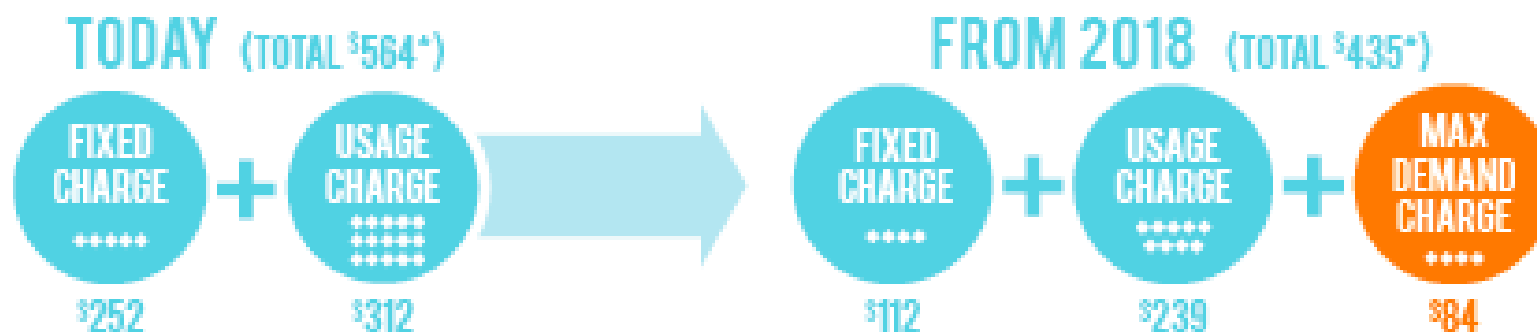
Pricing

- ▶ Changes to tariff structures
- ▶ Jemena is proposing to introduce a 'maximum demand charge' for all residential and small business customers

Pricing – Jemena proposal

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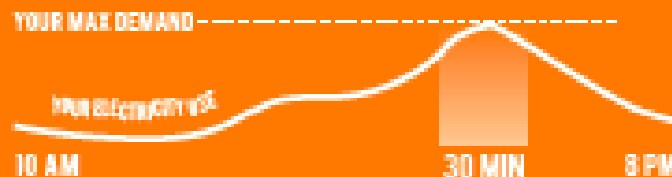
How we work out your network bill will change from 2018



Today our network bill for your home is made up of a fixed amount plus a consumption amount based on how much electricity you use.

From 2018, we will lower fixed and consumption charges, and instead add a new amount based on your highest electricity use at peak times. We call this your 'maximum demand'.

Your highest electricity use in any 30 minute block at peak times, between 10am and 8pm weekdays, calculated every month.



*Estimated network bill for an average household, not including the impact of inflation.

Rate of Return (WACC)

- ▶ Largest impact and largest area of dispute
- ▶ Following AEMC changes to NER, AER developed guidelines for forecasting expenditure and for assessing the WACC
 - Networks seeking some “certainty” in how the AER proposes to assess WACC under new Rules
- ▶ AER Rate of Return Guideline developed after a year of consultation with all stakeholders
- ▶ Guideline not mandatory but need good reasons to vary
- ▶ Basic rate of return model locked in (WACC = 60% return on debt & 40% return on equity; but new Rules give AER greater discretion
 - –the NEO and the rate of return objective central

Rate of return (WACC) –

It's the return on equity that's the issue

	Ausnet %	CitiPower %	Powercor %	Jemena %	United Energy %	AER SAPN %
Overall WACC	7.19	7.20	7.20	7.18	7.38	5.45
Return on Equity	9.90	9.90	9.90	9.87	9.95	7.1
Return on debt	5.39	5.39	5.39	5.39	5.67	5.47
Equity risk premium	7.26	7.26	7.26	7.23	7.31	4.46 [5.2]

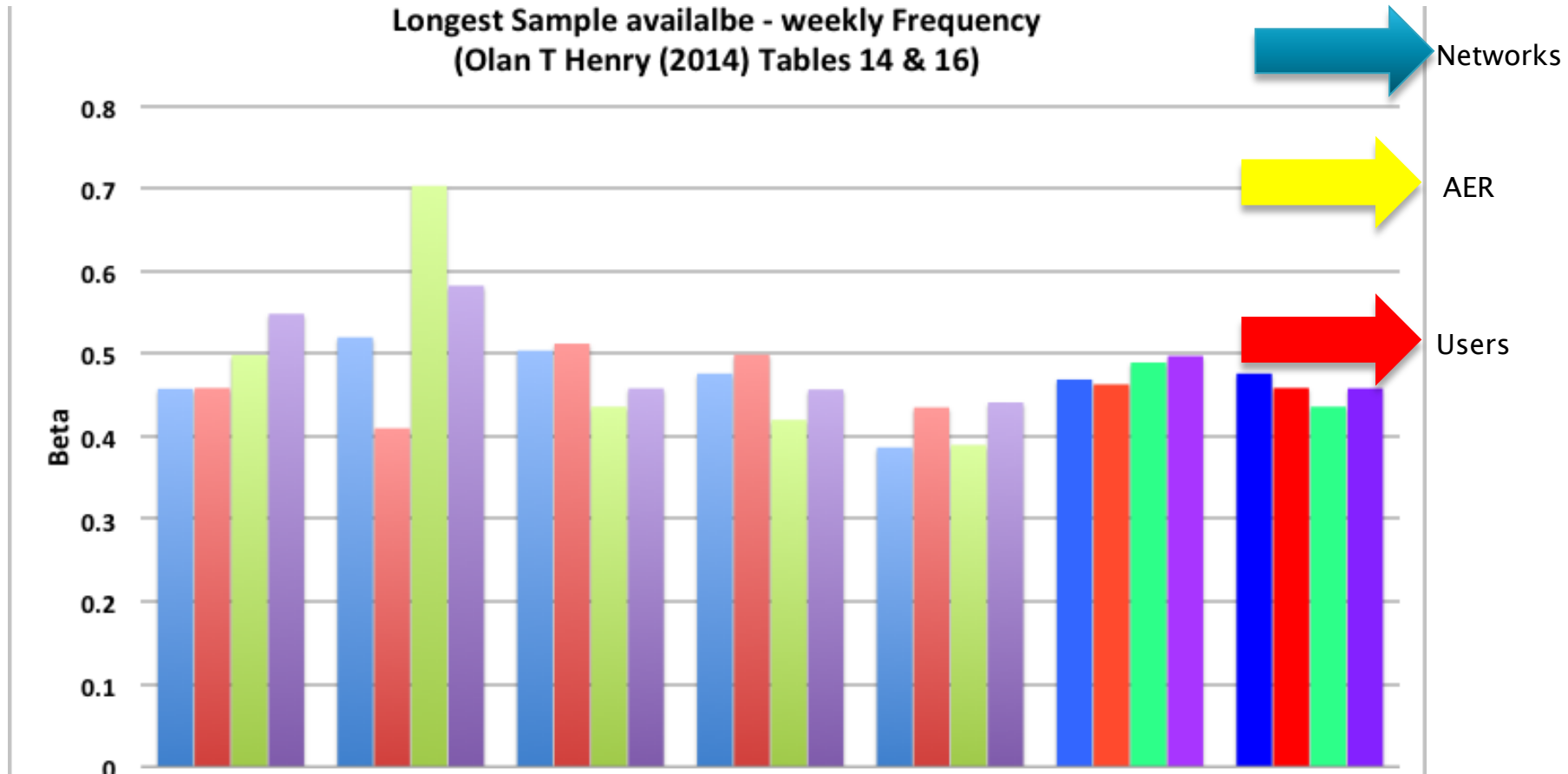
[ERP in
2010]

The networks approach to equity: multi-model assessment

Model Type	Return on Equity %	Weighting (exc Jem) %	Weighting (Jem) %	ERP (exc Jem) %	AER approach (estimate)
S-L CAPM (adapted)	9.32	12.5	25.0	6.68	7.1
Black CAPM	9.93	25.0	25.0	7.29	Some Impact on equity beta
Fama-French	9.93	37.5	25.0	7.29	No impact
Dividend Growth	10.32	25.0	25.0	7.68	Some Impact on MRP
Outcome (weighted)		9.90-9.95	9.87	7.26-7.31	

Risk Free rate 2.64%

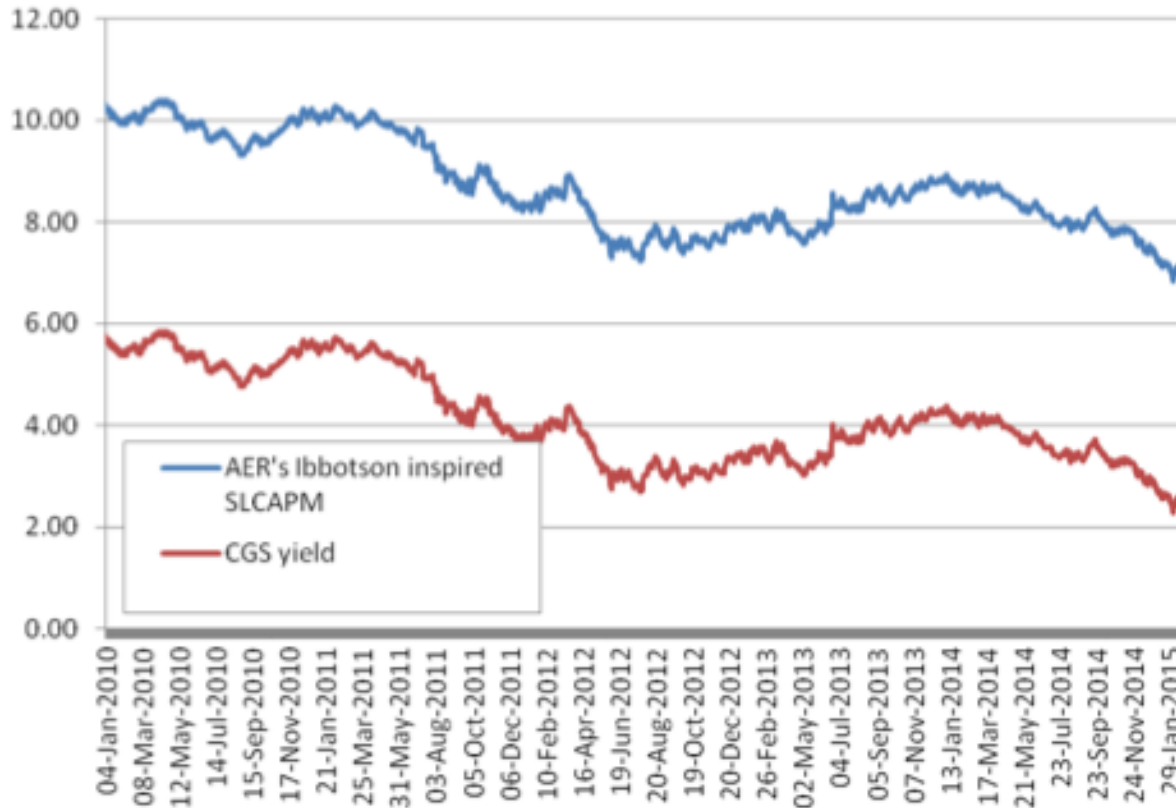
The equity beta debate - an example



Source: Henry O (2014), CCP Analysis

The interest rate debate

Figure 12.1: Impact of changes in CGS yields on the AER's application of the SL-CAPM



Source: Ausnet Services, Regulatory Proposal, April 2015, p 273.

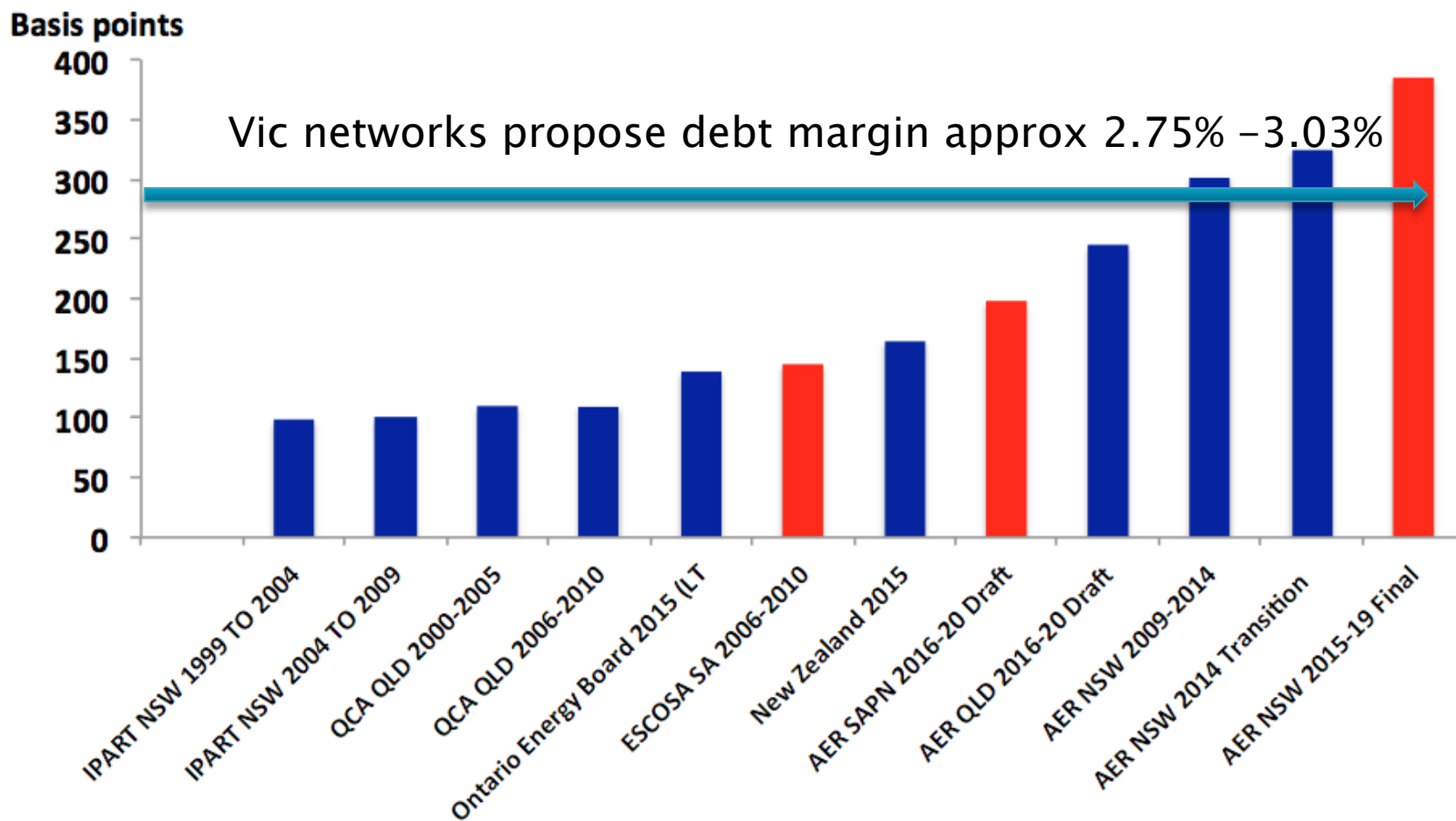
The interest rate debate - (2)

Figure 12.1: Impact of changes in CGS yields on the AER's application of the SL-CAPM



Source: Ausnet Services, Regulatory Proposal, April 2015, p 273, CCP Analysis.

Debt margin (nominal debt less nominal risk free rate)



Source: CME Analysis for CCP (South Australia (May 2015))

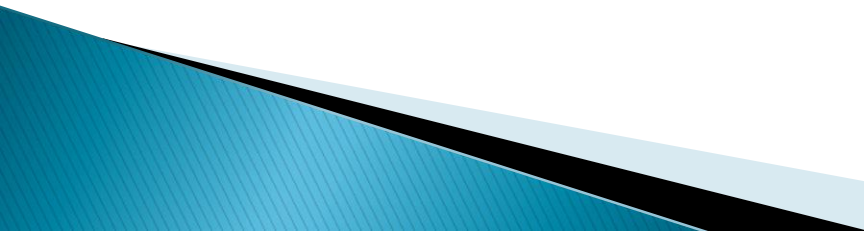
Overall picture:

- ▶ Low risk businesses – strong cash flow certainty, no apparent difficulty raising funds – substantially oversubscribed
- ▶ Market is sanguine about the regulatory outcomes so far this year: eg
 - SKI Morgan Stanly target price: Feb = \$1.71; May = \$2/share. Analysis of 10 equity analysts:

Recommendation Trends				
	Current Month	Last Month	Two Months Ago	Three Months Ago
Strong Buy	0	0	1	1
Buy	6	6	6	6
Hold	3	3	2	2
Underperform	2	2	2	2
Sell	0	0	0	0

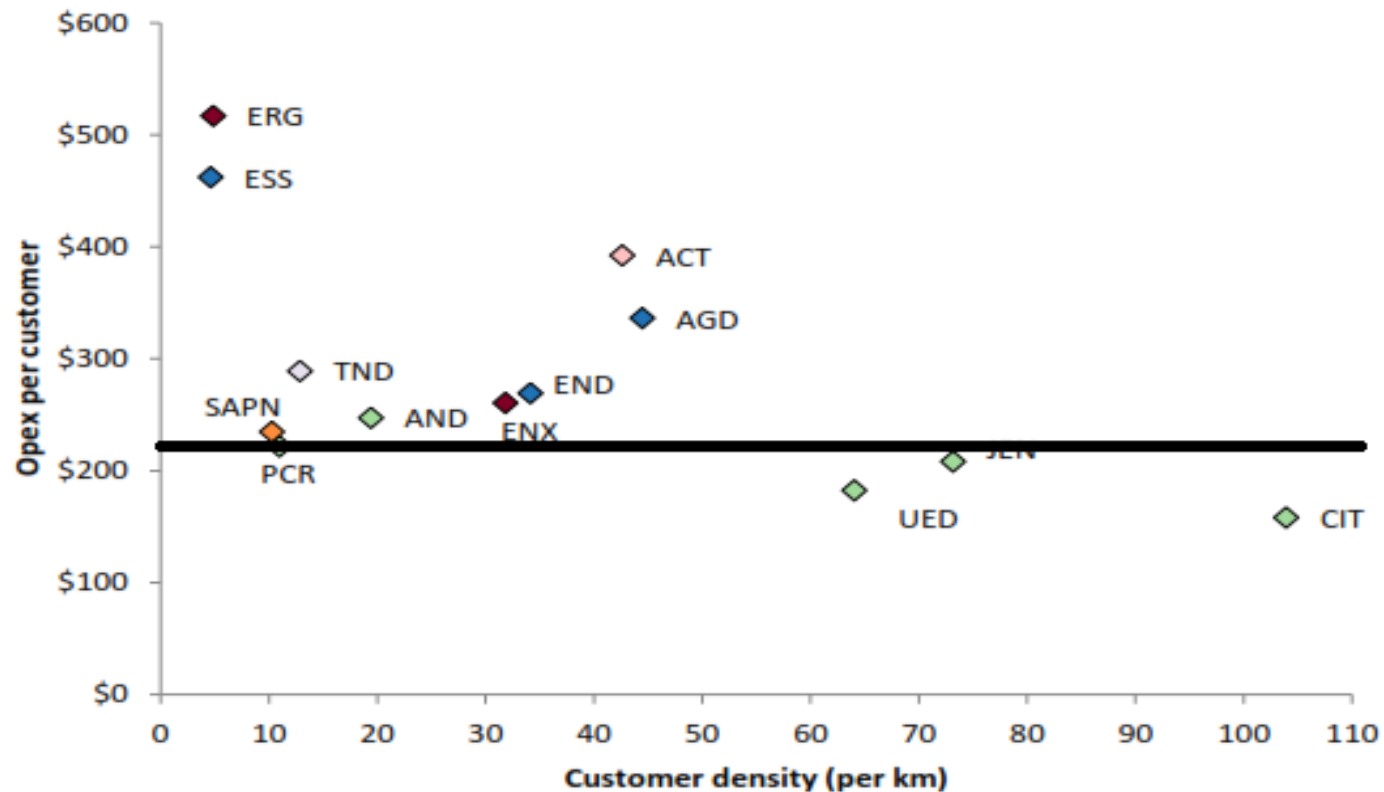
Source: CME Analysis, presented at CCP presentation, May 2015.

Benchmarking

- ▶ The Victorian networks have been exposed to an incentive on opex since 2001. This gives some confidence that they will be reasonably efficient
 - ▶ Averaged over a 7 year period, the Vic networks appear to be the most efficient in terms of opex per customer and customer density per km of line
 - ▶ This gives some confidence that the current opex might be efficient
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Benchmarking

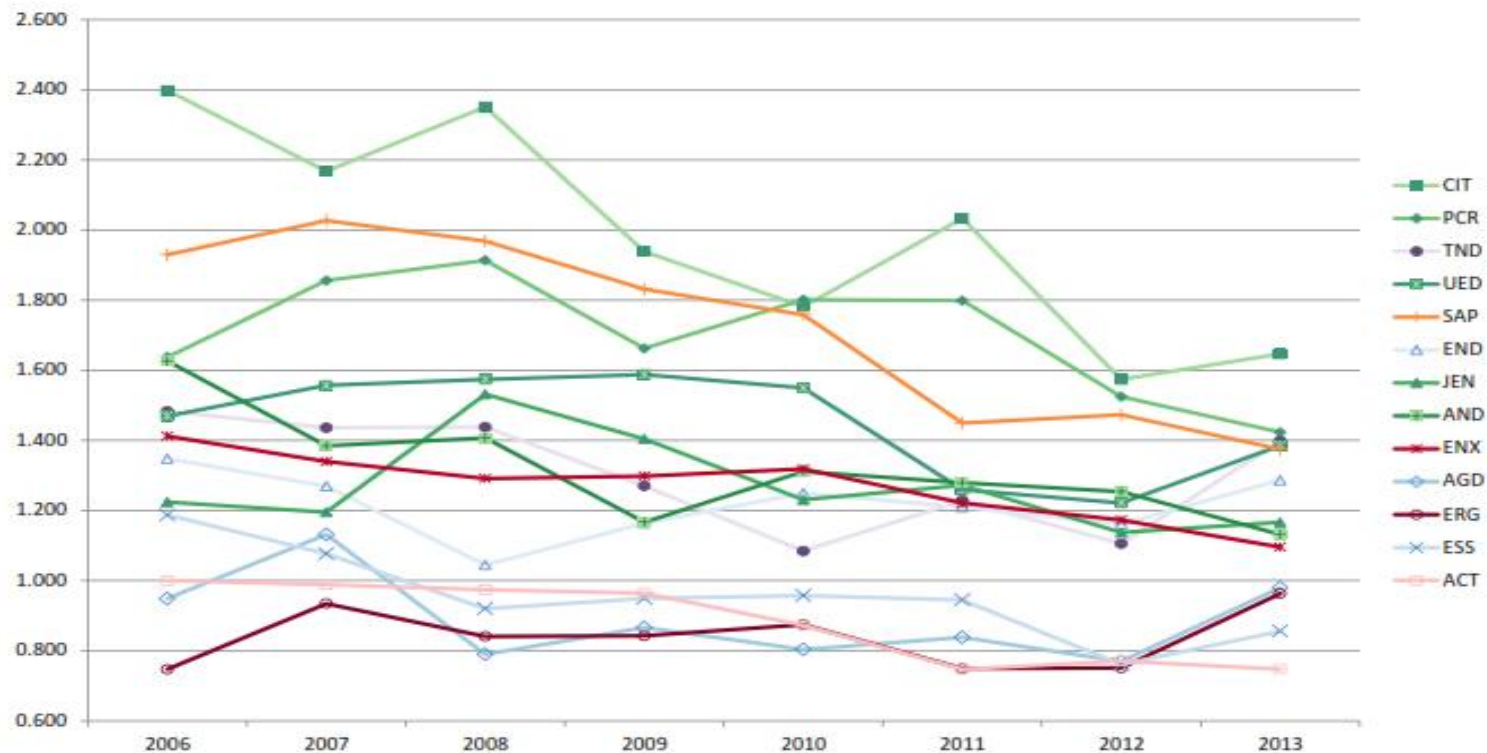
Figure 12 Operating expenditure per customer compared to customer density (average 2009–2013)



Benchmarking

But a note of concern arises when looking at the trend over the last 7 years

Figure 19 Partial factor productivity of opex



Benchmarking

- ▶ The trend for all Victorian networks is downward, but not at the same rate
- ▶ Ausnet, JEN, CP and PC clearly have a strong downward trend, although at different rates
- ▶ UE was good for a number of years, fell off but recently picked up
- ▶ What is concerning is that many of the other networks while having poorer performance, do not exhibit the same downward trends and some have an upward trend.
- ▶ What is the cause of the drop off of Vic network performance?
- ▶ Does the drop off of performance imply the base year opex is not efficient?

Operating expenditure (opex)

Forecast Component	Vic Networks proposals (overview)	CCP Initial Comments
Base Year	Accept 2014 as base year with no efficiency adjustment (as occurred for NSW and Qld)	We are concerned about the productivity declines – seek further investigation of assumption of efficient base year
Trend	Proposing cost increases above CPI Significant output growth No productivity growth (except Jem)	We do not accept cost increases above CPI for labour or materials without further evidence of rising wages Output growth appears high Expect productivity growth
Step Changes	Significant step changes for bushfire management & insurance Consumer engagement & DMIA driving other changes	CCP considers the step change proposals overstate incremental opex costs
Overall	Increases range from 25% (UE)31% (Jem), 35%,(AusN) 44% (P'cor), 75% (C/Power)	The increases in opex do not seem justified given the static condition of the market. Changes in cost allocation & service classification make assessment more difficult. Impact on future efficiency?

Capital expenditure (capex)

Some general observations

- ▶ Connections capex is meant to be recovered from those seeking the new connection
- ▶ Even though the amount of capex sought for this regulatory period does not add much to this regulatory period revenues, it becomes a heavy impost on future consumers for the next 40–50 years
- ▶ There is a concern that the estimated lives of assets varies between DBs
- ▶ This impacts repex and regulatory depreciation

Capital expenditure (capex)

Table 4.4.1 Asset Lives – estimated service life of new assets		Ausnet	CP	JEN	PC	UE
Overhead network assets less than 33kV (wires and poles)	years	47	49	62	51	36
Underground network assets less than 33kV (cables)	years	55	49	49	51	36
Distribution substations including transformers	years	62	49	48	51	36
Overhead network assets 33kV and above (wires and towers / poles etc)	years	54	49	64	51	60
Underground network assets 33kV and above(cables, ducts etc)	years	55	49	40	51	60
Zone substations and transformers	years	57	49	46	51	60
Meters	years	0	0		0	5
“Other” assets with long lives	years	0	12	30	15	8
“Other” assets with short lives	years	5	6	7	6	5

Capital expenditure (capex)

Some general observations from the AER IP

- ▶ CP and PC forecast more capex for the current period than they used whereas the other DBs tended to use more capex than they forecast
- ▶ AER allowances for the current period were less than the forecasts
- ▶ All DBs used more capex than allowed for the current period other than CP which used less
- ▶ All DBs used less augex than allowed but more repex than allowed other than CP which used less repex
- ▶ Despite static overall demand, all DBs want more capex for the next period than they used in the current period

Capital expenditure (augmentation)

- ▶ AEMO forecast overall Victoria is that demand over the next decade will not exceed the peak demand and peak consumption seen in 2008
- ▶ Despite this every network forecasts an increase in non-coincident peak demand but AEMO forecasts for each network are considerably lower than the network forecasts
- ▶ Except for Ausnet every network wants to maintain augex at current levels or increase it
- ▶ Ausnet state their forecast for augex is based in data derived from their IM data and based on this they have halved their augmentation capex from current levels

Capital expenditure (augmentation)

Table 4.3 Victorian distributor augmentation capital expenditure proposals

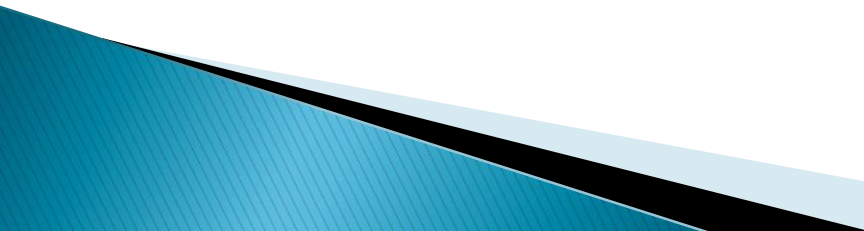
Distributor	2016–20 augex (\$million, 2015)	Proportion of total capex (per cent)	Change from actual augex in 2011–15 period
AusNet Services	314	16	-146
CitiPower	203	20	17
Jemena	141	17	26
Powercor	362	16	145
United Energy	167	14	-16

Source: Distributor regulatory proposals and RINs.

Capital expenditure (replacement)

- ▶ The need for replacement is driven by age and by condition
- ▶ But!
 - A weighted average expected life of distribution assets is about 47.5 years across all DBs.
 - The weighted average remaining life of the network assets shows that all have a remaining life of between 20 and 30 years
 - This means that the assets have on average more than half of their expected lives remaining
 - AER consultant engineer EMCa for the NSW elec DB review where EMCa was critical of some of the conservative risk assessment inputs used in developing the likely need for replacement of assets. Condition monitoring develops the "Health Index" used to rank assets for replacement

Capital expenditure (replacement)

- ▶ All networks assert their assets are ageing and need replacement
 - ▶ All networks are seeking more repex than used in the current period
 - ▶ Repex also includes replacement of assets needed as a result of the VBRC recommendations, which particularly impacts Ausnet and PC
 - ▶ But the current period repex already includes significant repex for the VBRC activities
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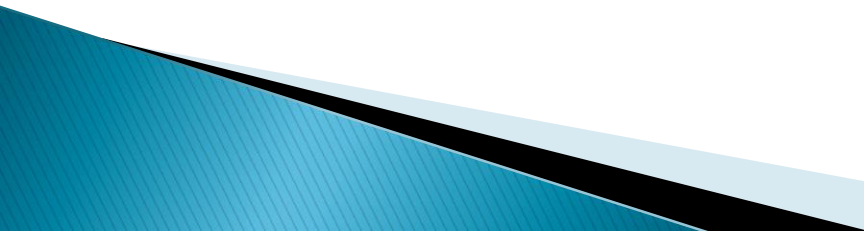
Capital expenditure (replacement)

Table 4.2 Victorian distributor replacement capital expenditure proposals

Distributor	2016–20 repex (\$million, 2015)	Proportion of total capex (per cent)	Change from actual repex in 2011–15 period
AusNet Services	901	46	214
CitiPower	260	26	107
Jemena	224	27	61
Powercor	722	33	279
United Energy	585	49	179

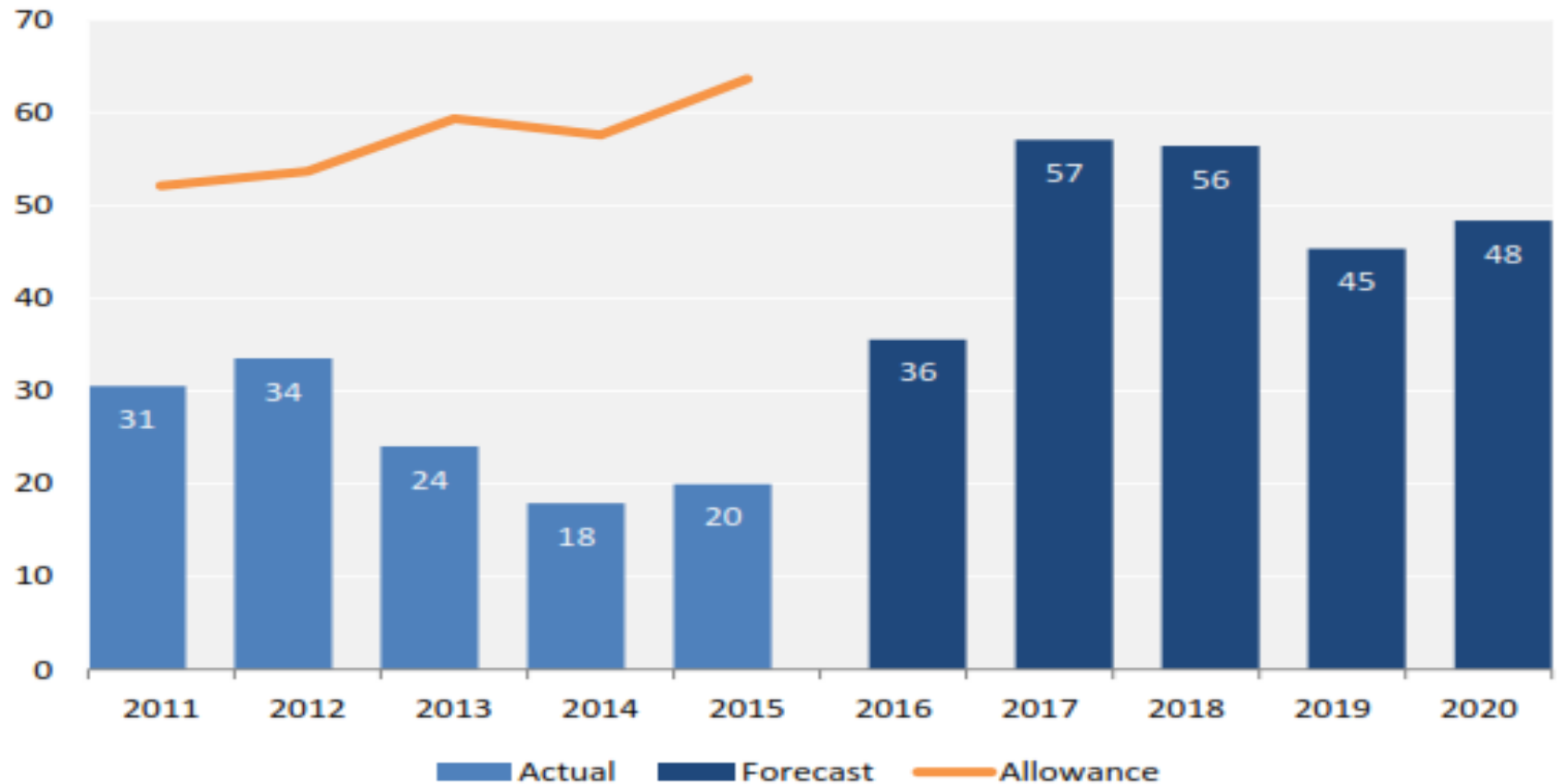
Source: Distributor regulatory proposals and RINs.

Capital expenditure (example Powercor)

- ▶ In the current period Powercor used \$127m for augex (less than allowed) and \$420m for repex (about what was allowed)
 - ▶ Despite peak demand forecasts to still not even reach actual 2008 levels, Powercor wants \$242m for augex – a near doubling of augex
 - ▶ Despite the average residual life of its assets increasing to more than 50% of the expected life, Powercor wants \$665m for repex – nearly 60% more repex
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Capital expenditure (example Powercor)

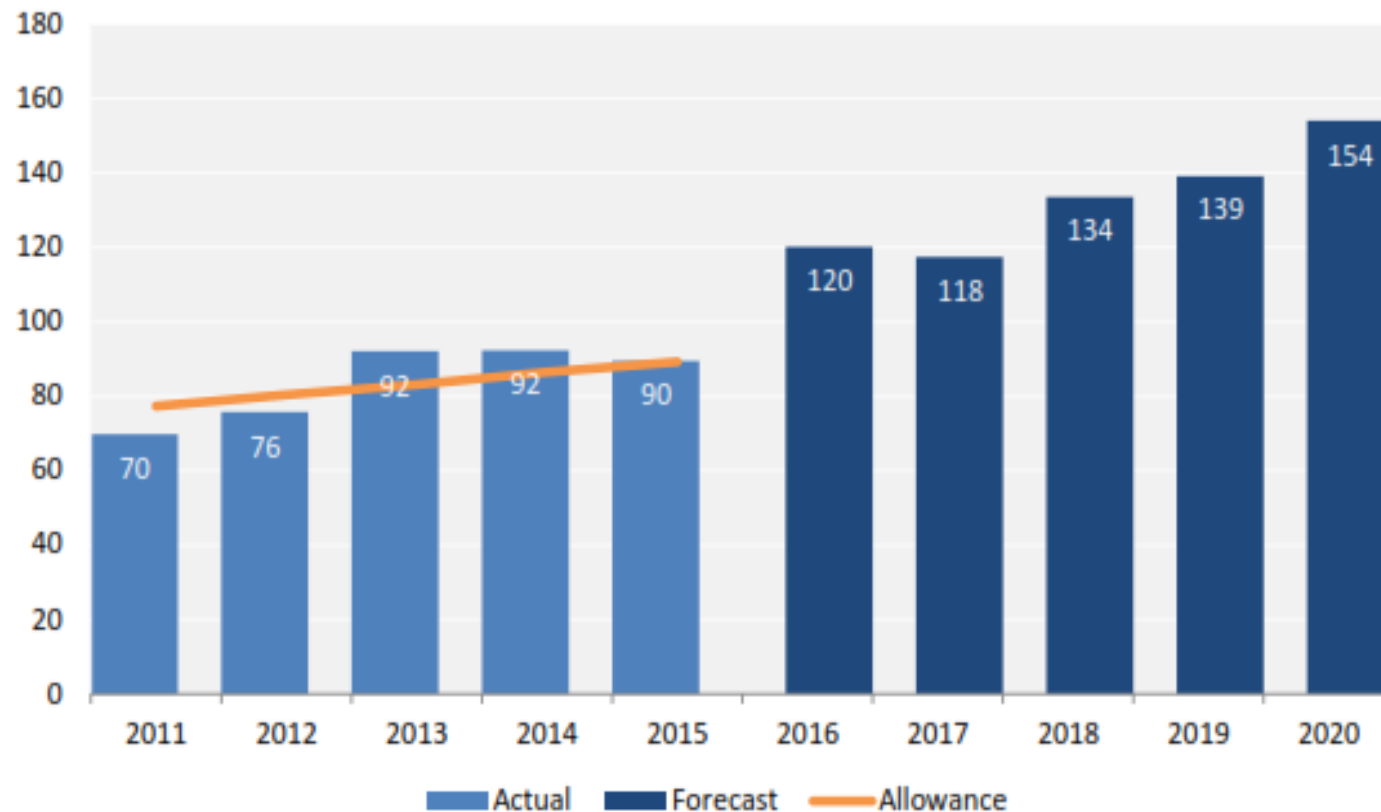
Figure 4.1 Augmentation direct capital expenditure (\$ million, 2015)



Source: Powercor

Capital expenditure (example Powercor)

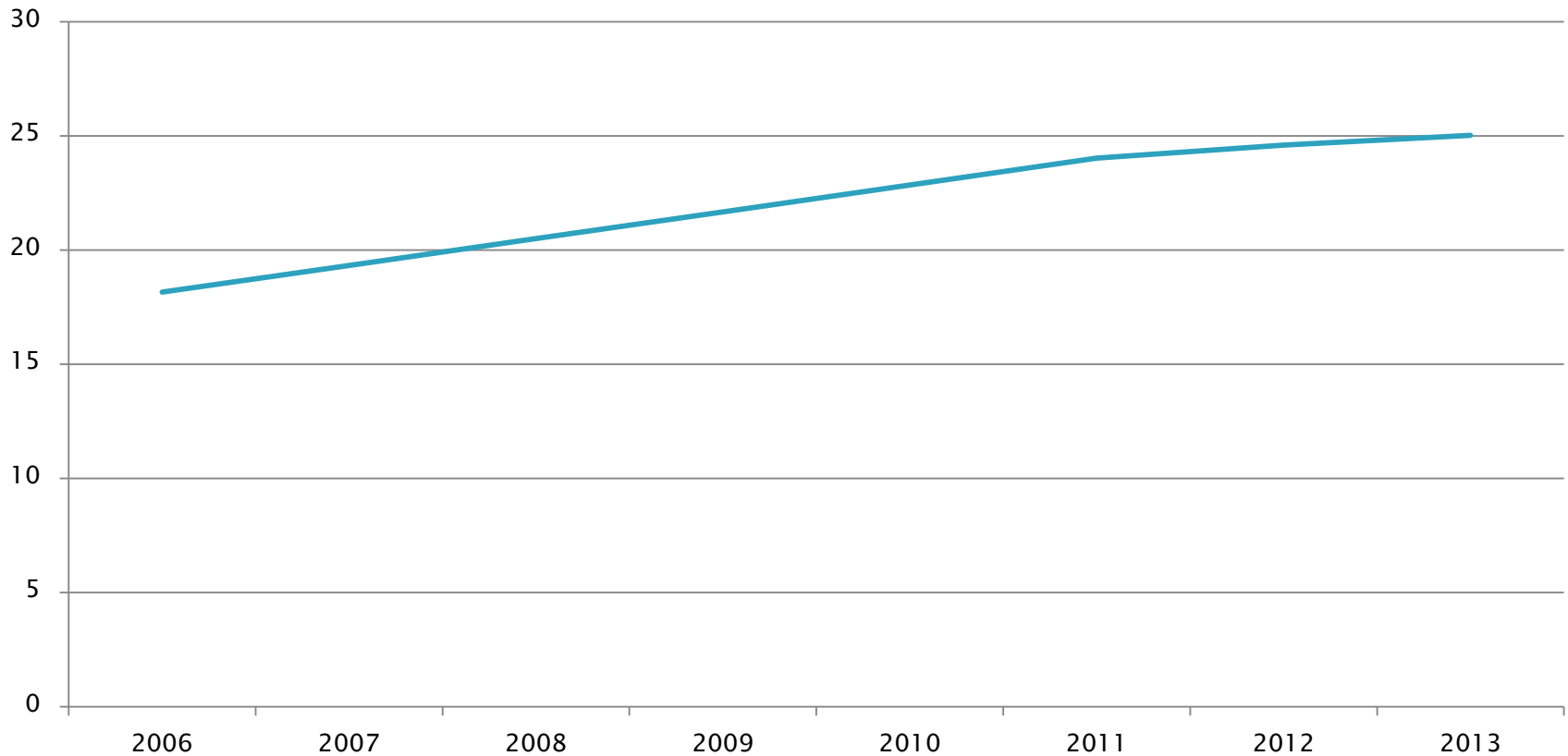
Figure 3.1 Replacement direct capital expenditure (\$2015, million)



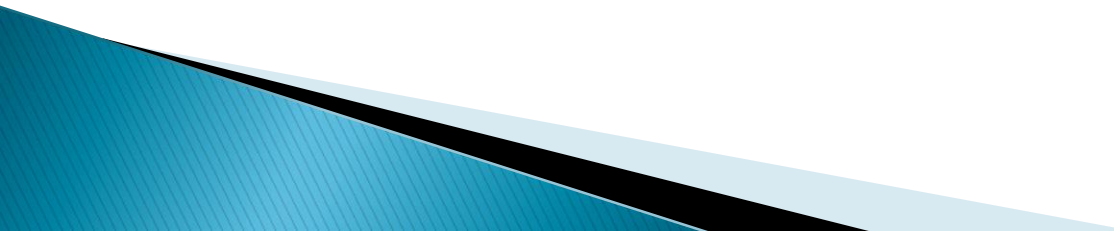
Source: Powercor

Capital expenditure (example Powercor)

weighted average residual life PC assets (years)



Incentives and reliability

- ▶ All networks accept the use of the STPIS, EBSS and CESS which are designed to work together
 - ▶ All networks have a view that some change is needed to one or more of the incentives
 - ▶ CCP3 considers that any change to an incentive modifies the relativity between the incentives and should be avoided
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Incentives and reliability

- ▶ STPIS is intended to incentivise networks to improve the reliability of supply but it needs to be balanced with the other incentives for opex and capex
- ▶ AEMO has revised downwards the VCR so the import is that STPIS benchmarks need to be revised as a lower VCR implies a lower reliability
- ▶ Assets are already in place with significant spare capacity due to lower demand so any impact on use of a lower VCR will be minimal for this regulatory period

THANK YOU