ElectraNet Revenue Proposal
1 July 2008 to 30 June 2013

24 July 2007

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ElectraNet
electricity transmission

AER Public Forum Presentation

Presentation Outline

- Overview of Revenue Proposal
- Revenue Proposal details
  - Capital expenditure forecast and cost drivers
  - Operating expenditure forecast and cost drivers
  - Revenue requirement
  - Customer price impact

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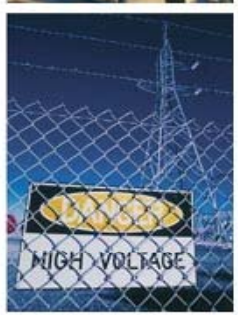
ElectraNet – Brief Overview

- Privately owned
- Workforce ~170 with construction and maintenance activities outsourced
- Network covers large geographical area – 5,611 km of lines/ cables and 76 substations/ switching stations
- Contracted demand – 3,400 MW and actual peak demand – 2,924 MW
- Connection point demand growing at between 2-5% a year

Overview of Revenue Proposal

- $780 million upgrade proposed to the electricity transmission network over 5-years from 1 July 2008 to 30 June 2013
- Significant increase in capital spend required to:
  - meet growing customer demand and new reliability standards introduced by ESCOSA (e.g. $140 million Adelaide CBD reinforcement)
  - replace ageing assets
  - address the security of critical infrastructure
  - meet higher input costs driven by an expanding economy, including labour (expected to increase significantly ahead of inflation over the 5-year period) and plant and equipment costs (also rising above inflation)



Overview of Revenue Proposal

A skills crisis as State booms

"Business confidence in South Australia is at its highest level in six years, but the news is not so good for those looking for workers…

'*With business booming, respondents have indicated that the labour market has continued to tighten…*

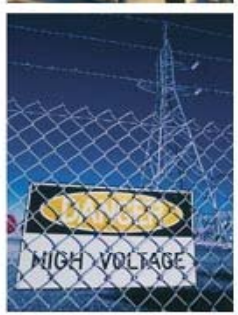
In order to cope with the skills shortage, local businesses must be creative and flexible in sourcing new employees through training…, re-skilling older workers and sourcing skilled labour from overseas'"

The Advertiser, 20 July 2007 with quote from Business SA's Peter Vaughan

Labour Market Update

"The labour market for professional engineers in Australia is facing unprecedented pressures due to a massive increase in infrastructure expenditure in the public and private sectors expected to continue for at least the next 10 years, an increasing global demand for engineers and an ageing workforce"

APESMA Remuneration Survey, May 2007



Overview of Revenue Proposal

- Higher operating expenditure requirement of $292m over the 5-year period ($2007-08)
- Revenue proposal would translate to…
  - an increase in average transmission charges of 6.8% a year (including inflation)
  - flow on effect estimated to be 0.7% increase in average household electricity bills (or about $7.50 a year for the average residential customer)
  - price rise for large business customers estimated to be 1.3% on average
- Estimated price increase is reasonable compared to overall energy cost increases likely to be faced by large users and given the significant rise in capital expenditure required to maintain service reliability

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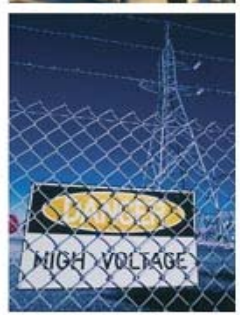


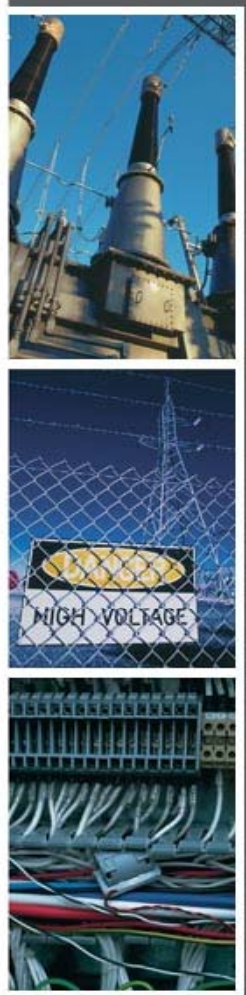
Revenue Proposal - Details

Presentation Focus

- During June ElectraNet presented its Revenue Proposal to stakeholders
- Remainder of this presentation will focus on providing additional insight into the capital and operating expenditure forecasts
- ElectraNet has provided substantial amounts of information with its Revenue Proposal – it is not intended to cover all aspects in this presentation

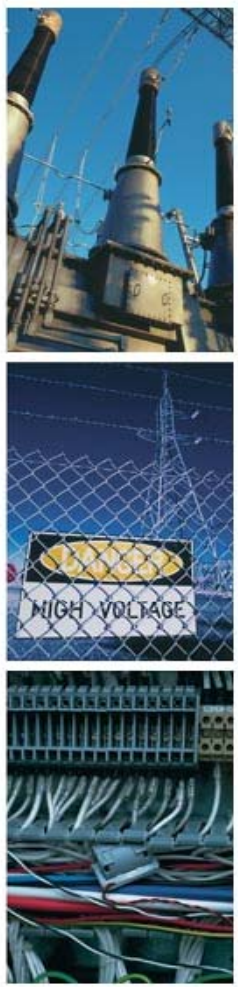
Planning Responsibilities

- ESIPC is the nominated Jurisdictional Planning Body under the National Electricity Rules and provides independent oversight of transmission planning in SA
- ESIPC is responsible for preparing and publishing the Annual Planning Report (APR) – ElectraNet provides transmission input via its published Annual Planning Review
- ElectraNet has developed its network capital expenditure requirements in consultation with ESIPC
- ESIPC has confirmed that "*projects proposed by ElectraNet broadly match the emerging limitations identified by the Planning Council*"



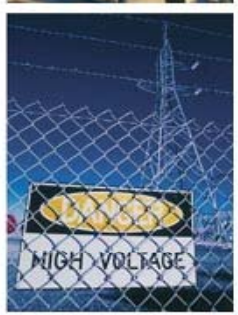
Mandated Reliability Standards

- ElectraNet must comply with the reliability standards specified in the Electricity Transmission Code (ETC)
  - range from N, N-1 non-continuous, N-1 continuous and part N-2 non-continuous
  - described in terms of transformer and line capacity to meet customer contracted Agreed Maximum Demands (AMDs)
  - ElectraNet must accept an increase in AMD even if it means required contingency capacity is no longer available, and this triggers a one year best endeavours or in any case three years requirement to increase capacity
  - contingency capacity can be provided by transmission or non-transmission solutions (considered in options analysis of emerging limitations)
- ESCOSA completed a review of the ETC reliability standards in 2006



Capital Expenditure Cost Drivers

Cost Driver	Comments
Growing customer demand	Capital investment required to meet growing demand while maintaining mandated reliability standards – connection point demand forecasts independently provided by DNSP (ETSA Utilities) and direct connect customers
New mandated reliability standards	New Electricity Transmission Code (ETC) reliability standards introduced by ESCOSA are driving additional expenditure (e.g. $140m Adelaide CBD reinforcement)
Replacement of ageing assets	Forecast based on addressing only the highest priority asset condition needs – based on detailed condition assessments and economic analysis
Security of critical infrastructure	Forecast based on independent security risk and vulnerability assessments in line with national guidelines for protecting critical infrastructure
Higher input costs	Labour, plant and equipment costs are all rising above inflation – forecasts based on independent assessments provided by BIS Shrapnel and Evans & Peck

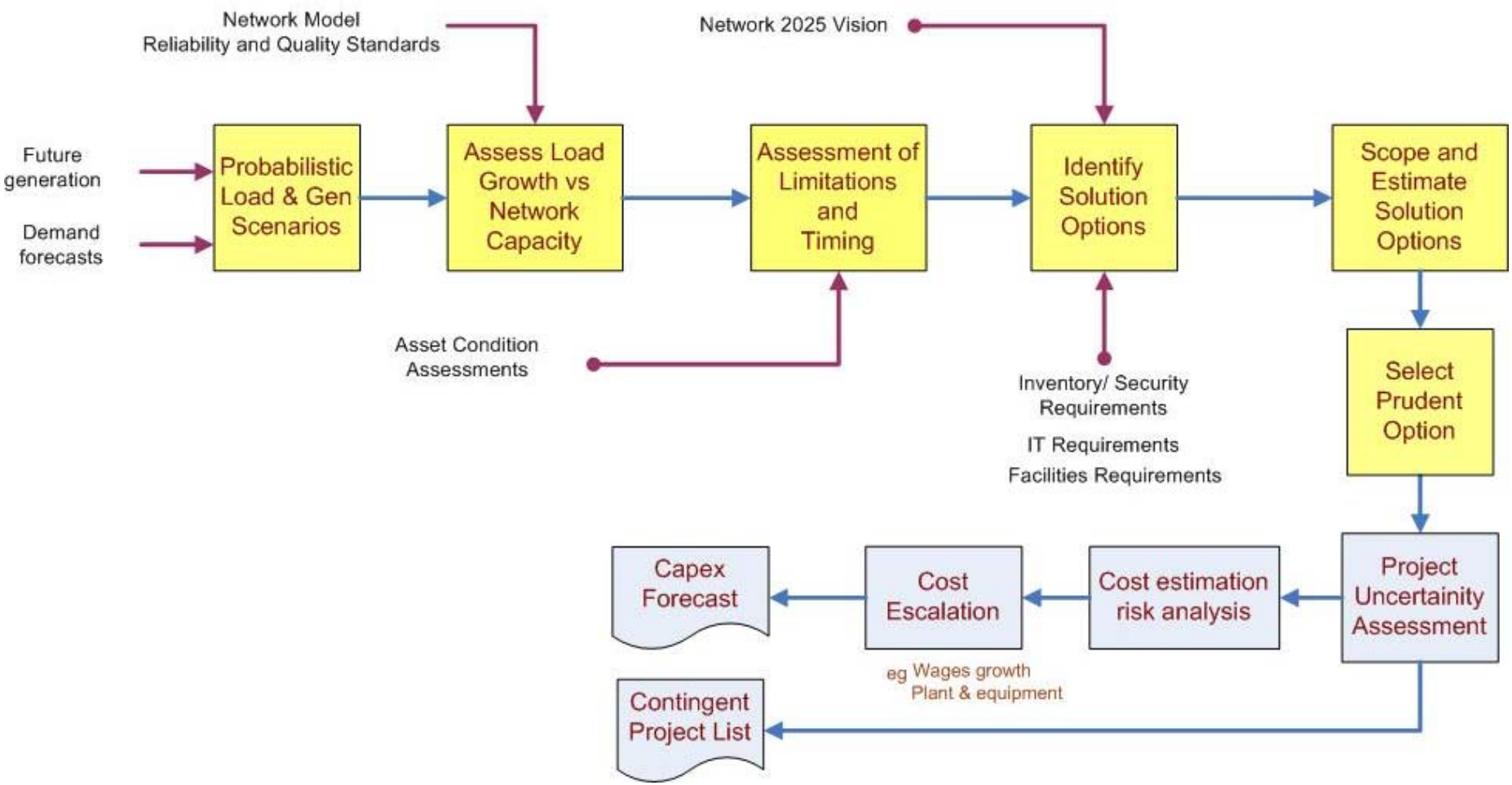


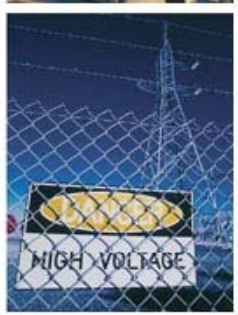
Asset Condition Assessments

- Detailed independent assessments carried out for substations and transmission lines by experienced audit teams
- Structured assessment of all asset groups
- Scoring for condition and compliance with current day standards
- Comprehensively documented

Outcome is better understanding of asset condition and asset replacement and maintenance needs

Capex Forecasting Methodology

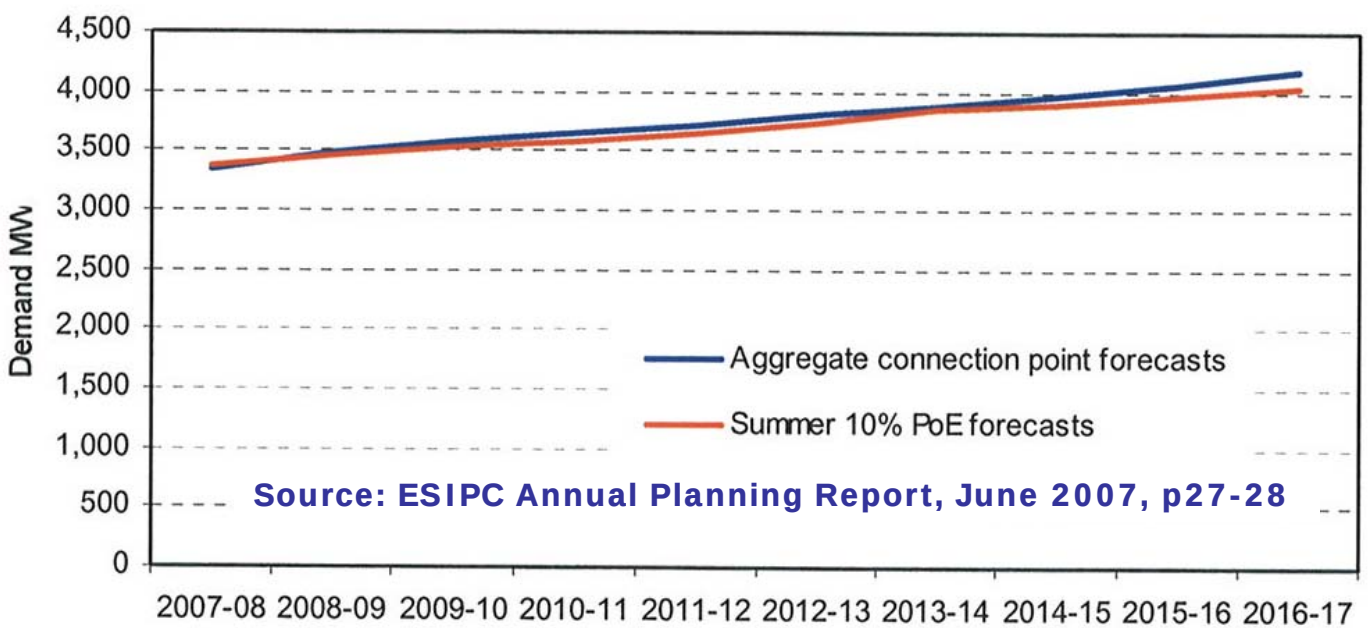




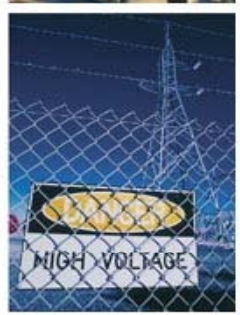
Demand Forecast

- ElectraNet must plan to meet connection point demand forecasts (and not the State-wide forecast)
- However, the ESIPC APR shows a high level of consistency between the two sets of forecasts

Figure 2–12 – Comparison of State-wide and Connection Point demand forecasts

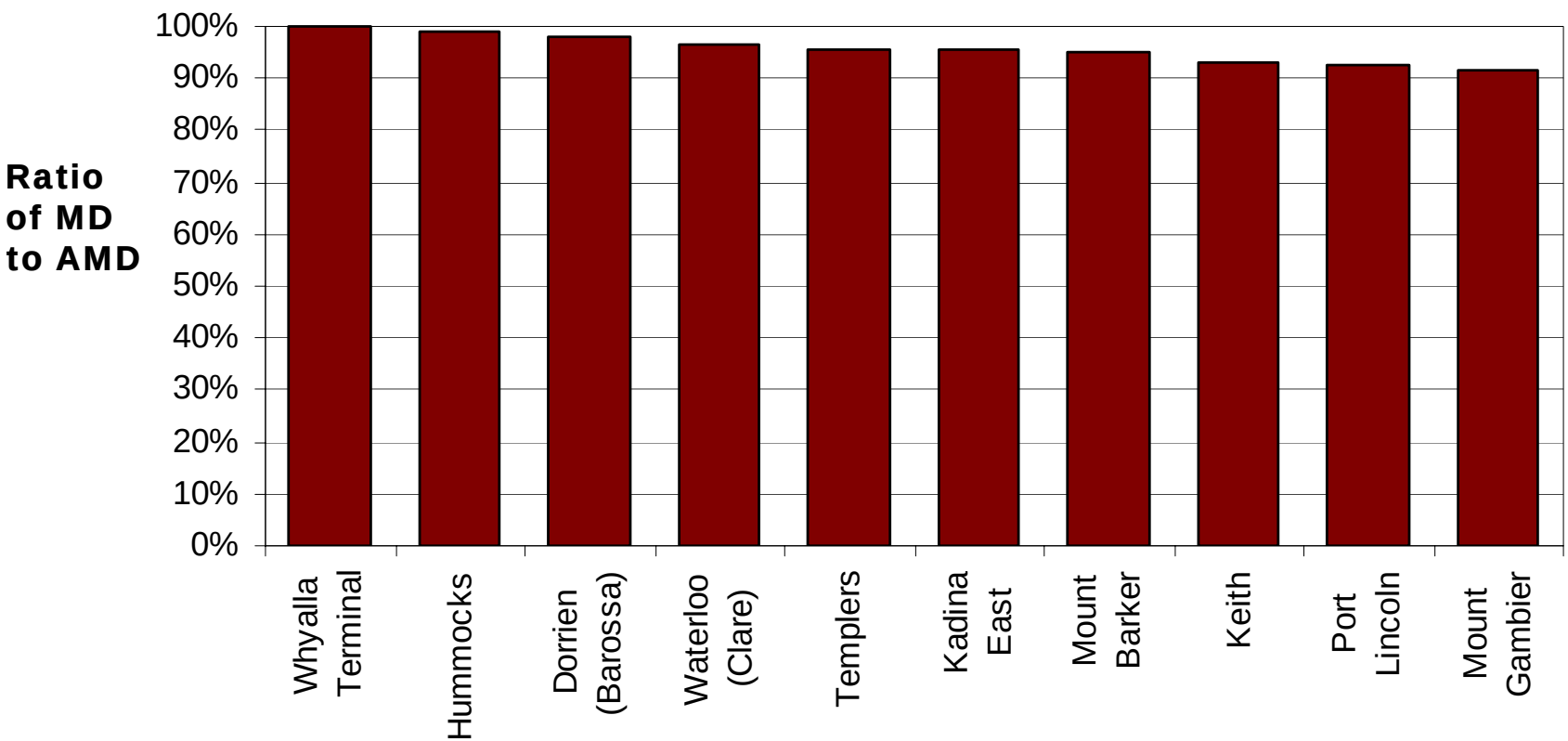


Source: ESIPC Annual Planning Report, June 2007, p27-28



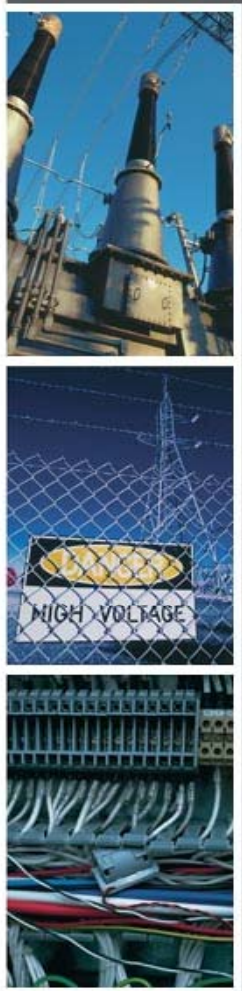
2006-07 Actual vs Contracted Demand

More than 60% of connection points were within 10% of their contracted demand during what was assessed by the ESIPC as only an average (50% POE) Summer



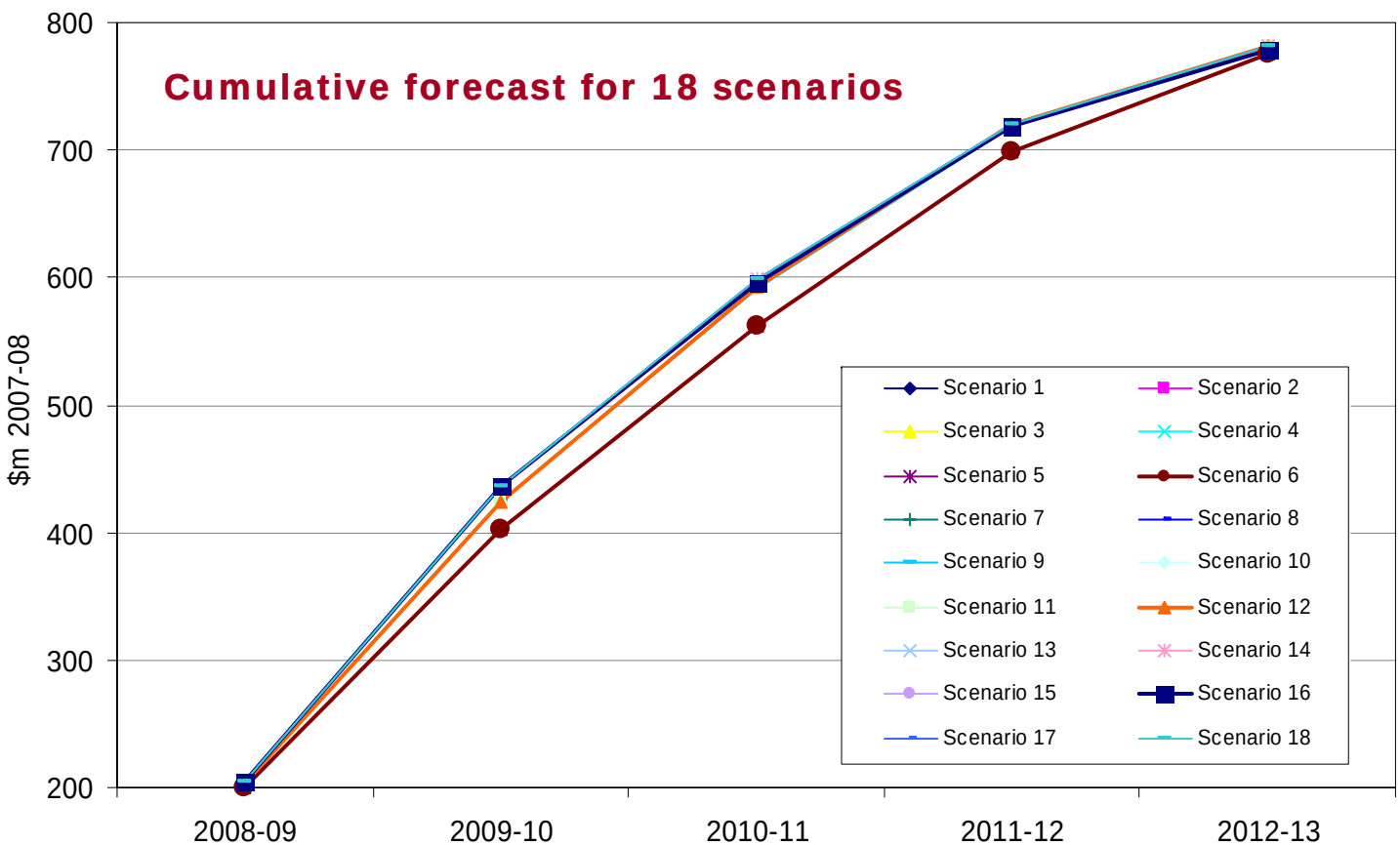
Load and Generation Scenarios

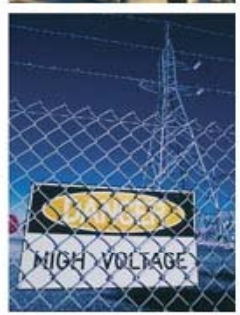
- Expert consultant used to develop scenario themes…
  - load growth (low, medium, high)
  - inter-regional trade (neutral, export, import)
  - carbon value (low and high)
- These result in 18 plausible load and generation development scenarios each with an assigned probability
- Scenarios have varying future generation developments (locations) to meet projected demand growth
- Network limitations identified and capital expenditure requirements developed for each scenario
- Capital expenditure forecast is the probability-weighted average of the 18 scenarios



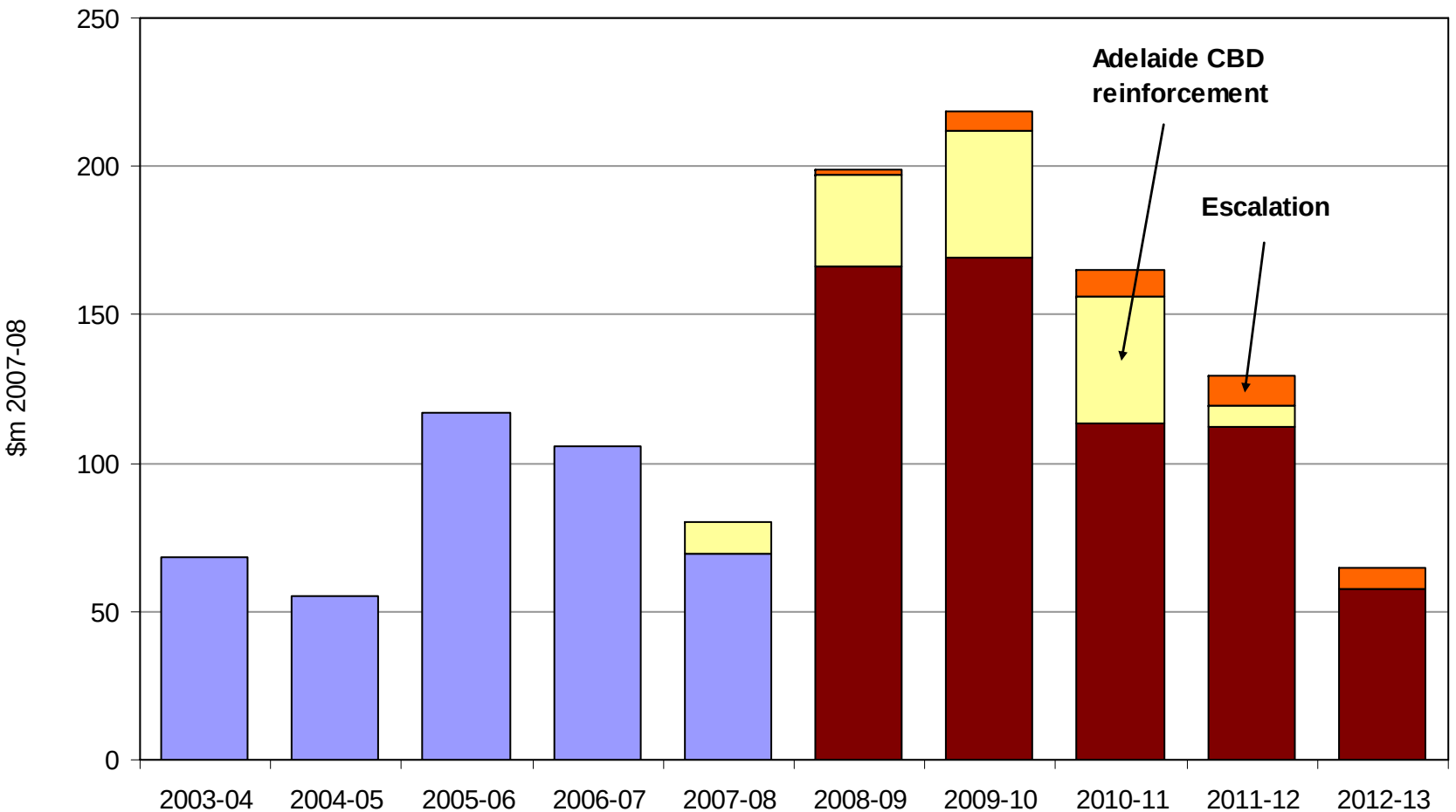
Capital Expenditure Forecast

High degree of certainty – forecast largely independent of variation in demand growth and location of future generation

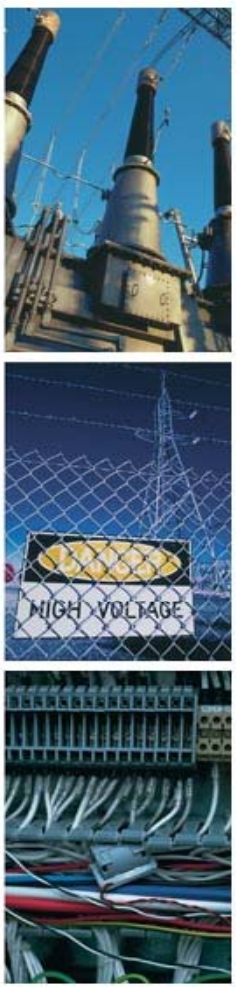




Capex Expenditure Forecast



$780m forecast represents a 45% increase over the previous 5 years (excluding escalation and the Adelaide CBD)



Forecast and Historical Capex Comparison

Capex Type	Historic Spend	Forecast	Explanation of significant variations
Augmentation	124.7	228.0	Increased expenditure largely driven by the mandated Adelaide CBD reinforcement
Connection	69.1	157.8	Increased expenditure largely driven by the connection component of the mandated Adelaide CBD reinforcement and other projects driven by the new ETC standards
Replacement	172.7	240.3	Increased expenditure on asset replacement is required to address the increasing number of assets nearing the end of their useful lives. Projects have been limited to high priority substations which service significant loads and are generally limited in scope.
Strategic land/ Easements	7.2	23.9	Increased expenditure required to meet future development requirements
Security/ compliance	1.9	70.4	Increased expenditure required on physical security of critical infrastructure in line with national guidelines for protecting critical infrastructure
Inventory/ spares	14.7	15.7	No significant variation
Total Network	**390.4**	**736.1**	
Business IT	32.1	28.8	Historic expenditure included major business systems changeover
Building/ facilities	3.6	13.3	Forecast expenditure includes extension to ElectraNet's head office building to accommodate increase in staff required to deliver a larger capital program
Total Non-Network	**35.7**	**42.0**	
Total Capex	**426.0**	**778.1**	

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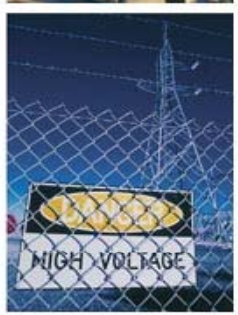
Examples of major forecast capital projects…

- Adelaide CBD ($140m) – new substation to supply CBD
- Playford relocation ($50m) – replacement timed with transformer capacity upgrade
- Whyalla ($49m) - replacement timed with transformer capacity upgrade
- Cultana ($36m) – increase existing 275/132 kV transformer injection capacity
- Mount Barker ($28m) – Establishment of new 275/66 kV transformer injection
- Para ($25m) – limited scope asset replacement
- Coonalpyn West ($20m) – new distributor connection point
- Clare North ($18m) – new distributor connection point

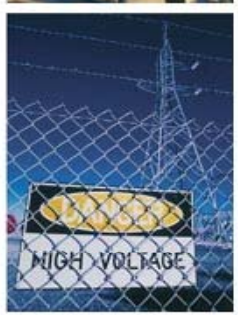
Capital Expenditure Forecast

- ElectraNet has actively sought to manage the increase in required expenditure by…
  - focussing on investments required to meet mandated reliability standards and to address only the highest priority asset condition and critical infrastructure needs
  - deferring replacements to align with connection or augmentation projects (compared to condition assessment recommendations)
  - cyclic rating of large power transformers makes possible deferral of >$60m (based on expert engineering assessments)



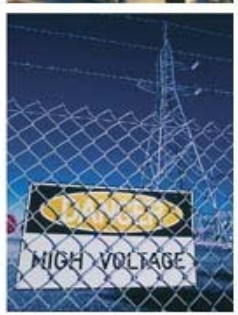
Contingent Projects

- 17 proposed contingent projects – indicative costs range from $11m to $250m and total $950m
- Trigger events fall into the following categories…
  - defined unexpected increase in demand at specific locations on the network (7 projects); e.g. Eyre Peninsula
  - DNSP application to connect following successful completion of Regulatory Test by DNSP (5 projects); e.g. Munno Para
  - Application of Regulatory Test demonstrating net market benefits (4 projects); e.g. Heywood interconnector upgrade
  - Customer application to connect and regulatory ruling that required network assets are prescribed (1 project); e.g. Northern mining expansion

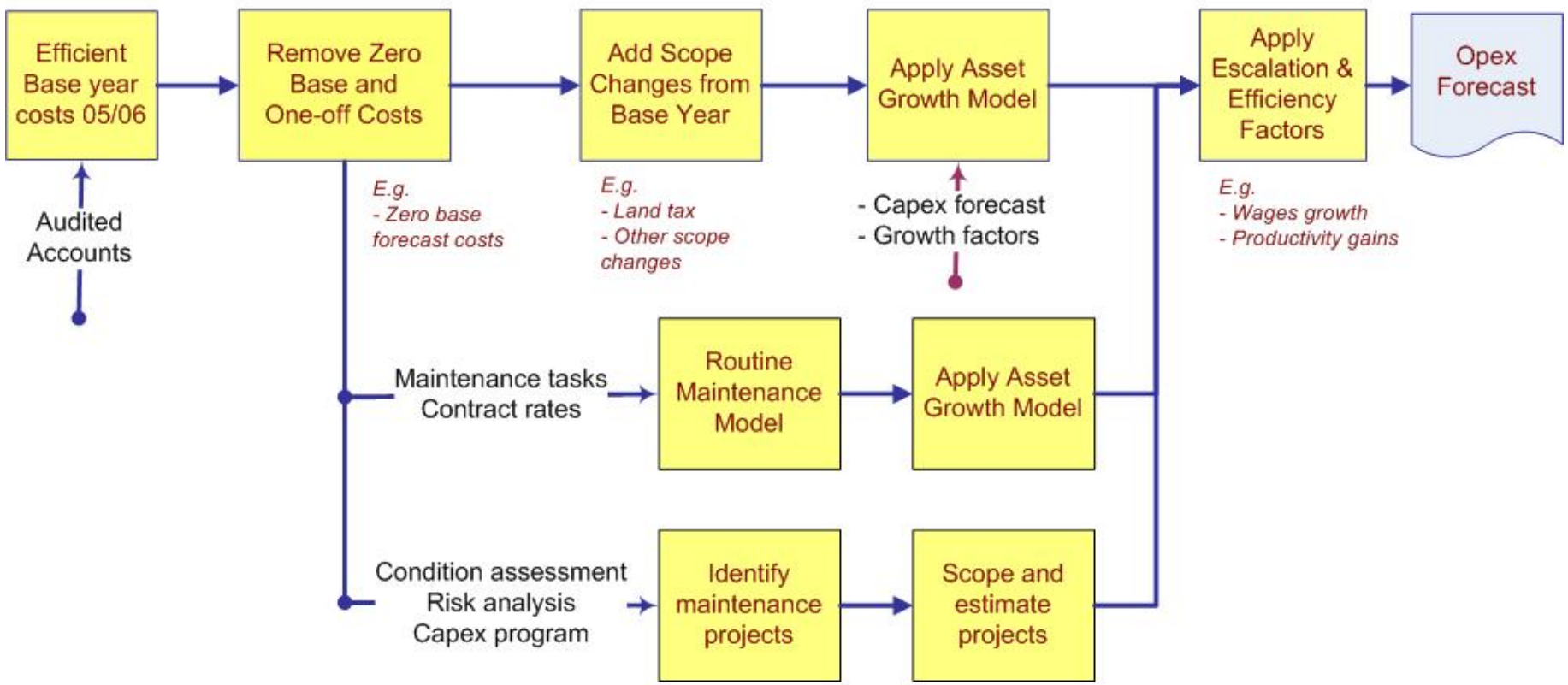


Deliverability

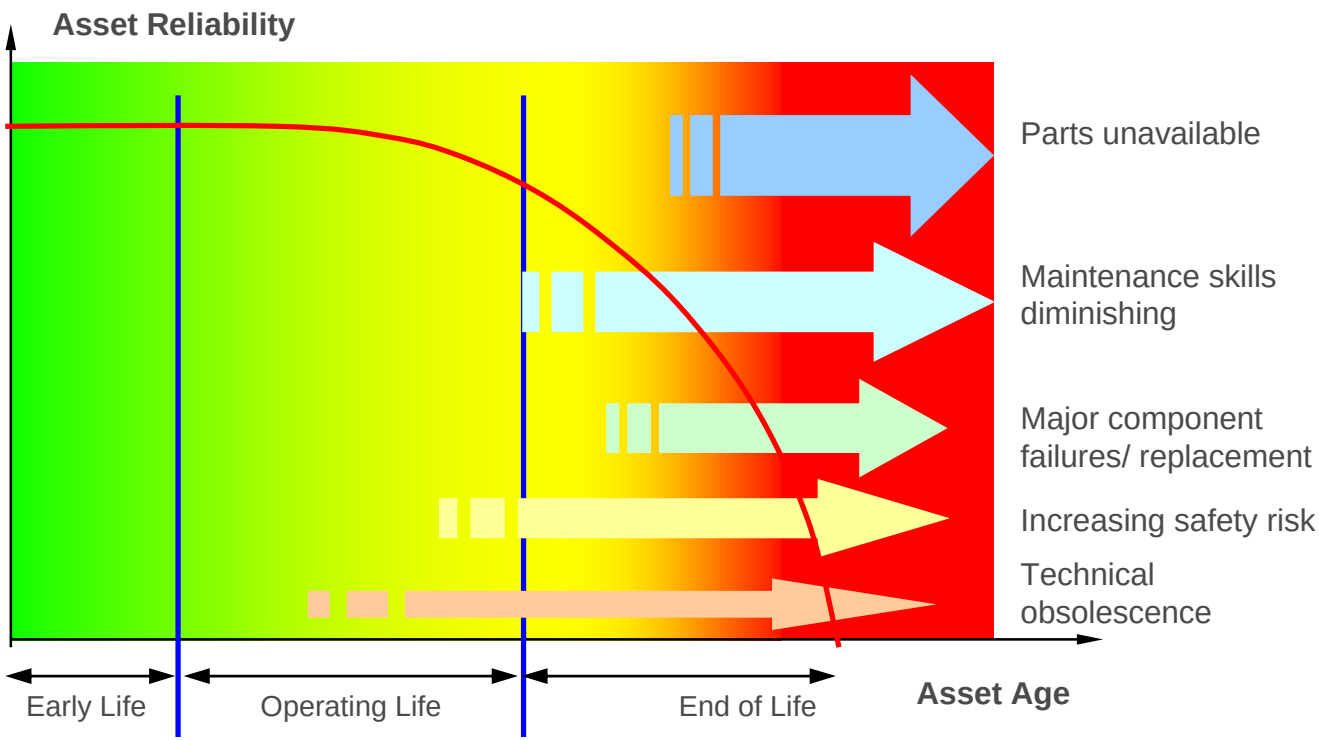
- Capex forecast is 80% larger than current period in dollar terms but much less in physical work terms
- Initiatives to ensure deliverability…
  - design standardisation
  - change in procurement strategy to provide greater certainty to contractors
  - supply chain management (reverse marketing)
  - increased outsourcing – design standardisation enables more work to be effectively outsourced
  - strengthened project governance
- ElectraNet has demonstrated its ability to ramp up capital delivery in the current regulatory period (from $20m to $100m a year)



Opex Forecasting Methodology



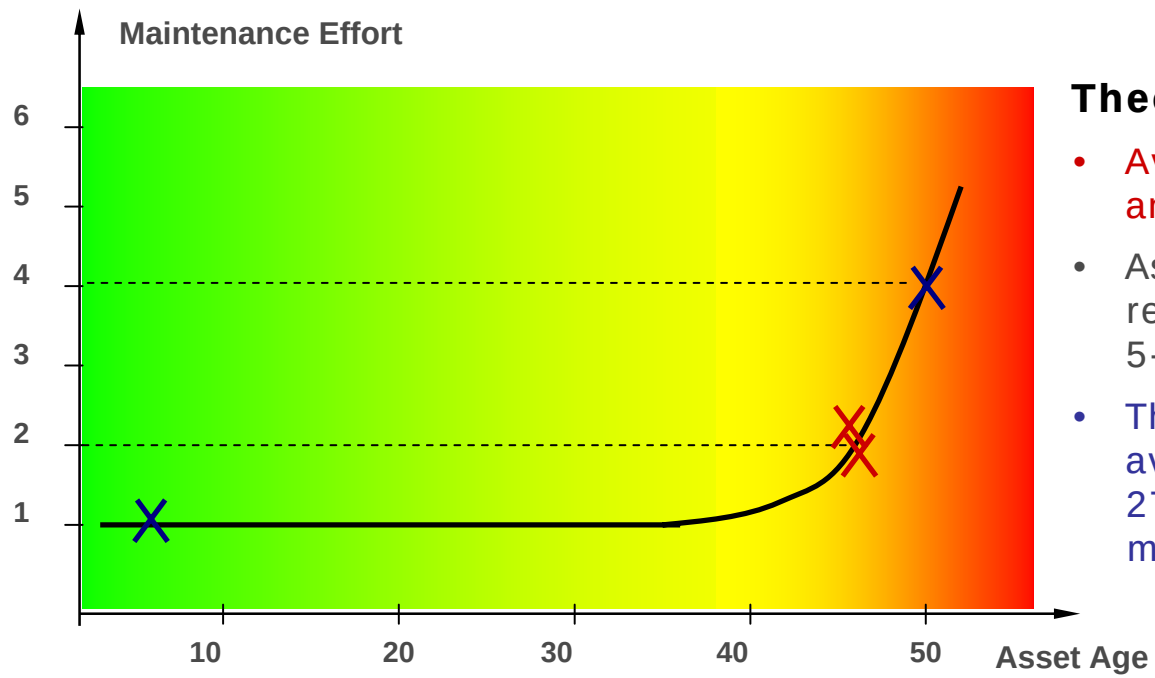
Ageing Assets – Maintenance Implications




Porcelain from current transformer explosion (50m radius)

- Assets become less reliable as they near end of life and maintenance costs increase
- Prudent asset management seeks to avoid reaching the point of asset failure – requires increased asset monitoring and testing

Average Asset Condition Profile

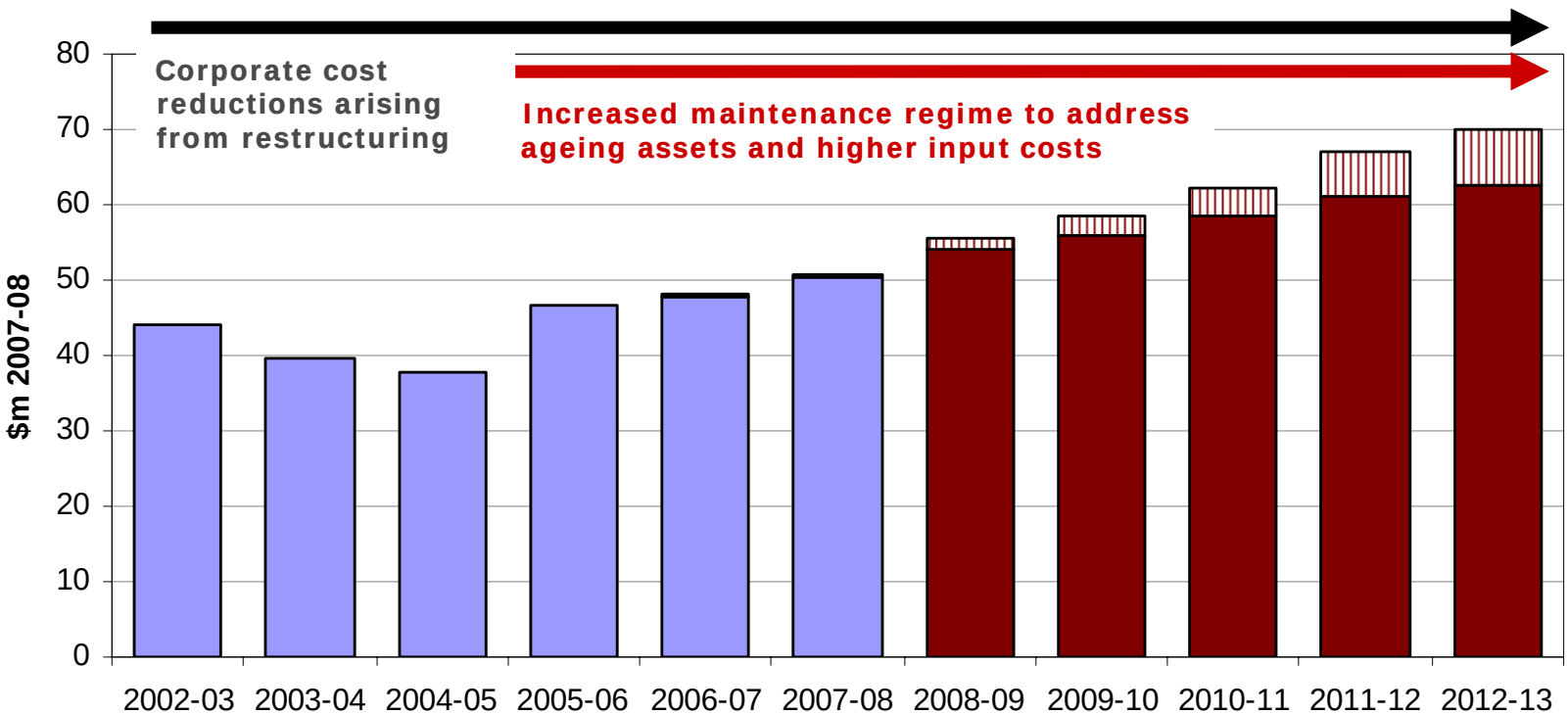


Theoretical Example:

- Average age is 45 yrs and effort is 4 units
- Assume half assets replaced at start of 5-year period
- Then at end of period average age is less at 27.5 yrs but effort is more at 5 units

- Average age of ElectraNet's existing assets will increase by ~7% (2 years) over the next regulatory period despite forecast capital replacement of $240m
- Maintenance effort will increase along with the average age of the existing assets

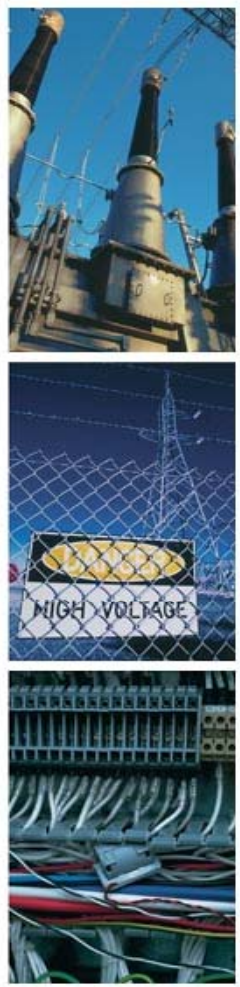
Forecast Controllable Opex



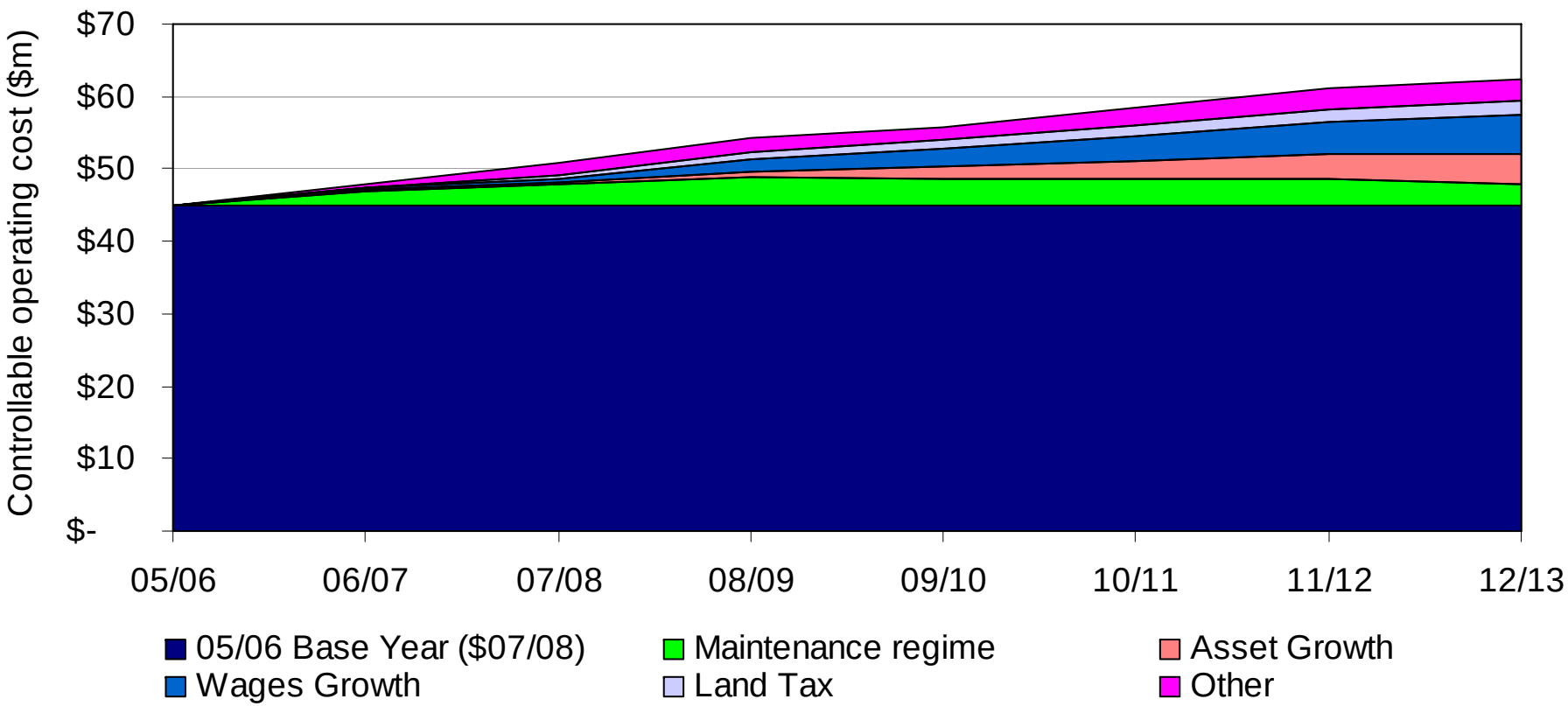
Increased spend requirement driven by:

- asset growth (more assets to operate and maintain)
- ageing assets (higher volumes of maintenance and asset condition monitoring and testing required)
- new land tax obligation and other scope changes
- wages growth (above inflation)

Forecast excludes economy of scale efficiencies resulting from larger network and efficiency gains built into service provider contracts

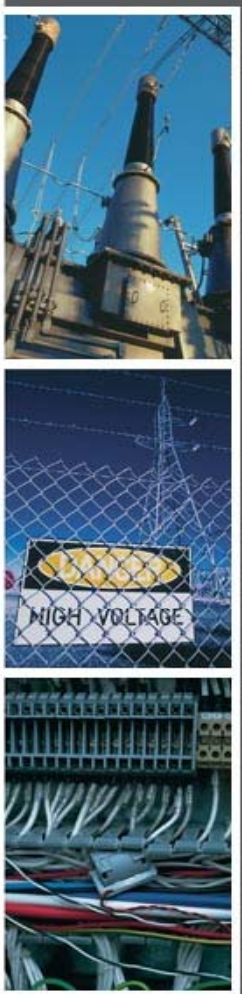


Impact of Key Cost Drivers ($2007-08)

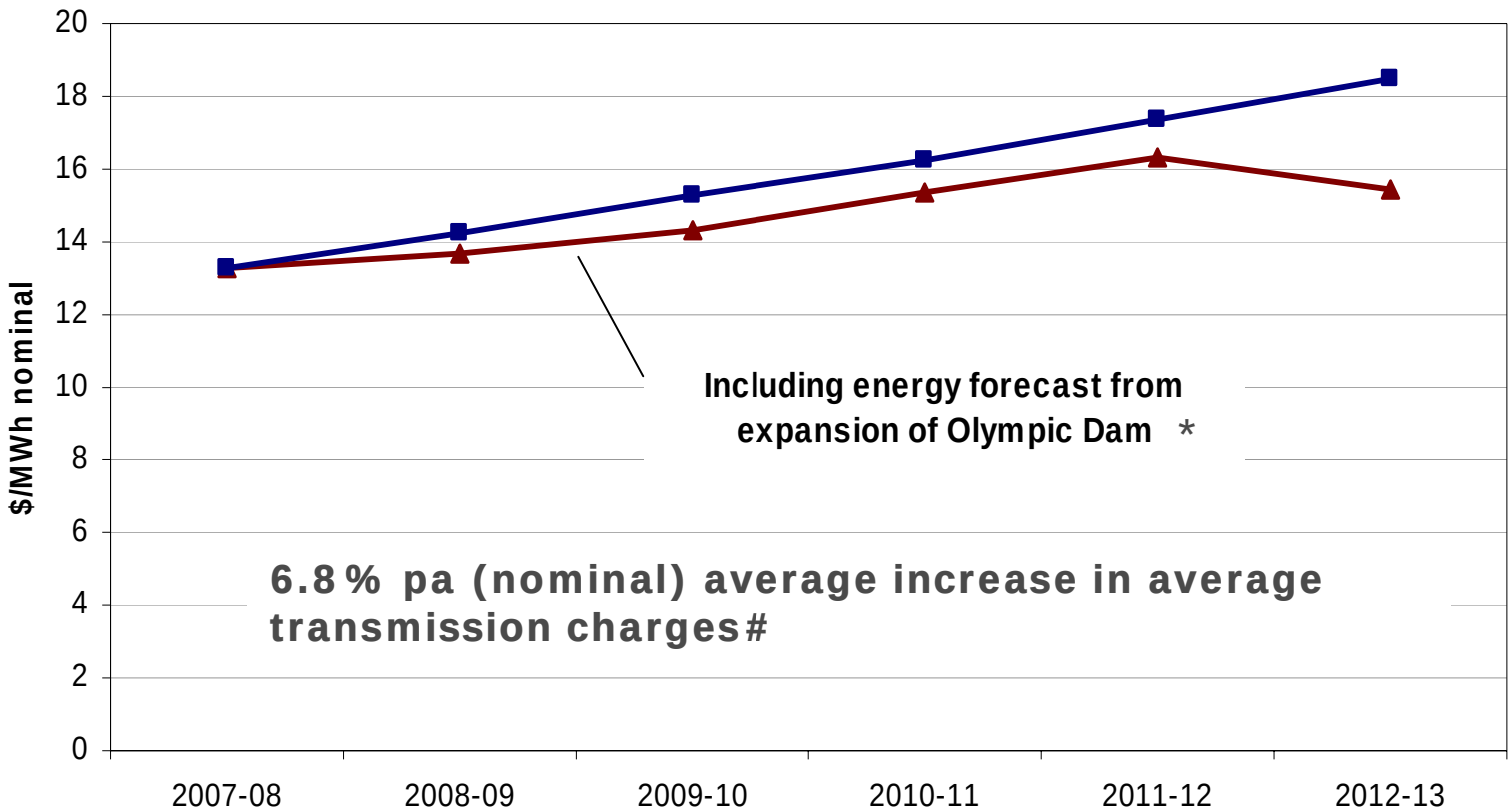


Revenue Requirement ($ nominal)

Building Block	2008-09	2009-10	2010-11	2011-12	2012-13	Total
Return on capital	112.3	129.1	148.4	163.5	175.8	729.1
Return of capital	20.4	17.7	12.9	10.8	19.1	80.9
Operating expenses	61.4	65.2	70.3	76.2	81.6	354.7
Opex efficiency payment	3.2	2.7	2.1	1.4	0.7	10.1
Tax allowance	9.2	10.1	9.5	9.5	10.3	48.6
Unsmoothed revenue requirement	**206.5**	**224.8**	**243.2**	**261.5**	**287.5**	**1,223.5**
X factor	(8.4%)	(4.9%)	(4.9%)	(4.9%)	(4.9%)	
Smoothed revenue requirement	**208.5**	**225.1**	**243.1**	**262.5**	**283.4**	**1,222.6**

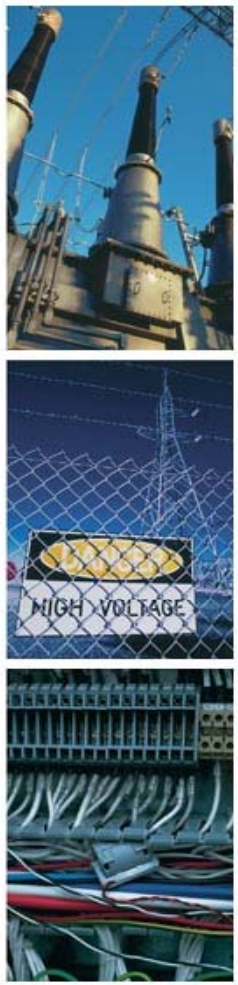


Average Customer Price Impact



* Comparison does not include any revenue capped expenditure to facilitate the Olympic Dam expansion

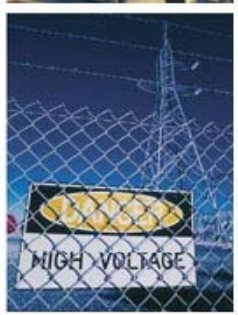
\# Transmission charges represent only about 10% of the average customer cost of delivered electricity in South Australia



Average Customer Price Impact

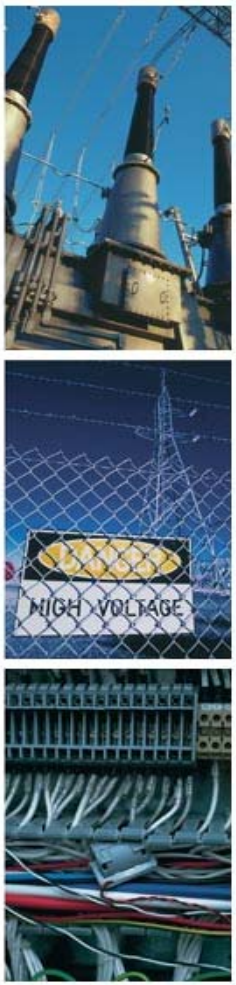
Customer class	Average Annual Bill*	Indicative impact of Revenue Proposal	
Residential	$1,058	$7.50	0.7%
Small business	$2,685	$19	0.7%
Large business	$120,000	$1,600	1.3%

*** Source: ESCOSA 2005-06 Annual Performance Report – SA Retail Market, Nov 2006**



Service Performance

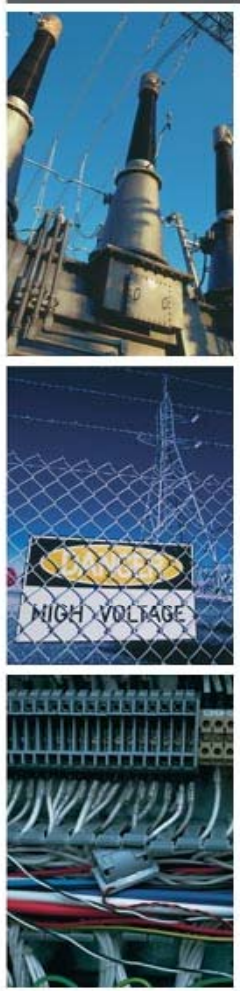
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Availability (%)	99.23	99.25	98.82	99.29	99.32	99.30	99.38	99.59	99.35	99.57	99.42
Average Outage Duration (Minutes)	88.3	360.9	151.4	85.1	60.1	132.0	70.0	70.1	48.9	114.1	88.5
No of events >0.2 System minutes	3	5	3	7	7	2	4	2	7	0	4
No. of events >1.0 system minutes	3	2	1	1	1	1	0	1	0	0	0



- Performance against ACCC service indicators shows an overall trend of improved performance but in some cases performance has been variable in current period
- ElectraNet has proposed changes to the scheme to provide additional focus on improving the availability of critical transmission circuits at peak times when transmission outages are more likely to result in significant market impact

Conclusion

- Higher levels of capital and operating expenditure required in the forecast period
- ElectraNet has actively sought to manage the increase in required expenditure by focussing on investments required to meet mandated reliability standards and to address only the highest priority asset condition and critical infrastructure needs
- Expenditure forecasts reasonably reflect…
  - efficient and prudent costs
  - a realistic expectation of demand forecast and cost inputs (no ‘extreme’ assumptions)
- Estimated price increase is reasonable given the significant rise in capital expenditure required to meet growing customer demand and to maintain service reliability



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The End