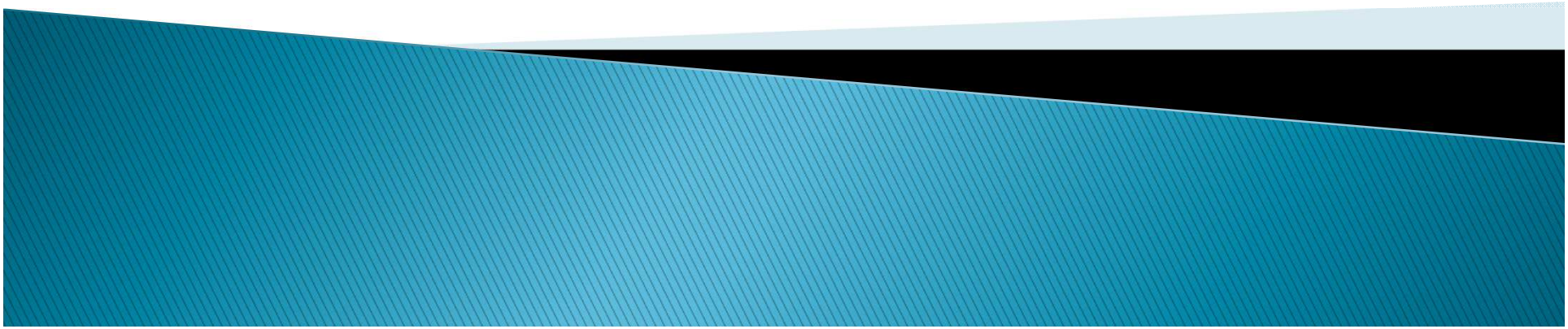
Australian Energy Regulator (AER)
Tasmanian Electricity Distribution Businesses
Access Arrangements 2017-19
Regulatory Proposal

Public Forum, Hobart – Thursday 17 March 2016

Presentation by David Headberry

AER's Consumer Challenge Panel (CCP) sub-panel 4
Jo de Silva, Hugh Grant and David Headberry

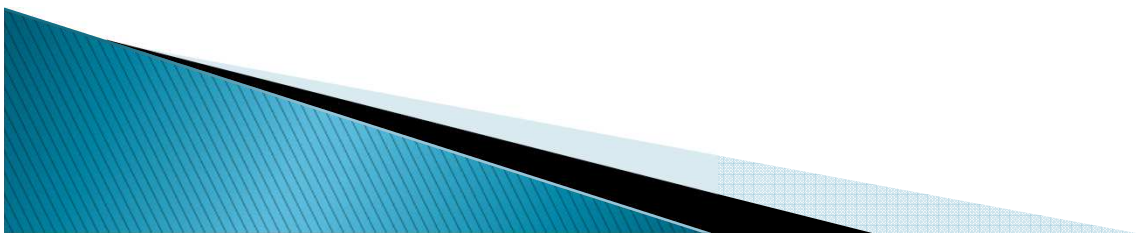


AGENDA

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

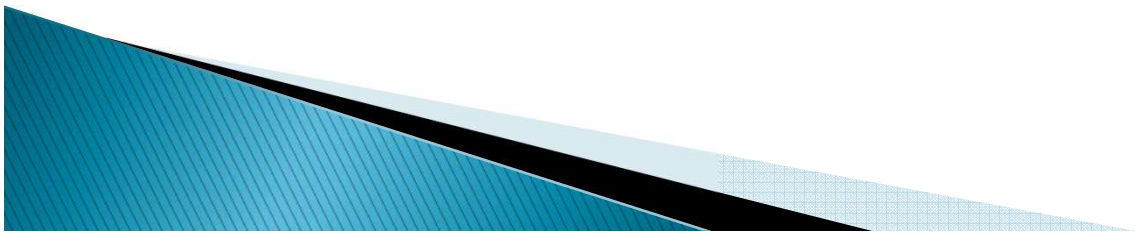
Role of the Consumer Challenge Panel

- 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



My approach at this public forum

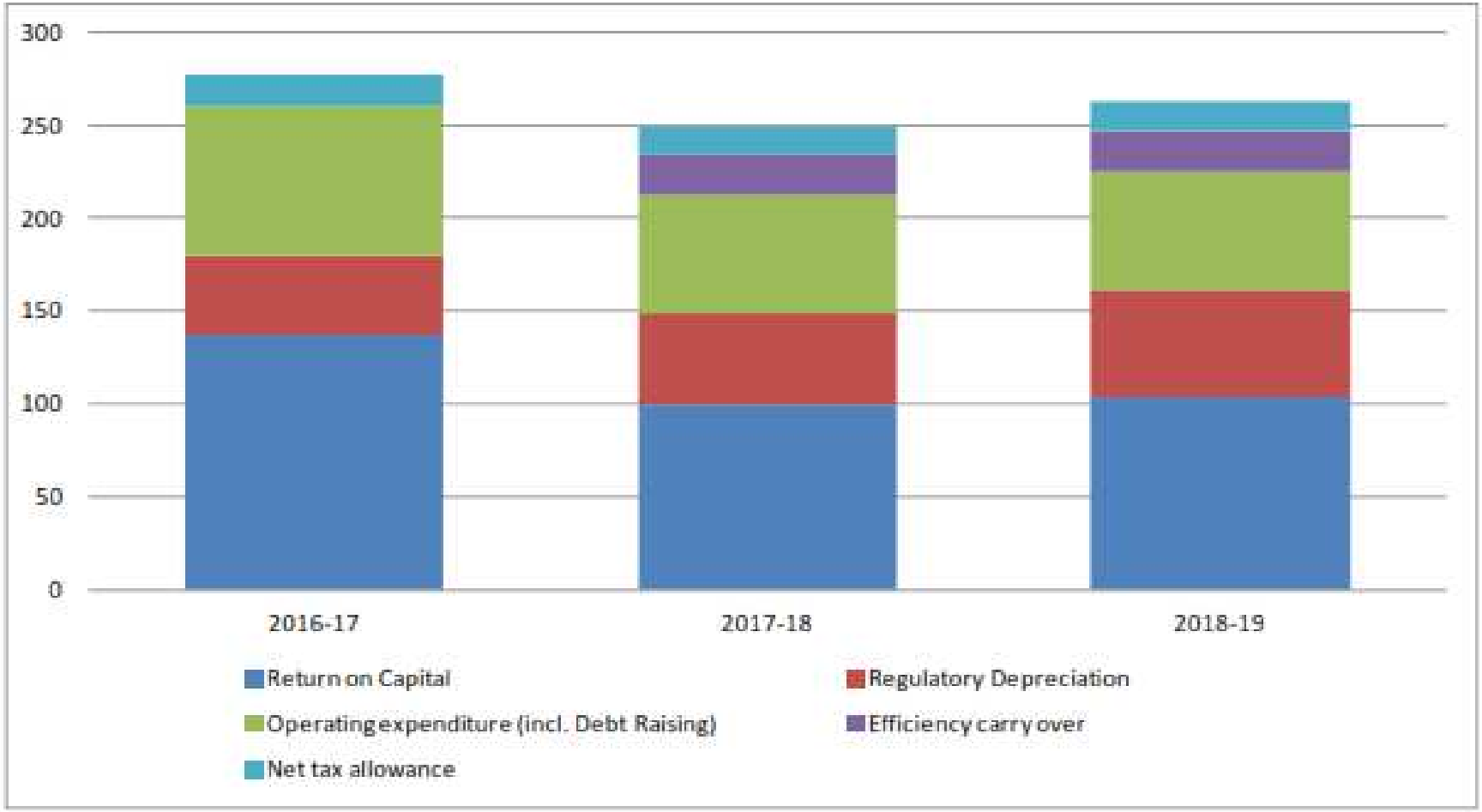
- Draw on the TasNetworks proposal and the AER Issues Paper
- I do not propose to re-address what the AER has in its Issues Paper
- But to highlight some elements that we believe are of interest to consumers
- And so provide input to consumers' thinking
- And stimulate discussion on the regulatory proposal



The TND proposal – revenue

The main contributor to revenue is WACC*RAB but see growing depreciation and incentive payments

Figure 14-1: Summary Building Block Unsmoothed Revenue Requirement ($m nominal)

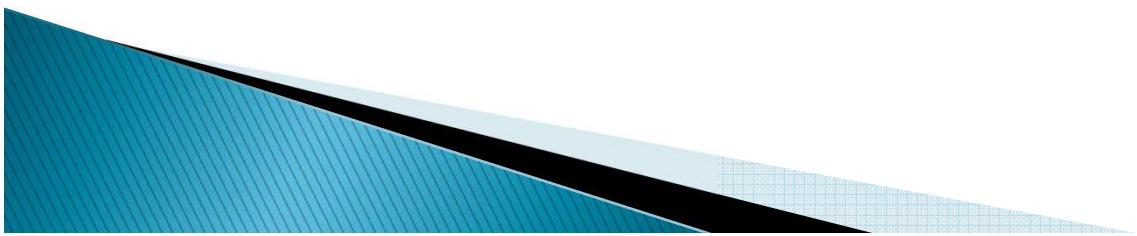


Context of changes in the previous and next regulatory period (1)

- A shorter regulatory period
- Changes in the Australian and Tasmanian economy
- Low dam levels and importance of Basslink
- Consumer engagement started
- Greater consumer interaction with their energy usage
- Tariff changes (TSS)
- Gas price changes
- Bushfire awareness and mitigation / safety obligations

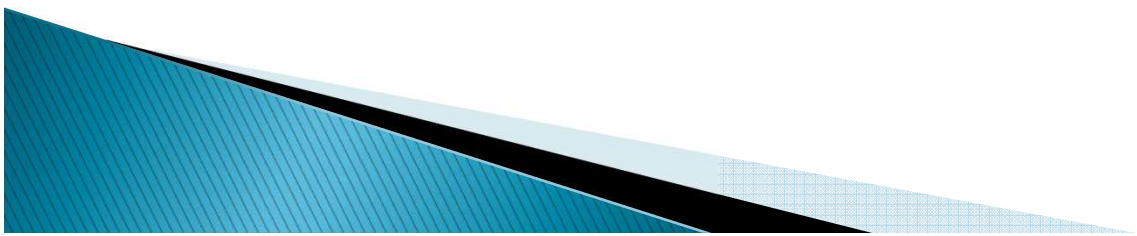
Context of changes in the previous and next regulatory period (2)

- Changes in network security and reliability standards
- Uptake of solar PV and other renewables
- Storage
- Smart grids / appliances / buildings / homes
- Electric vehicles
- Web portals, in premise displays, smartphone apps



TND 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 proposal and the AER's determination



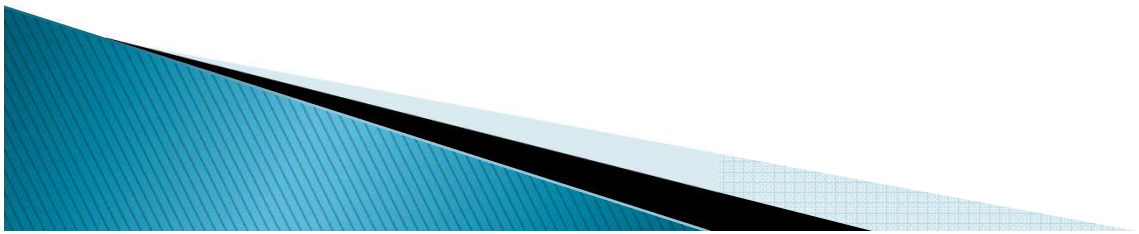
TND consumer engagement – activities

- Working groups
- Agfest education and engagement
- Surveys
- Formal consultations seeking submissions
- Customer council

There remains the underlying problem of sufficient context provided during CE activities

TND consumer engagement – key outcomes

- Lower prices sought
- Reliability is OK and needs to stay as is
- “No” to higher prices for better reliability
- “Average” consumers do not yet have the understanding to provide informed input on the complex issues faced
- TND appears to have responded to its CE by reducing its opex and capex expectation



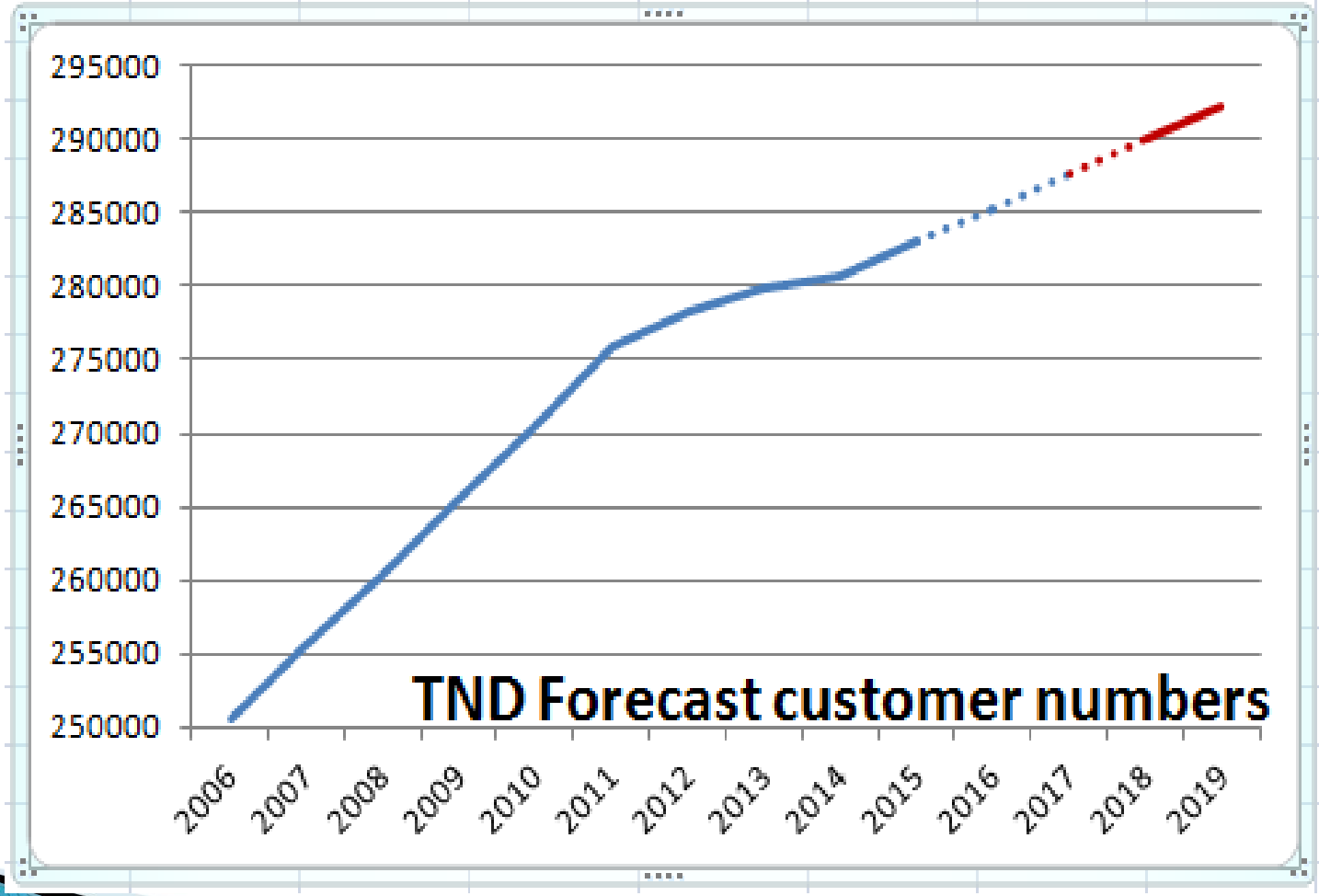
Consumer engagement – wider observations

- These CE outcomes are typical of what we see in other regions ie lower prices, no reduction in reliability, although not all networks have reduced opex and capex
- CE is beset by the challenge of context of the information provided and complexity of the issues

- Overall, CCP4 considers that the TND CE has been done quite well and feedback on the CE from consumers has been positive
- This does not necessarily provide support that all TND conclusions from its CE are accepted

Forecasting – customer numbers

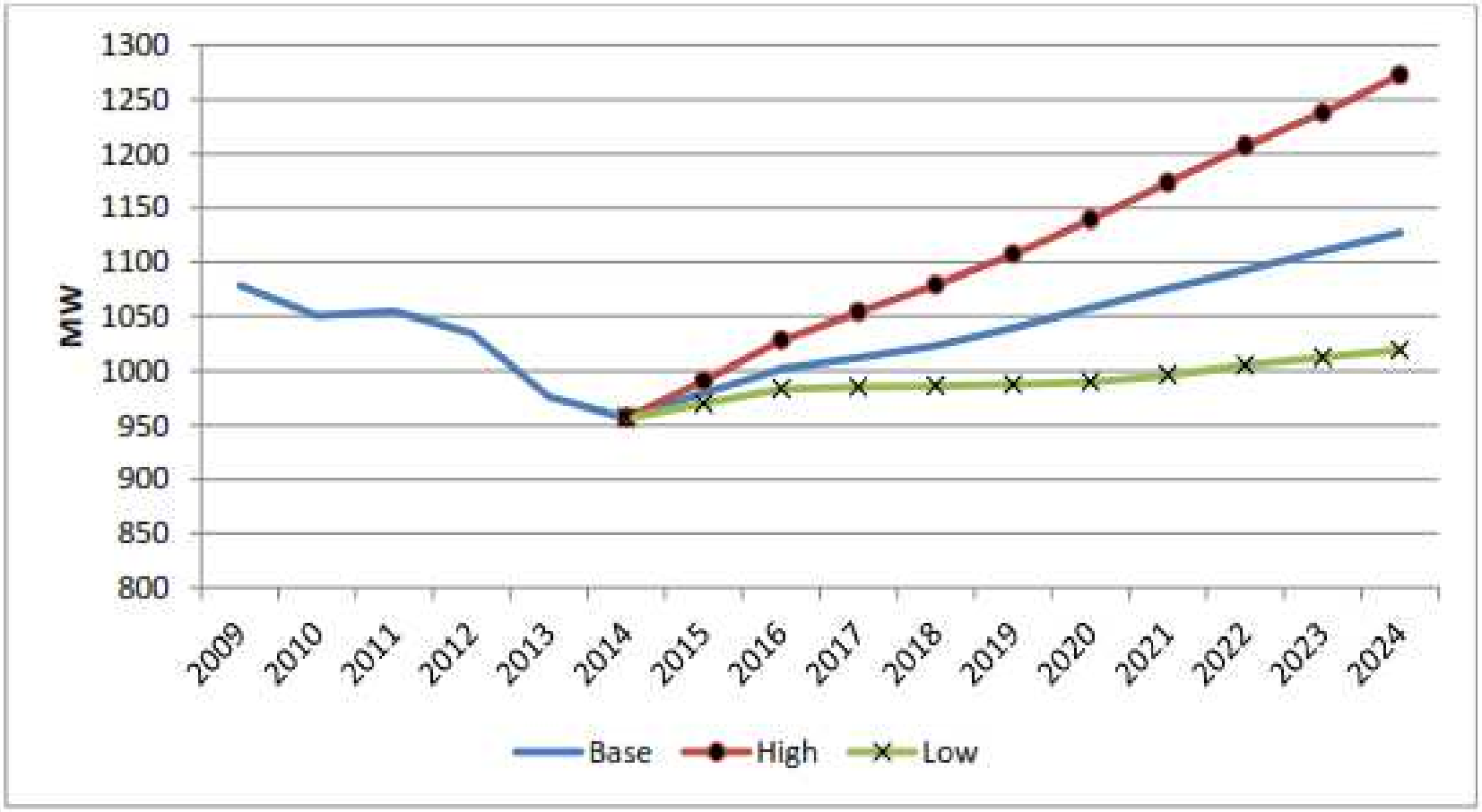
Forecasts appear to reflect historical trends



Forecasting – peak demand

TND forecast of peak demand – MW)

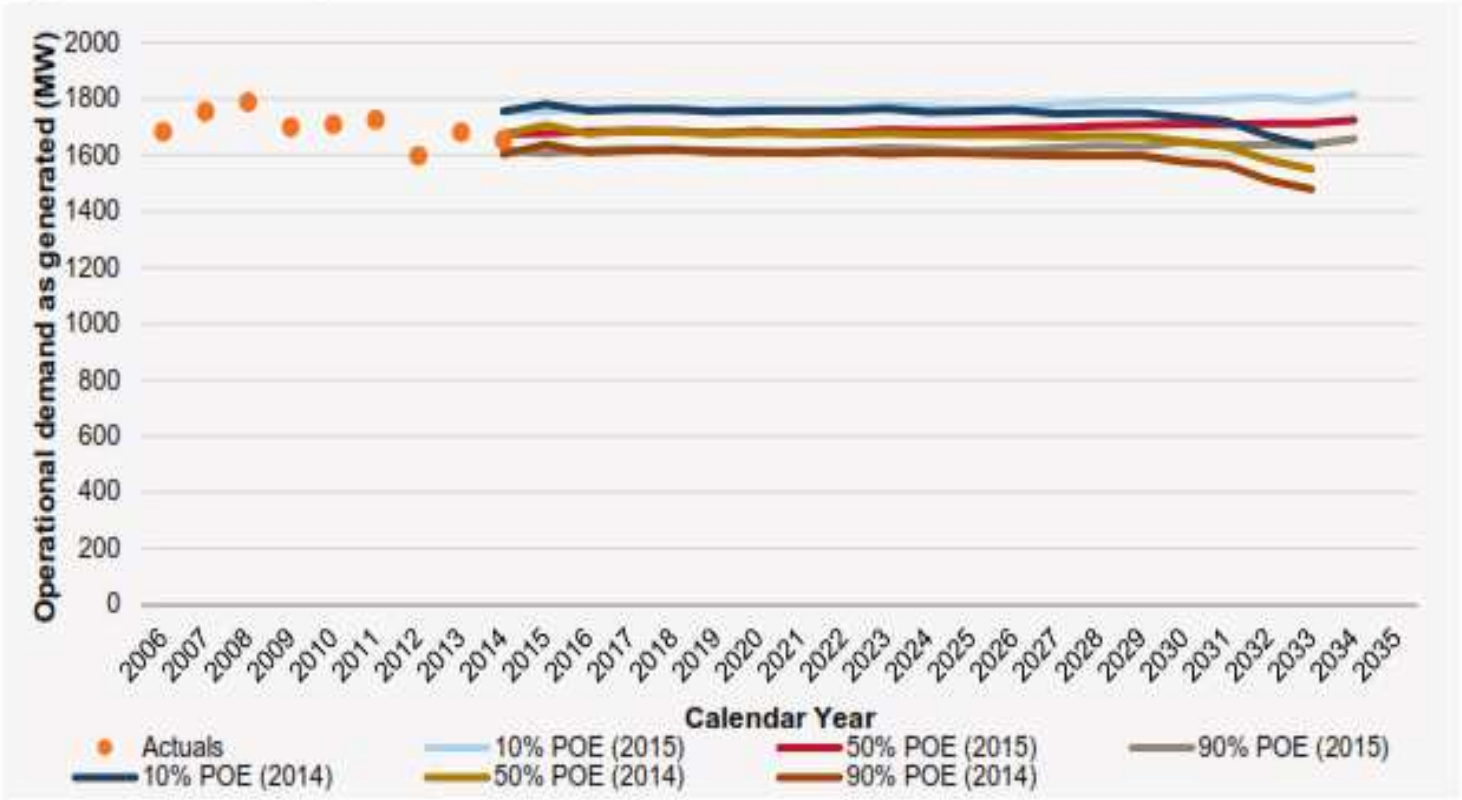
Figure 5-1: Actual and forecast Maximum Demand on the Tasmanian distribution network



Forecasting – peak demand

AEMO 2015 National Electricity Forecasting Report operational summer maximum demand forecasts for Tasmania (10-year outlook – MW)

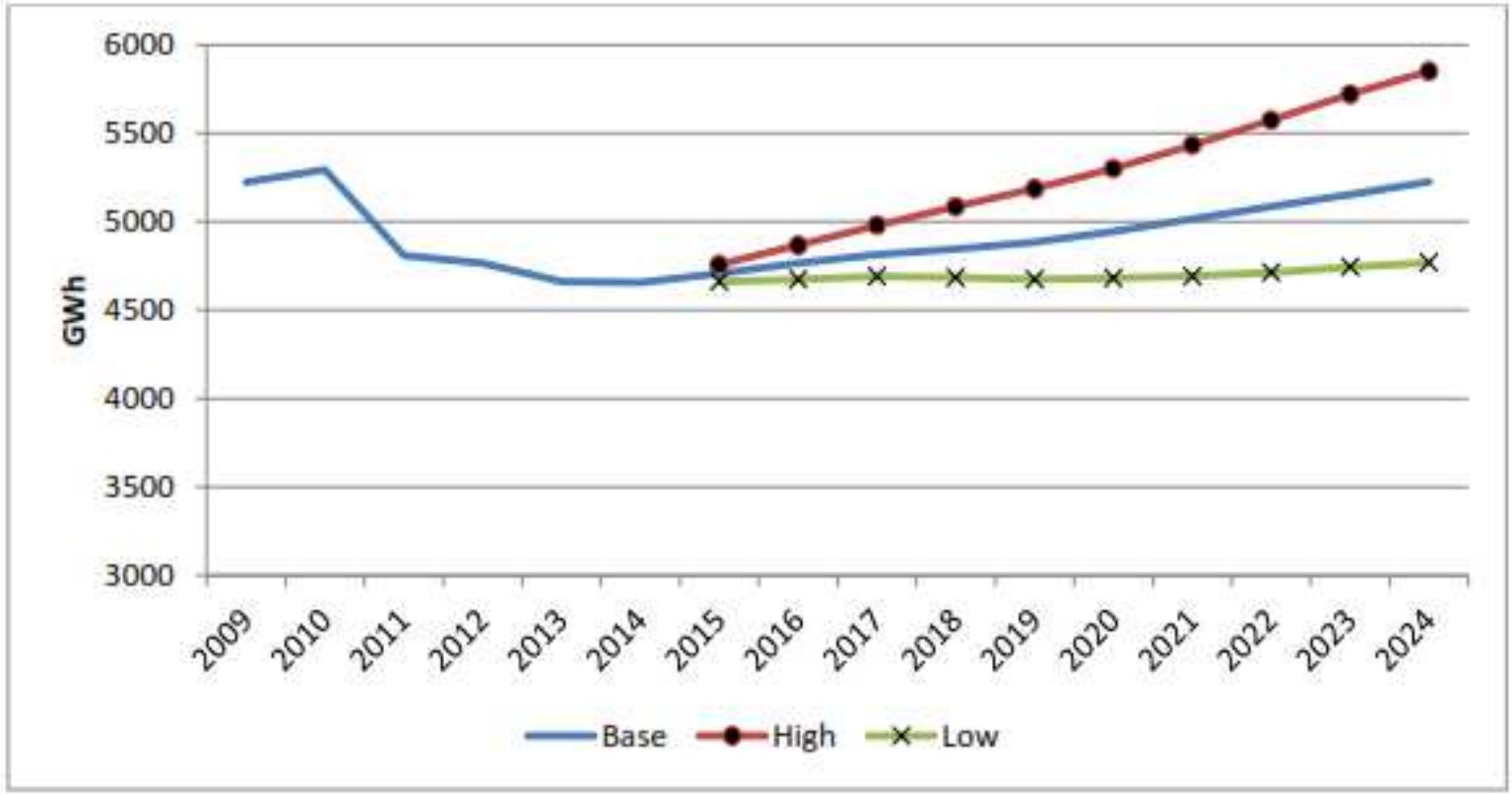
Figure 61 Winter 90%, 50% and 10% POE maximum demand forecasts for Tasmania



Forecasting – energy consumption

- TND Historic and Forecast Annual Energy Consumption

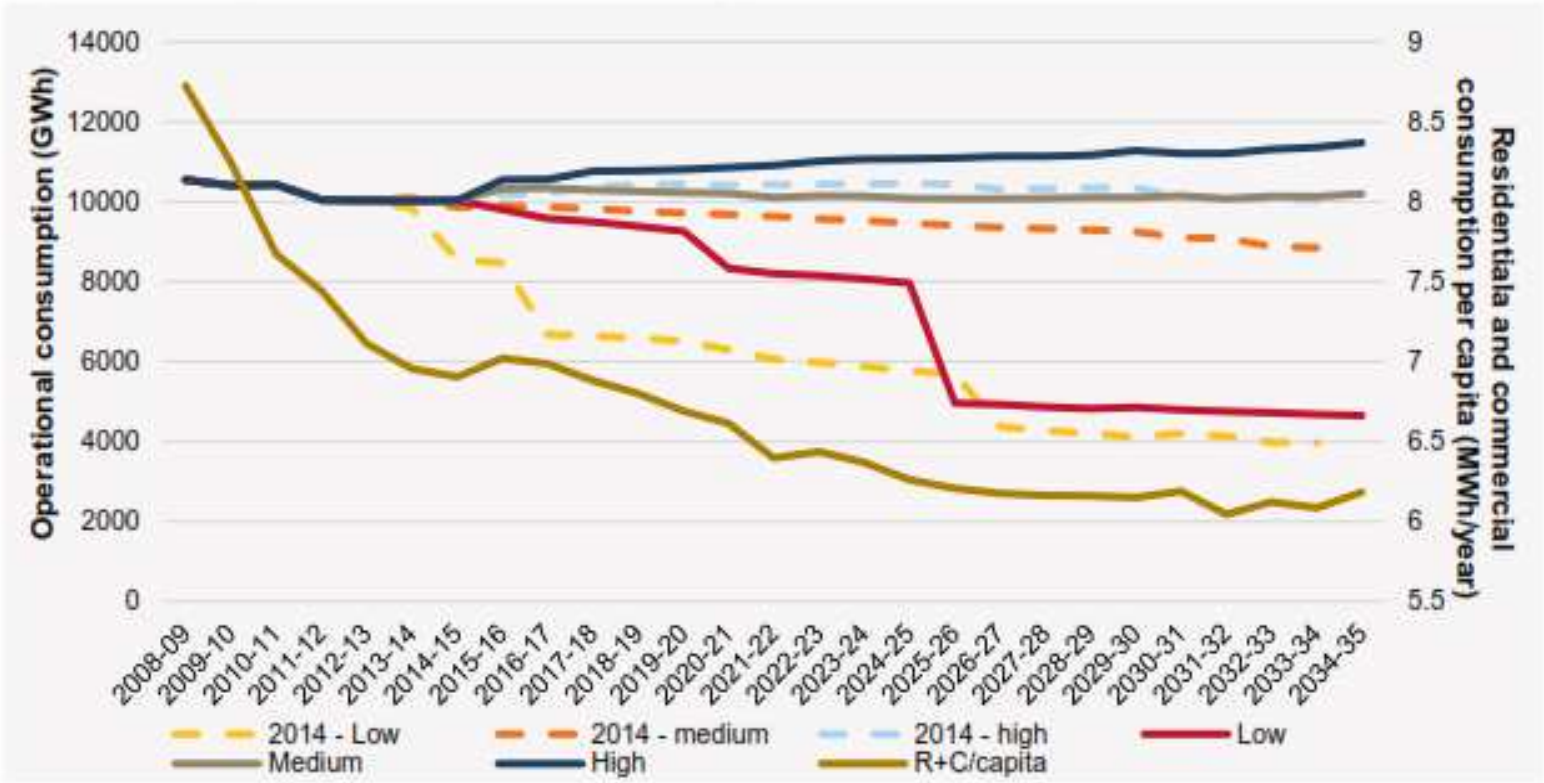
Figure 5-2: Actual and forecast energy sales on the Tasmanian distribution network



Forecasting – energy consumption

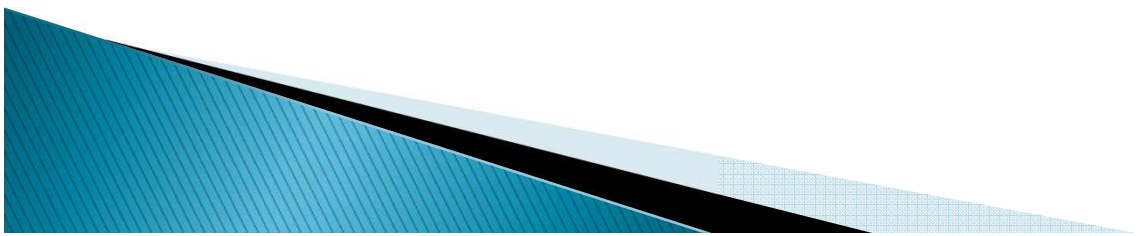
- AEMO Historic and forecast growth rate of annual energy consumption

Figure 59 Comparison of the low, medium and high forecasts in Tasmania



Forecasting – peak demand and consumption

- There appears to be an inconsistency with regard to forecast peak demand and consumption as AEMO forecasts are for flat peak demand and consumption whereas TND forecasts these rising



Rate of Return (WACC) – general

- 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 from it
- Basic rate of return model locked in (WACC = 60% return on debt & 40% return on equity; but new Rules give AER greater discretion

Rate of return (WACC) – TND

- Over the last few resets the issues have been primarily about
  - The cost of equity
  - The transition to the trailing average approach for debt
  - Value for gamma
- TND proposes to use the AER guideline on return on equity and the transition to the trailing average but gamma = 0.25 (AER GL has 0.50)
- However, TND will seek to use the outcomes of the current appeals to the Competition Tribunal
- This means the WACC (and prices) could increase in the future
- Interesting observation: Gov't investment in TND (initial equity + net additions +retained earnings) gives TND a real gearing >70%, so TND WACC is perhaps overstated

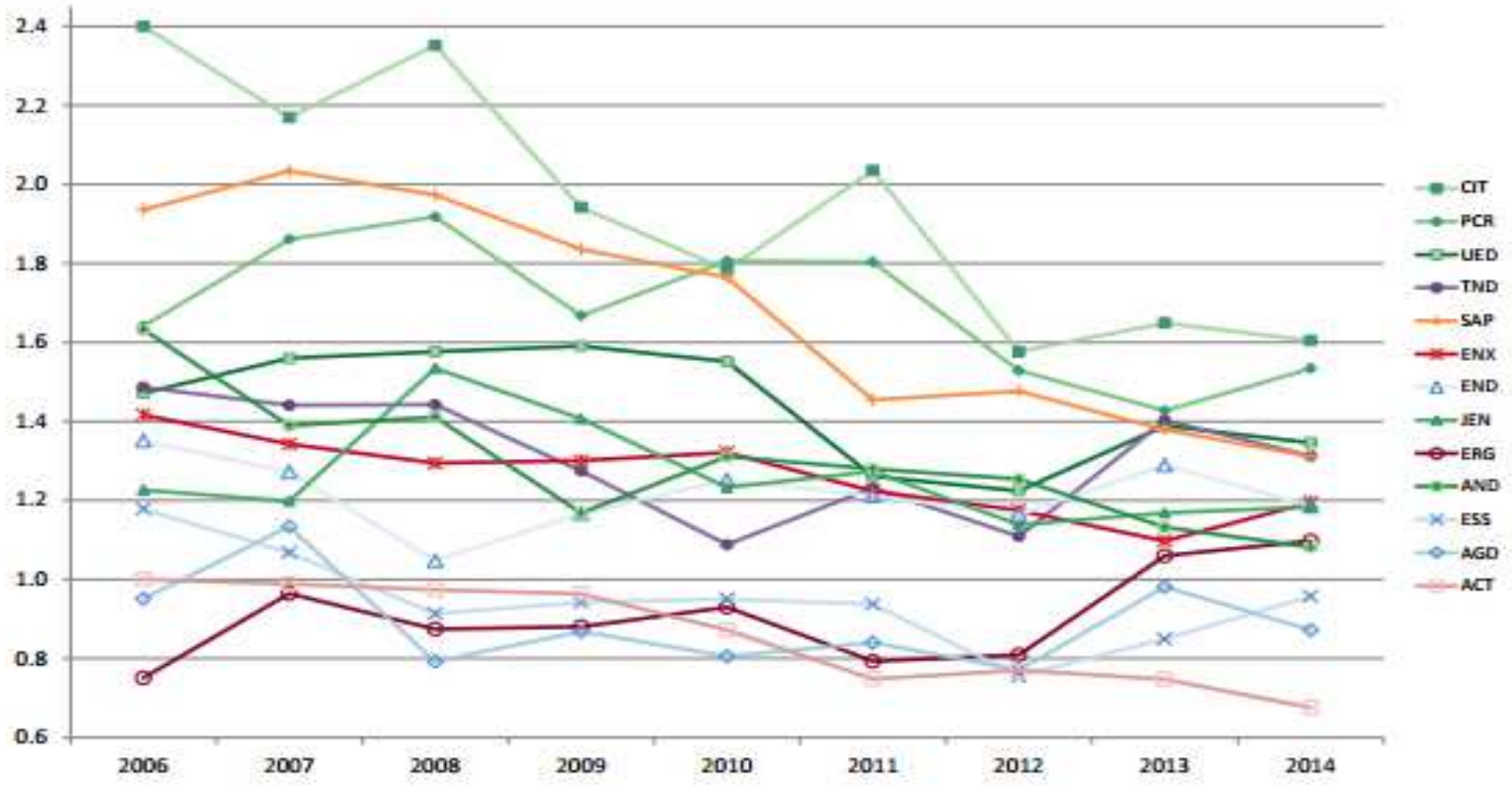
Benchmarking

- TND performance shows that, on average, unplanned SAIDI and SAIFI have been relatively constant 2006-2015
- TND utilisation has fallen significantly since 2007 from 55% to 37% in 2015
- This reducing utilisation highlights that consumers are paying for assets not used or little used

Benchmarking – opex

The trend for all networks is generally downward
The TND opex PFP trend shows 2014 is only slightly lower than 2006 after falling. TND 2013 opex PFP was third highest

Figure 6 Opex partial factor productivity for 2006–14

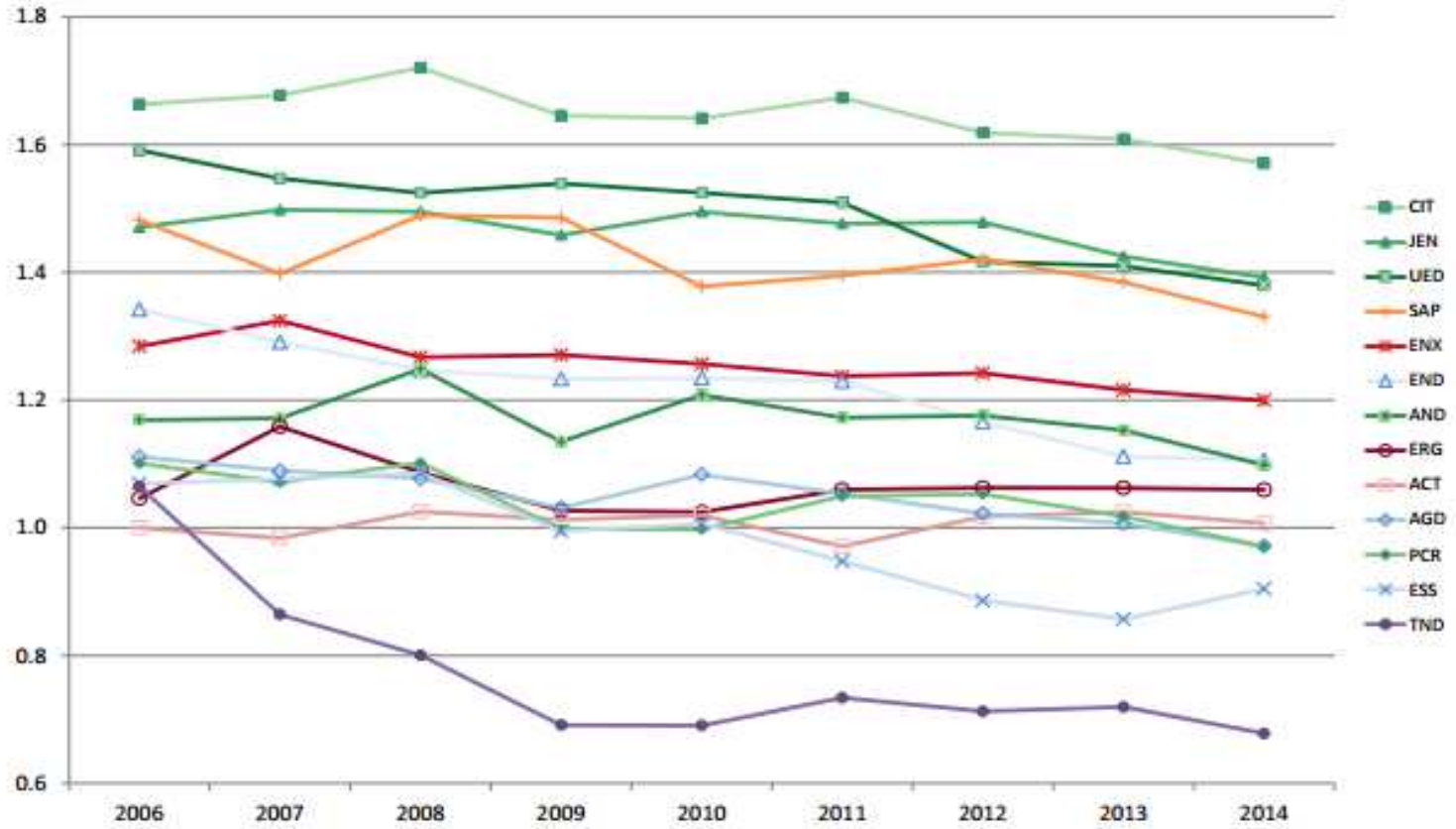


Benchmarking – capital

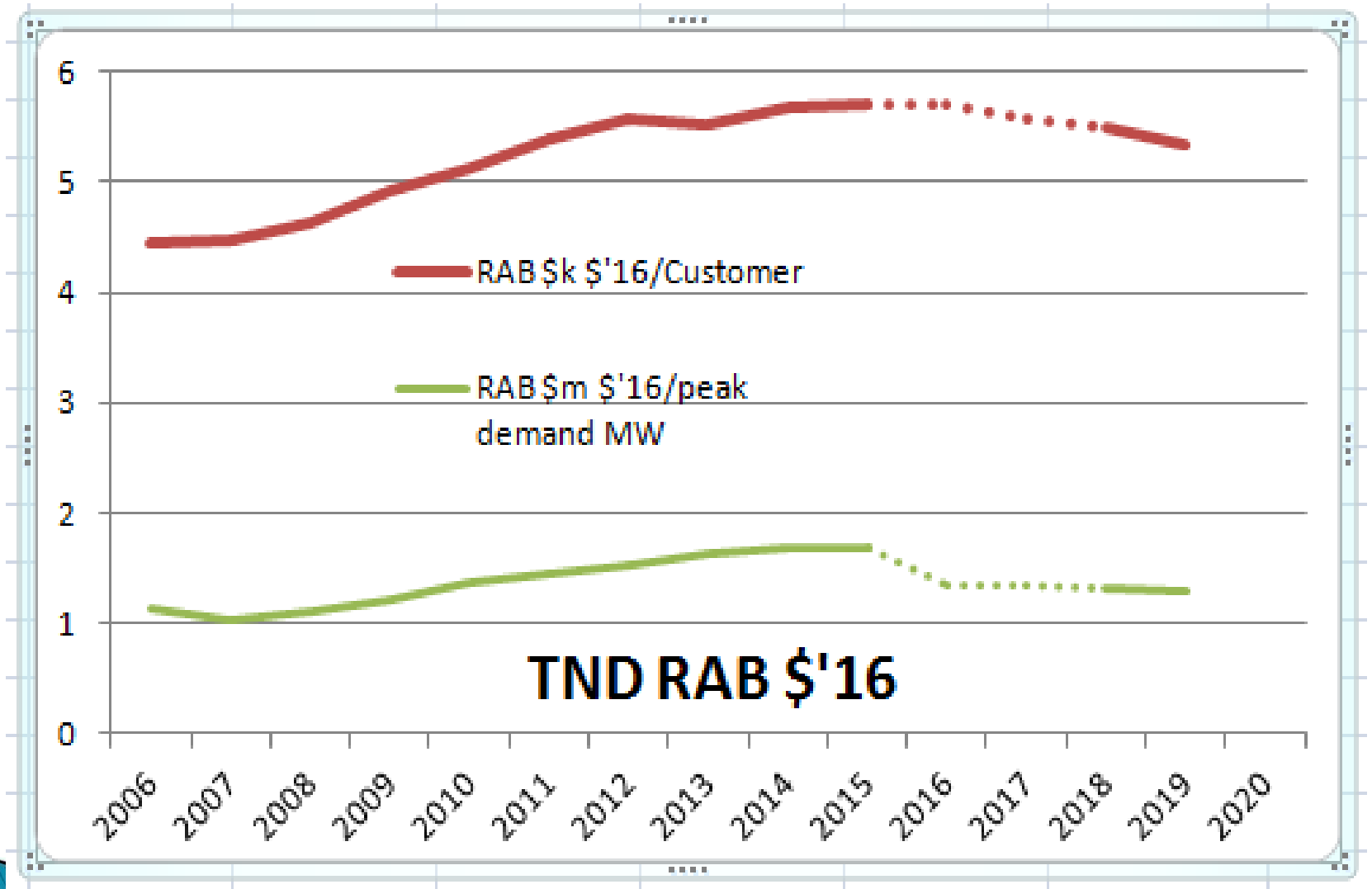
The trend for all networks is generally flat

The TND asset PFP trend shows that TND shows poor capital performance

Figure 5 Capital partial factor productivity for 2006–14

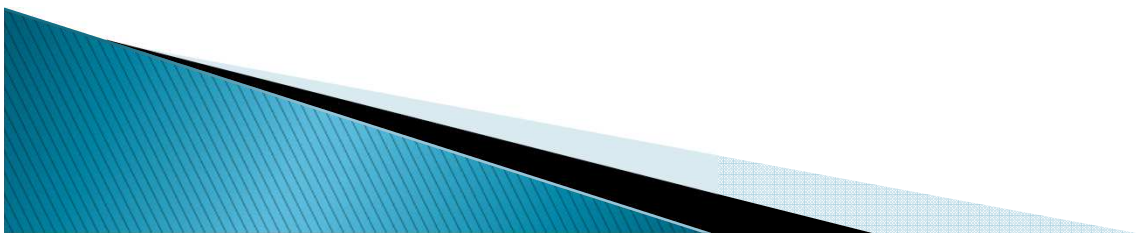


Benchmarking – RAB(1)



Benchmarking – RAB

- The real relative growth in the RAB is disturbing having grown from 2006 to 2015 by 27% (customers) and 60% (peak demand)
- This growing RAB is reflected to some extent in the low capital PFP
- The impact of this RAB growth is masked by low costs for capital
- With interest rates at the long term average, we would not see prices falling, not rising



Operating expenditure (opex)

Forecast Component	TND proposal (overview)	CCP Initial Comments
Base Year	Consider 2014/15 as base year is efficient	We accept 2014/15 as the base year but are concerned about the benchmark productivity decline from 2014 to 2015 and from 2006
Trend	Proposing output growth Includes some productivity improvement Inflation adjustment at CPI	Output growth appears high Is productivity growth too high? Competitive industry commonly sees falls in opex in nominal terms
Step Changes	Significant step changes of ~5% for added	CCP not convinced for the need of the increased opex as these should be in base year costs
Overall	Real reductions in opex but opex rising in nominal terms but at less than inflation	Competitive industry sees opex falling in nominal terms this is survival is based on reducing costs

Capital expenditure (capex)

Table 7-2: Actual and forecast net capital expenditure for the current and forthcoming regulatory period (June 2017 $m)

Category	2012–13	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
Development	35.7	36.9	35.6	34.4	37.0	31.9	31.5	29.4	29.9	30.2
Customer initiated	28.5	26.3	30.9	25.3	28.9	25.4	25.2	25.3	26.4	26.4
Reinforcements	7.2	10.6	4.8	9.1	8.1	6.5	6.2	4.0	3.5	3.9
Renewal/enhancement	47.3	49.9	55.2	52.7	58.2	57.7	60.9	57.6	51.9	48.1
Operational Support Systems	2.7	4.0	2.9	16.8	15.0	15.5	4.7	6.0	4.1	3.4
SCADA and Network Control Systems	1.1	2.4	2.5	2.6	1.0	3.2	2.0	2.2	1.0	0.5
Asset Management Systems	1.5	1.6	0.4	14.2	14.0	12.3	2.8	3.8	3.1	2.9
Non-Network Other	6.1	7.0	5.8	6.0	3.8	3.7	3.7	3.9	3.7	3.5
IT and Communications	17.2	22.7	7.1	15.8	19.2	14.2	11.7	15.3	17.0	16.5
Total capital expenditure	**109.1**	**120.5**	**106.7**	**125.7**	**133.3**	**123.1**	**112.5**	**112.2**	**106.6**	**101.8**
Customer capital contributions	(8.3)	(10.6)	(12.9)	(10.3)	(10.2)	(11.2)	(11.0)	(10.9)	(11.3)	(11.3)
Total net capital expenditure	**100.8**	**109.9**	**93.8**	**115.4**	**123.1**	**112.0**	**101.4**	**101.2**	**95.3**	**90.5**

Capital expenditure (capex)

Some general observations

- Total capex is only 10% less
- The bulk of customer initiated augmentation is paid for by all customers, increasing the RAB
- Reinforcement capex halves – but no growth!
- In 2007-2011 (ie before current period)
  - Repex was less than half current and forecast amounts.
  - IT capex was about half
- IT capex does not reflect the large amounts already provided – where is the consumer benefit?
- Transend was given IT capex for the forecast period too
- Capitalisation policies need to be standardised across the NEM

Capital expenditure (repex) asset lives – EB RIN

	ANT	CP	JEN	PC	UE	SAPN	TND
Overhead network assets less than 33kV (wires and poles)	47	49	62	51	36	55	**35**
Underground network assets less than 33kV (cables)	55	49	49	51	36	55	**60**
Distribution substations including transformers	62	49	48	51	36	45	**40**
Overhead network assets 33kV and above (wires and towers / poles etc)	54	49	64	51	60	55	**50**
Underground network assets 33kV and above(cables, ducts etc)	55	49	40	51	60	55	**60**
Zone substations and transformers	57	49	46	51	60	45	**40**
“Other” assets with long lives	0	12	30	15	8	19	**33**
“Other” assets with short lives	5	6	7	6	5	5	**5**

Capital expenditure (repex)

- All networks assert their assets are ageing
- All networks are using more repex than in the past
- The need for replacement is driven by age and by condition
- But!
  - Condition monitoring is beset by assumptions and qualitative assessments
  - Expected lives of TND assets are shorter than used by others
  - The weighted average remaining life of the network assets (EB RIN) shows that the assets have on average more than half of their expected lives remaining
  - There are three different assets lives used – in the EB RIN, the repex model and in the depreciation schedule

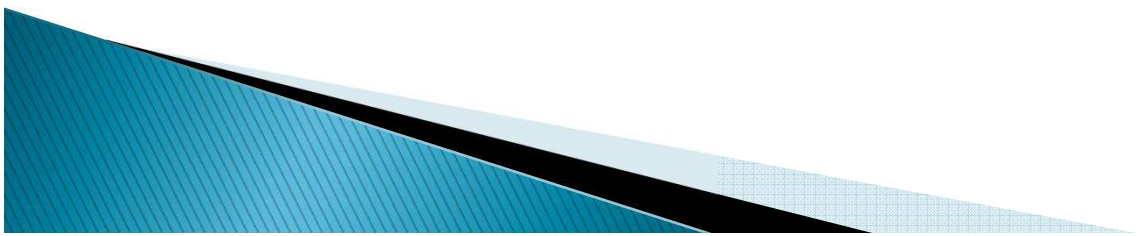
Capital expenditure (repex)

Table 10-1: Standard and remaining asset lives as at 1 July 2017

Asset category	Standard life (years)	Remaining life (years)
Overhead subtransmission lines (urban)	50	27.2
Underground subtransmission lines (urban)	60	33.3
Urban zone substations	40	28.0
Rural zone substations	40	29.3
SCADA	10	9.1
Distribution switching stations (ground)	40	28.0
Overhead high voltage lines urban	35	22.0
Overhead high voltage lines rural	35	18.1
Voltage regulators on distribution feeders	40	21.4
Underground high voltage lines	60	38.4
Underground high voltage lines SWER	60	46.4
Distribution substations HV (pole)	40	31.4
Distribution substations HV (ground)	40	18.1
Distribution substations LV (pole)	40	20.0
Distribution substations LV (ground)	40	22.0
Overhead low voltage lines underbuilt urban	35	22.5
Overhead low voltage lines underbuilt rural	35	15.1
Overhead low voltage lines urban	35	15.4
Overhead low voltage lines rural	35	23.7
Underground low voltage lines	60	35.3
Underground low voltage common trench	60	43.1
HVST service connections	40	0.0
HV service connections	40	25.2

Incentives and reliability

- TND accepts the use of the STPIS, EBSS and CESS which are designed to work together
- TND proposes to have the same EBSS exclusions as apply for the current period but doing this does not impose an incentive to reduce all opex costs
- DMIA: TND wants to increase this marginally
- DMIA should not replicate what others have done/are doing and there must be a clear benefit to consumers

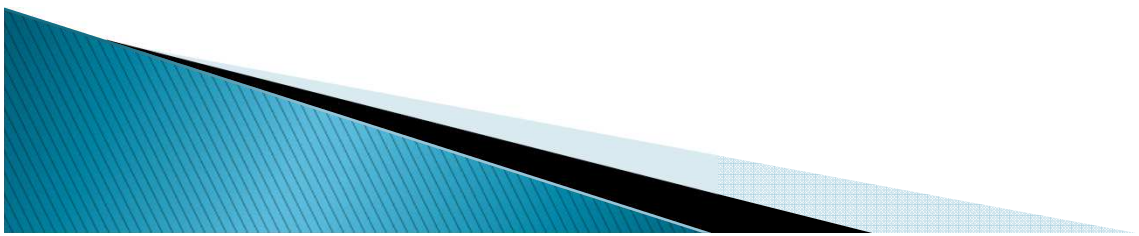


Incentives and reliability (STPIS)

- STPIS is intended incentivise networks to improve the reliability of supply but it needs to be balanced with the other incentives for opex and capex
- If too much opex and capex allowed, STPIS rewards easier to get
- STPIS. TND accepts AER GL but wants to limit its application to +/- 2.5% rather than 5% of revenue to limit volatility. This reduces the power of the incentive and unbalances it with respect to the other incentives
- TND states that at +/- 5% this is inconsistent with the transmission STPIS

Pricing

- This is primarily an issue for the next session on the TSS.
- But while prices are forecast to fall in the proposal, this is only a result of the low cost of capital. If long term averages for the cost of capital were used, then prices would rise



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