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## *ActewAGL Distribution*

Access arrangement for the ACT, Queanbeyan and  
Palerang gas distribution network

June 2009

Required by Rule 52 (1) of the National Gas Rules 2008



  
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Proposed revisions to the access  
arrangement for the ACT, Queanbeyan  
and Palerang gas distribution network

Presentation to the AER Public Forum

David Graham – Director Regulatory Affairs and Pricing  
Michael Charlton – General Manager Networks

27 July 2009



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# *Connecting with customers*

David Graham -

Director Regulatory Affairs and Pricing



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*“Our core business is the distribution and retailing of energy and the management of water and wastewater services.”*

- Canberra based
- Serving the ACT and the capital region
- Group employs around 1500 people (ActewAGL, NCL and Ecowise Environmental)
- ACT's largest non-government employer





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## *Corporate structure*

- Distribution and Retail partnerships
- Distribution partners ACTEW Corporation and Singapore Power International
- Scale enhanced through shared services
- Gas Network business revenues of ~\$47m pa



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## *Customer preference research*

- NERA and ACNielsen (2003)
- State-of-the-art 'choice experiment' survey
- Designed to induce trade-offs between various service attributes including price
- Leading experts in the field
  - *Professor David Hensher*
  - *Dr Kenneth Train*



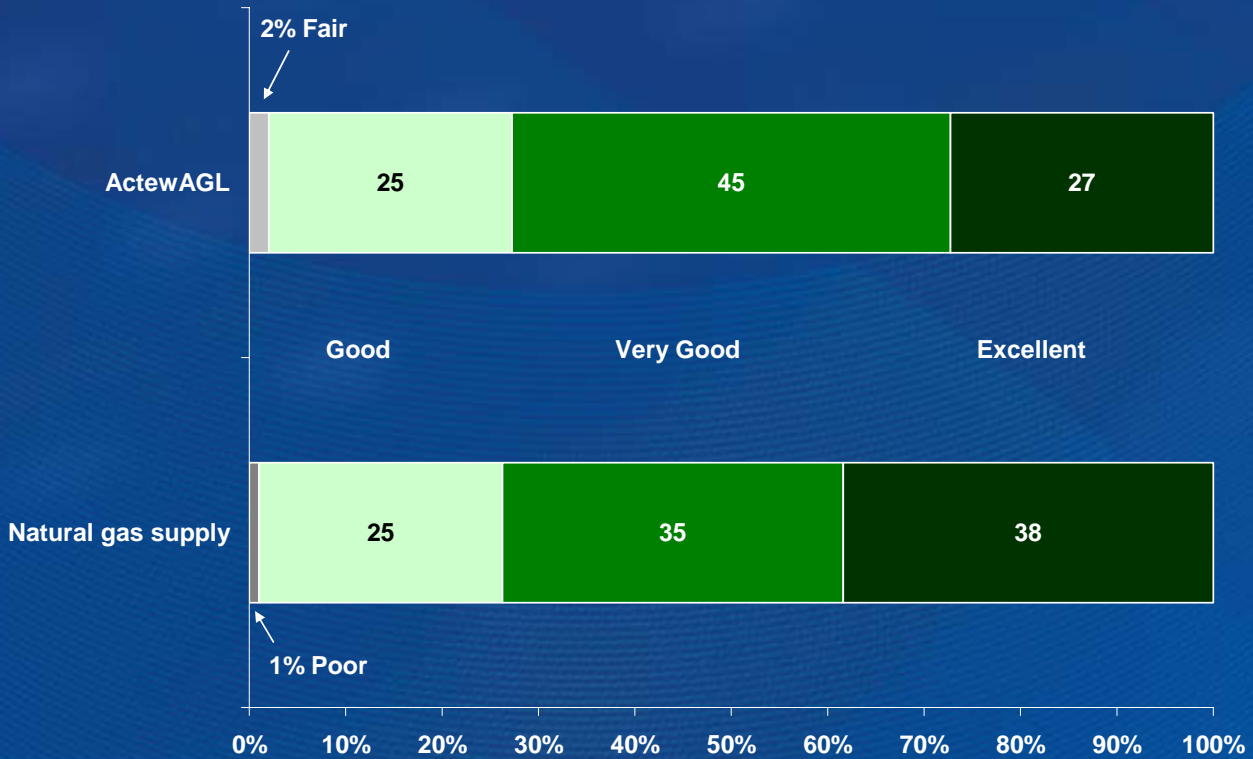
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## *Key findings: customer satisfaction*

- Overall, customers are satisfied or very satisfied with ActewAGL and their gas supply
- 98% of residential and commercial customers rated their natural gas supply as good or better
- 97% of residential and 95% of commercial customers rated ActewAGL as good or better



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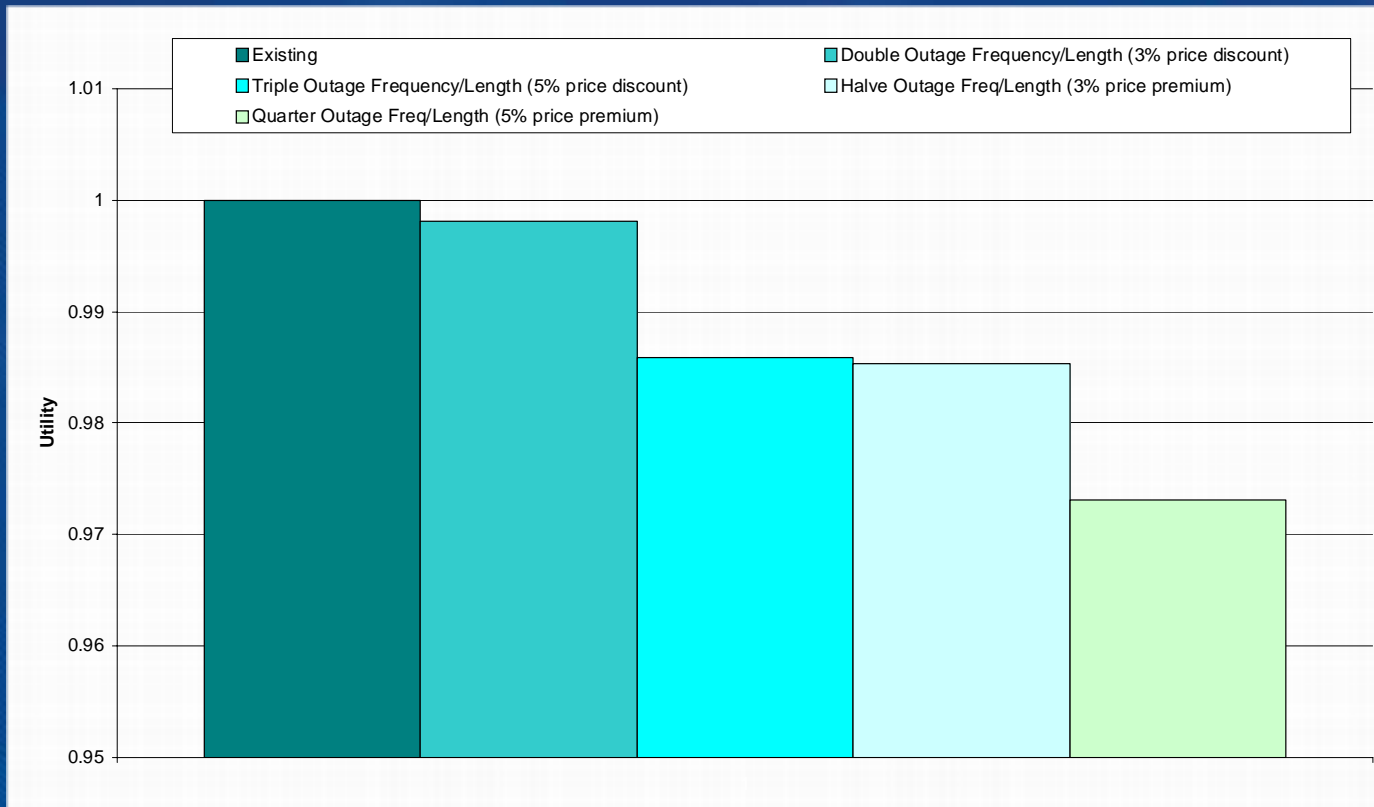


## *Key findings: price-quality mix*

- ActewAGL mix of reliability and price is near the optimum
- ActewAGL gas customers prefer their current price-quality mix to:
  - *A doubling of outage frequency and duration with a 3% price discount*
  - *A halving of outage frequency and duration with a 3% price premium*



# Gas price-quality mix

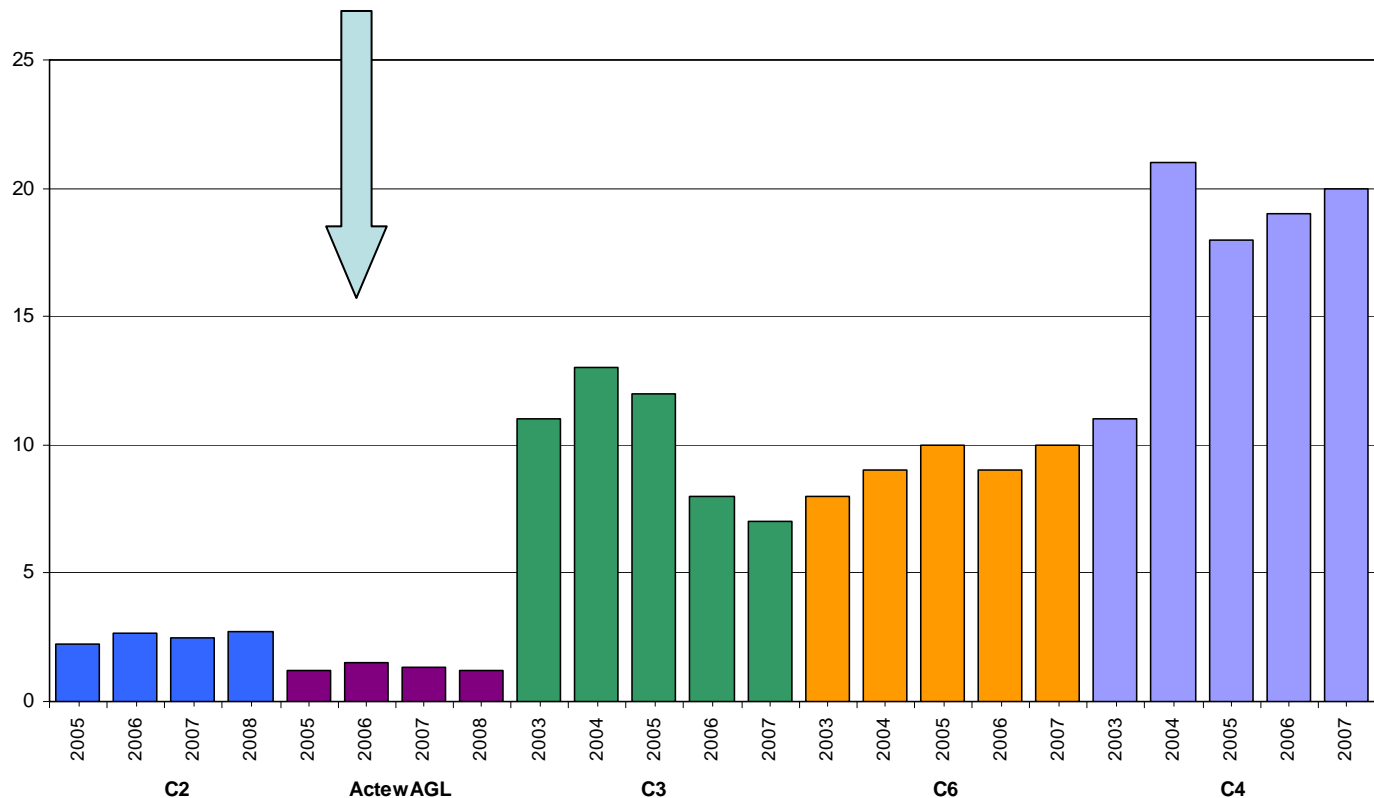


# Network performance



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*Average number of unplanned interruptions (SAIFI) per 1000 customers*





## *Regulatory profile*

- ICRC 2005-10 Access Arrangement for ACT and Greater Queanbeyan gas network
- AER 2009-14 electricity networks decision
- ICRC 2008-13 ACTEW water and wastewater decision
- TFT for retail electricity



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## *Gas network*

- ICRC 2001 -2004 – ACT, Queanbeyan and Yarrowlumla
- ICRC 2005-10 – ACT and Greater Queanbeyan
- AER 2010-15 – ACT, Queanbeyan and Palerang





## *ICRC 2005-10 AA decision*

- ICRC required a 1.5% pa (cumulative) efficiency factor on forecast opex (following 3.0% pa in 2000-04 AA)
- Approved capex 2.8% below proposal comprising
  - *1.5% reduction in market expansion unit rates*
  - *20% reduction in unit costs for meter replacement*
- Increased demand forecast



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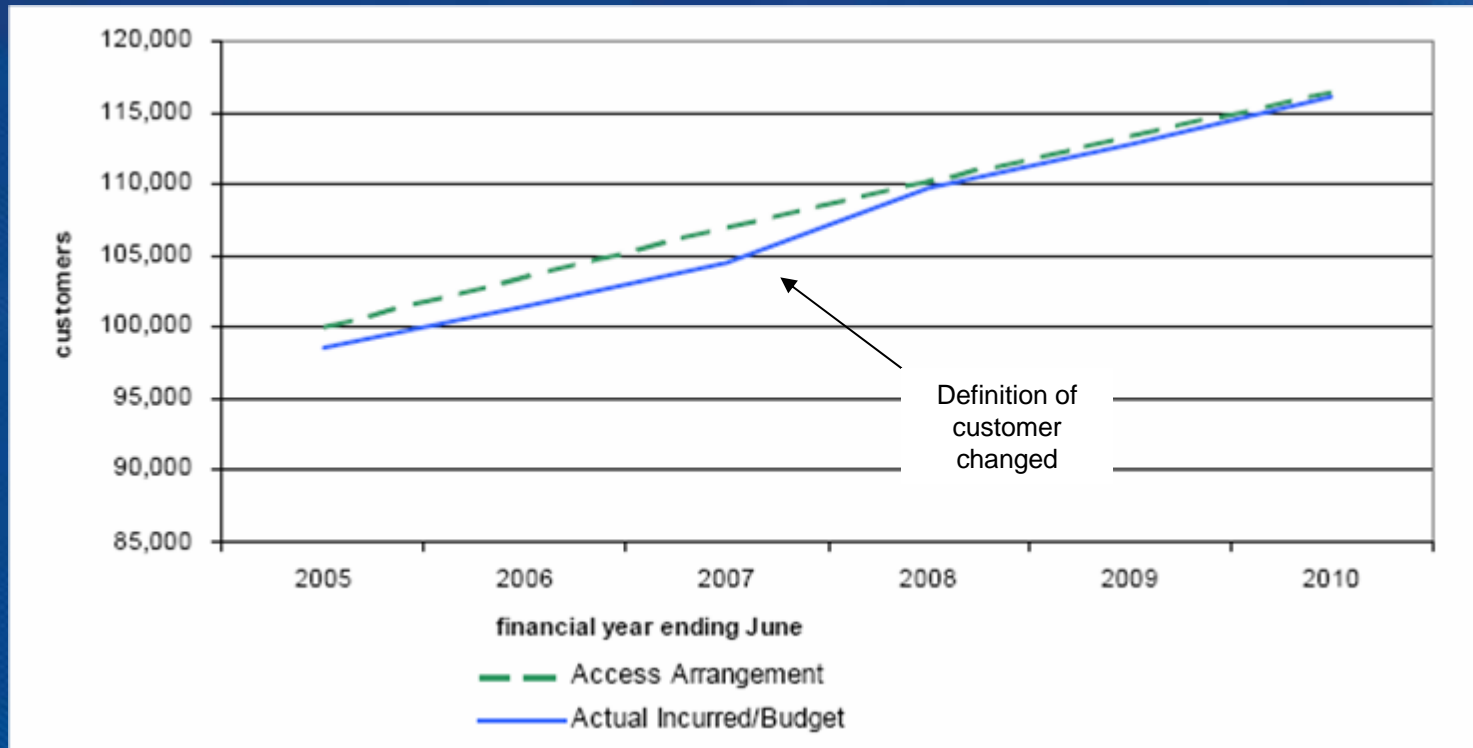
## *In the 2005-10 AA period*

- Tariff volumes are ~3% below allowed volume
  - *Impact of drought and water savings on gas volumes hot water*
  - *Energy efficiency measures*
- Overall volume was 1.8% below allowed volume
- While average volume per customer fell, peak throughput (MDQ) rose

# Actual v AA customer numbers



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## *In the 2005-10 AA period*

- Capex \$0.7m (\$2009/10) (or 1.1%) below AA
  - *Deferral of capacity development projects because of lower than forecast demand*
  - *Deferral of meter replacements allowed following statistical testing*
  - *Replacement by other priority projects*
    - Water bath heater upgrade
    - Pigging facilities and TRS upgrades
    - Network extended to Bungendore



## *In the 2005-10 AA period*

- Opex \$11.1m (\$2009/10) or 12.3% above AA
  - *Includes \$12.7m UNFT (not anticipated, passed through)*
  - *Leasing costs of corporate HQ - previously owned 40 year old building*
  - *Higher UAG - 1% allowance below 1.8% actual*



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## *Gas network access arrangement*

- Business as usual - revisions to AA limited to tariff variation and to comply with NGL
  - *Fundamental redesign and simplification undertaken in 2004*
- Reference services unchanged



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## *Context for the revised AA*

- Impact of the Global Financial Crisis
- Implementation of CPRS and green measures
- Security of supply concerns
- Impact of other policies - STTM, NECF etc



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## *Tariff variation*

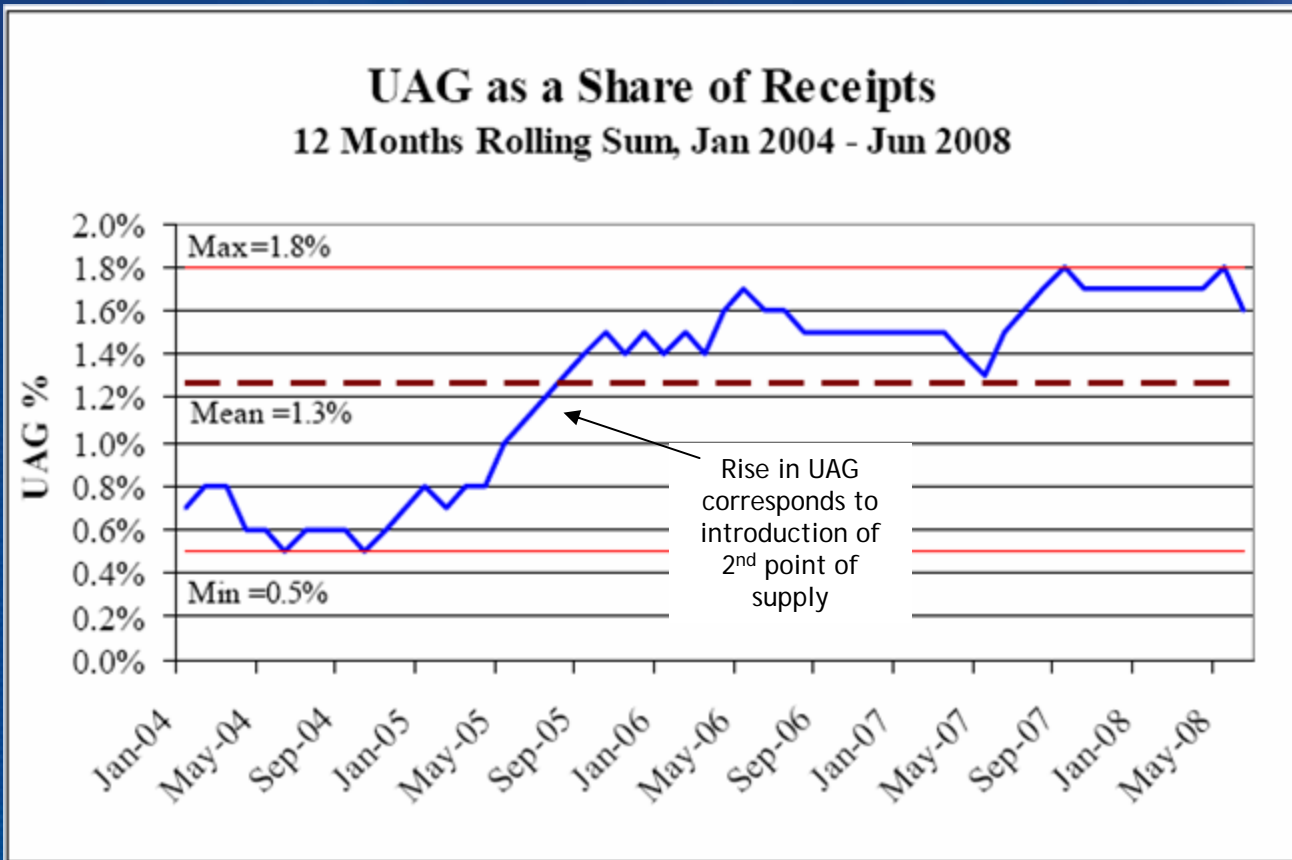
- Annual reference tariff variation to incorporate adjustment for
  - *Three externally determined charges*
  - *Variation in the market cost of purchasing 1.8% UAG*



# Unaccounted for gas



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## *Tariff variation*

- Proposed cost pass through events
  - *Change in taxes\**
  - *Service standard\**
  - *Regulatory change^*
  - *CPRS event^*
  - *National Energy Customer Framework or Connections Framework*
  - *Short Term Trading Market*
  - *General nominated pass through^*

\* In earlier AA ^ In ACT electricity network decision



## *Volume forecast*

- Residential customer numbers to grow 15% over five years
- Gas volumes to grow by 2.5% over five years
  - *improved energy efficiency of new dwellings*
  - *increased efficiency of gas appliances*
  - *penetration of reverse cycle air conditioners*
  - *impact of CPRS*
- Peak will grow more than volume



## Efficiency of gas appliances

	Storage water heaters (MJ/year)	Instantaneous water heaters (MJ/year)
6 star	n.a.	17,837
5 Star	20,559	20,076
4 Star	22,466	23,325
3 Star	24,221	24,988
2 Star	25,601	n.a.
1 Star	27,599	n.a.

15% reduction in gas consumption

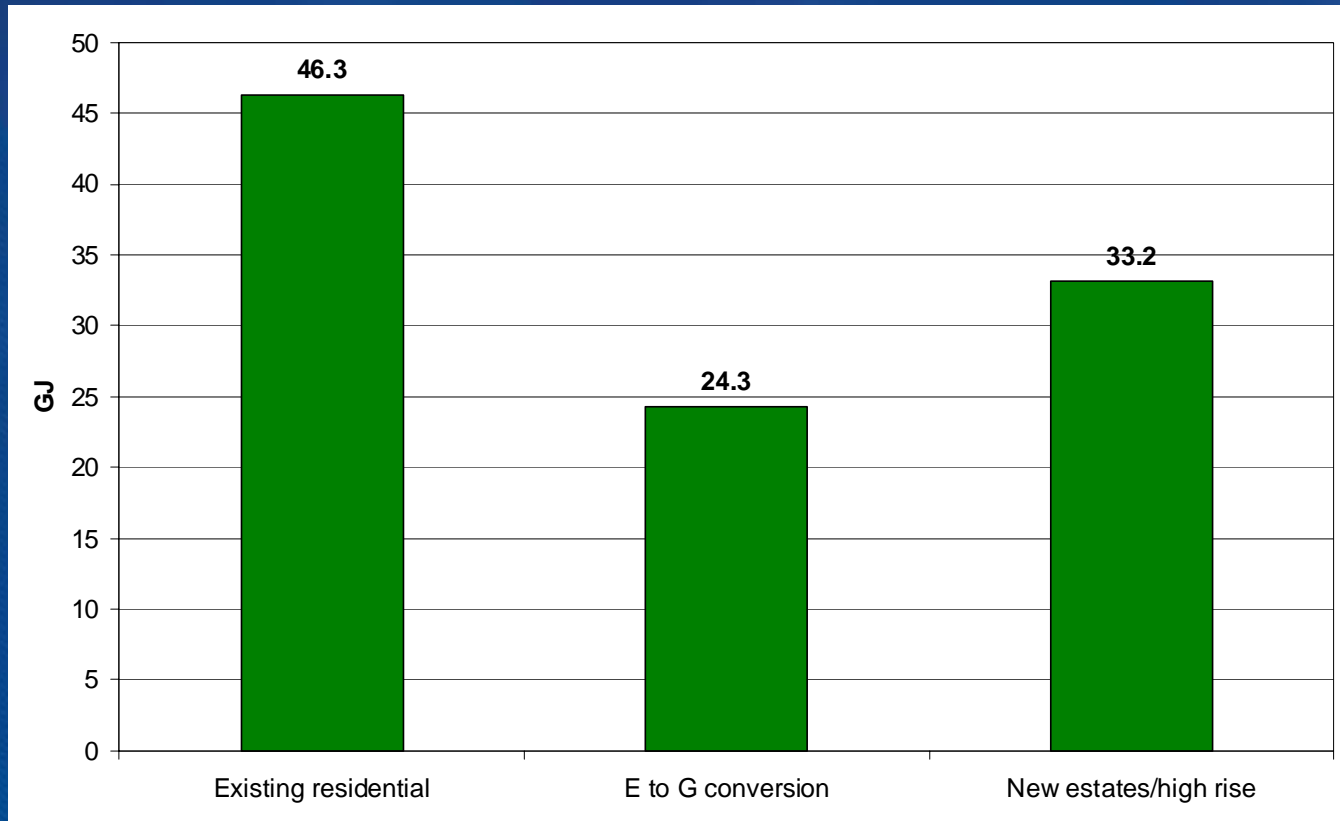
- Minimum Efficiency Performance Standards initiative for gas water heating requires phasing out of all appliances with less than 4.5 star rating



# Average residential gas usage by market segment

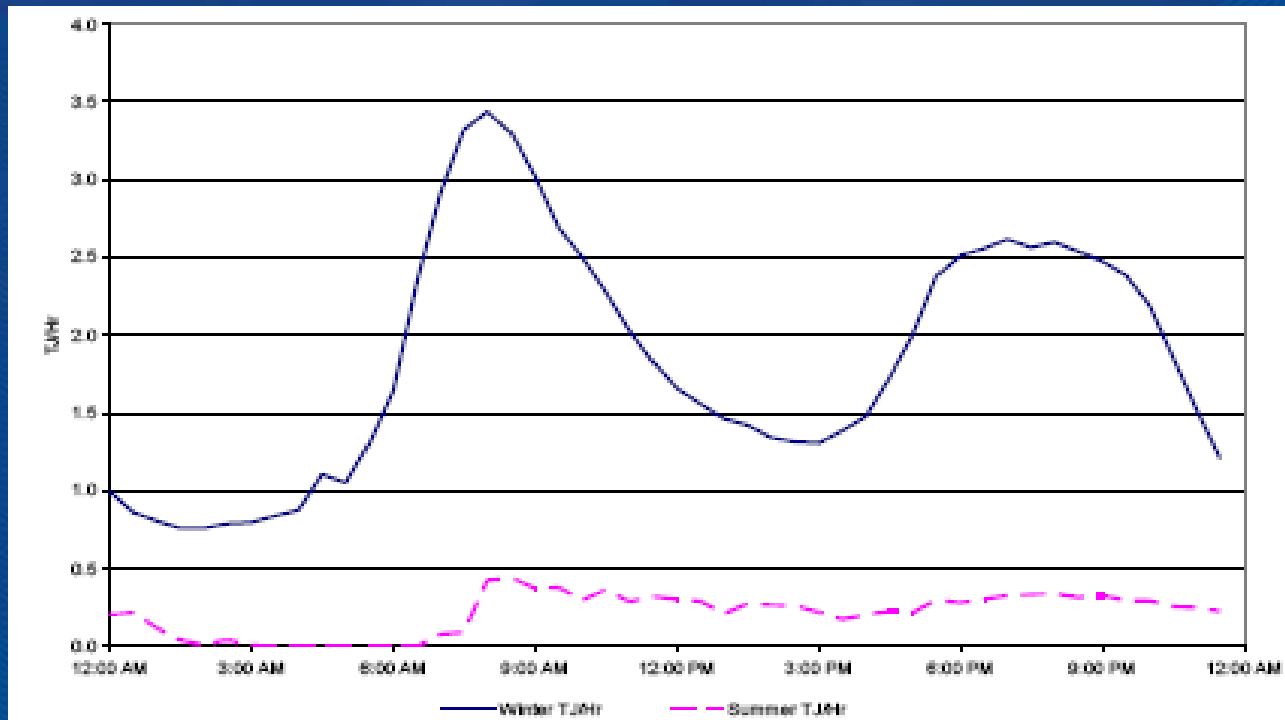


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## *Diurnal demand profile*



## *Building blocks parameters*

- Proposed WACC of 11.1% (nominal vanilla)
- Opening capital base of \$278m
- Net capex \$215m (\$2009/10)
- Opex (including UNFT) \$119m (\$2009/10)



## *Revenue requirement*

<b>Nominal</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>
Smoothed revenue requirement	55.36	63.13	72.78	84.33	97.42
<i>of which tariff revenue</i>	52.59	60.06	69.23	80.23	93.22
<i>of which contract revenue</i>	2.77	3.07	3.55	4.10	4.20





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## *Impact of proposal on gas bills*

- For typical residential customer (50GJ pa)  
\$53 annual average increase in the AA  
period



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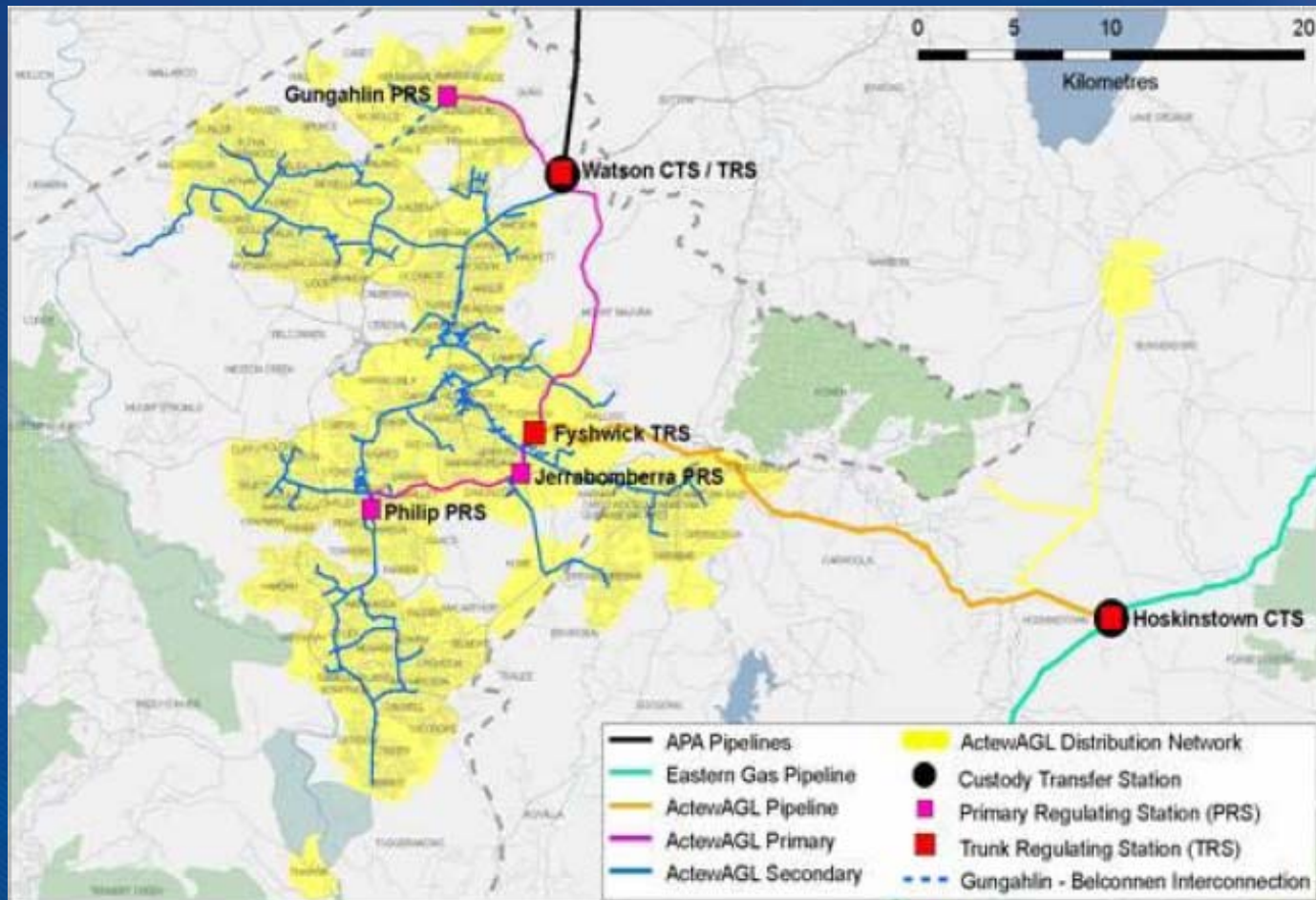
# *Ensuring future reliability*

*Michael Charlton -  
General Manager Networks*

# Gas network



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## *Network characteristics*

- 30.3km Trunk main
- 37.9km Primary mains
- 209km Secondary mains
- 3,771km Medium pressure mains
- TRS, CTS, POTS
- 4 Primary regulating stations
- 87 Secondary district regulator sets
- 107,565 Residential meter sets
- 3,190 I&C meter sets





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## *Forecast capex*

- Market expansion (\$35m)
- Capacity development (\$22m)
- Stay in business (\$157m)
  - *Includes Security of supply (\$134m)*



## *Major capital projects*

- Security of supply (phase 1 - HFL)
- Market expansion to Molonglo and Googong and Swinger Hill infill
- Tuggeranong primary mains extension and PRS
- I&C and residential meter replacement



## *Security of supply phase 1 - HFL*

- 3 consecutive years of upstream gas supply events
- No large industrial customers to shed
- Increased winter peak raises likelihood of event
- NERA and AC Nielsen (2003) study suggests customers are willing to pay significant amounts to avoid lengthy outages in winter
- Solution within ActewAGL's control



# *What HFL construction would look like*



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## *Tuggeranong mains extension and PRS*



- Legend**
- Primary mains
  - Proposed Primary Mains
  - Secondary main
  - Primary Regulator Station



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## *Operating expenditure*

- Efficient base
- Step changes for
  - *Compliance with standards and codes*
  - *New and upgraded facilities*
  - *Integrity - pigging*



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## *Operating expenditure*

- Efficiency factor of 2.5% over the period
- Constant shared services staffing levels despite increases in customer numbers





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*Intelligent pig*





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*Pig launching  
/receiving station*



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## *Key points*

- Continuity of AA
- Service standard focus
  - *Security of supply*
- Events of unknown impact
- Efficient operation