ETSA Utilities

Regulatory Proposal to the AER, 2010 – 2015

AER Public Forum, 6 August 2009

We do everything in our power to deliver yours

Presenters and outline

- Introduction – Lew Owens, CEO
- Regulatory Proposal – Eric Lindner, GM Regulation

- History
- Roles
- 2005 reset
- 2005-09 performance and achievements
- Changing environment
- Consultation
- Expectations

- Objectives
- Investment drivers
- Investment proposals
- Key projects
- Operating costs
- Sales and demand forecasts
- WACC
- Pricing and tariff outcomes
- Benefits

ETSA Utilities' history

- ETSA established in 1946 as a vertically integrated, state-owned utility
- Massive growth phase through 1950s and 60s (Thomas Playford era)
- Corporatised, down-sized & disaggregated during 90s
- Privatised in 1999, distribution assets purchased by Cheung Kong Group
- 10 years of regulated activities

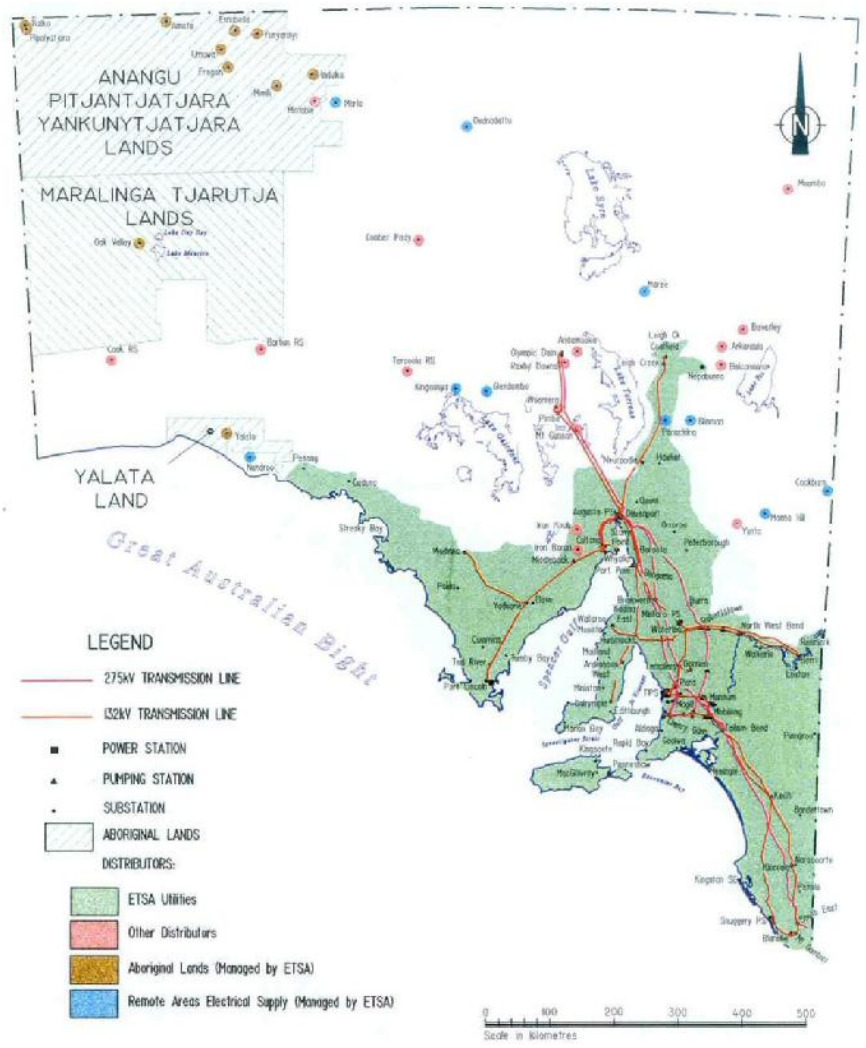
ETSA Utilities' roles

Roles

- Maintain safety & reliability of the network
- Extend and upgrade the network
- Maintain public lighting system
- Meter data collector & data provider

Key statistics

- 178,000 sq kms supply area
- 3,085 MW peak demand (Jan 2009)
- 803,251 customers (end 2008)



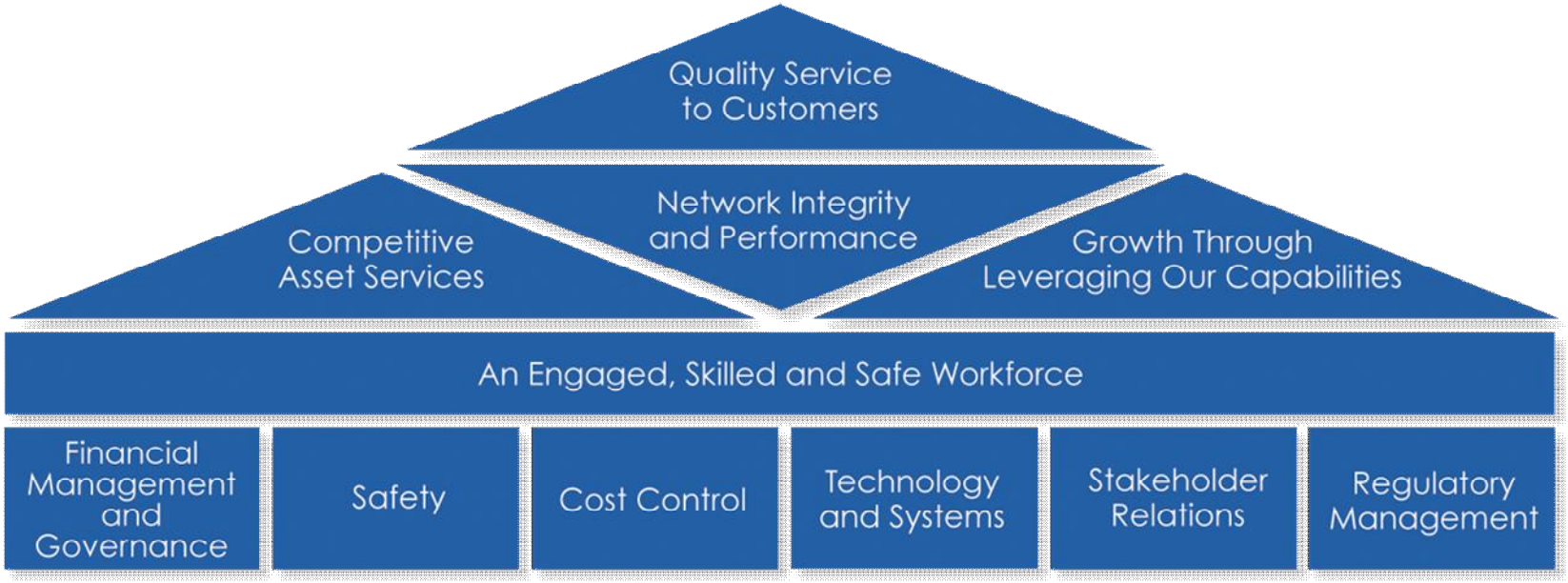
Strategic framework

To be a financially successful and respected provider of electricity distribution and associated services

STRATEGIC INTENT
(our purpose)

1. Generating Financial Returns and Growth for Owners
2. Delivering Value to Customers and Benefits to the Community
3. Ensuring an Engaged, Skilled and Safe Workforce

KEY PERFORMANCE INDICATORS
(how we measure success)

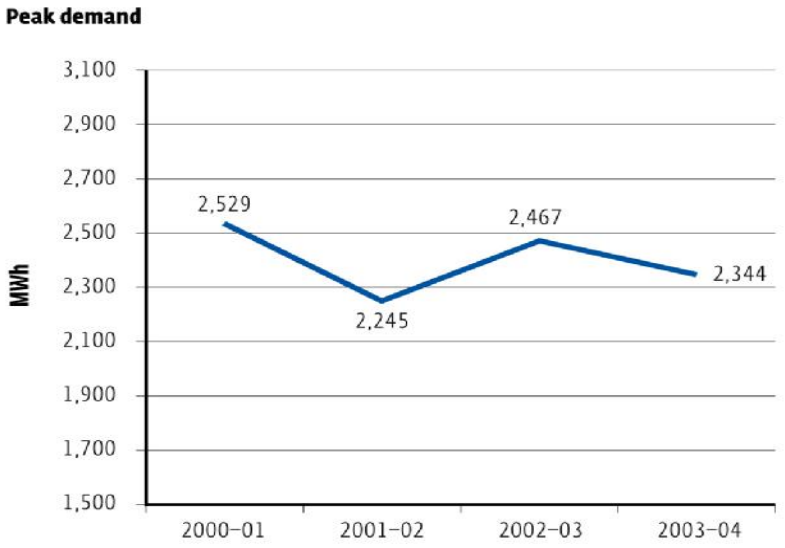


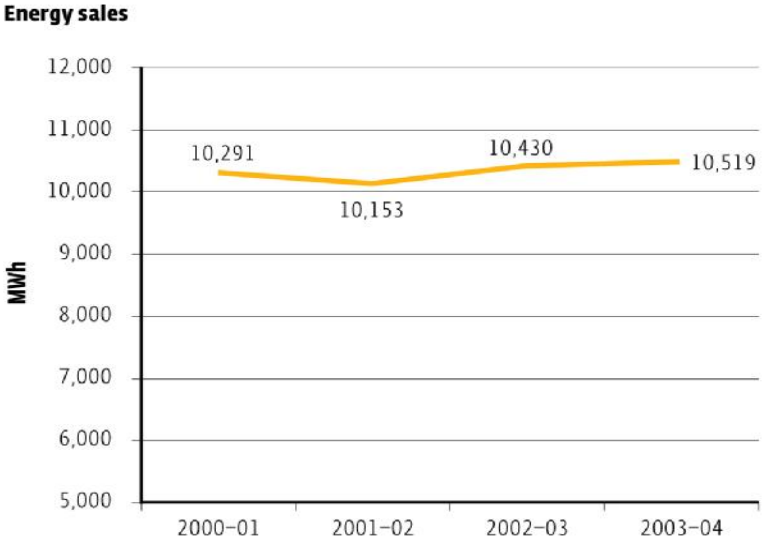
CORE BUSINESS OUTCOMES
(what we deliver)

CORE CAPABILITIES
(how we deliver)

2005 Reset

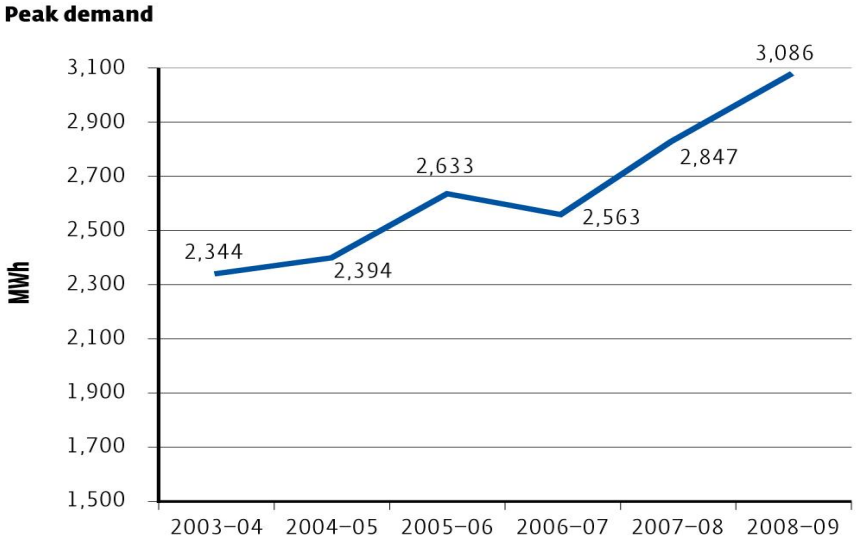
- Focus on customer service
  - SI Scheme, GSLs, performance standards
- Flat or falling demand
- Flat sales
- Revenue control

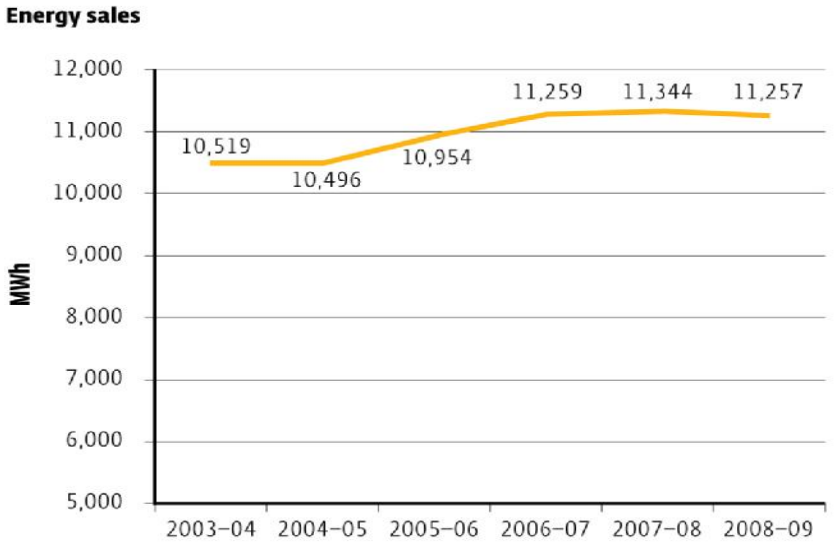




2005 – 2009 Performance

- Strong demand growth
  - 32% in 5 years
- Sales growth but declining
  - 7% in 5 years

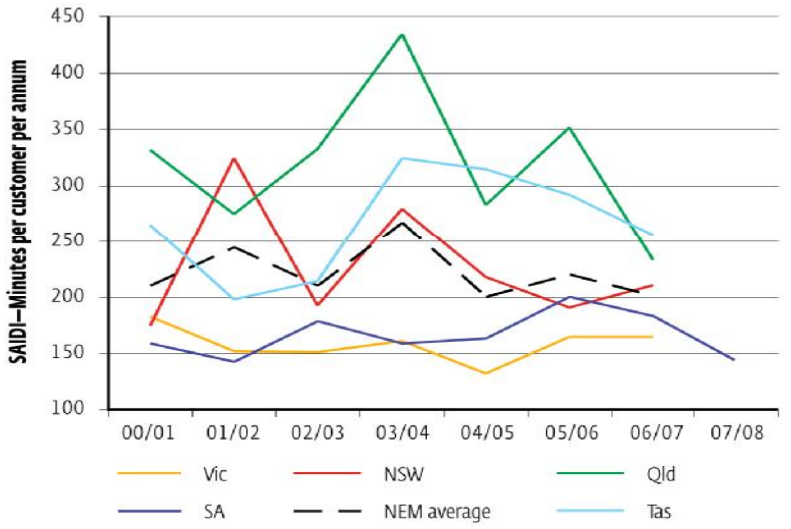




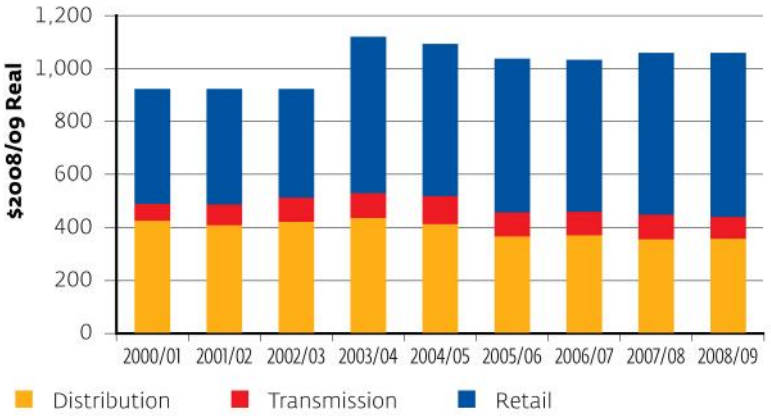
Sustained performance

- Reliability continued at better than average levels
- Real distribution prices reduced
- Customer service targets met/exceeded
- Forefront of industry safety
  - ‘Best Workplace Health and Safety Management System for 2008’
- Growing and well-trained workforce
- Environmental compliance

National distribution reliability benchmarking



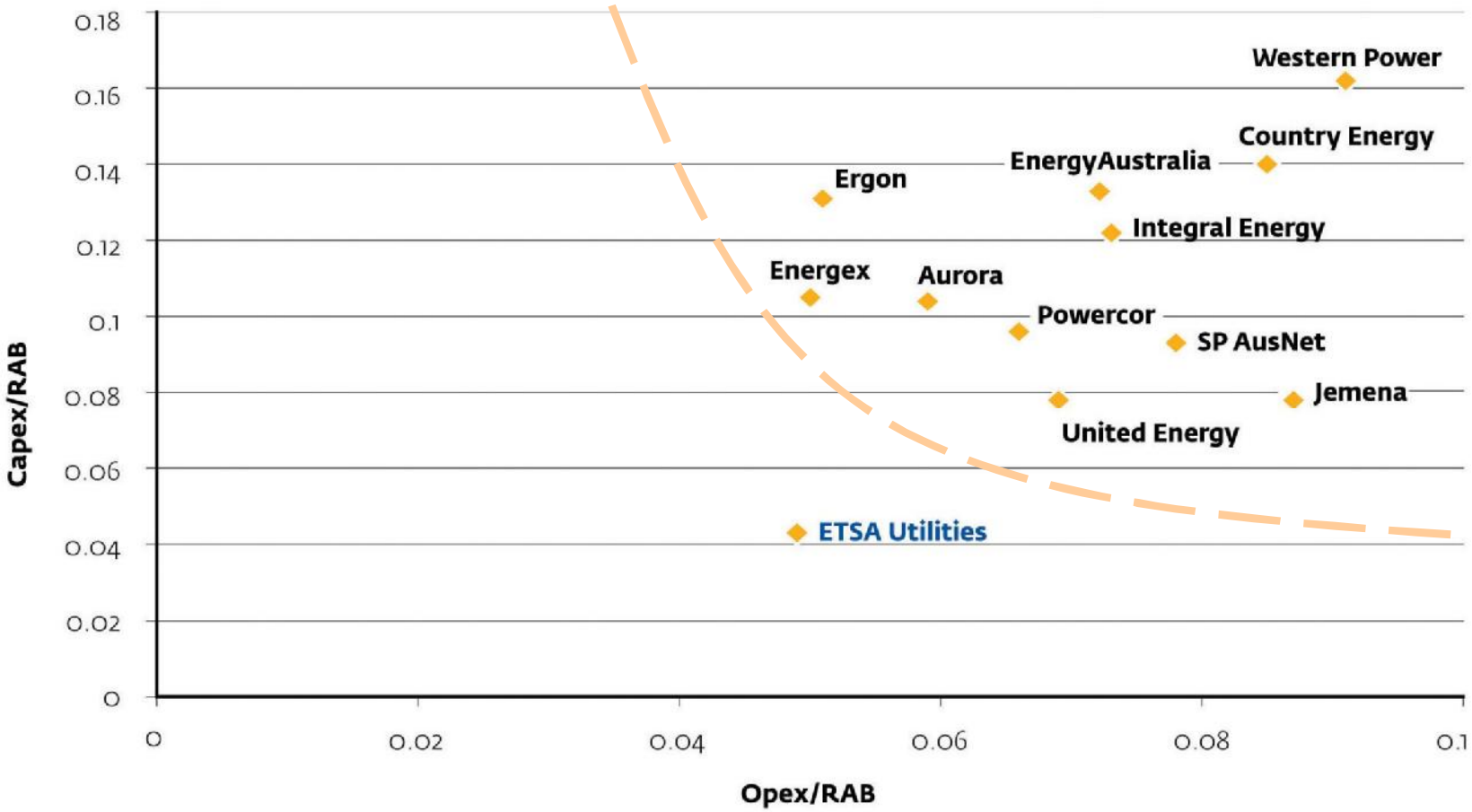
Components of average residential electricity bill (5 MWh)



Efficient frontier

2008 Capex and Opex relative to Regulated Asset Base

(EU data actual, other data regulatory approved)



Evolving environment

NOW

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

SEPARATION

- Disaggregation
- Privatisation
- Commercialisation
- Business systems (SAP, NOC, SCADA)

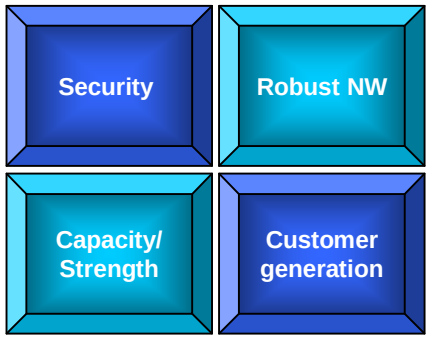
SYSTEMS

- FRC, CIS O/V
- GIS, OMS
- Data capture

SERVICE

- Reliability focus
- SIS, GSLs
- Customer service
- Structures & accountabilities
- Gearing up for increased workloads

Sustainable Network Business



SUSTAINABLE

- Security, robustness
- Asset renewal
- Climate changes
- Demographic change
- Growth
- Changed customer expectations
- Distributed generation

'SMART' GRID

- Connection point control and 2-way comms, providing better control, faster response
  - Remote outage notification
  - Connect/disconnect
  - Read meters
  - Load control (DM)
  - Measure volts & freq
  - In-house display
- Electric vehicles, and diverse distributed generation
- Deep condition monitoring
- Dynamic system control
- Demand side response

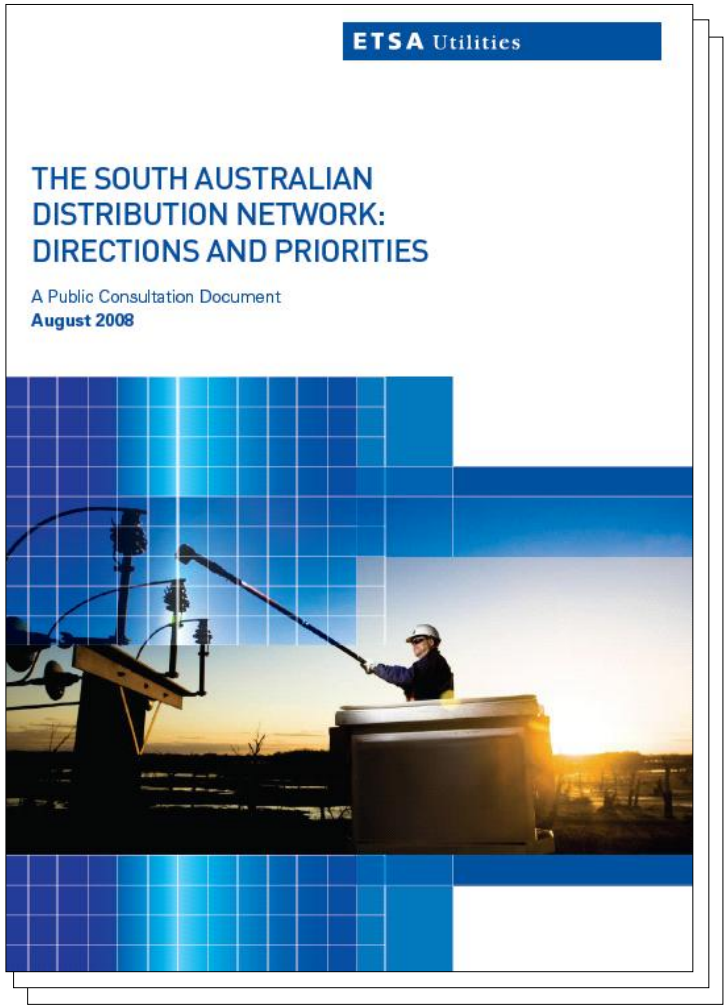
Consultation

"Directions & Priorities" – August 2008

- Reviewed expectations of our stakeholders
- Described operating environment challenges
- Communicated preliminary directions
- Feedback
  - Reinforced our understanding of customer and stakeholder expectations
  - Generally supportive of our directions

Customer Consultative Committee

Quarterly Surveys



Expectations

Ongoing Expectations

- Good reliability and supply restoration performance
- Service responsiveness that meets service standards
- Security of the network
- High levels of safety for the public and employees
- Strong emphasis on bushfire risk mitigation
- Focus on efficiency

Emerging and Future Pressures

- Economic growth
- Peak demand growth
- Demographic change
- Amplified drought, heatwave and bushfire risks
- Security of supply standards
- Ageing infrastructure
- Economic downturn
- Ageing employees and an increasing work program

Summary

- 2010-15 is very different to 2005-10
- SA growth requires stronger and expanded network
- Customer expectations rising
- Proposal reflects expenditures necessary to meet customer expectations on capacity, security and reliability

National Electricity Law Objectives

AER's determination must contribute to promotion of:

"*efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*

- ***price, quality, safety, reliability and security of supply of electricity; and***
- ***the reliability, safety and security of the national electricity system.***"

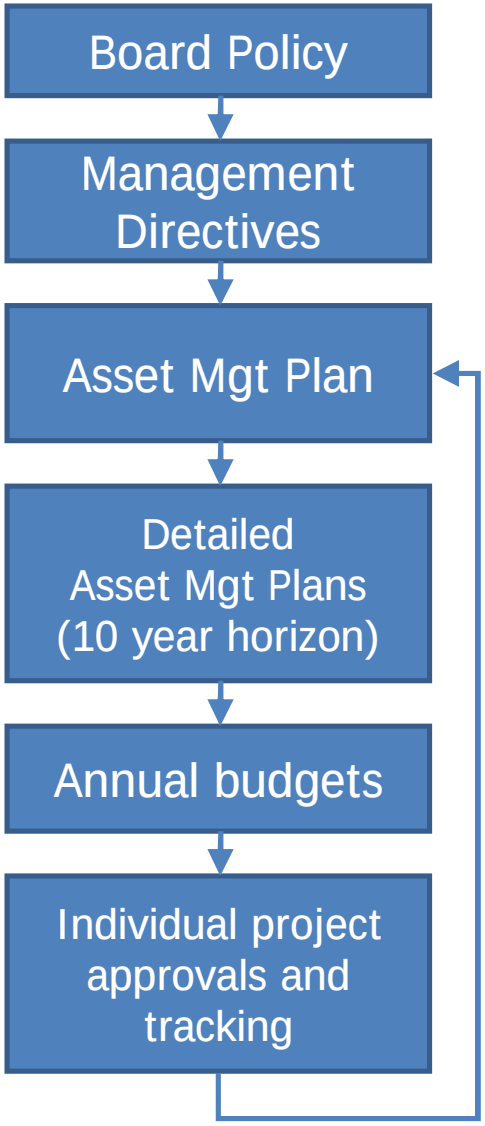
Safety
Reliability
Security
Quality
Price

Expenditure development process

- Build-up approach
  - Capex: bottom-up asset management plans, cost escalation
  - Opex: revealed cost, scope, scale & cost escalation
  - Use of consultants to develop/review plans
- Aimed at meeting NEL objectives & rule requirements
- Iterative review with Executive Management
- Directors' certification

Asset management framework

- Board approved Asset Management Policy
- Asset Management Plan underpins the Board Policy and is reviewed annually
- Capital program reviewed and approved annually
  - Capital projects are prioritised according to risk, balancing financial and technical needs
  - Endorsed projects are subject to individual business case approval and monitoring

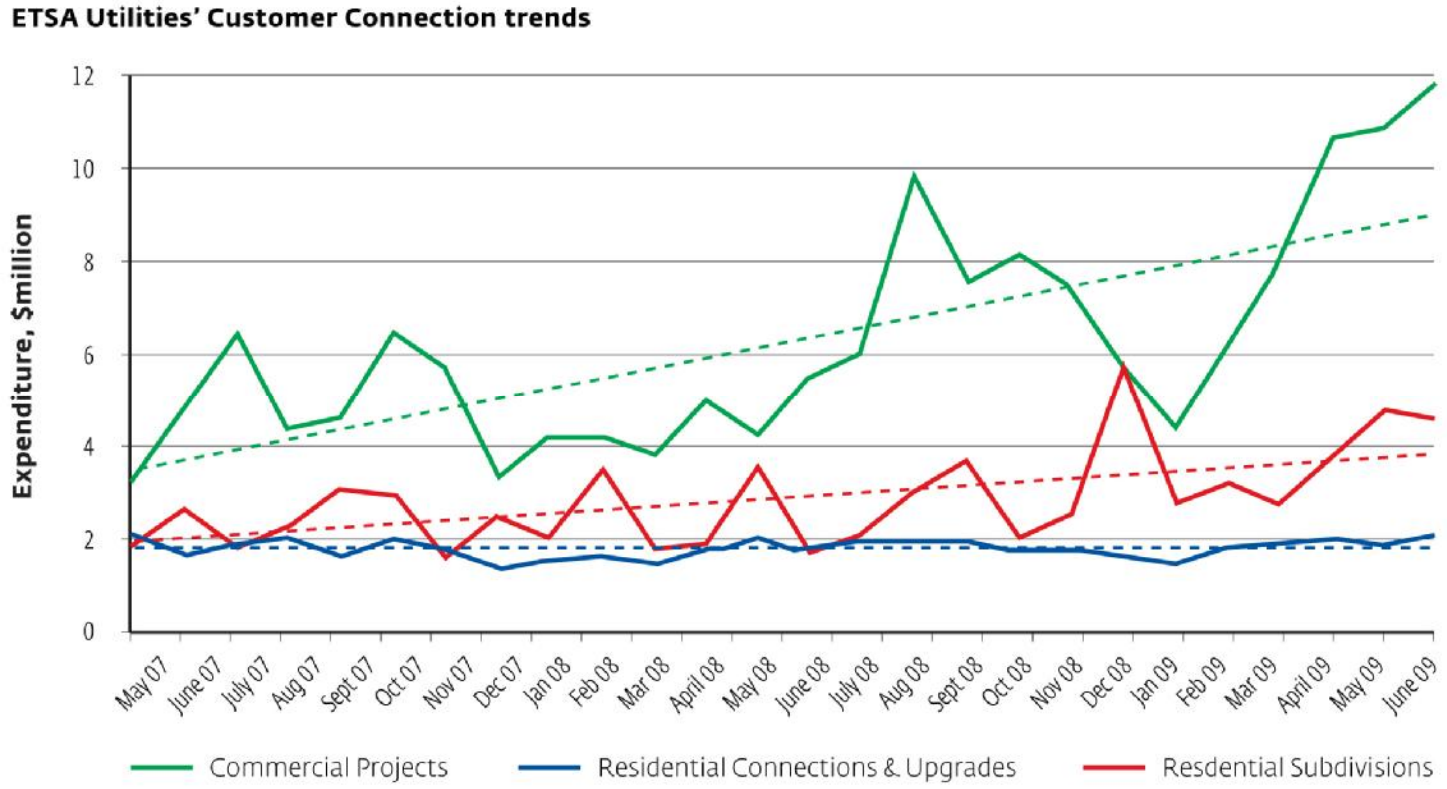


Review of plans and policy

- Our Asset Management Policy requires us to:
  - Employ good industry practice
  - Manage the life cycle of assets prudently and efficiently
  - Ensure long term sustainable performance and condition of the assets
- Individual Asset Management Plans for each network asset at the optimum class and sub-class level (48 individual plans)
- Selected the optimum maintenance and replacement strategy for each asset sub-class
- External reviews indicate policy and plans:
  - Sound and consistent with good industry practices while meeting licence obligations
  - Higher residual risk compared to industry practice
  - High level of asset utilisation

Work program drivers – Growth

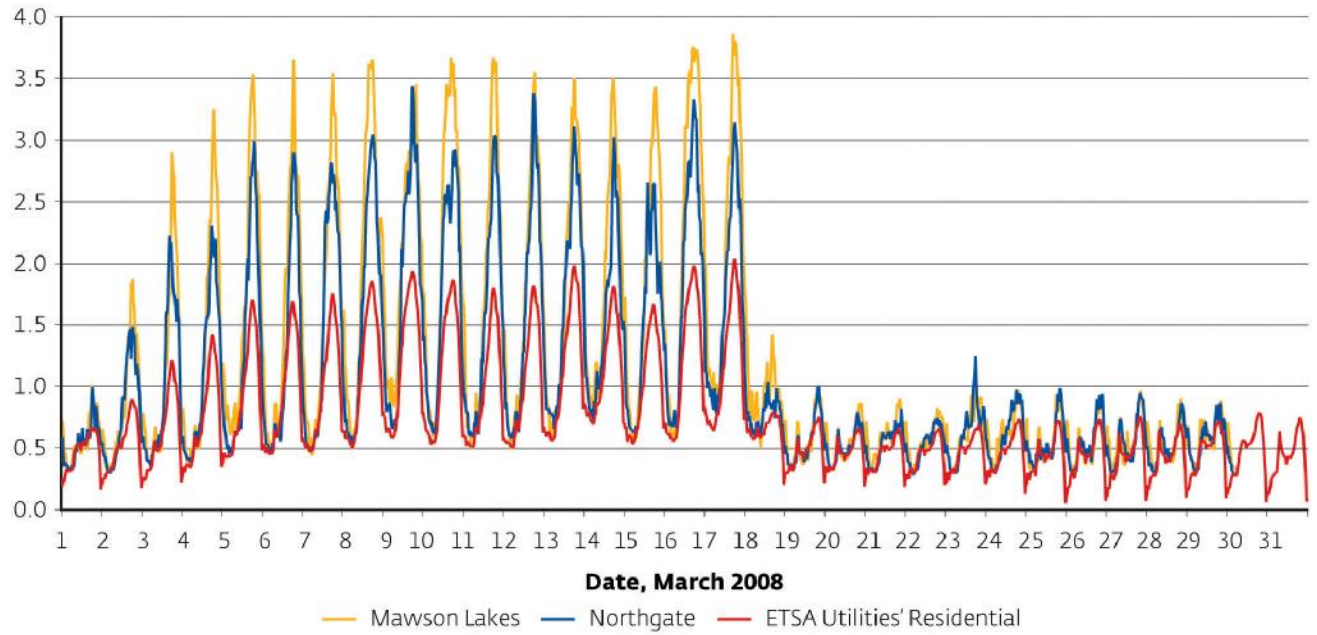
- Economic growth
  - Supported by infrastructure projects
  - Emergence of new value-adding commercial sectors (mining, defence, tourism)
  - Connections and capacity demand



Work program drivers – Peak demand

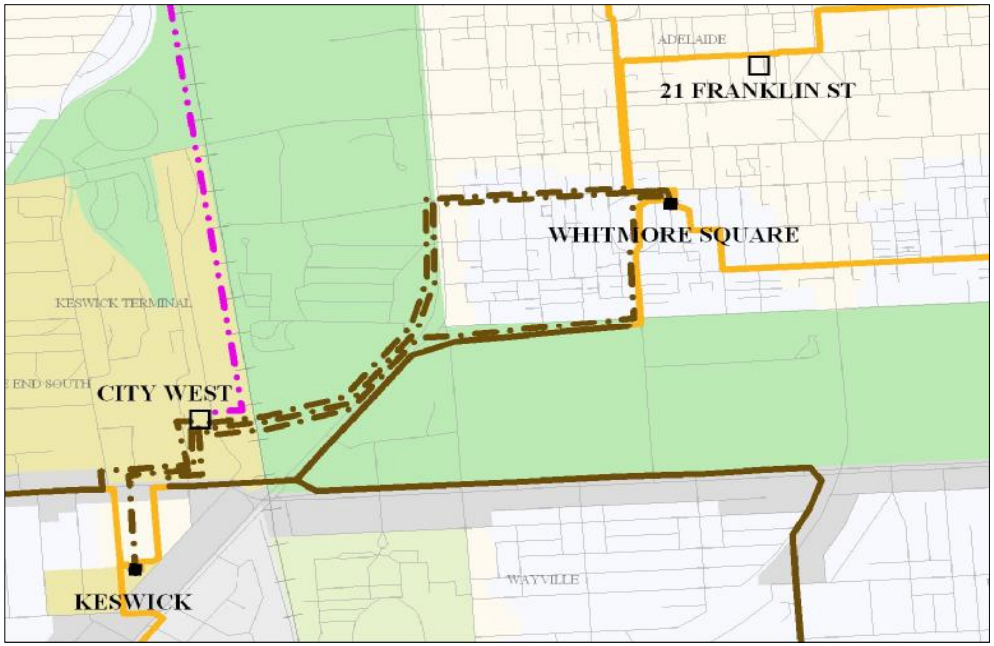
- Peak demand growth driven by air conditioning
  - 2009 heatwave – record demand
  - New phase – from penetration to upgrade
  - Universal installation in new homes
  - New homes have poor passive performance in heatwaves

Residential demand, March 2008



Work program drivers – Security

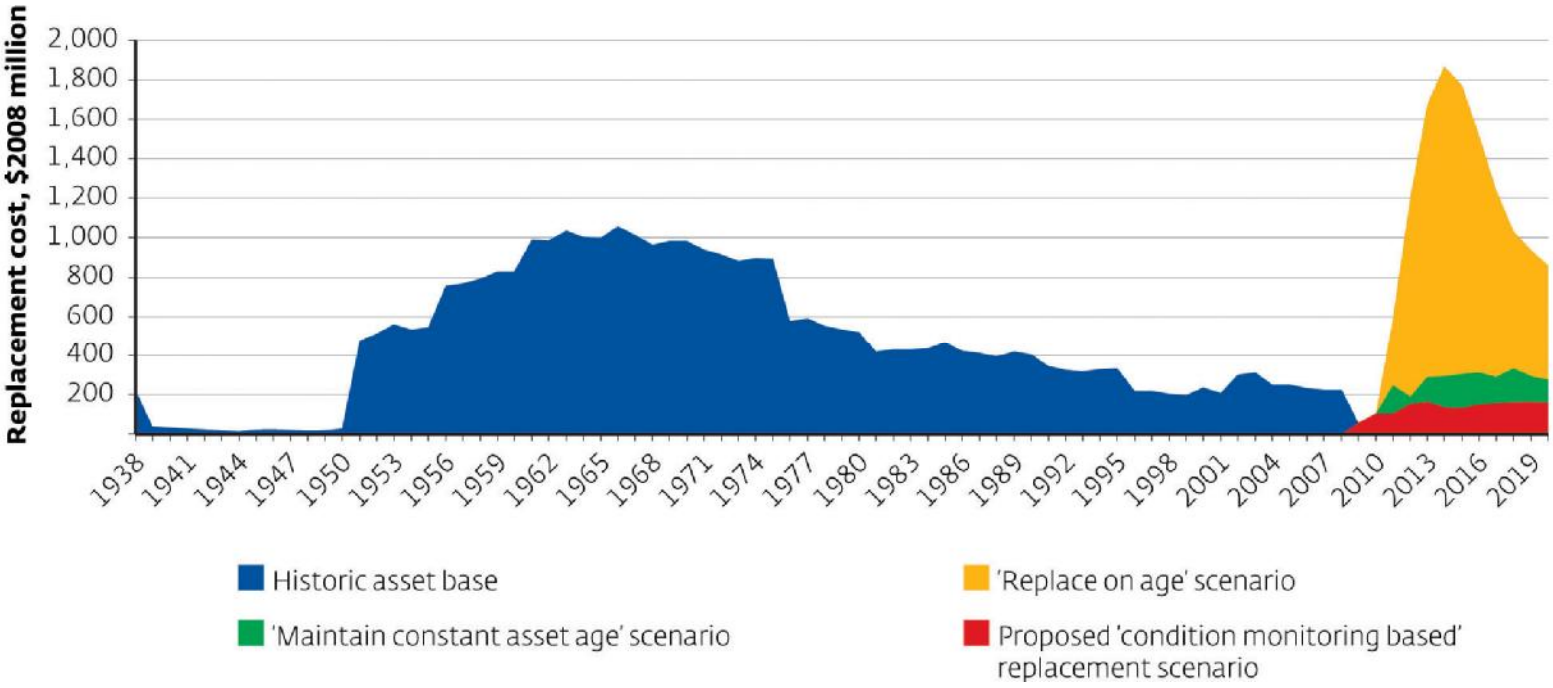
- Security of supply
  - New Electricity Transmission Code
  - CBD reinforcement
  - Kangaroo Island supply security and backbone development



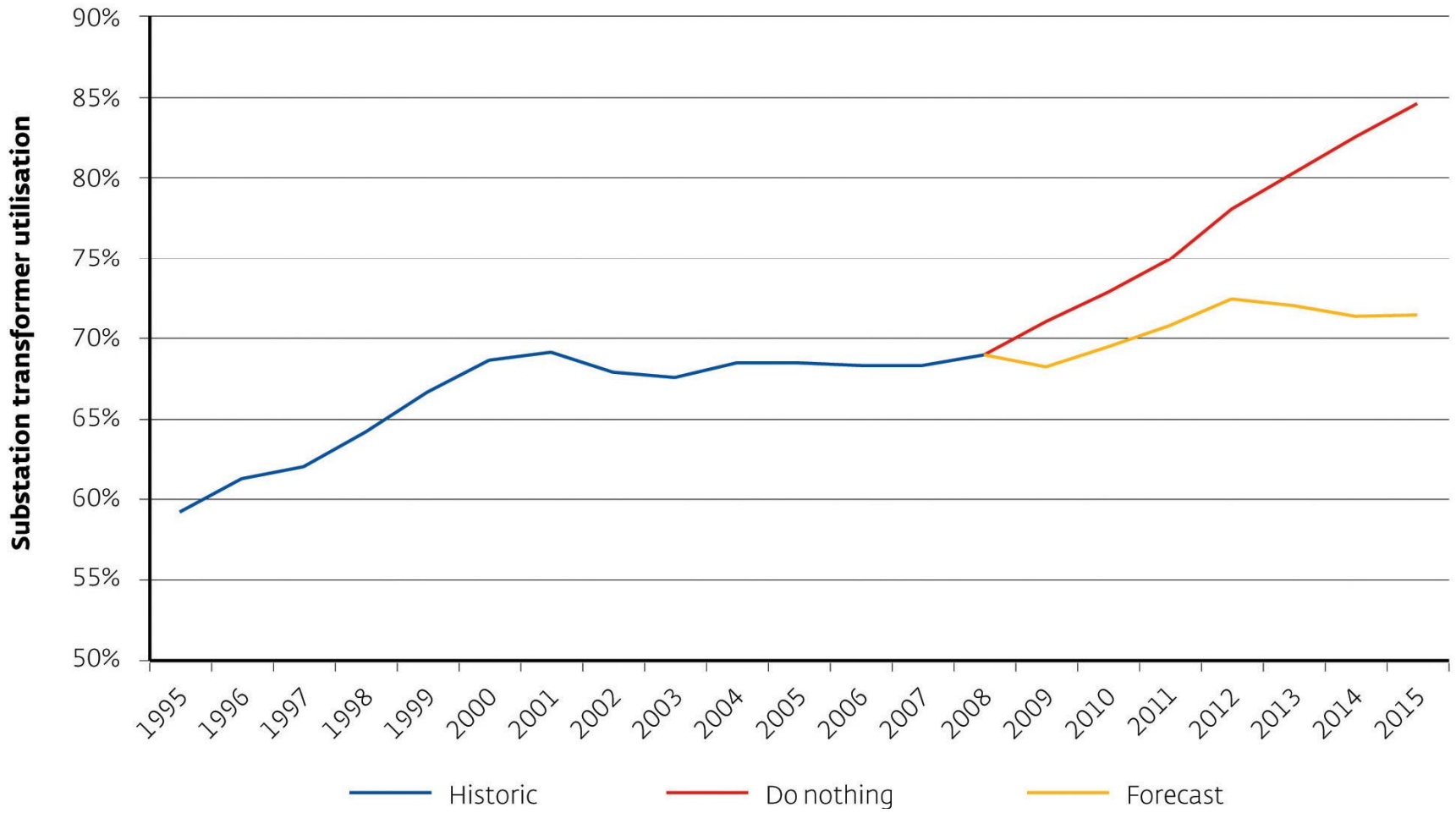
Work program drivers – Ageing assets

- Asset replacement
  - Portfolio of ageing assets
  - Average age 36 years
  - Only 2% of asset base replaced by end of period
  - Average age 39 years at end period
  - Long term program
  - Condition monitoring to manage risk

Asset age & replacement profile

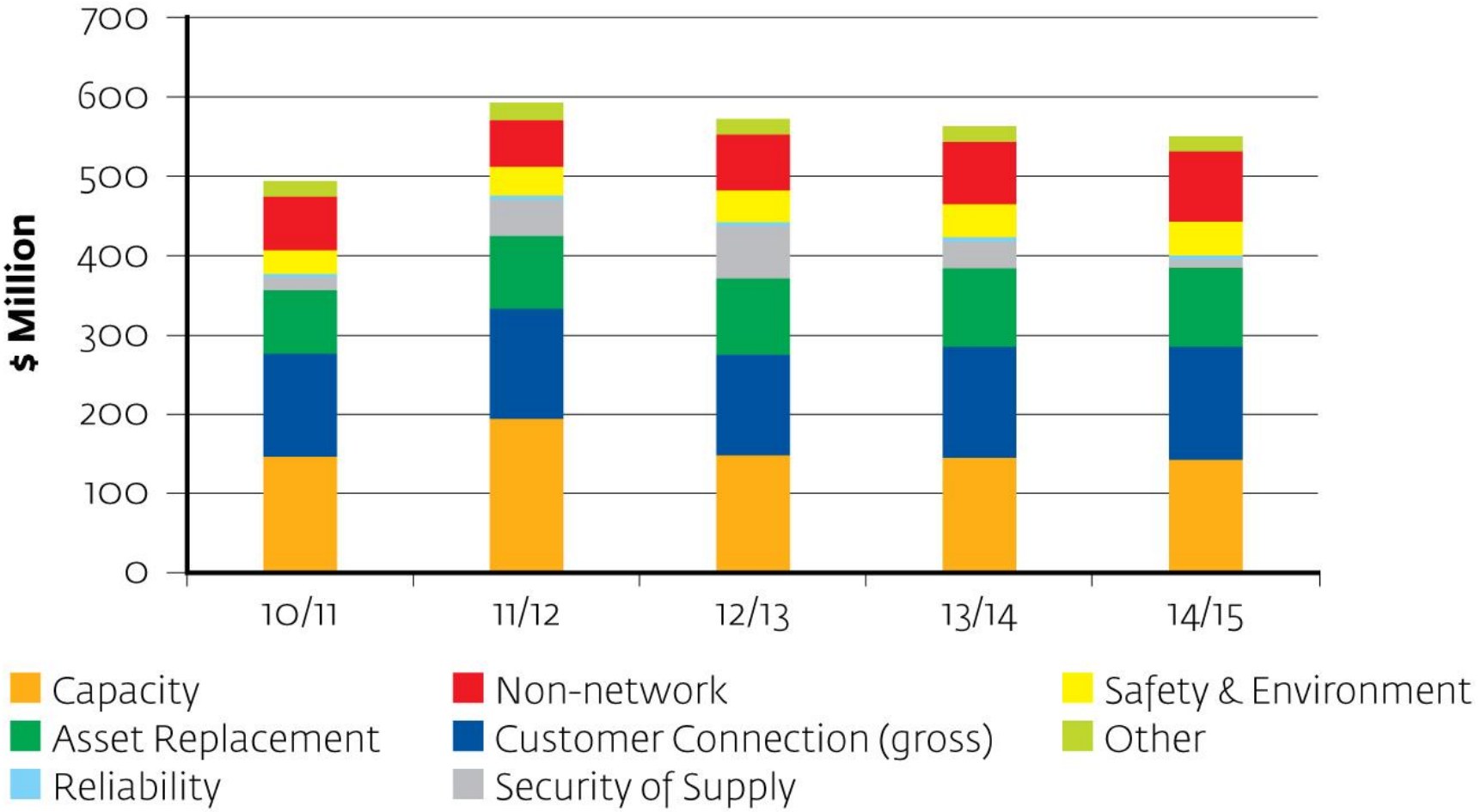


Asset utilisation



Capital investment profile

ETSA Utilities' forecast gross capital expenditure trends and components



Key projects

CBD

- Connection City West Substation to CBD and Southern network ($91m)
- Fifth CBD substation ($20m)
- CBD safety upgrade ($43m)

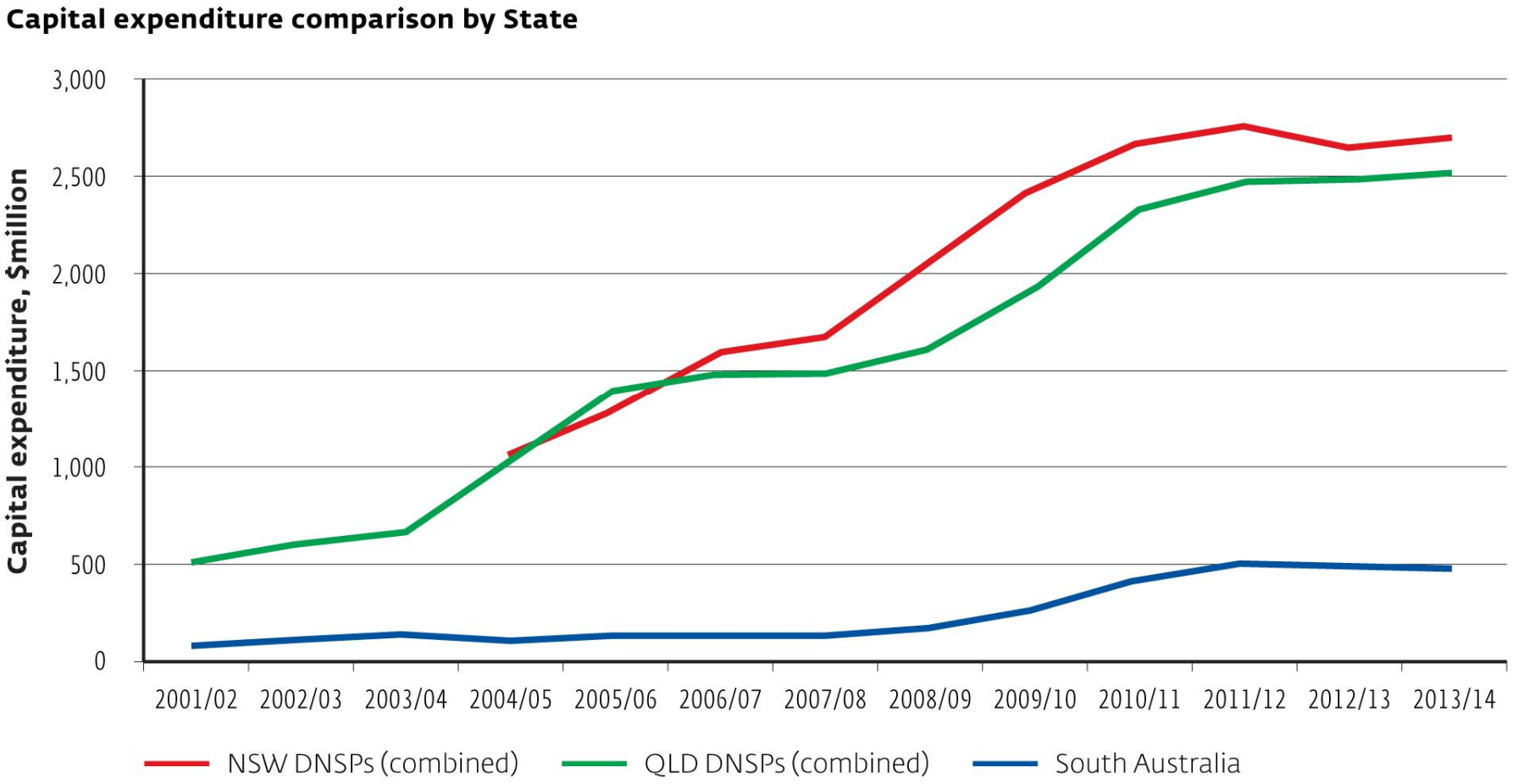
Metropolitan

- Upgrade LV residential network ($112m), involving replacement of existing transformers (700 per annum, of approx.18,000 in total)
- New sub-transmission lines to reinforce capacity and security of supply (Willunga, Kilburn, Glynde, Seaton, Queenstown) ($39m)
- Replace 3 obsolete substations - Woodville, Cheltenham, QEH ($12m)

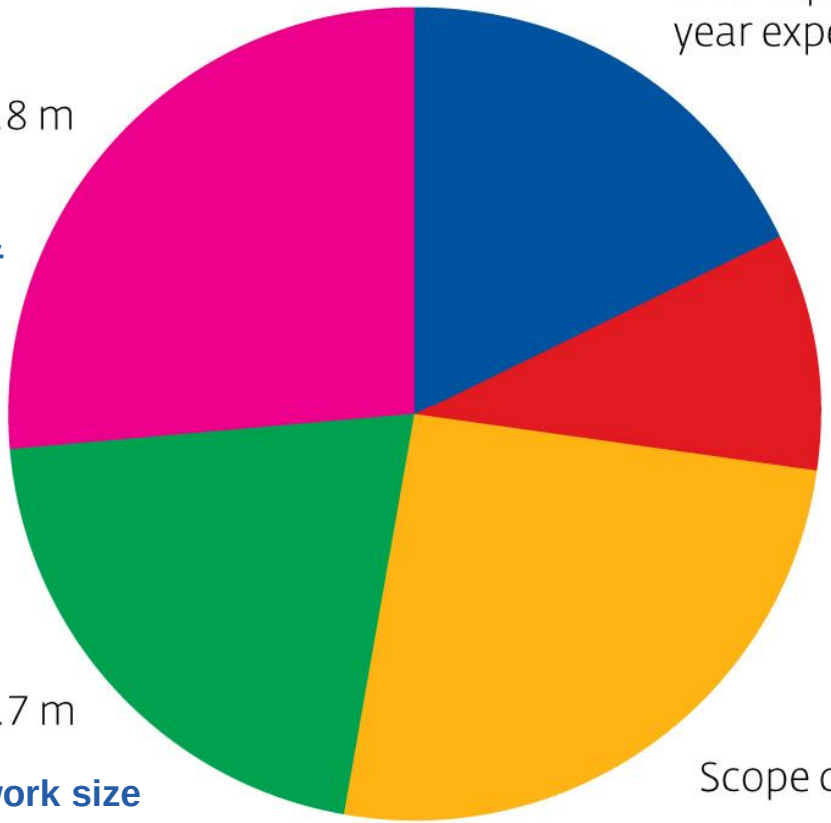
Statewide

- Major upgrade/expansion of 15 regional substations ($113m)
- Substation security fencing upgrades ($17m)
- New network operating centre and SCADA system to better manage the network and improve supply restoration ($43m)
- Kangaroo Island security ($80m)
- Major customer connections ($112m)

Interstate capex profiles



Opex - key drivers of cost increases



Non-reflective base year expenditure; $12.8 m

- **Vegetation management**
- **Self-insurance**
- **Debt raising costs**

Cost escalation; $18.8 m

- **Increased costs of labour, materials & services**

Scope changes: Condition monitoring; $6.7 m

- **Additional scope & frequency of asset inspections**

Scale escalation; $14.7 m

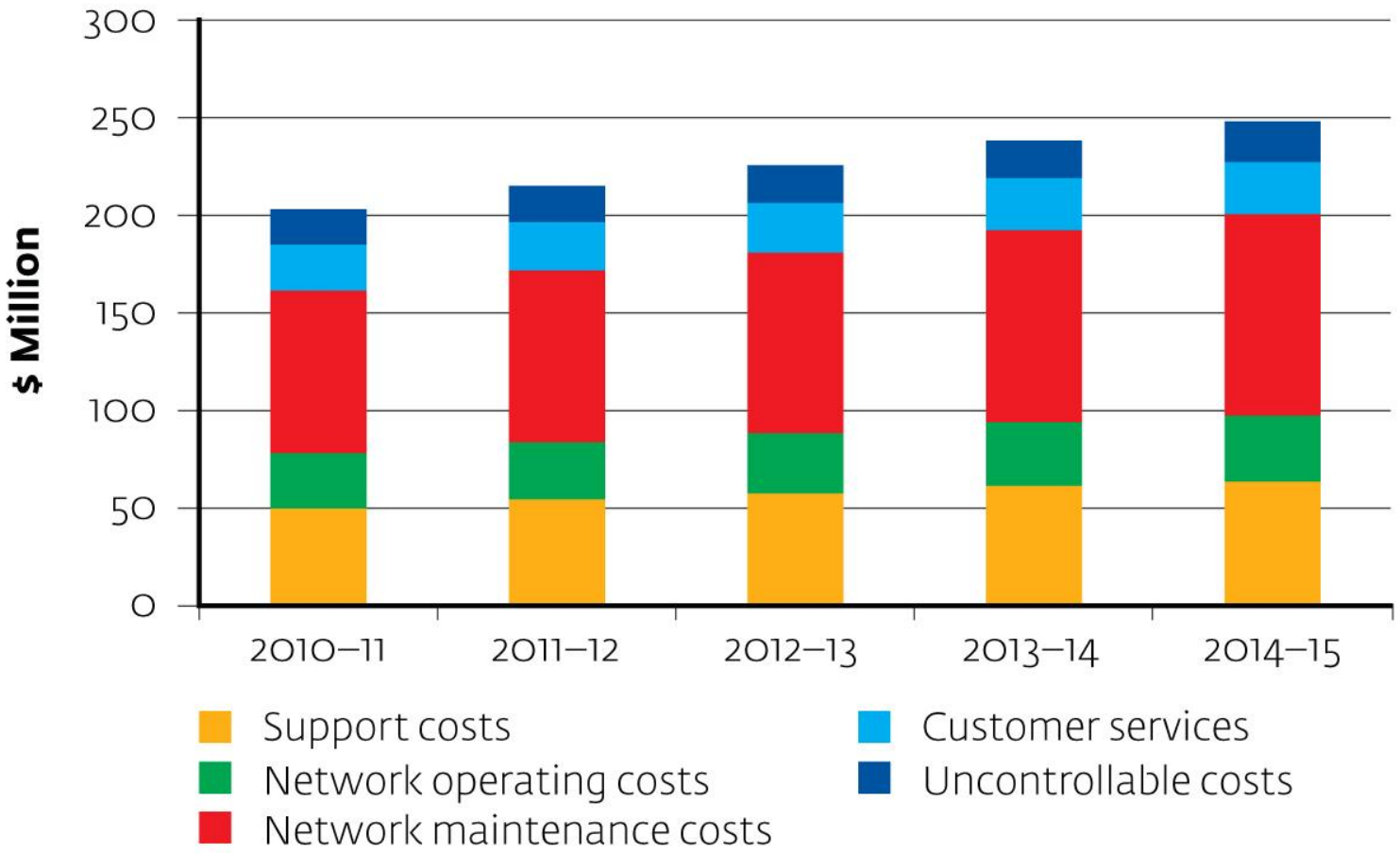
- **Increased network size**
- **Additional employees**
- **Additional work**
- **Additional customers**

Scope changes: Other; $18.3 m

- **Land tax**
- **Superannuation**
- **IT systems licences & support**
- **Additional depots/facilities**

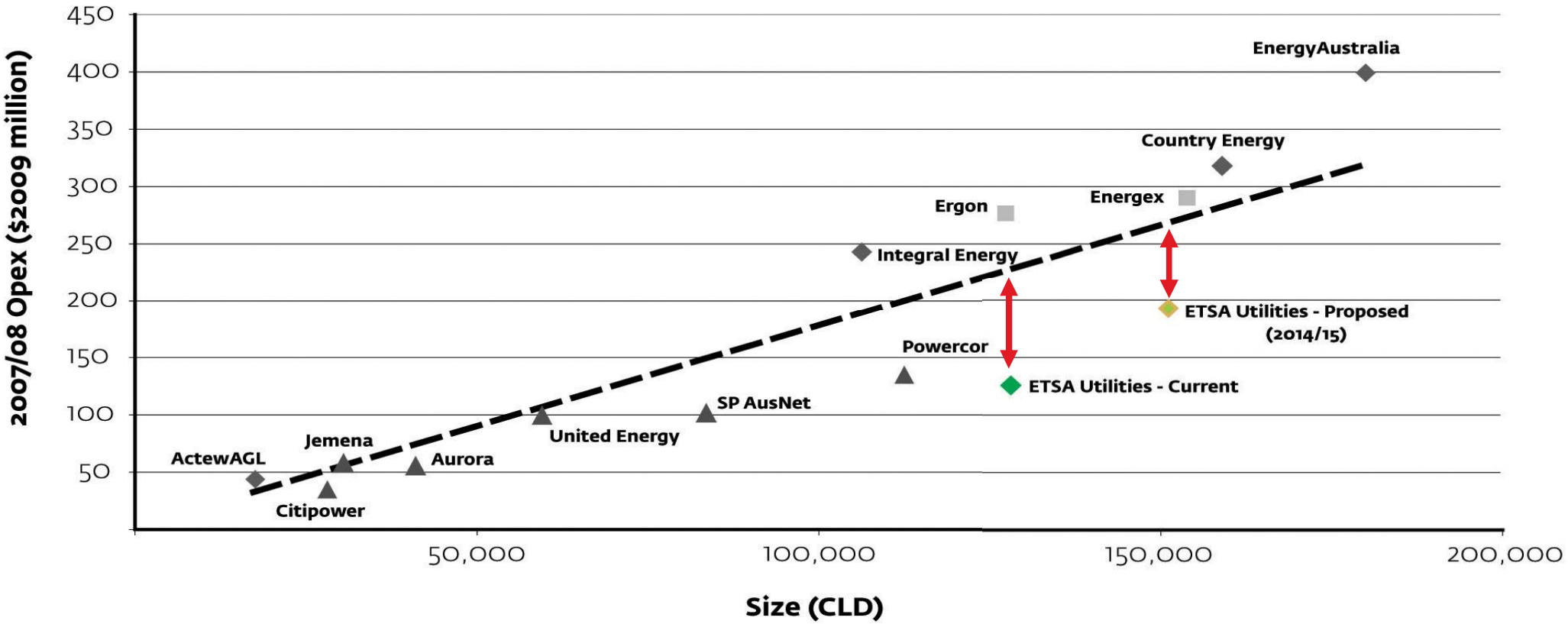
Operating expenditure

ETSA Utilities' forecast operating expenditure trends and components



Benchmarking & efficiency

Opex per size change over period

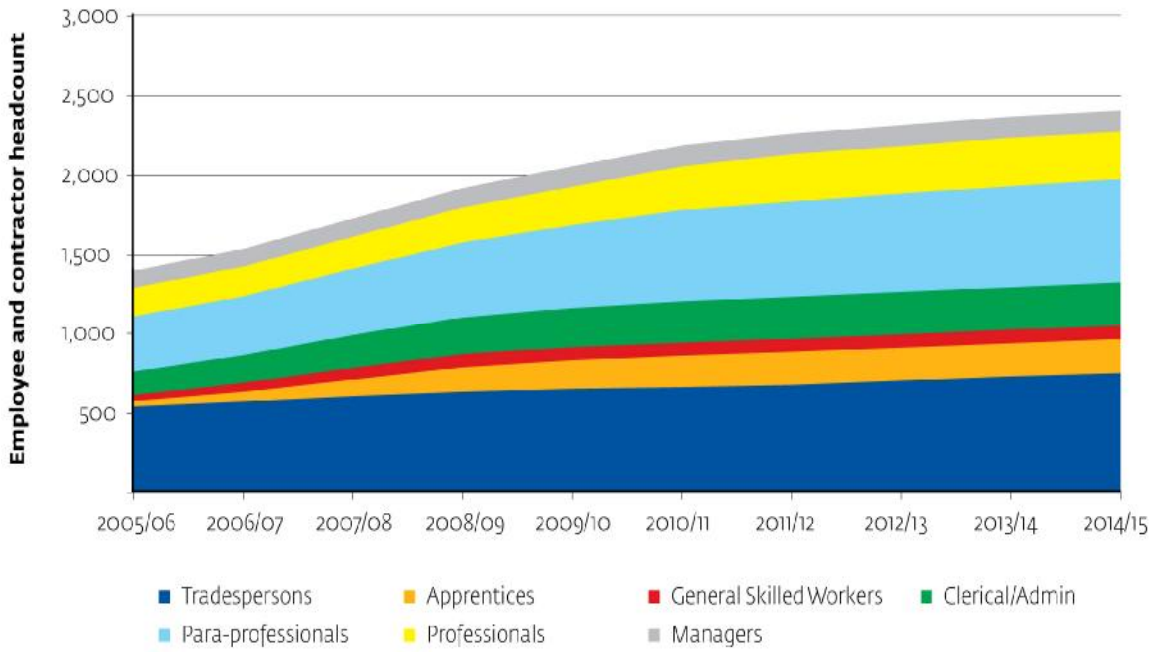


Gearing up to deliver

- Continued development of our capability and resources
- Robust platform for 2010-15 work program
  - 100 - 150 new employees per annum over past 5 years
  - 50+ new apprentices and 10 graduates annually
  - Ongoing upgrade of facilities, equipment, vehicles
  - Total expenditure increased from $270 to $490 million over past 5 years

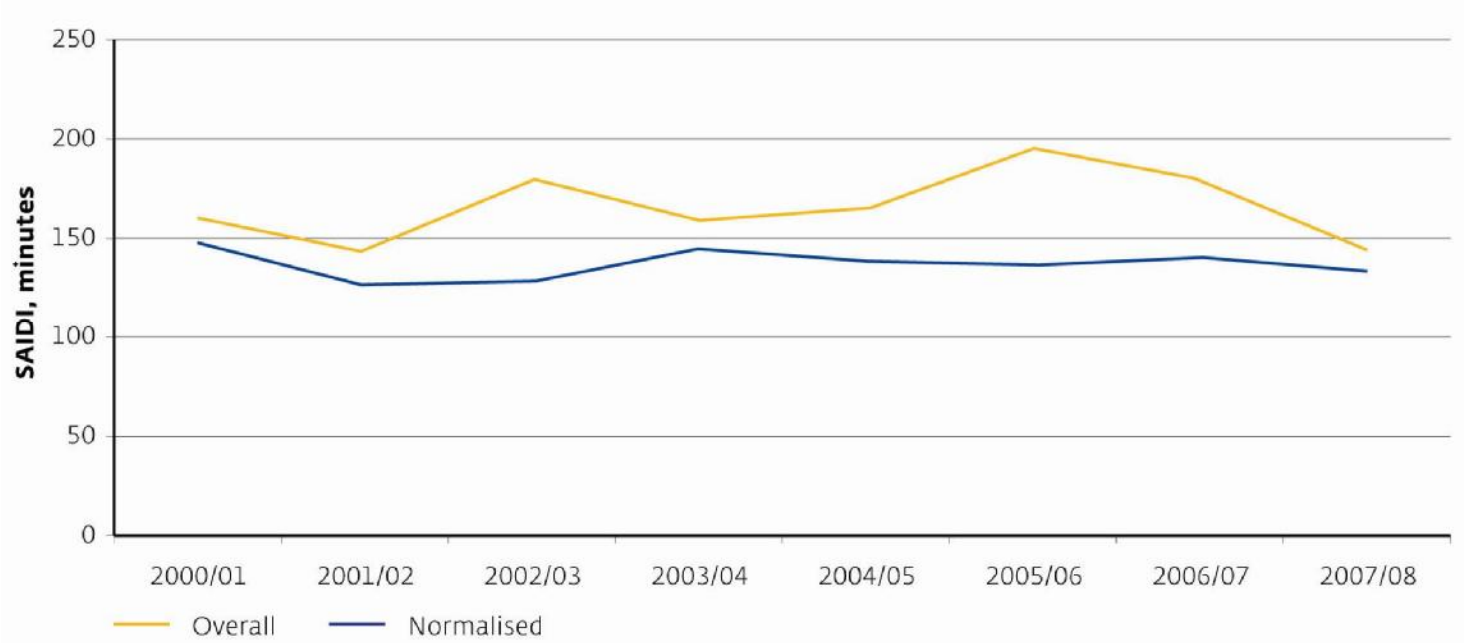
- In addition, increased out-sourcing will be employed

Employee & contractor number trends



Reliability

- Reliability amongst the best in Australia
- Highly variable with weather
- 35% variation with steady underlying performance
- Daily performance skewed distribution
- Box-Cox transformation to normalise



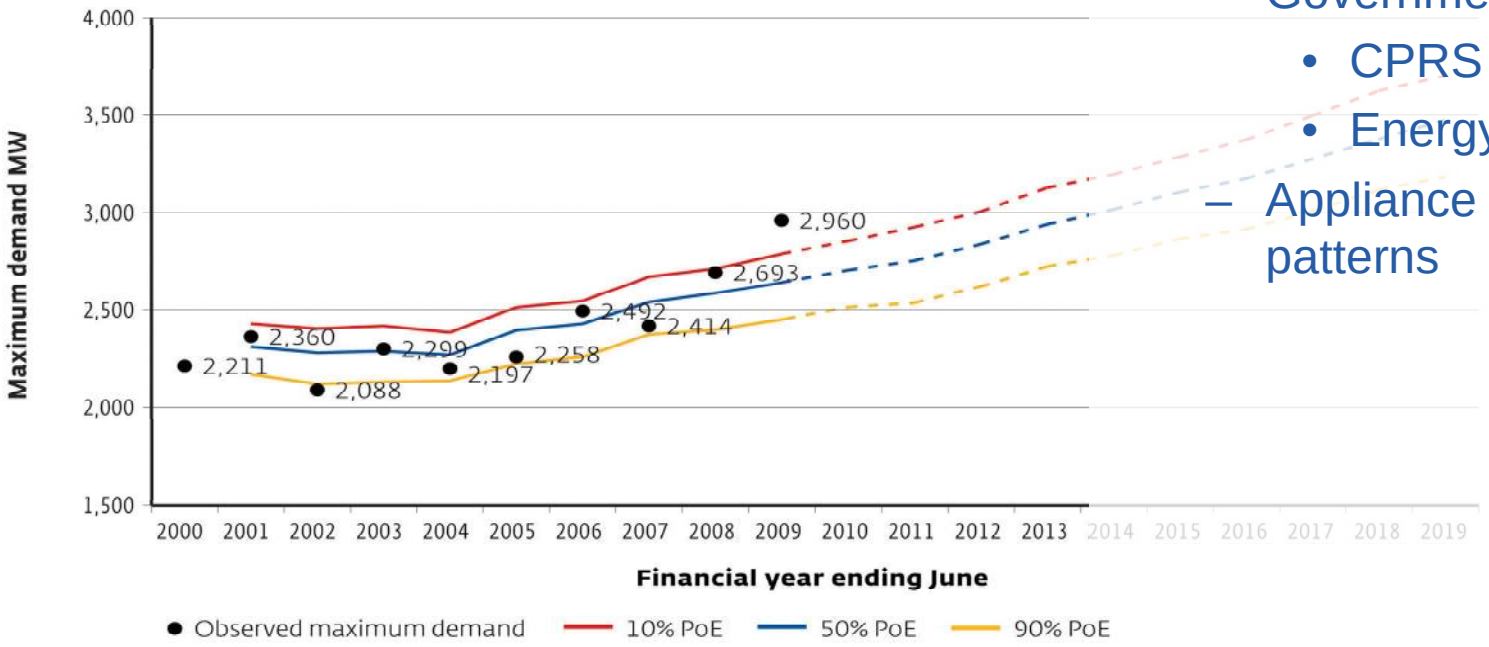
Demand Management

- Good outcomes achieved with Power Factor Correction
  - Improved utilisation of capacity
- Successful domestic trials of Peak Breaker devices
  - Societal benefits identified and quantified
- DM trial program in next period replaced by:
  - Demand Management Incentive Scheme
- Continued application of DM learnings
  - Demand side solutions always sought as alternatives to supply side
  - Fit for purpose solutions for customer connections
  - Specific projects identified, primarily power factor correction
  - Retention of core DM capability, integrated within network planning
- 100+ MW of reduction in peak demand due to energy efficiency measures

Peak demand trends – consistent with past

- Modelled by NIEIR
- Reconciled with spatial demand forecasts

- Consideration of:
  - Economic conditions
  - Growth in industry segments
  - Population growth
  - Household formation
  - Government energy policy
    - CPRS
    - Energy efficiency
  - Appliance purchase & usage patterns

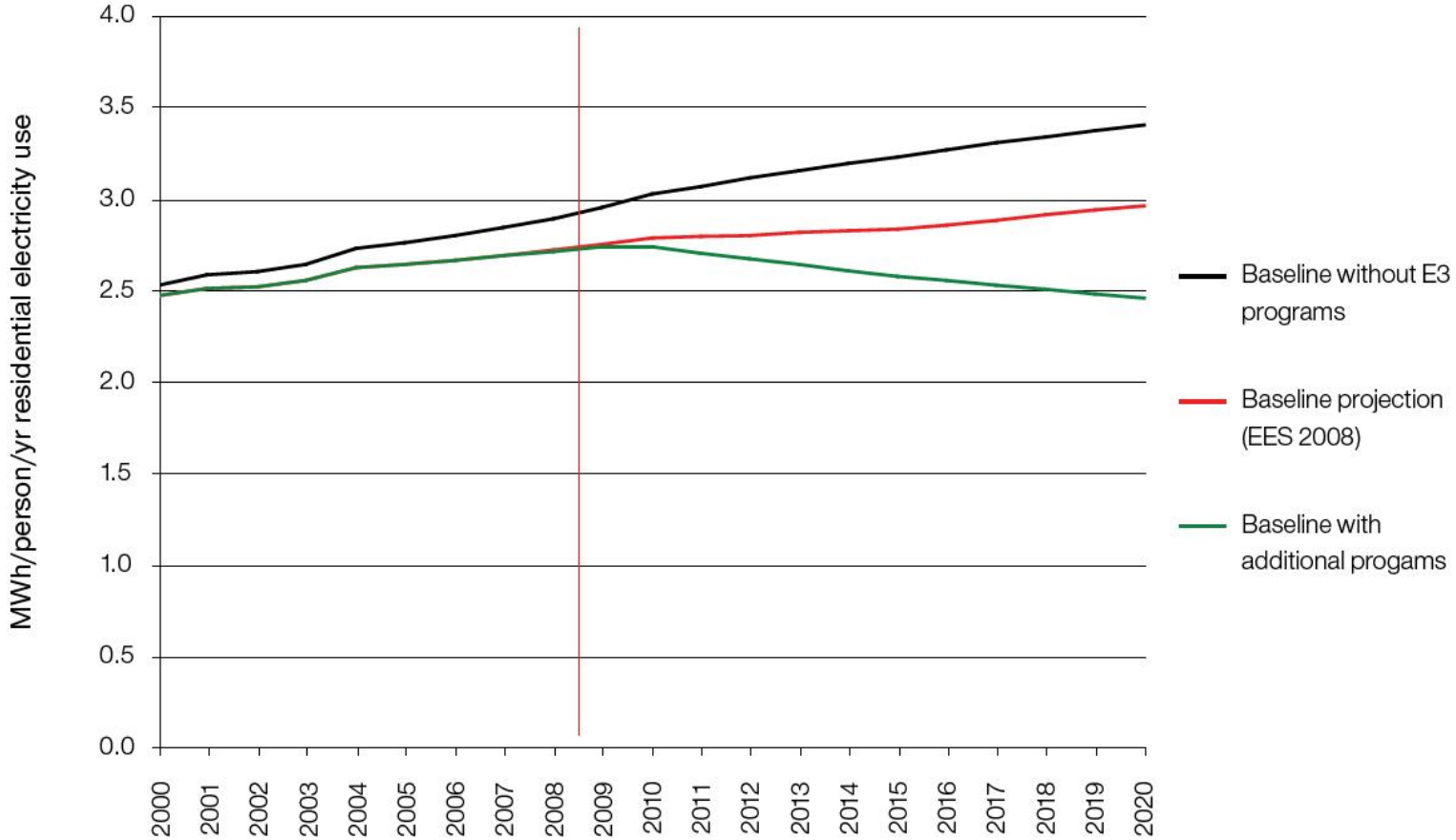


Residential sales – step change

Residential sales influenced by appliance energy efficiency measures

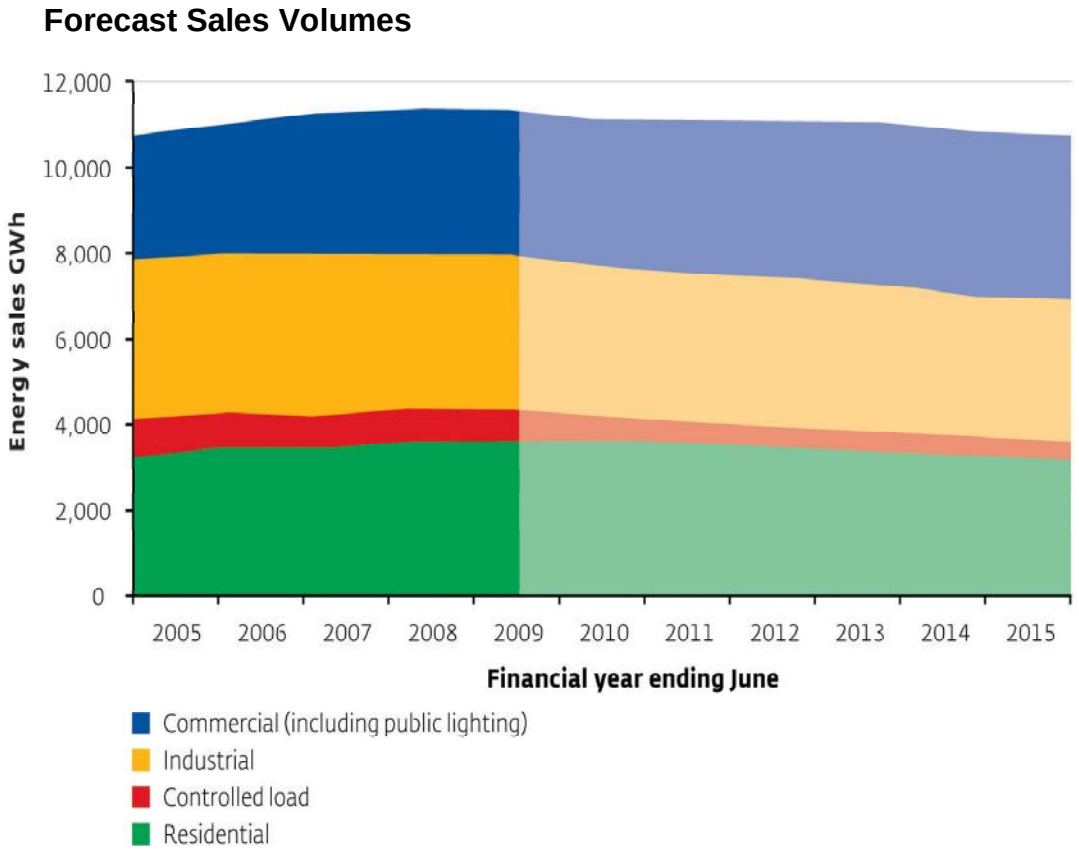
Projected per capita electricity use in the residential sector

Wilkenfeld, 2009 – an initiative of the MCE's National Framework for Energy Efficiency



Sales trends – key impacts

- E3 (MEPS+) programs
  - as per Wilkenfeld
- Residential Energy Efficiency Scheme (REES)
- Electric hot water phase out program
- PV feed-in
- Carbon Pollution Reduction Scheme (CPRS)
- Economic conditions



Weighted Average Cost of Capital

ETSA has adopted the May 2009 SORI, other than for MRP and Gamma.

Gamma

ETSA's submission provides new persuasive expert evidence that:

- the value of F is well below 1; and
- the value of Θ at 0.65 is overstated.

This new evidence suggests a value of gamma below 0.5; and supports, at a minimum, a return to the previous regulatory precedent value of 0.5.

Weighted Average Cost of Capital

Market Risk Premium

- The 6.5% default value was set considering a 10 year horizon, limiting the weight given to the GFC.
- Expert evidence supports a medium term 5-year outlook today well in excess of 6.5%.
- This makes the SORI MRP inappropriate in the 'current circumstances'.
- Investors today are requiring a premium for equity capital
- An MRP of 8% is at the lower bound of the range provided by experts

Weighted Average Cost of Capital

Cost of Debt

- Debt markets remain challenging, confirmed by recent experience.
- The Australian Corporate bond market is expensive and currently limited to short term debt.
- Expert evidence is clear that Bloomberg materially underestimates the yield on BBB+ corporate bonds.
- This evidence finds that no more weight should be given to Bloomberg over CBA Spectrum.
- Rating agencies require financing and refinancing to be secured at a minimum of 6 months prior to the use of funds.

Pricing and Tariffs

- Typical residential customer
  - 5 MWh pa consumption
  - Current typical customer's total bill is $1,100 per annum
  - Real cost increase of about $25 per annum for each year
- Small business
  - Annual $2,200
  - Real cost increase of about $80/annum
- Large business
  - Increase in total bill of 0.5 to 2.5% per annum
- Cost reflective tariff designs
  - Customers pay for installed capacity (key cost driver)
    - Higher costs for large residential customers & businesses with inefficient usage patterns
    - Reduced costs to smaller customers & efficient businesses

Benefits

- Improved security of supply, with less risk of widespread, extended outages (CBD, metro, KI)
- Improved heat-wave performance – fewer interruptions for customers
- Capacity to support economic, employment and housing growth
- Facilitate major State infrastructure developments (water, transport, hospitals, schools)
- Prudent and cost effective replacement of aging assets
- Capability to manage more complex network with growing renewable energy input
- Improved reliability – in response to new incentive frameworks

Questions?

ETSA Utilities