



Jemena



Jemena Gas Networks (JGN)
Revised access arrangement – Jul 10 to Jun 15

AER public forum on 23 Sep 09



Jemena

Overview of this presentation

| | | |
|---------------|--|------------------------------------|
| Part 1 | Jemena | Sandra Gamble |
| Part 2 | Overview of the revised access arrangement | Group Manager Regulatory |
| Part 3 | JGN's investment plans for the NSW network | Alf Rapisarda |
| Part 4 | Pricing and service offerings | General Manager Energy Networks |



Jemena

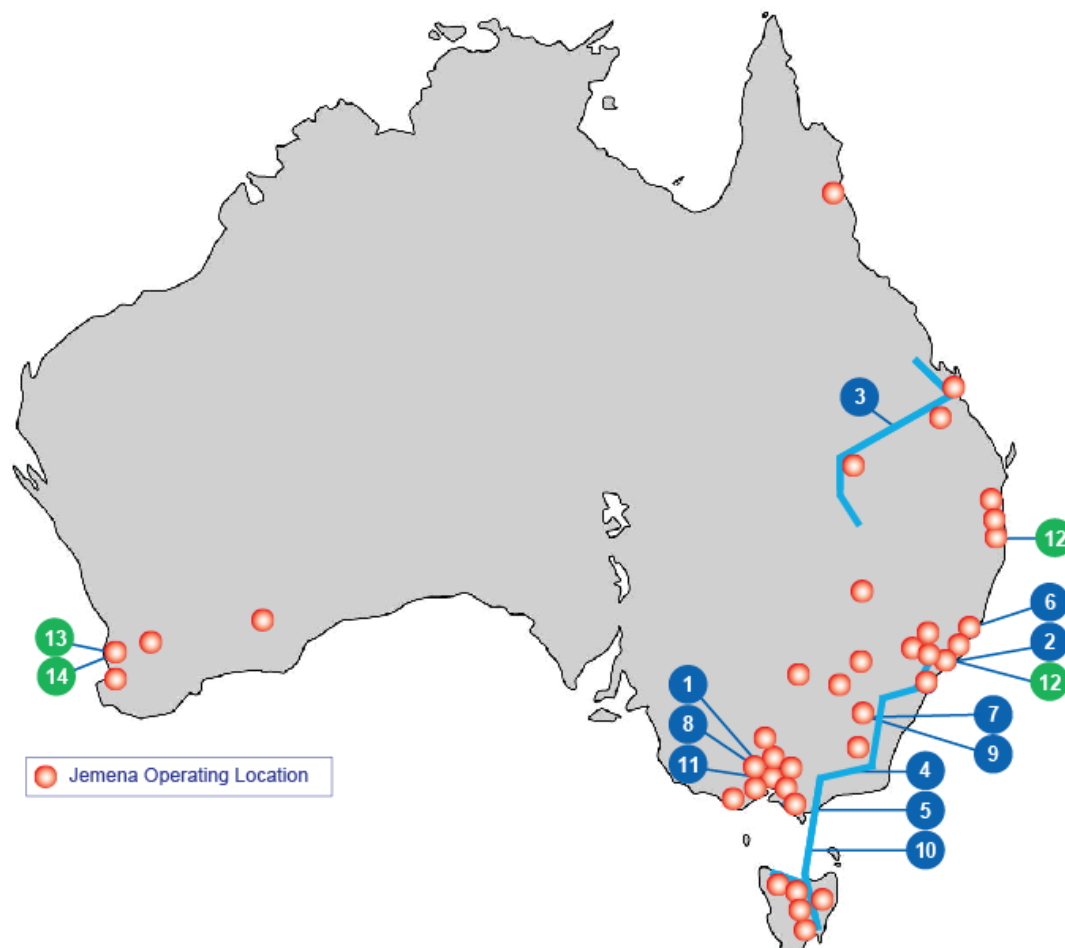


Part 1 Jemena



Jemena

The Jemena business



ASSETS OWNED & MANAGED BY JEMENA (Customers)

- 1 Jemena Electrical Distribution Network (300,000)
- 2 Jemena Gas Distribution Network (1,000,000)
- 3 Queensland Gas Pipeline
- 4 Eastern Gas Pipeline
- 5 VicHub
- 6 Colongra Gas Storage and Transportation Facility

ASSETS PARTIALLY OWNED & MANAGED BY JEMENA

- ActewAGL Gas, Electricity Network (50%) (259,000)
- United Energy Distribution (34%) (620,000)
- TransACT (6.8%)

ASSETS MANAGED BUT NOT OWNED BY JEMENA

- Tasmanian Gas Pipeline
- Multinet Gas Holdings

COMPANIES WHO ARE PART OF THE JEMENA GROUP

- CLM Infrastructure
- Outback Power
- Cape Cable Layers

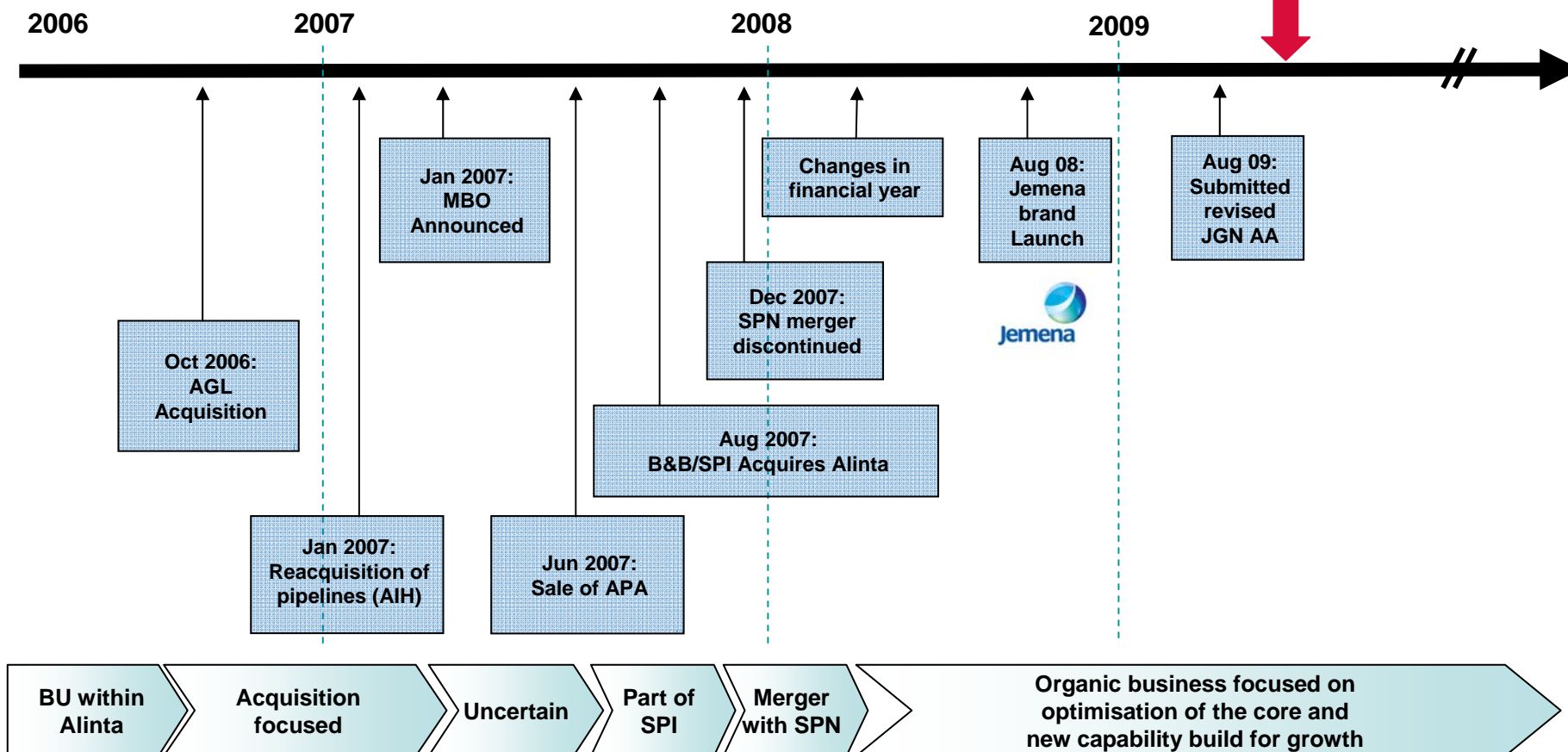
Jemena builds, owns and manages many major Australian electricity, gas and water assets



Jemena

Recent corporate activity

TODAY

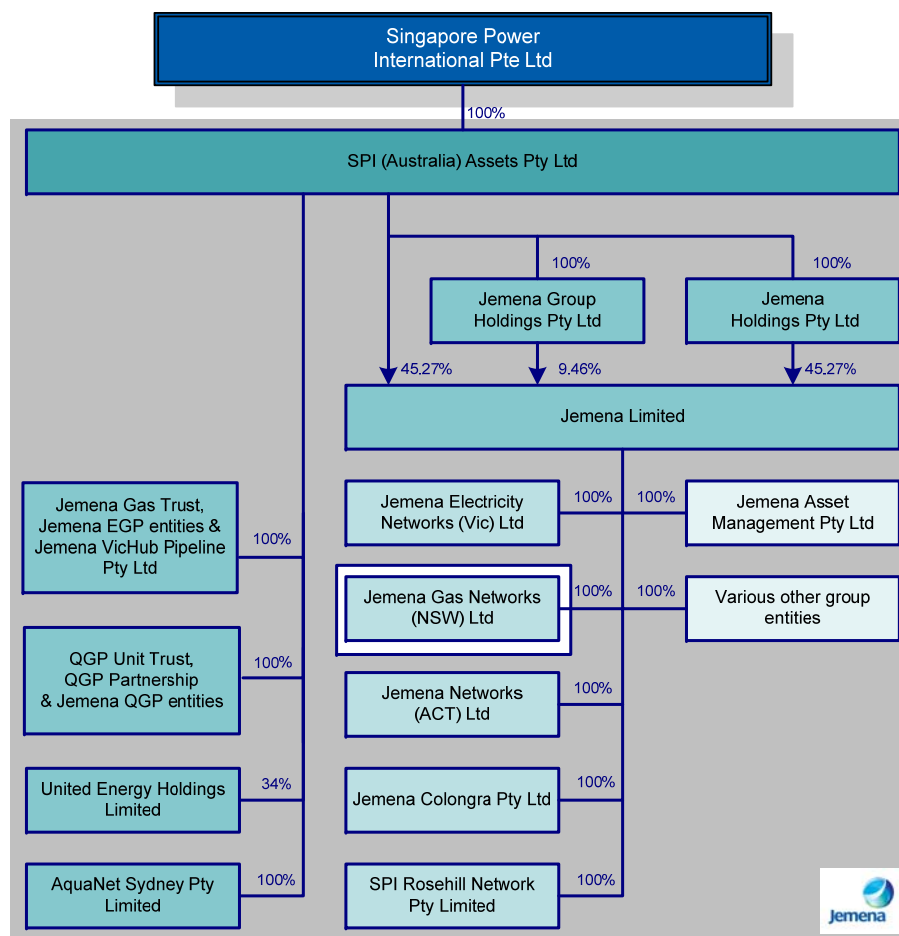


Jemena is gone through a turbulent period and has emerged stronger



Jemena

Our corporate structure



- Jemena:

- operates nationally
- manages more than \$9b worth of Australian utilities assets
- employs more than 2300 people
- specialises in both the transmission and distribution of electricity and gas
- delivers innovative infrastructure solutions that support the vital daily electricity, gas and water needs of millions of Australians

Jemena is backed by the strength of Singapore Power

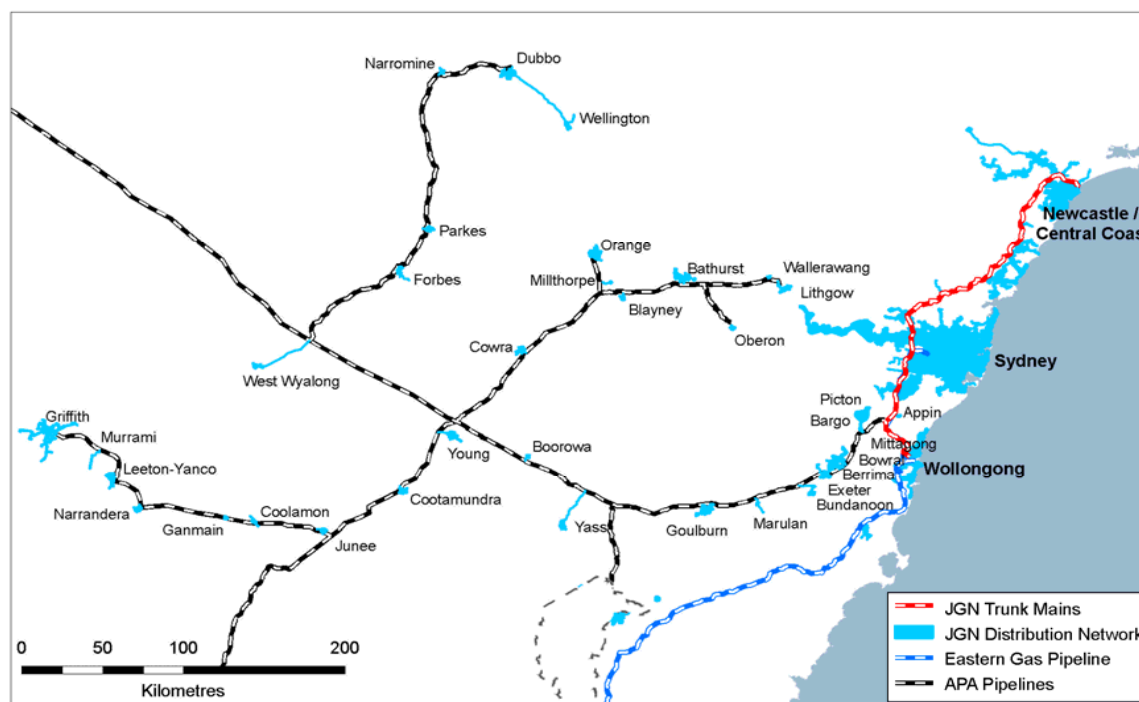


Jemena

The JGN network

| | | |
|--|---|-------------------------------|
| Ensuring the safe, reliable, efficient and economically responsible operation of its network | Promoting better utilisation of the network | Optimising capital investment |
|--|---|-------------------------------|

- Newcastle/Sydney/Wollongong and 32 country centres
- 1,050,000 customers
- Over 24,000 km of pipes
 - 267 km trunk
 - 143 km primary
 - 1,428 km secondary
 - 22,596 km med & low pressure
- \$2.37b capital base in 2010
- Annual revenues of \$370M



Jemena Gas Networks is the largest Australian gas distribution network



Jemena

JGN outcomes in the current AA period Gas demand

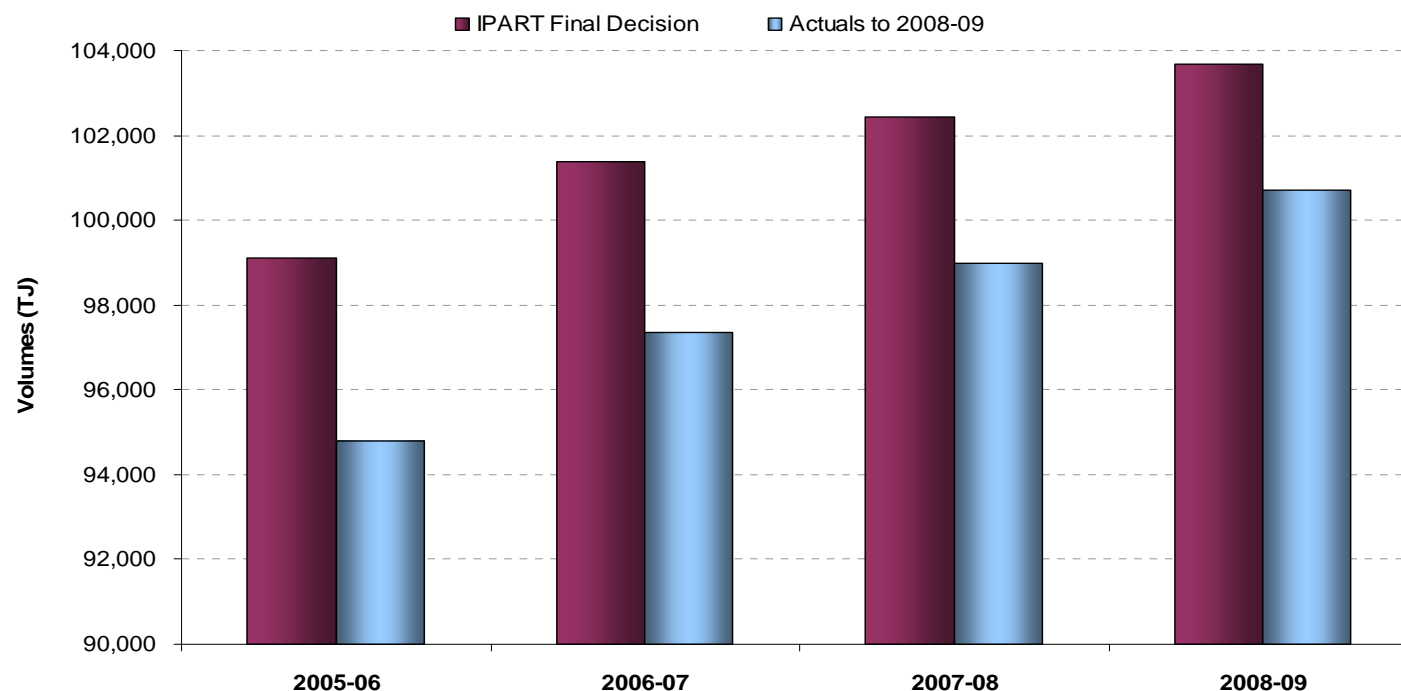


Figure 4-1:
JGN NSW gas
load all
customers

- Failure to meet volume market demand forecasts results in JGN recovering less than its allowed cost than IPART decision, residential demand 11% lower
- Customer numbers 6% lower than forecast, due to lower housing market
- Competition from reverse cycle air-conditioning
- Increased efficiency of gas appliances

Accurate demand forecasts need to consider a range of factors



Jemena

JGN outcomes in the current AA period Operating expenditure

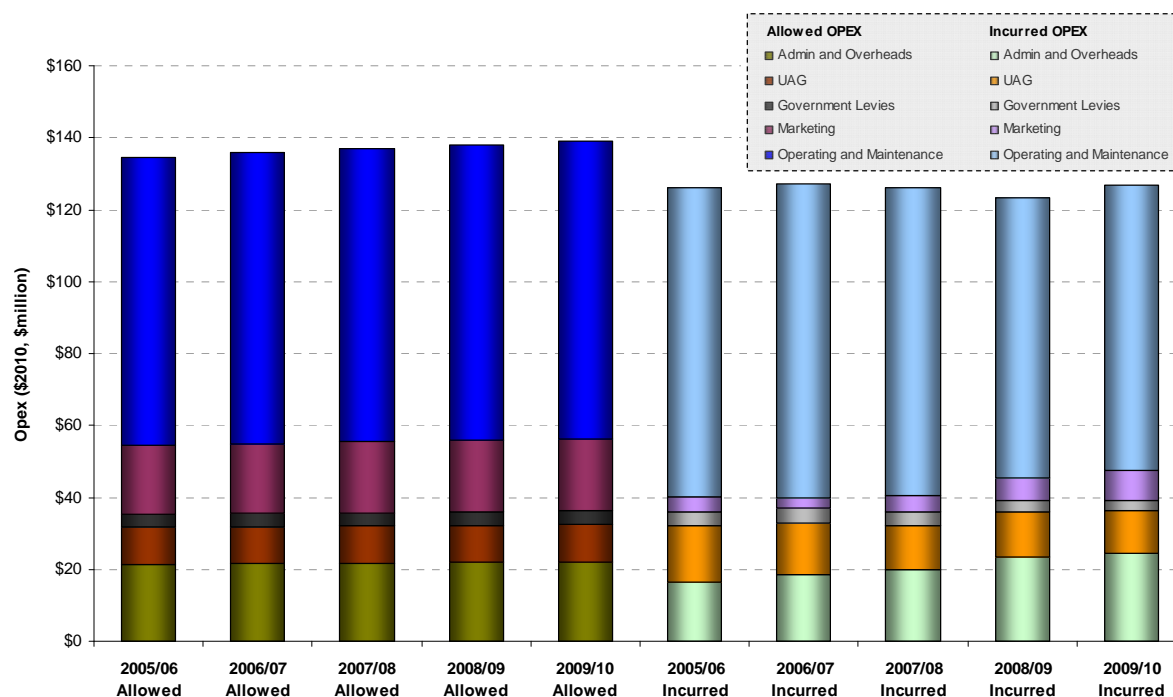


Figure 4-2:
JGN historic
opex (\$2010)

- JGN expects to incur operating expenditure over the current period of \$633.7 million, which is \$50.18 million (or 7.34 per cent) below that allowed

JGN is benefiting from Jemena's economies of scale and scope



Jemena

JGN outcomes in the current AA period Capital expenditure

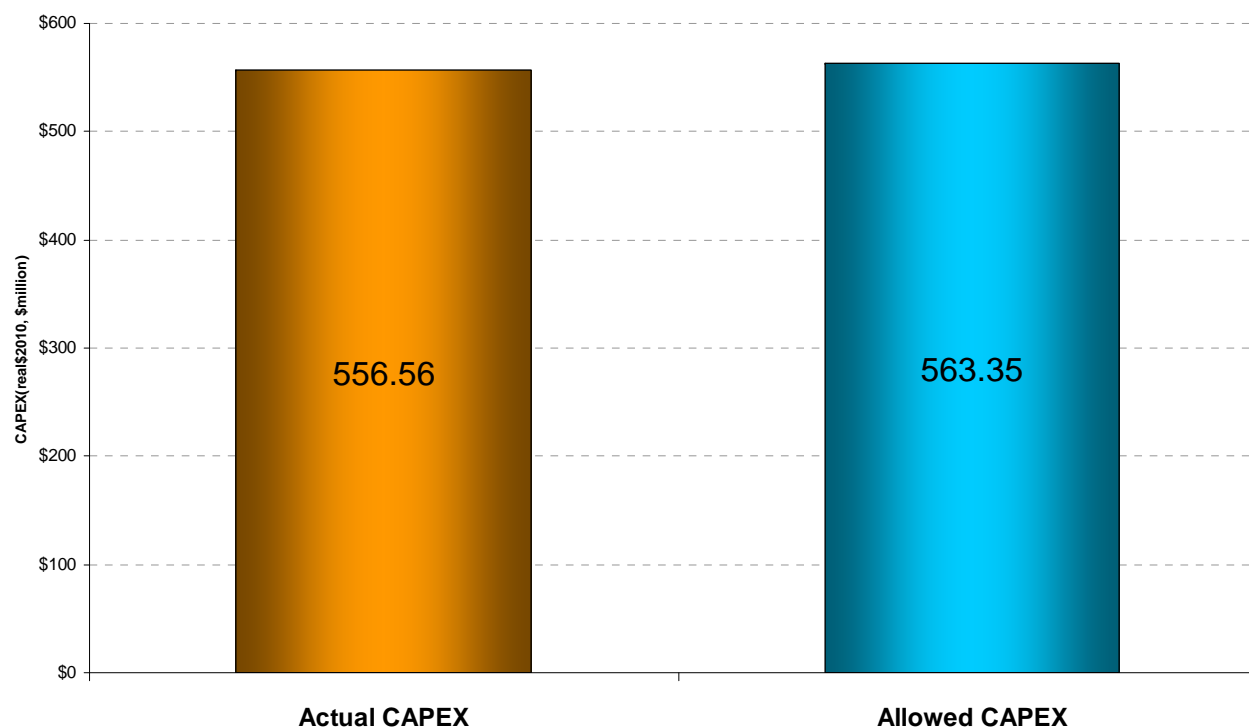


Figure 4-3:
Comparison of
JGN's actual
capex to
allowance
(\$2010)

- Total capex for JGN is projected to be \$556.56M over the current AA period, representing a total expenditure that is \$6.79M, or only 1.21 per cent, below the level allowed by IPART in 2005.

JGN is meeting its commitment to invest in its network



Jemena

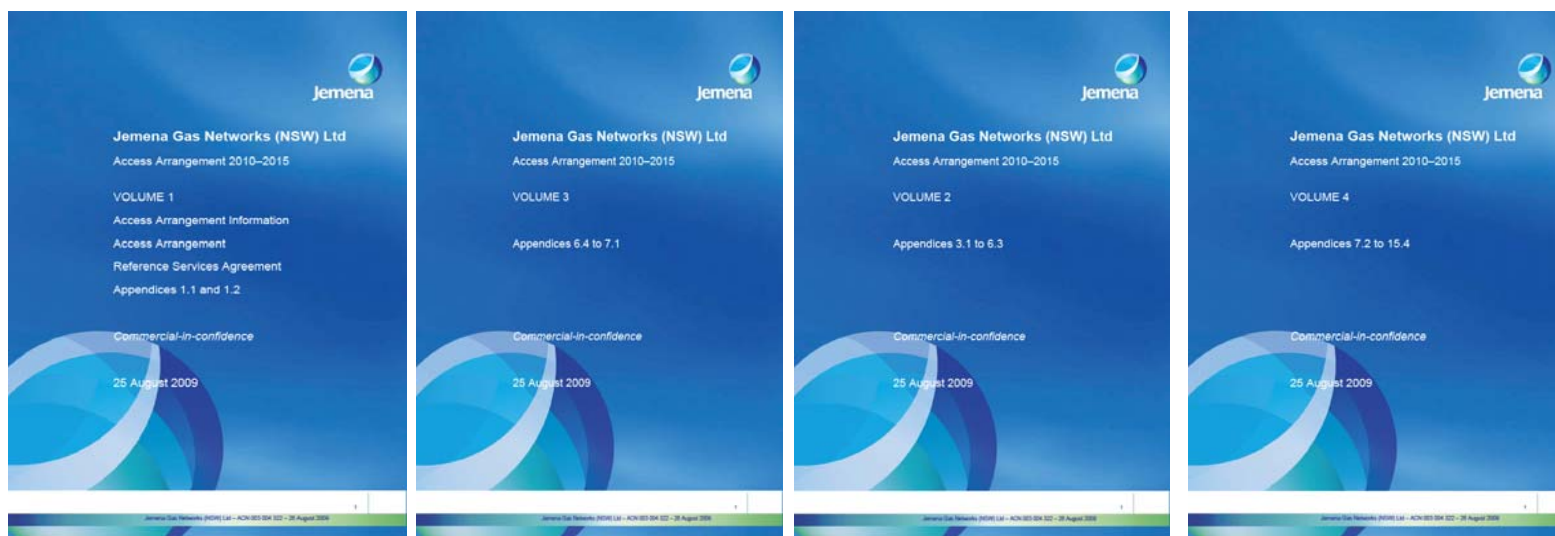
Previous 'JGN' AA reviews

- **1997 access undertaking** under the NSW gas code
 - Established interim capital base
 - Unwound cross-subsidies between contract and tariff markets,
 - Coincident with unbundling of AGL's retail and network businesses
- **2000 access arrangement** under the national gas code
 - Set baseline capital base, and included the trunk system
 - Established innovation in network marketing & retail competition
 - Introduced new network services to meet new needs of market
- **2005 revised access arrangement** under the national gas code
 - Rolled forward the capital base
 - Mainly an incremental change of the 2000 AA to accommodate energy efficiency policy changes and impact on demand
- **2010 revised access arrangement** under the new national gas rules
 - New commercial and operating environment
 - New challenges of the regulatory and market environment

JGN new revised AA builds on previous regulatory decisions



Jemena



Part 2

Overview of the revised access arrangement



Jemena

Components of JGN's AA submission

- Revised **access arrangement**
- Access **arrangement changes**
- Reference services **agreement**
- Access arrangement **information with appendices**

JGN new revised AA builds on previous regulatory decisions



Jemena

Starting point for the revised AA

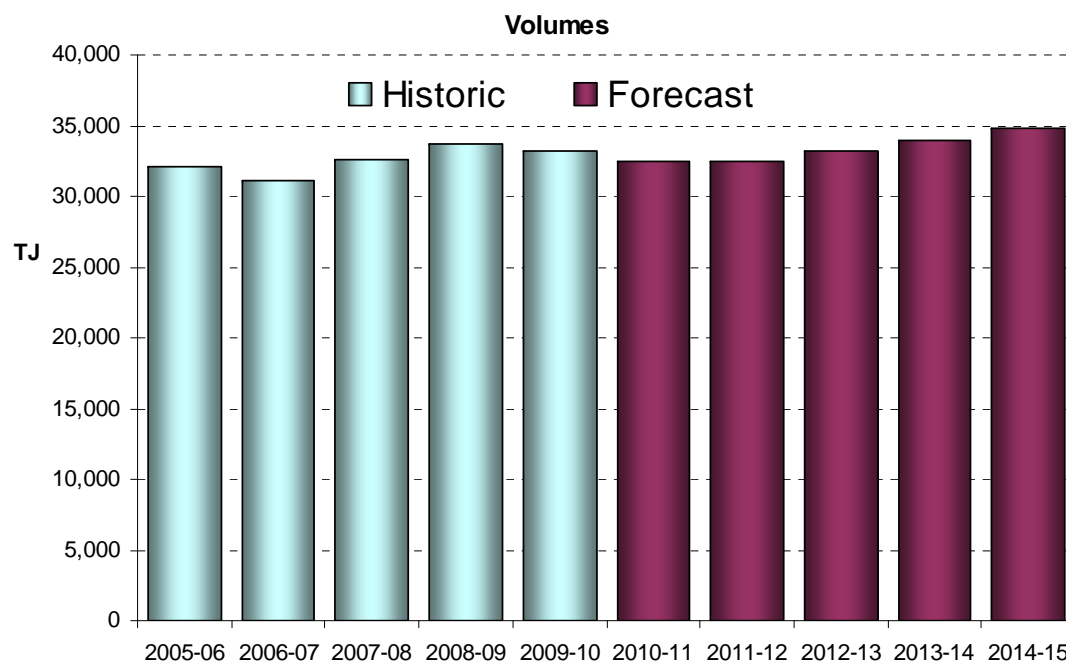
- JGN faces:
 - New market dynamics
 - Impact on **gas demand** as a result of growth, government policies, energy efficiency improvements and fuel switching
 - Wholesale market developments – the **short term trading market**
 - Carbon pollution reduction scheme – **RET and ETS**
 - Input cost pressures
 - **Labour and materials** cost growth
 - Secondary **carbon pricing** affects
 - Trends in **capital markets**, especially following the GFC
 - New national gas **law and rules**
 - Increasingly **national energy market**

JGN has an opportunity to align its services/pricing with market trends and needs



Jemena

Forecast Demand



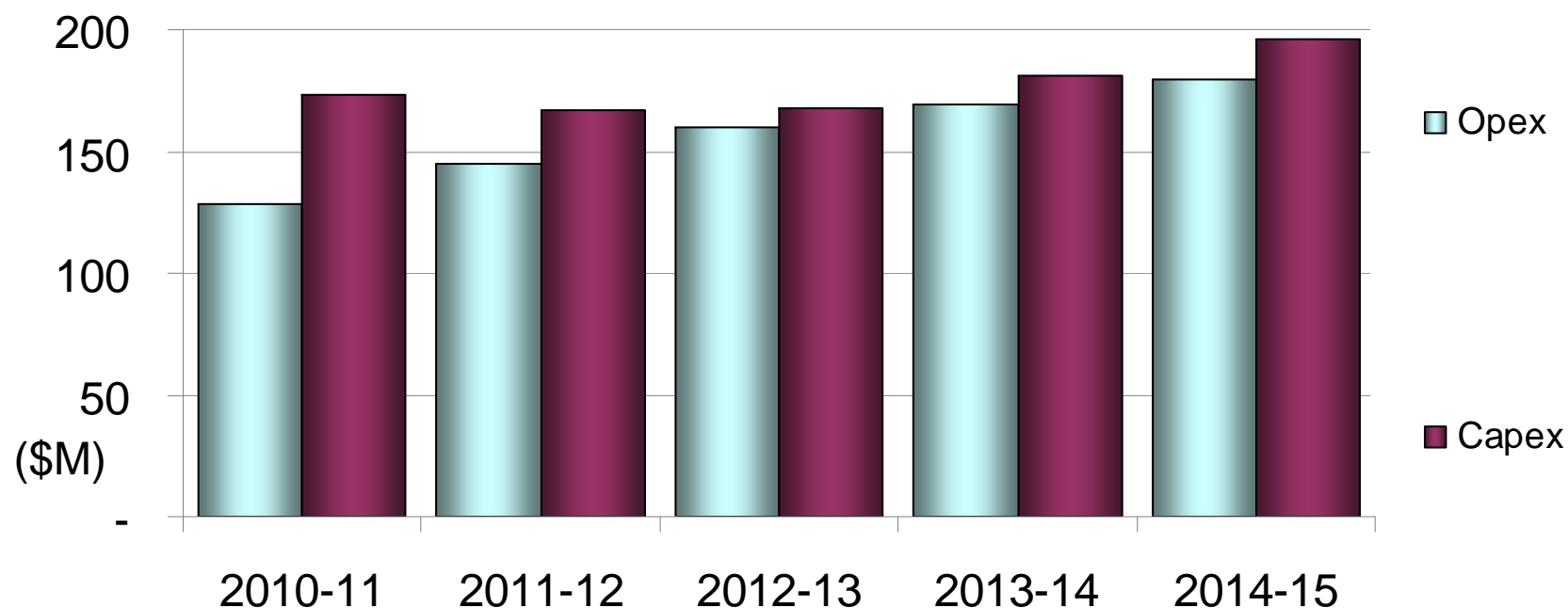
- 2.5% annual growth in customers
- Continued 1% annual reduction in average residential demand
- Other Government energy policy initiatives factored into forecast
 - ETS, RET, MEPS, electric hot water phase out

Independent expert NIEIR has prepared JGN's forecast



Operating & capital expenditure forecasts

Jemena



- Key cost drivers are:
 - Carbon permit costs for UAG
 - Imperatives for capital works – system reinforcement, asset replacement

JGN struck the right balance of capex and opex



Jemena

Weighted average cost of capital

National gas rules allow JGN to bring forward a new approach to WACC

- Conventional capital structure
- **Cost of debt**
 - Reflects corporate bond data
 - BBB credit rating
- **Cost of equity**
 - Fama French three factor model
 - Provides a better estimate market cost of equity
 - Provides objective estimation method
 - Well accepted by academics and industry practitioners
 - Market risk premium
 - Gamma

JGN's approach provides WACC that reflects the prevailing market conditions



Jemena

Weighted average cost of capital

| Parameters | JGN Proposal |
|-----------------------------------|--------------|
| Inflation | 2.38% |
| Nominal risk free rate | 5.60% |
| Real risk free rate | 3.15% |
| Debt margin | 5.04% |
| Nominal pre-tax cost of debt | 10.64% |
| Real pre-tax cost of debt | 8.08% |
| | |
| Market risk premium | 6.50% |
| Growth risk premium | 6.24% |
| Size risk premium | -1.23% |
| Equity beta | Na |
| Market beta | 0.59 |
| Growth beta | 0.48 |
| Size beta | 0.30 |
| Post-tax nominal return on equity | 12.06% |

| Parameters | JGN Proposal |
|---------------------|--------------|
| Gearing | 60% |
| Dividend imputation | 0.20 |
| Tax rate on equity | 28.35% |
| Corporate tax rate | 30% |
| | |
| Pre-tax real WACC | 10.01% |

JGN's approach provides WACC that reflects the prevailing market conditions



Jemena

Building blocks and average prices

| Building block (\$M) | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|----------------------------------|---------------|---------------|---------------|---------------|---------------|
| Return on capital | 302.18 | 311.44 | 319.45 | 327.66 | 336.71 |
| Return of capital (depreciation) | 30.50 | 37.00 | 42.34 | 48.23 | 57.37 |
| Opex | 134.13 | 138.43 | 149.16 | 153.98 | 159.43 |
| Raw revenue requirement | 466.81 | 486.87 | 510.95 | 529.86 | 553.51 |

| Prices (\$M) | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|-----------------------------------|---------|---------|---------|---------|---------|---------|
| Smoothed revenue | 400.20 | 471.45 | 485.52 | 506.50 | 530.20 | 553.54 |
| Total demand (PJ) | 93.20 | 96.02 | 96.63 | 95.76 | 96.84 | 97.70 |
| Real average price (\$/GJ) | 4.29 | 4.91 | 5.02 | 5.29 | 5.48 | 5.67 |
| Real price increase | | 14.34% | 2.34% | 5.27% | 3.51% | 3.48% |

JGN's average prices reflect its commitment to invest and capture its efficiencies



Jemena

Services and pricing

SERVICES

- Simplified reference services :
 - haulage service
 - a service for transportation of gas by JGN through its network to a single eligible delivery point for the use of a single customer
 - meter data service
 - a service for the provision of meter reading and on-site data and communication equipment to a delivery point.

PRICING

- Small (volume) customers
 - JGN has maintained its existing reference tariff structures for all volume customers, which represent 88 per cent of revenue as at 31 March 2009
- Large (demand) customers
 - JGN has restructured its prices to recover trunk costs by:
 - reflecting developments in wholesale market
 - progressively introducing a minimum demand bill to remove perverse incentives
 - establish an interruptible supply tariff

JGN's is responding to market developments and needs



Jemena



Part 3

JGN's investment plans for the NSW network



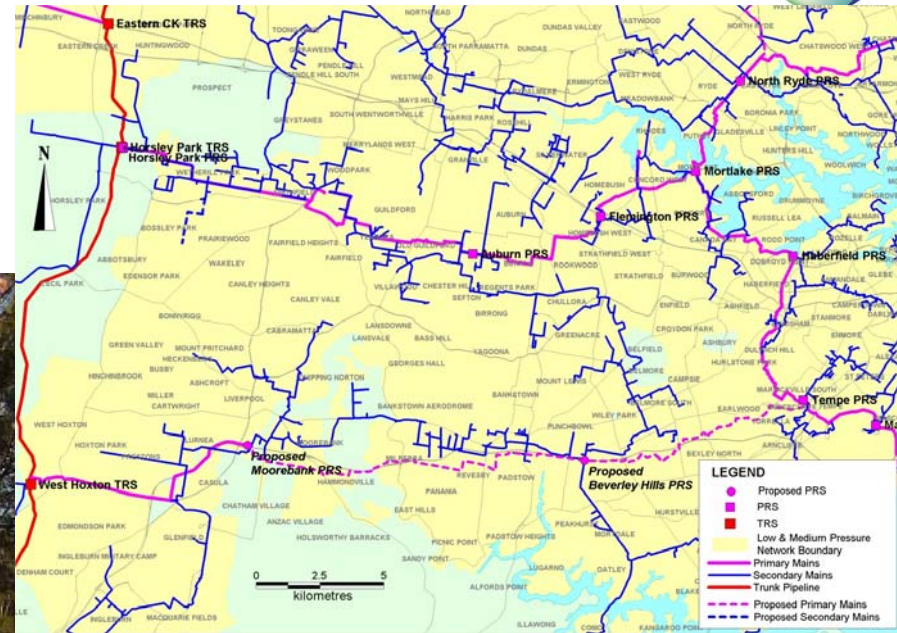
JGN investment

- Current period
 - JGN has met the investment commitments of its current AA by investing in line with its capital allowances
 - Key projects delivered include:
 - Sydney primary loop
 - Capacity reinforcements such as Eastern Suburbs
 - Rehabilitation of poor performing assets, Bathurst
- Next period forecast

| | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | Total |
|------------------|---------|---------|---------|---------|---------|-------|
| Market expansion | 84 | 75 | 80 | 76 | 73 | 371 |
| Capacity SIB | 82 | 71 | 69 | 69 | 88 | 381 |
| Non dist | 25 | 20 | 18 | 34 | 35 | 133 |
| Total (\$m) | 173 | 167 | 167 | 181 | 195 | 885 |



Sydney Primary Loop





JGN investment

- Current period
 - JGN has met the investment commitments of its current AA by investing in line with its capital allowances
 - Key projects delivered include:
 - Sydney primary loop
 - Capacity reinforcements such as Eastern Suburbs
 - Rehabilitation of poor performing assets, Bathurst
- Next period forecast

| | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | Total |
|------------------|---------|---------|---------|---------|---------|-------|
| Market expansion | 84 | 75 | 80 | 76 | 73 | 371 |
| Capacity SIB | 82 | 71 | 69 | 69 | 88 | 381 |
| Non dist | 25 | 20 | 18 | 34 | 35 | 133 |
| Total (\$m) | 173 | 167 | 167 | 181 | 195 | 885 |



Investment planning

- JGN employs several processes and systems to review, predict and manage capital expenditure, including:
 - Asset Management Plan
 - Asset Performance Indicators
 - Life cycle Management Plan
 - Capacity Planning Framework
 - Technical Compliance Framework and Plans
 - Project Governance and Control
- There are a number of key input drivers:
 - Changes to technical standards
 - Demand growth
 - Asset utilisation
 - Asset condition and ageing
 - Unit rate changes



External review

- Parson Brinckerhoff (PB) completed a review of forecast capex covering distribution and non distribution capital expenditure excluding IT.
- KPMG completed review of forecast IT Capital Expenditure
- Reviews by PB and KPMG confirm
 - The drivers for increases in capital expenditure are reasonable and in alignment with the JGN's Asset Management Plan
 - JGN's governance processes enable projects to be developed in compliance with NGR rules 74 and 79.



Investment methodology and criteria

Distribution capital

- Market expansion for new and existing markets
- Capacity maintenance/development capex
- System renewal/replacement capex

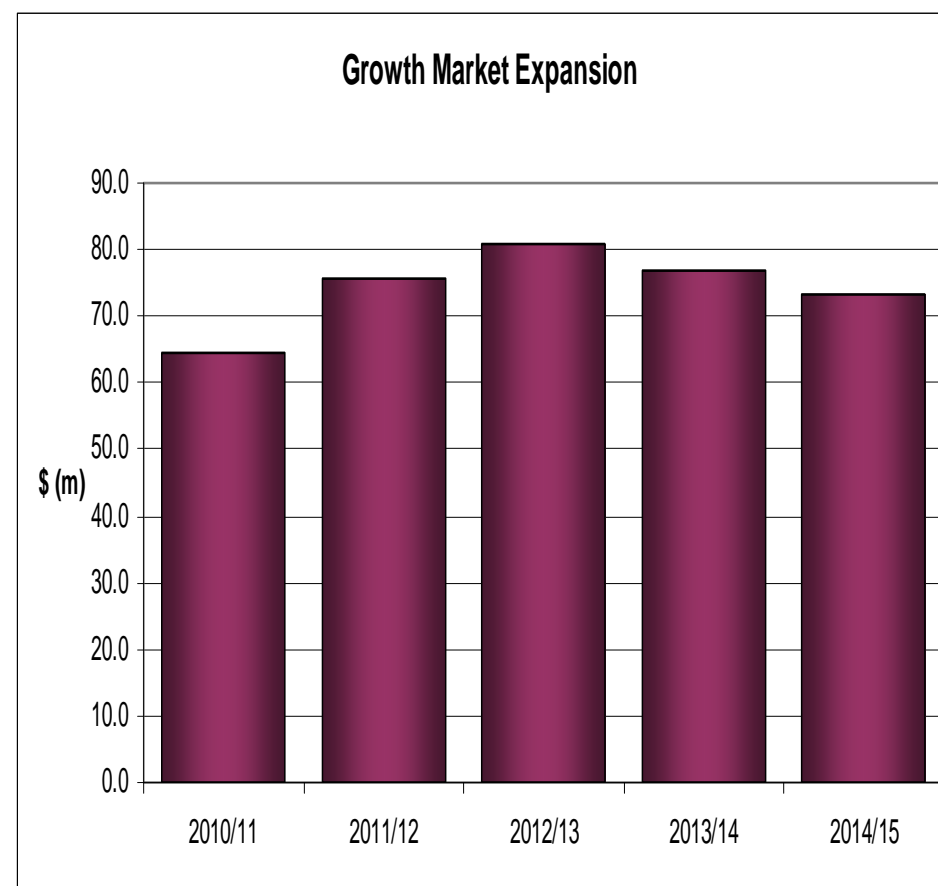
Non-distribution capital

- Motor vehicle, fixed plant and equipment
- IT



Distribution capital – market expansion

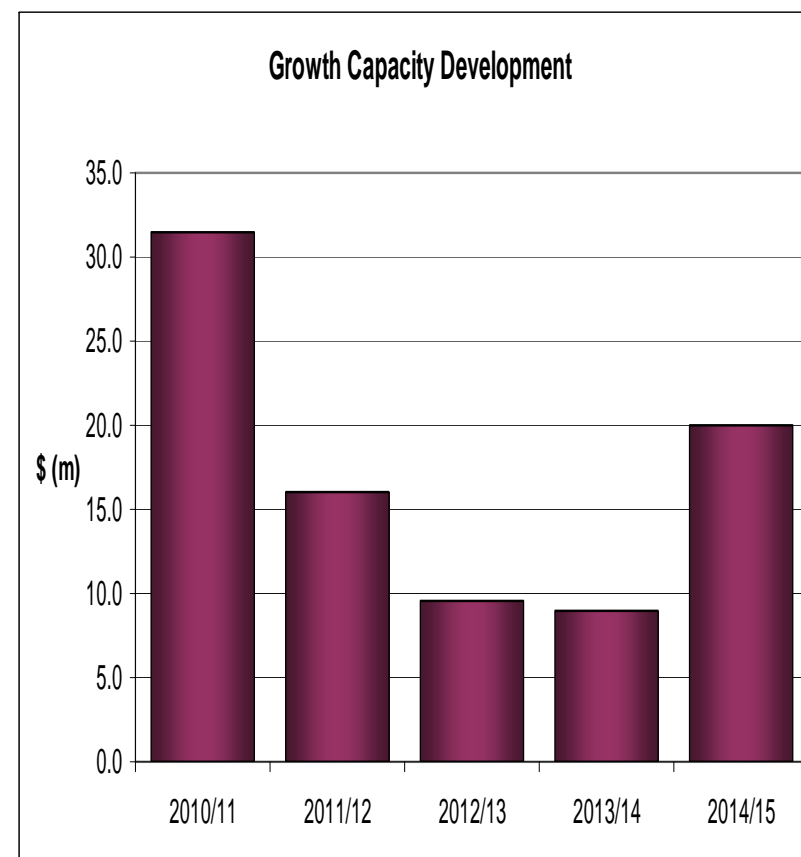
- Methodology and strategic drivers
 - National Institute of Economic and Industrial Research (NIEIR) engaged.
 - Econometric approach to customer forecast
 - Forecast incorporates the economic downturn
 - Reflecting Government policy initiatives
 - 10 year forecast





Capacity Development

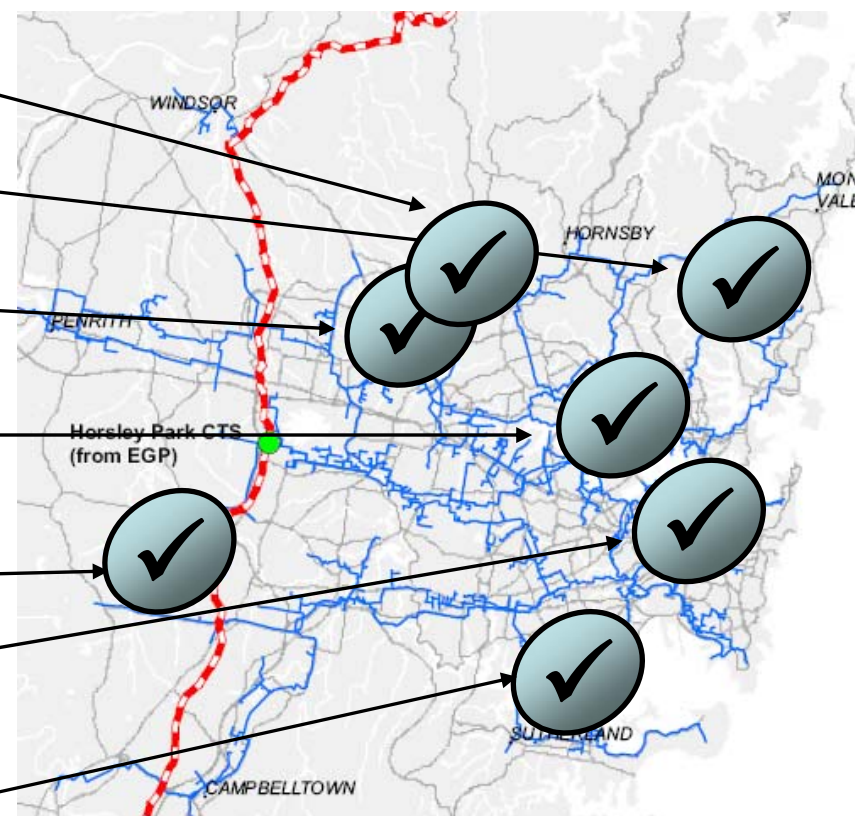
- Strategic Drivers
 - Long term planning providing a foundation for capacity development
 - Just in time approach to investment
 - Maximising network utilisation
 - Segment the market through risk/cost analysis
 - Capacity enhancement to support fringe growth
 - Organic growth within existing networks
 - Optimising asset life





Proposed Capacity Investment Program Sydney

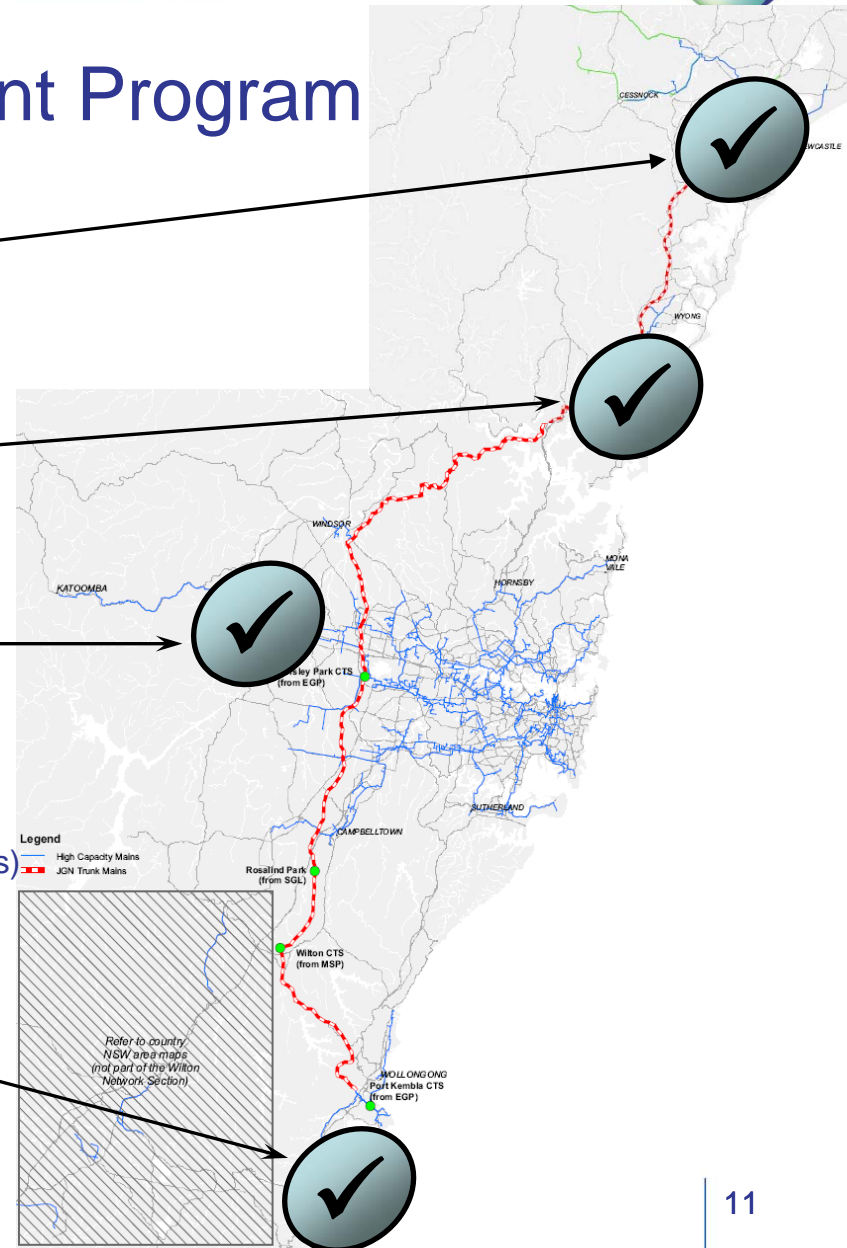
- Hills areas
 - \$5.9m (1,500 customers)
- Northern Beaches
 - \$10.5m (15,000 customers)
- Blacktown
 - \$2.0m (1,500 customers)
- Lane Cove
 - \$2.0m (as per Northern Beaches)
- Oran Park
 - \$5.0m (new customers)
- Inner City
 - \$6.8m (new customers)
- Southern Sydney
 - \$1.1m to complete a project (>10, 000 customers)





Proposed Capacity Investment Program Regional

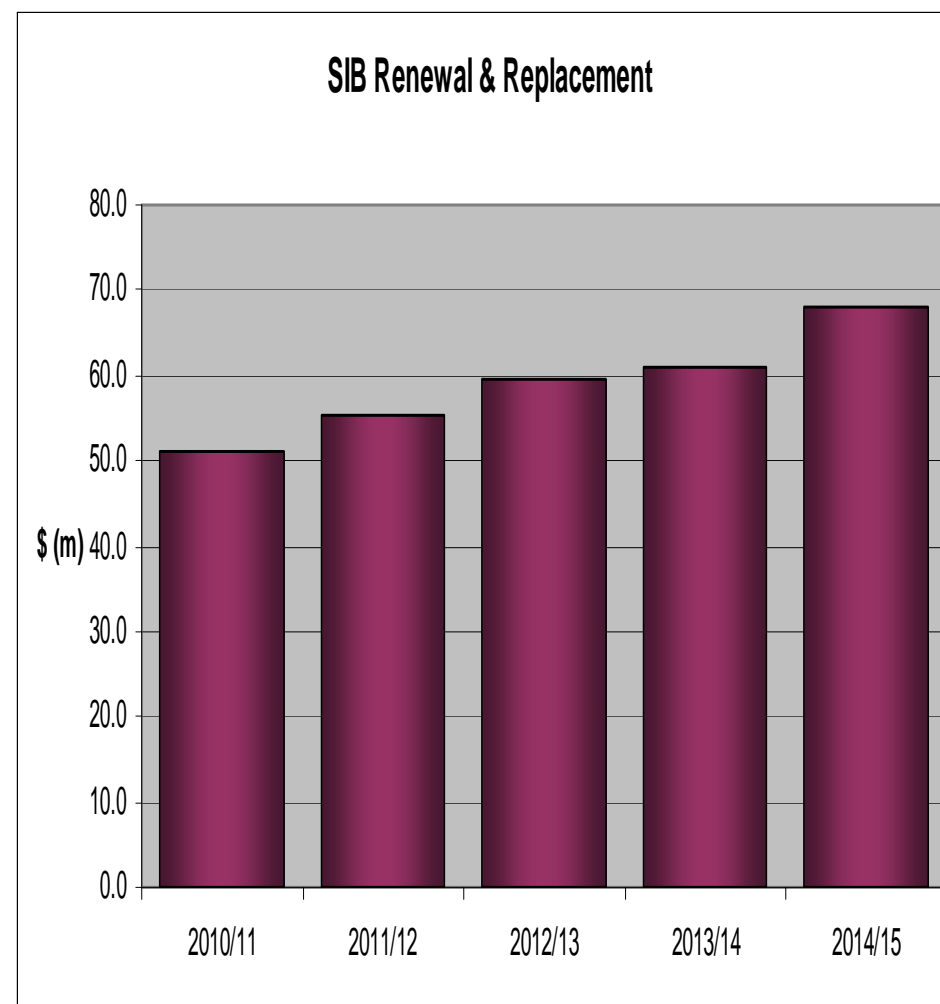
- Newcastle
 - \$1.4m (loss of supply, ~1,500 customers)
- Central Coast
 - \$1.2m (loss of supply, ~1,500 customers)
- Penrith and Blue Mountains
 - \$7.5m (loss of supply, ~5,000 customers)
- Wollongong
 - \$1.1m (to complete a project) (loss of supply, 13,000 customers)





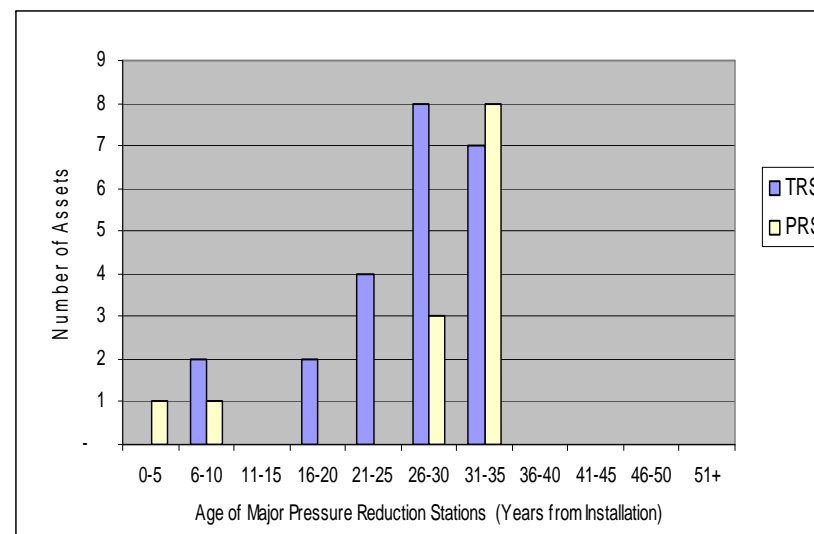
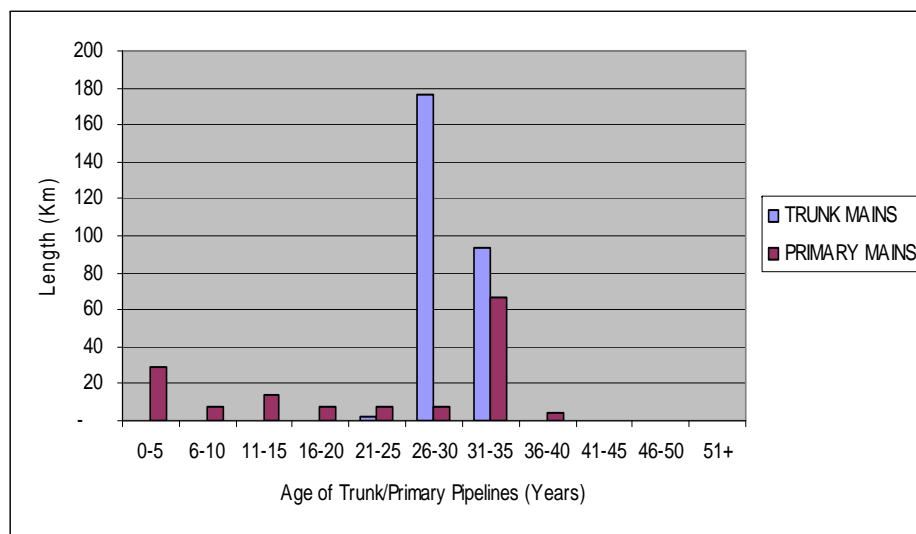
System renewal and replacement

- Drivers
 - External requirements
 - Aging HP assets requiring technical management
 - Upgrade assets to meet new technical requirements
 - Replacement and upgrading of metering assets
 - Rehabilitation of leaking distribution systems
 - Staged upgrade of district regulators due to safety and ergonomic issues
 - Supply reliability of aging assets





System renewal and replacement – Age profile of major HP assets





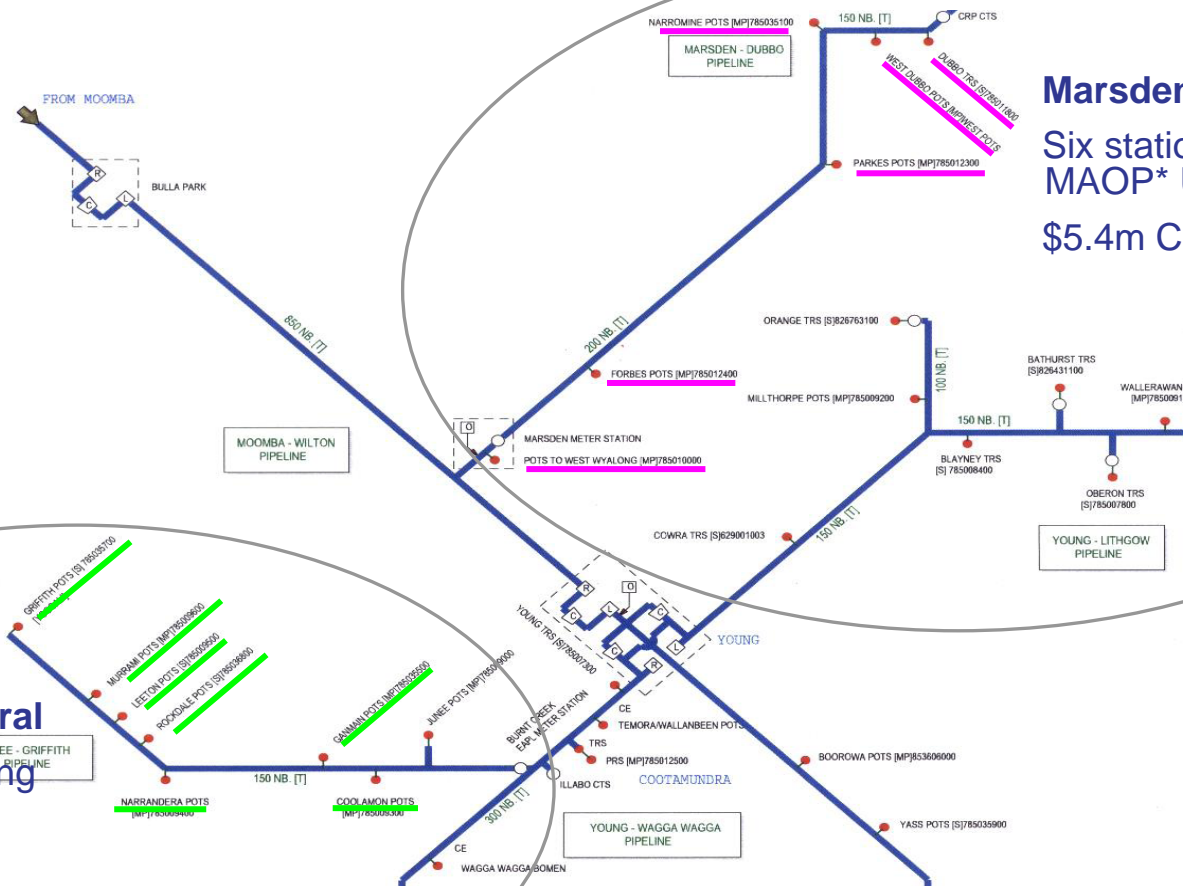
System Renewal and Replacement

- Significant work required on HP system
- Concentrated age profile
 - 35 years old
 - Metal loss on high pressure pipe
 - Urban encroachment
 - Mine subsidence
 - Obsolescence of critical components, loss of manufacturer support
 - Evolving requirements for OH&S compliance and environmental (noise) compliance



Country Network Gate Station Upgrades

Jemena



Marsden to Dubbo lateral
 Six stations requiring MAOP* Upgrades
 \$5.4m Capex

Junee to Griffith lateral
 Seven stations requiring MAOP* Upgrades
 \$7.0m Capex

*MAOP – Maximum Allowable Operating Pressure



IT systems investment

The key IT programs and projects for the next AA period are:

- Replacement of core metering, billing and works management system
- Geographic Information System introduction
- Security camera installation
- Upgrading network design systems, introducing design and drawing document management systems and contributing to the process re-engineering of network management processes



Market Expansion Mechanism

- New incentive mechanism to drive expansion the network into existing unreticulated areas.
- Main features
 - Utilises the Speculative Investment provisions in NGR
 - Rolls in the capital after 5 years
 - All tariffs at standard rate
 - Revenue from the investment not included in regulated revenue for 5 years
- Consumers benefits
 - Reduced capital cost of connection (new customers)
 - Increased utilisation and efficiency (new and existing customers)
 - No burden on existing customer base (existing customers)



Jemena



Part 4

Pricing and service offerings



JGN services overview

- Simplified service offerings
 - Current AA has 11 reference services
 - Proposed AA has 2
 - Consolidation of trunk and local network services for Wilton network section
- Support for STTM design
 - Haulage service becomes “Hub to Point” in Wilton network section
- A single haulage service
 - Volume and Demand customer groups
 - Tariff class options
- Tariff basket price control
 - Ensures ongoing price efficiency across the period
 - Allows for introduction, where necessary, of new tariffs
- Significantly reduced administration for reference services to demand customers



Jemena

Reference Haulage Services – new features for demand customers

- No minimum term
- No overrun charges
- Chargeable demand
- First Response discount for largest sites
- Minimum bill for demand tariff
- Meter charges by MHQ band rather than meter type
- Contractual transfer between retailers aligned with market churn



JGN haulage service – tariff class assignment

| Customer Group | Volume (<10TJ) | Demand (>10TJ) |
|-----------------|--------------------|---|
| Tariff Category | | Capacity Capacity - First Response Throughput |
| Location | Coastal Country | 11 Coastal Zones Country |

| | | |
|--------------|---------------------------|--|
| Tariff Class | V - Coastal V- Country | DC-01 to DC-11; DC-Country DCFR-01 to DCFR-11 DT |
|--------------|---------------------------|--|



JGN services – transition from current services

- New Reference Service Agreements are required from July 2010
 - New market structure also scheduled to start around July 2010 – opportunity to align
 - Legacy agreements will be inconsistent with new market arrangements
- JGN has proposed effective mechanism to transition from old to new reference service agreements
 - Terms and conditions included in executable form in AA
 - Bulk transfer of delivery points to new reference Service Agreements



Pricing Outcomes

- Volume tariffs
 - Change in tariff in 2010-11 CPI plus 34.3%
 - Coastal delivery point rates include trunk (excluded from country tariffs)
- Demand tariffs
 - Outcome varies for individual sites
 - tariff category selected
 - location
 - effect of chargeable demand reset
 - First Response option
 - minimum bill
 - No material change in total revenue from demand service
 - Minimum bill (\$20k pa year 1 - increasing to \$60k pa in year 5, monthly charge)
- Meter data service
 - Change in tariff in 2010-11 CPI plus 49%
 - Result of improved accuracy of inputs for cost allocation



Pricing – Tariff Basket

- Formulaic approach to annual tariff variation
 - Consistent with NGR and other jurisdictions.
 - Fixed schedule approach retained for ancillary fees and meter data service charges
- Variation for CPI-X average price movement.
 - $X = -1.96\%$ for reference haulage service tariffs
- Variation for UAG costs
 - Retained from existing AA
 - Volume tolerance band reflects range of uncertainty outside JGN control
 - Purchase costs and CPRS adjusted on actuals
- Variation for revenue effects from weather
 - Revenue variations due to weather effects cannot be reasonably forecast
 - Unreasonable level of revenue risk and volatility for JGN
 - Tariffs adjusted to recover or pay back past revenues based on actual versus forecast heating degree days



Pricing – Pass Through Events

- Pass through for one off events which are unable to be forecast
- Change in tax, regulatory (market costs), *license fee* events restructured and carried on from current AA
- Additional new pass through events for *declared retailer of last resort* and *business continuity* event.
- Retailer of Last Resort
 - Materially increased administrative costs arising through a ROLR event
- Business Continuity Event
 - Events which are expensive and inefficient to insure against
 - Supports materially lower insurance provisions



Jemena

Jemena Gas Networks (JGN)
Revised access arrangement – Jul 10 to Jun 15

AER public forum on 23 Sep 09