

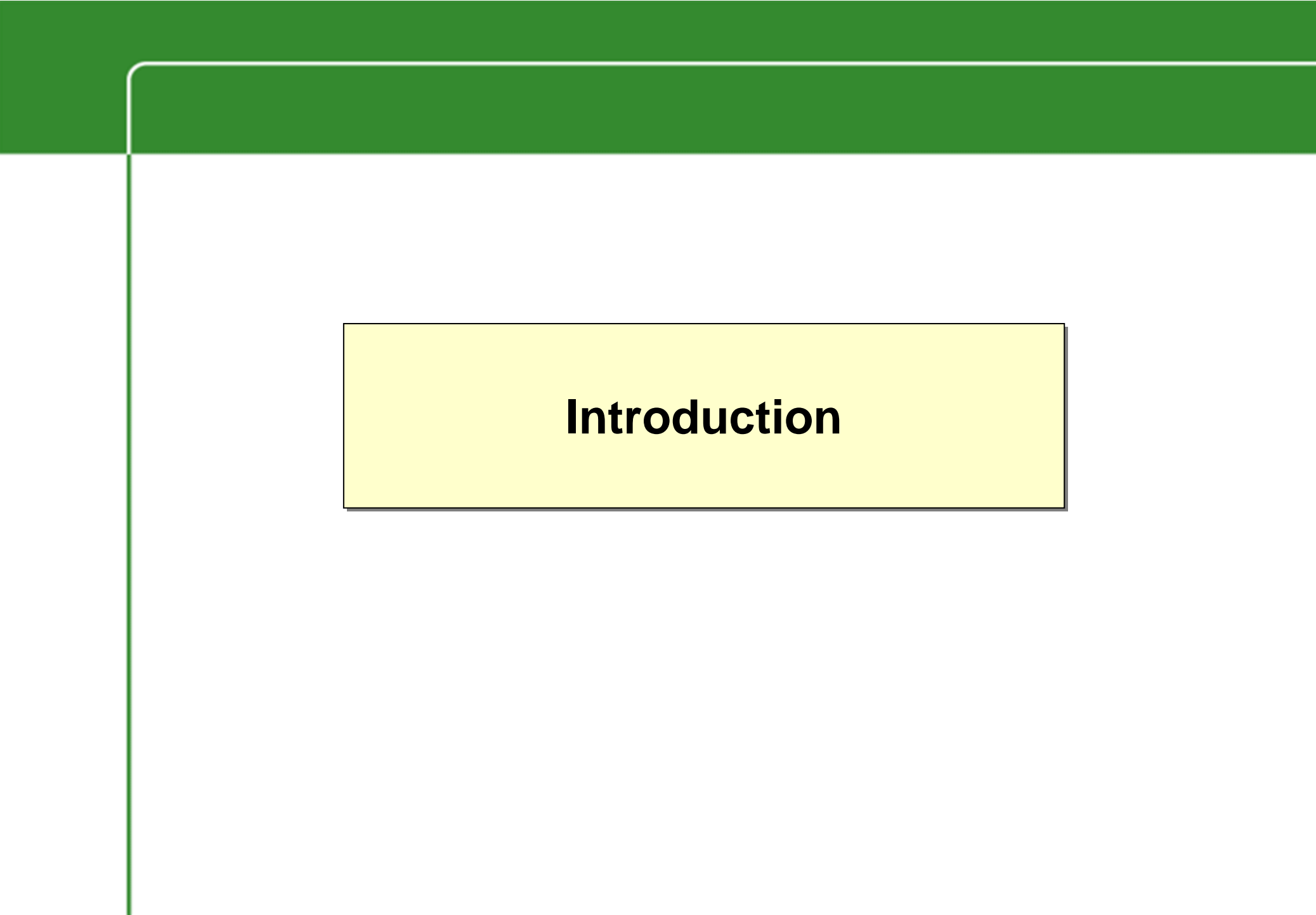


Presentation to
Pricing Issues Consultation Group

7 May 2003



The power is in your hands

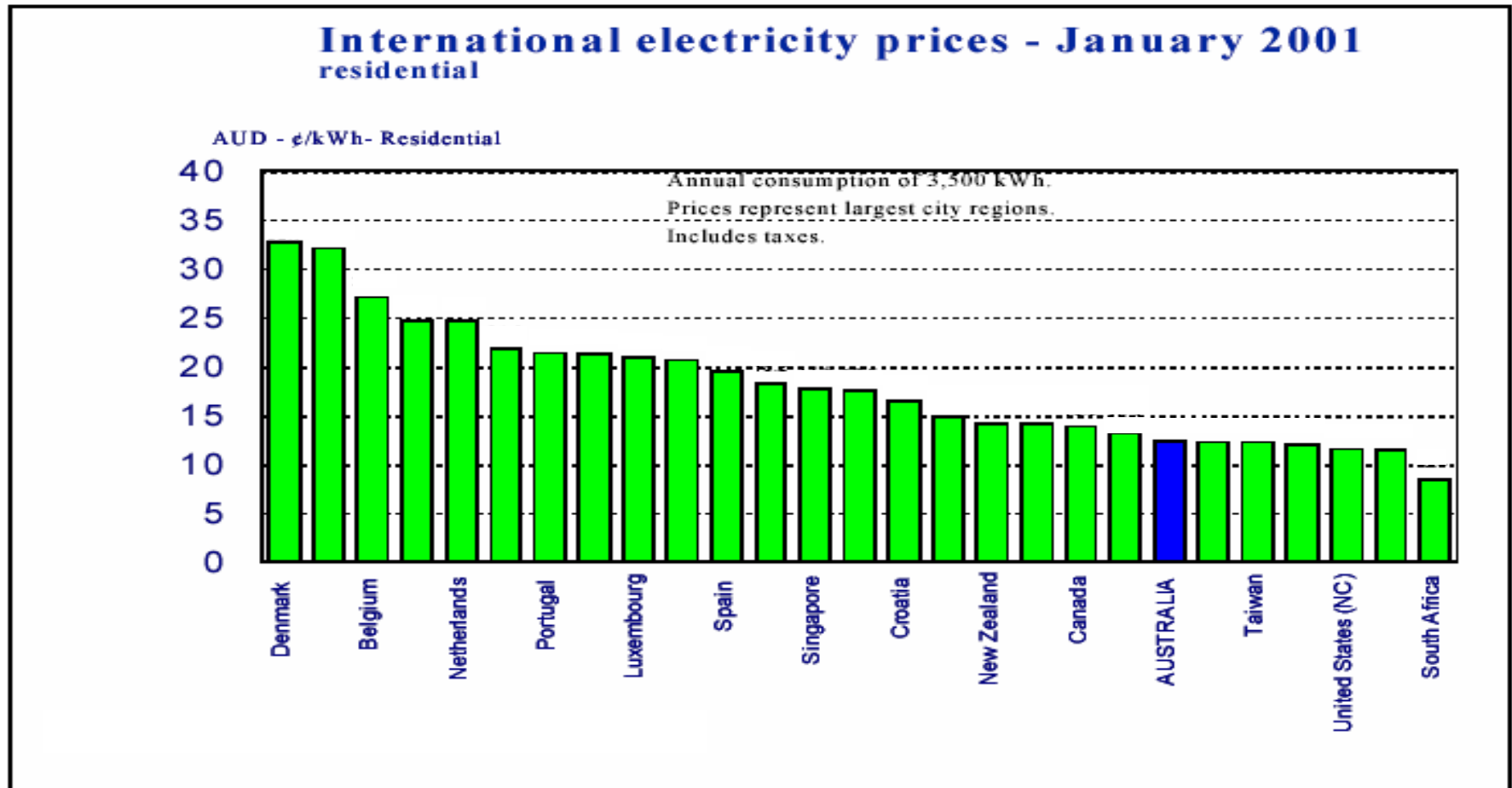


Introduction

Purpose

- Outline the issues facing Integral's network
- Outline Integral's strategy to address these issues and the resultant expenditure requirements
- Discuss the objectives and direction of Integral's proposed pricing structure for 2004 - 2009
 - pricing proposal
 - the need for tariff reform
 - issues requiring further investigation

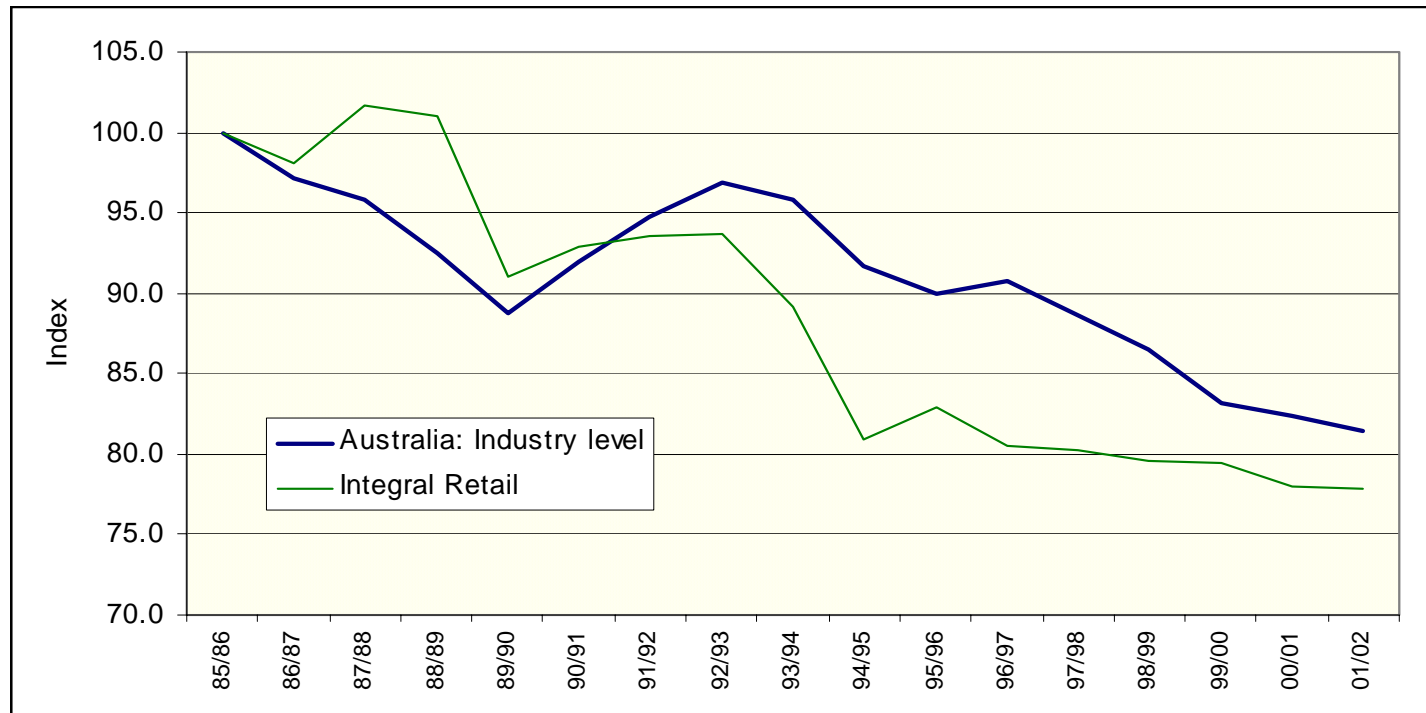
ESAA International Price Comparison, 2001



Source:

ESAA www site: http://www.esaa.com.au/images/Aust_electricity_dev.pdf

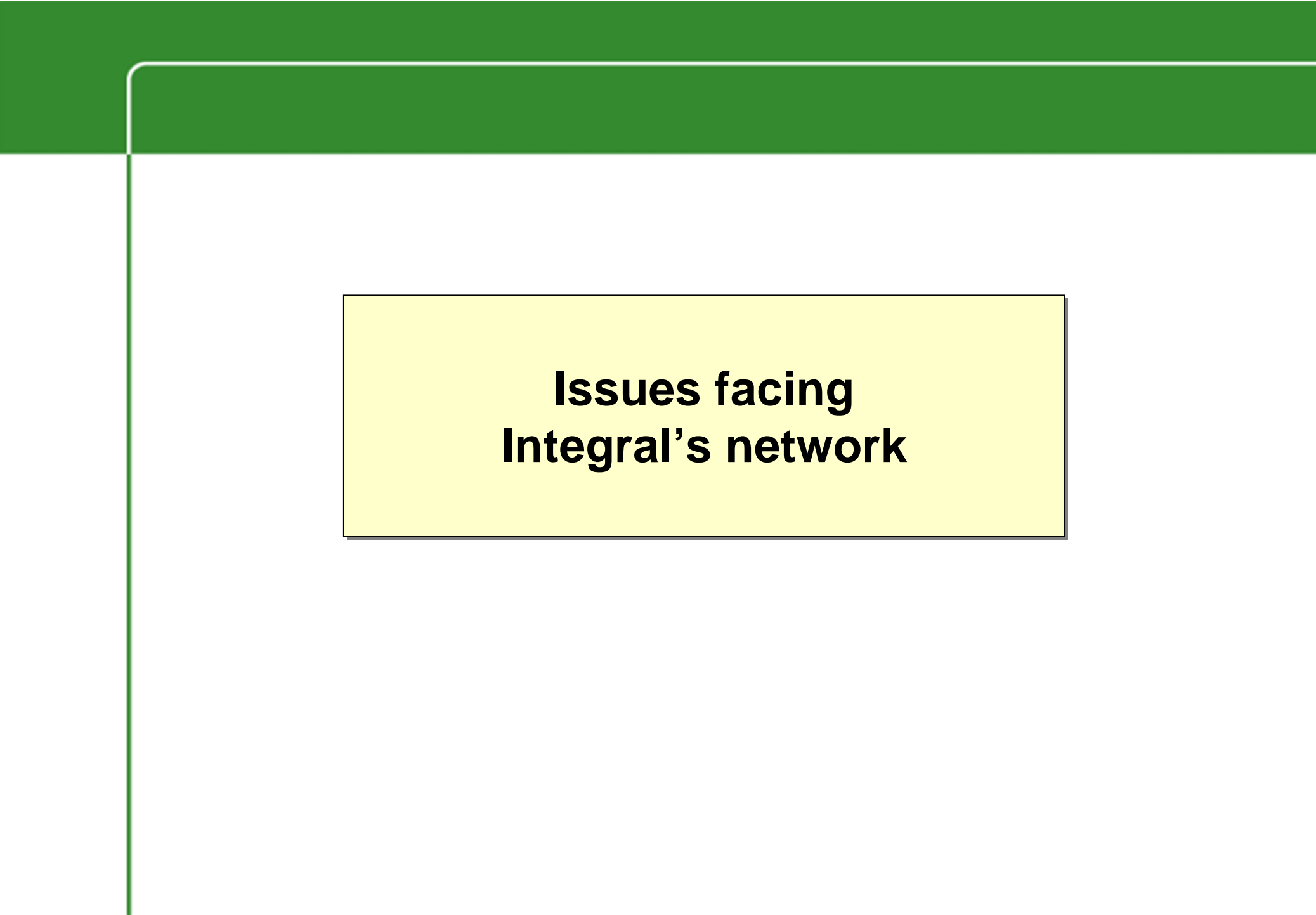
Reform of the Australian electricity industry since the 1980s focussed on efficiency improvement and has delivered lower prices ...



Since 1985/86, residential electricity prices have fallen by 19% in real terms.

Source: ABS CPI data, CVA analysis, Treasury, Integral Energy

- The price rises in 2000/ 2001 were effected by the introduction of the GST - an estimated 11.5% price increase to residential customers compared with 5.3% for businesses
- Integral retail index shows the annual change in real electricity bill of a customer using 7,500 kWh pa. This series was based on Prospect Domestic prices, 1986-1989; weighted average Illawarra/Prospect price index, 1990-1995; Actual Integral retail domestic prices, 1996-2003



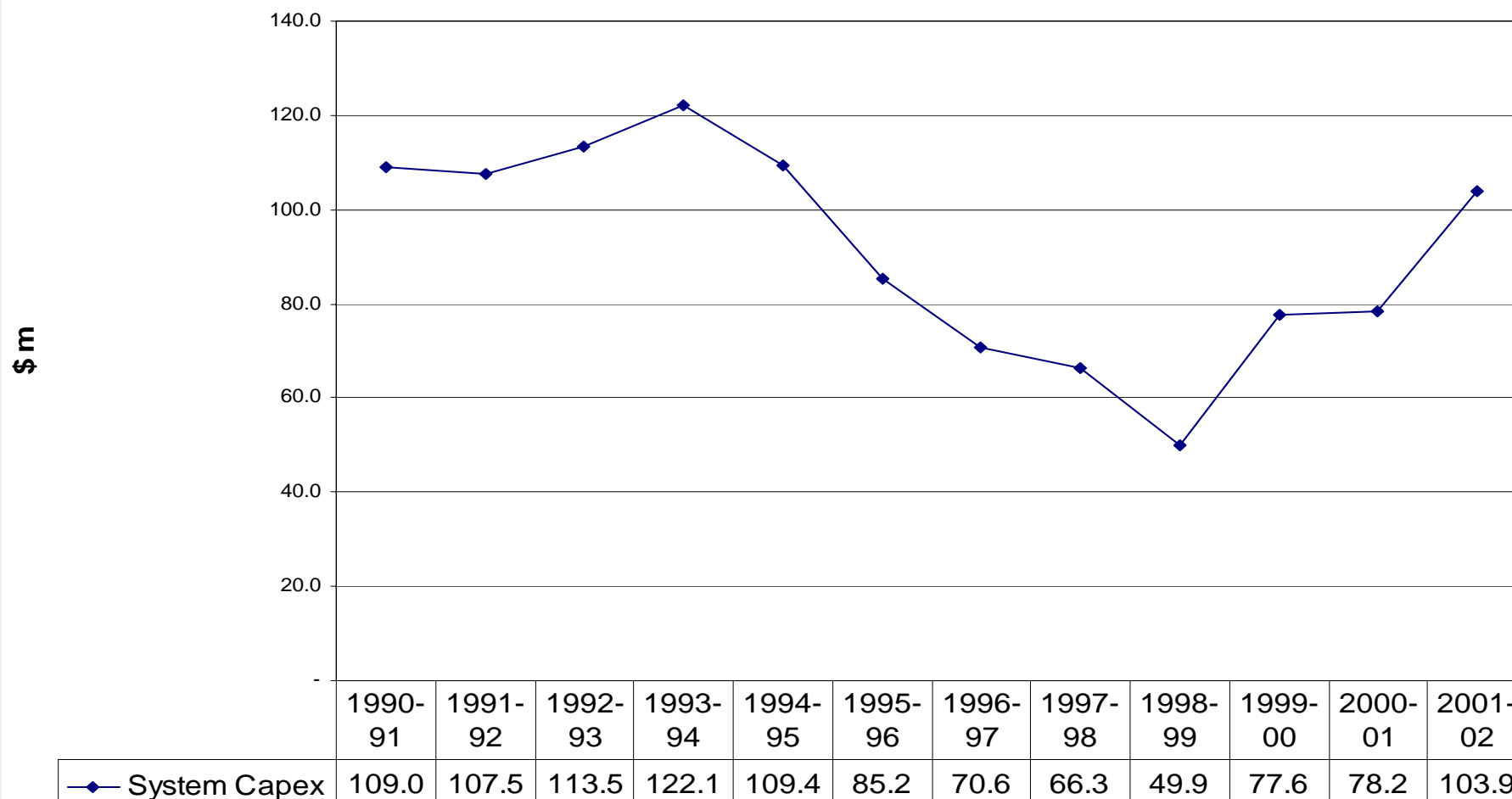
**Issues facing
Integral's network**

Drivers facing Integral

- Increasing customer expectations/changing consumption patterns
 - Growth and changing rural/urban mix
 - High growth in electricity demand driving peak periods, particularly due to air-conditioning with 50% penetration
 - Issues of poor reliability performance
 - Movement to a summer peak - implication on network capacity

- Overall network condition is deteriorating
 - Load at risk has increased
 - Increasing age of assets
 - Past capital expenditure has been insufficient

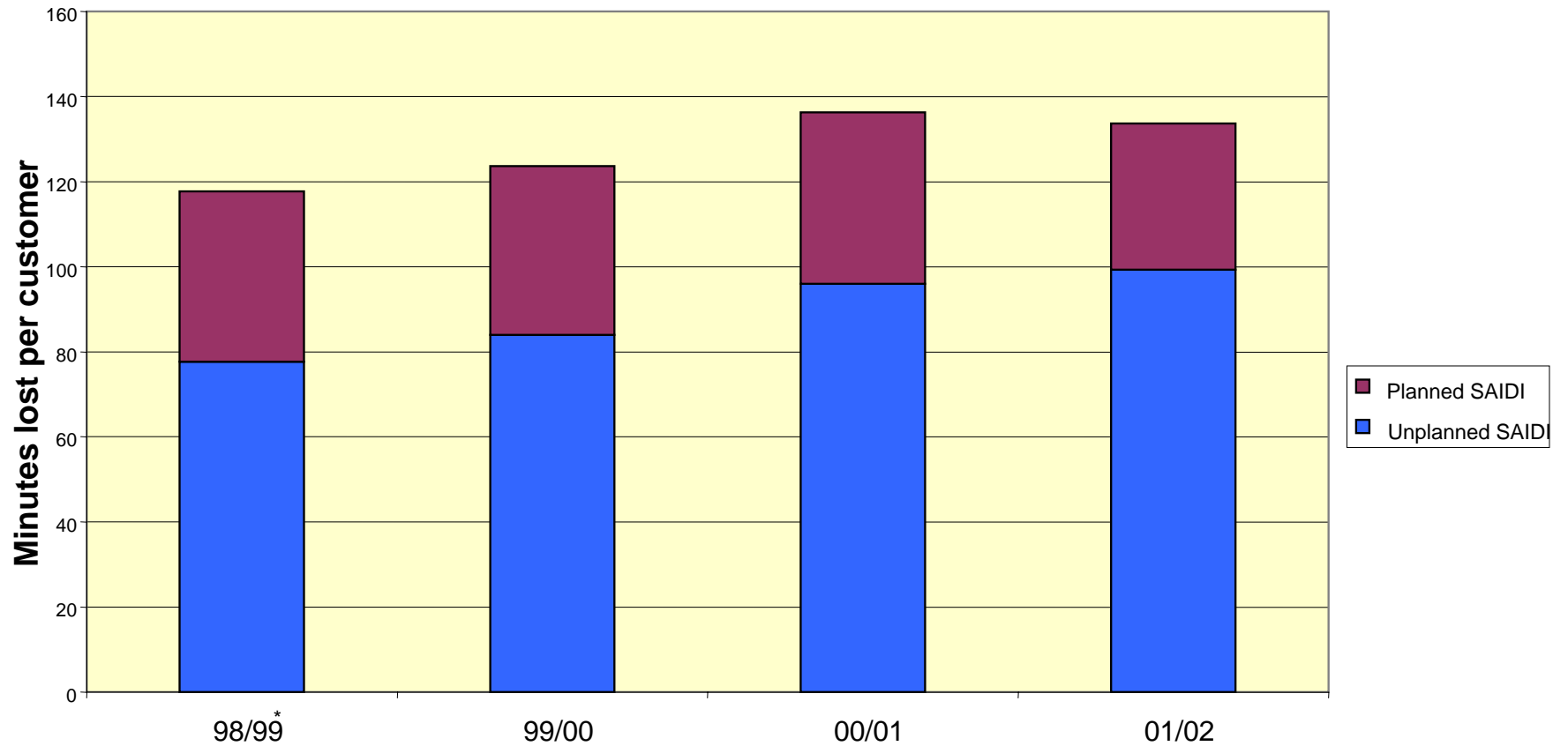
Integral's system capital expenditure declined as part of an overall focus on reducing costs



Historical Capital spend – 2003 dollars

Reliability performance has deteriorated

SAIDI (excluding major storms)



* Planned SAIDI for 1998/99 has been normalised to reflect changes in data collection method

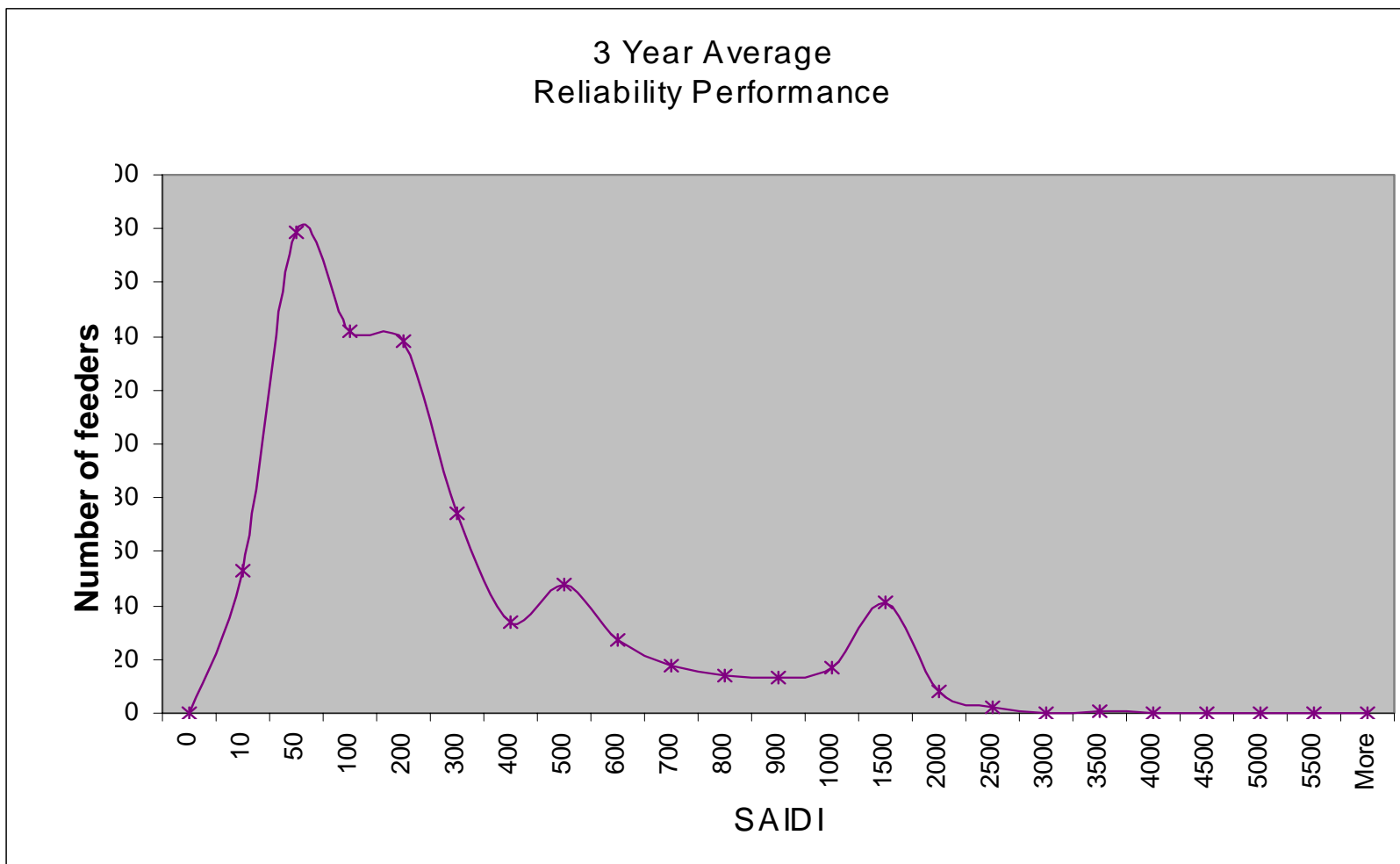
In certain areas, standards are below customer expectations

Majority of customers in Integral's network region are satisfied with current service standards, but standards in certain areas are below customer expectations

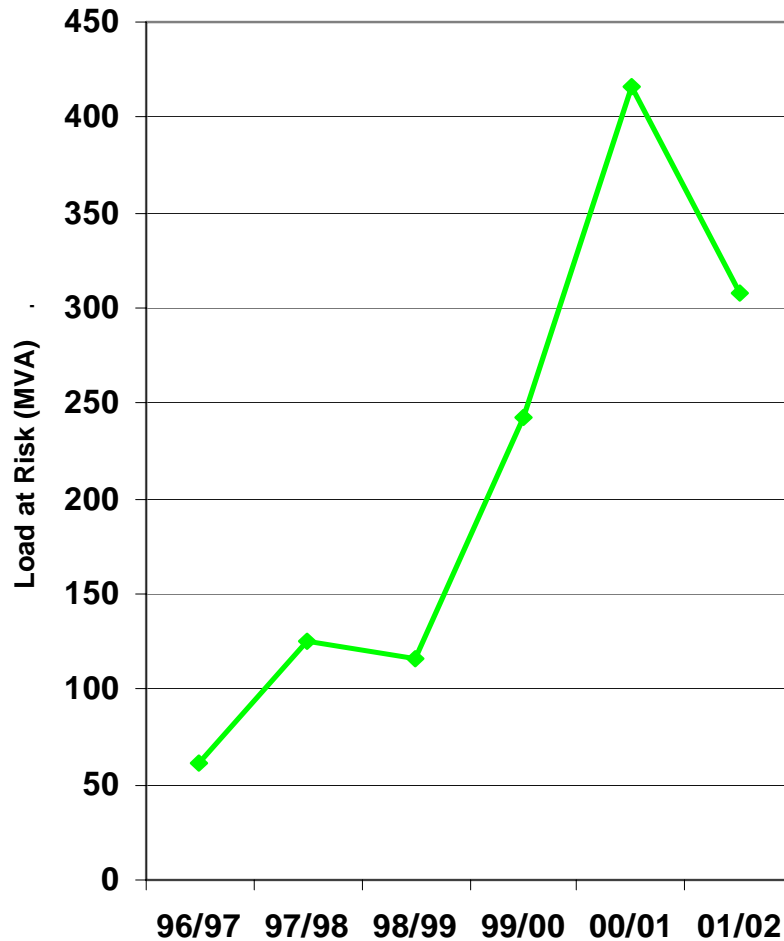
Source: KPMG Research

- Performance in some areas significantly worse
- Similar areas within Integral's area receive substantially different levels of reliability

Significant proportion of Integral's feeders experience unacceptable reliability performance



Customers' Load at Risk has increased



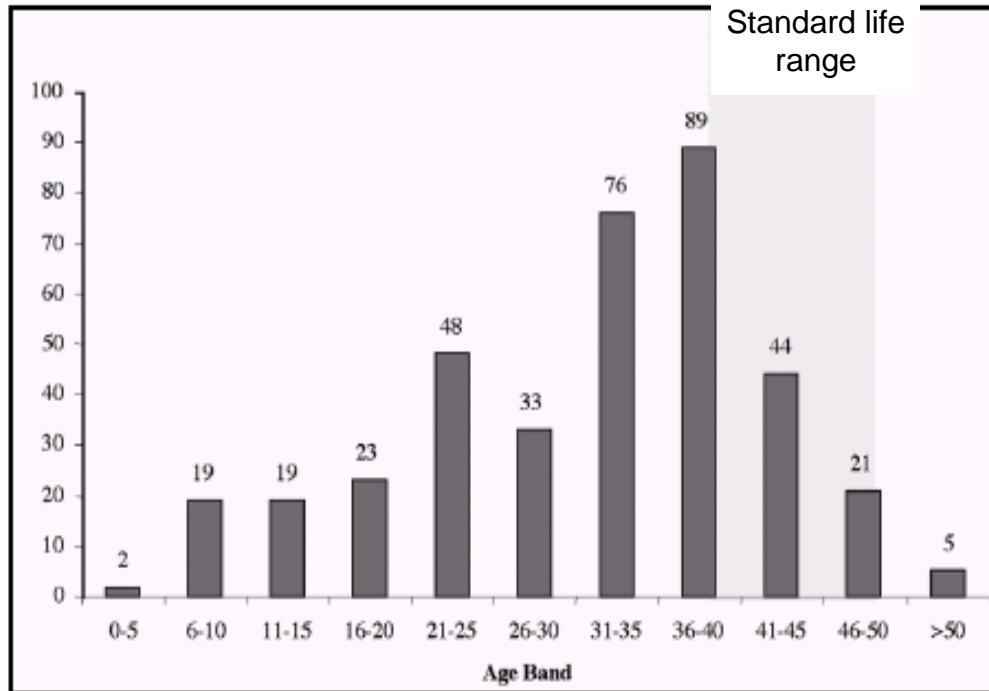
Customer load* not supplied in accordance with Integral's planning standards** has increased more than 5-fold from 1996/97 to 2001/02.

* As measured on the 132/66/33kV Network

** Benchmarking shows that Integral's planning standards to be consistent with Australian industry and international best practice

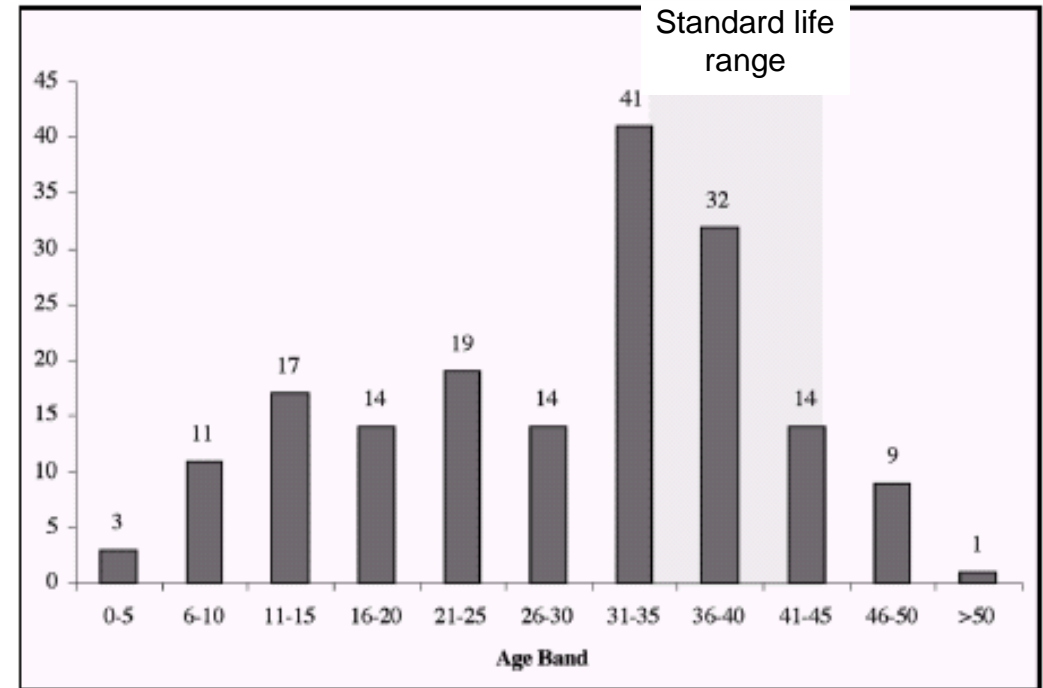
The majority of network assets were installed 30 to 45 years ago

Power Transformer Age Profile



Note: 42% of Transformers = Standard Life Range or above in 2004 Regulatory Period

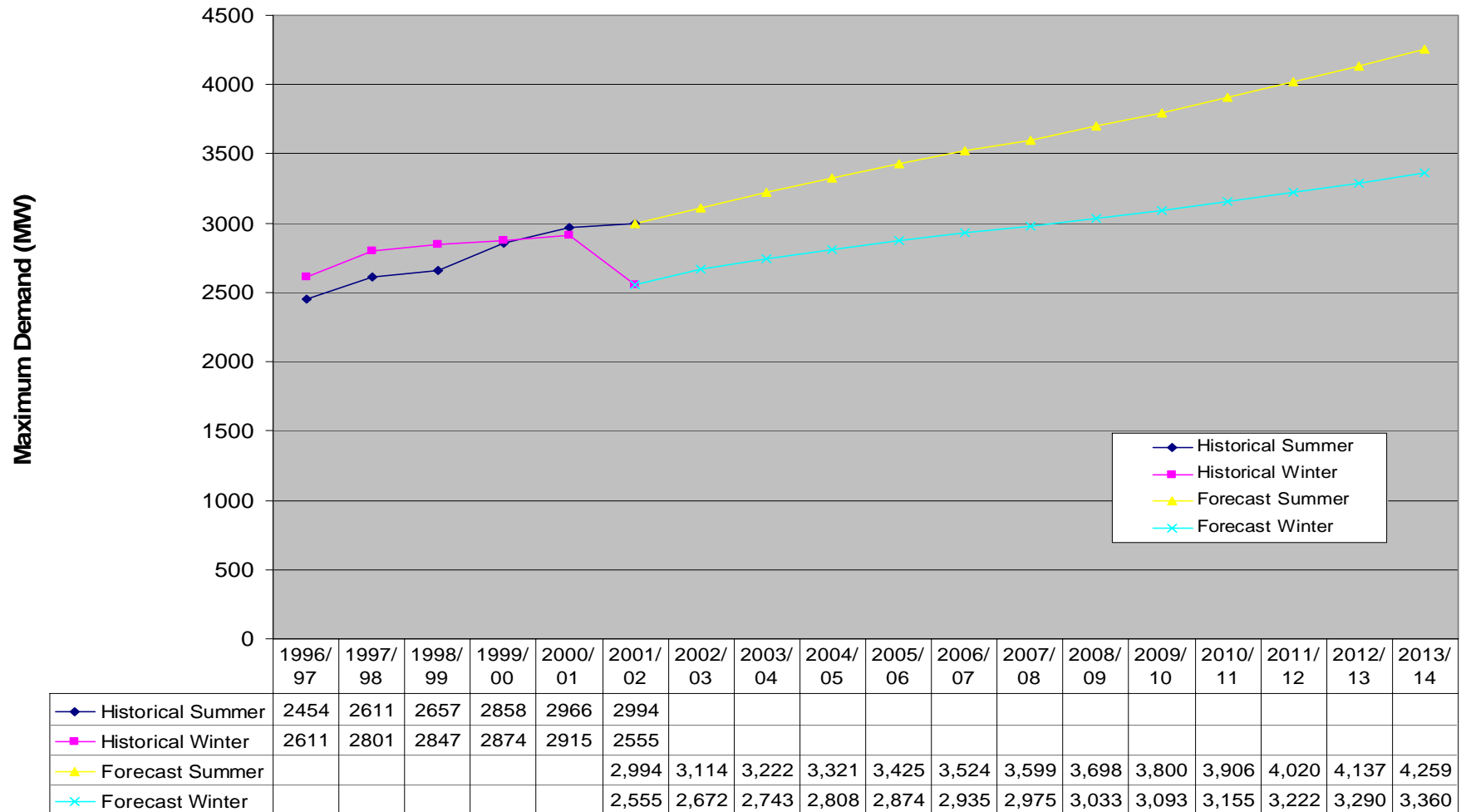
Major Substation Age Profile



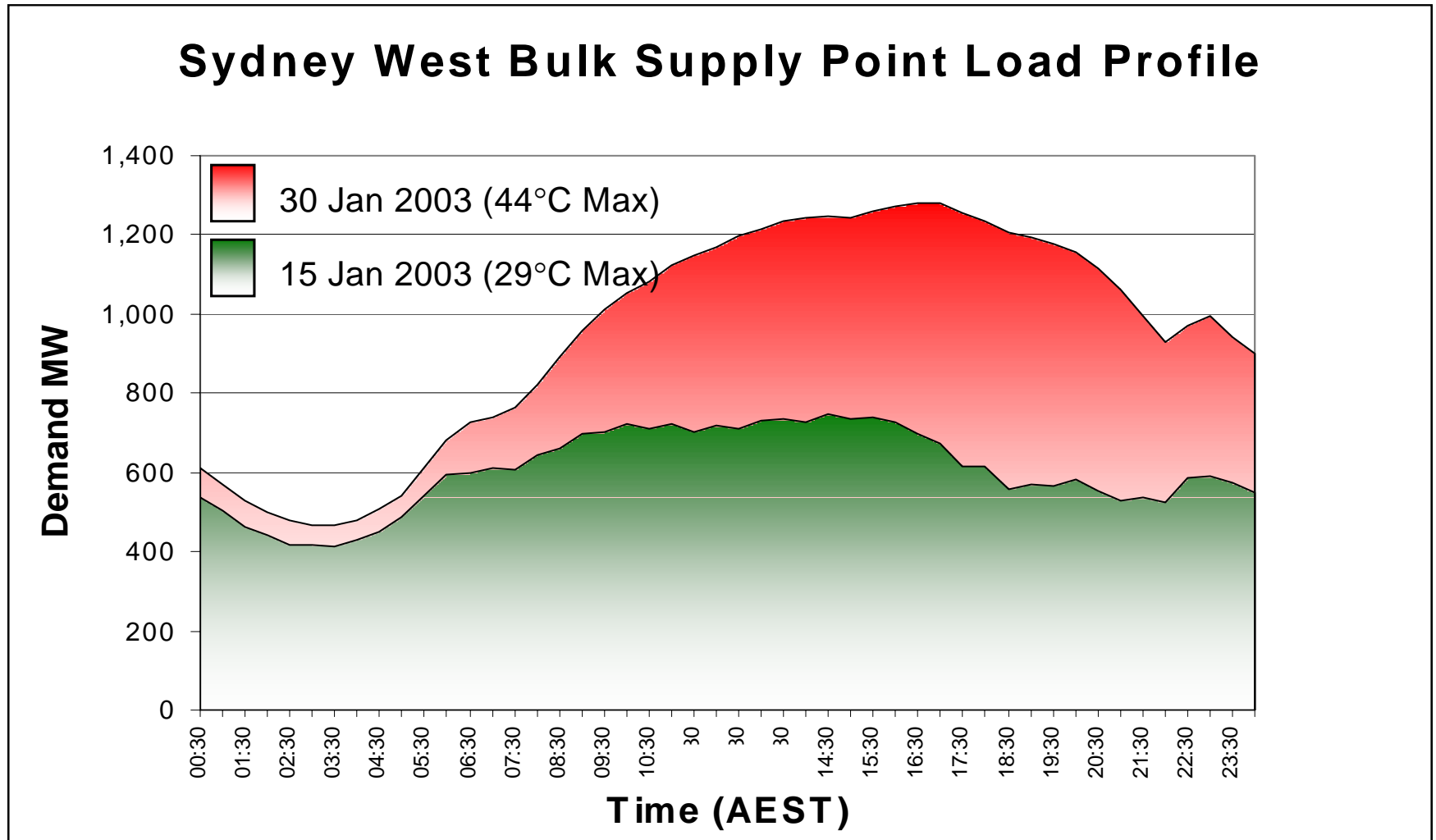
Note: 55% of Major Substations = Standard Life Range or above in 2004 Regulatory Period

Integral is now summer peaking

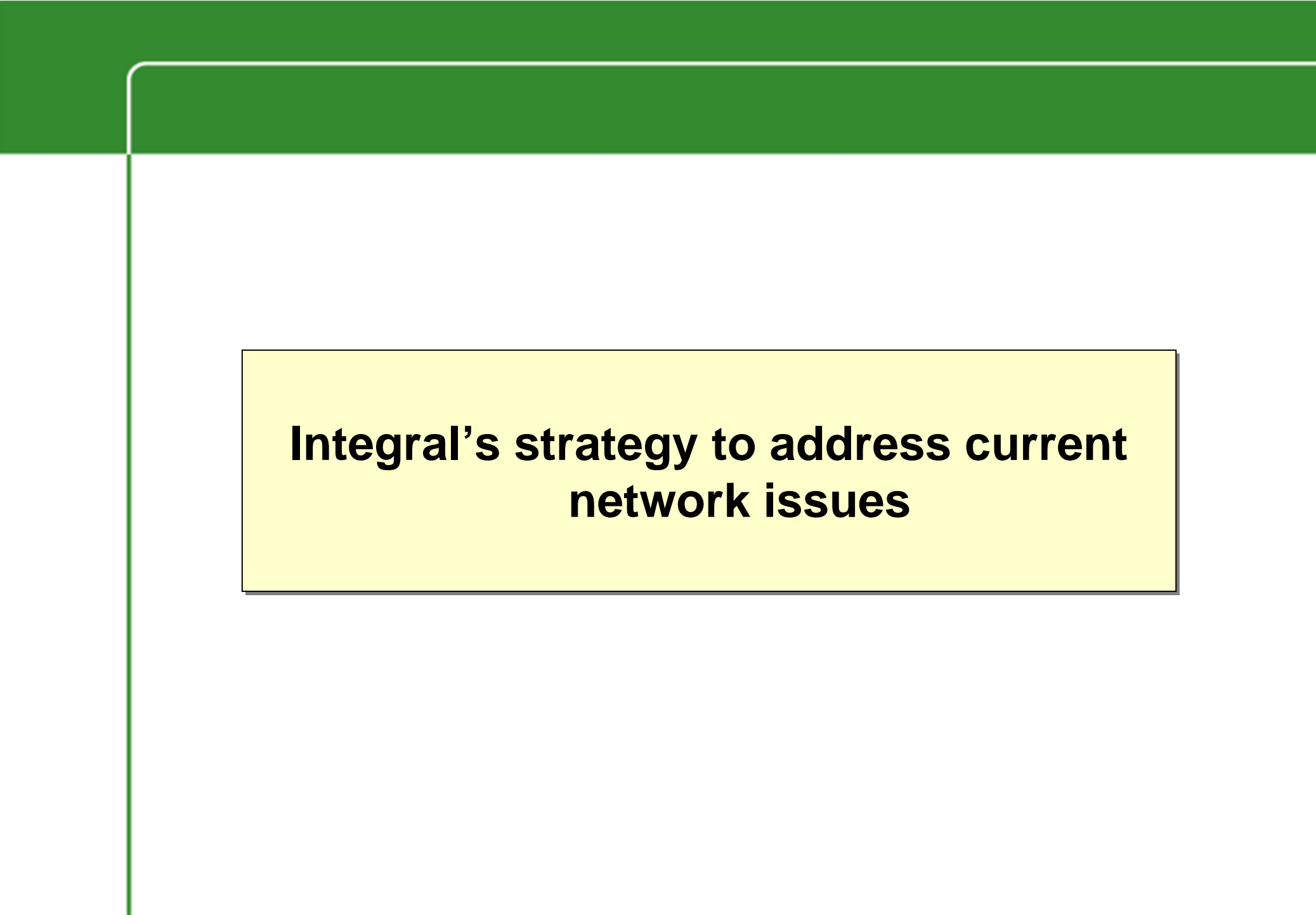
Summer/Winter System Load Growth



Capacity requirements can double due to air conditioning load



Variation of load with temperature at the Sydney West Bulk Supply point



**Integral's strategy to address current
network issues**

Integral's Strategy

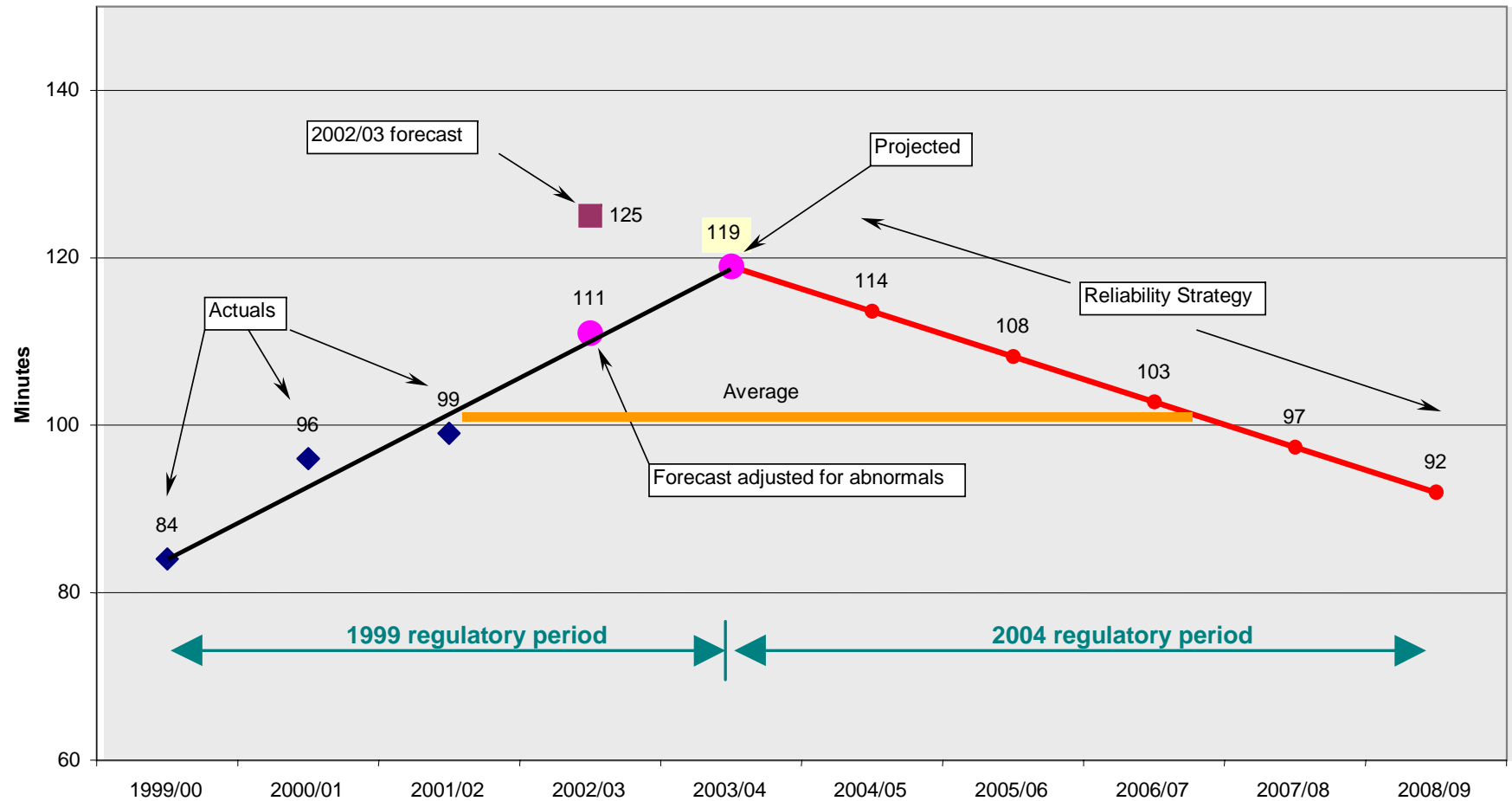
Network Vision

Customers in Integral's region should, on average, receive comparable service standards to customers in like situations within Australia

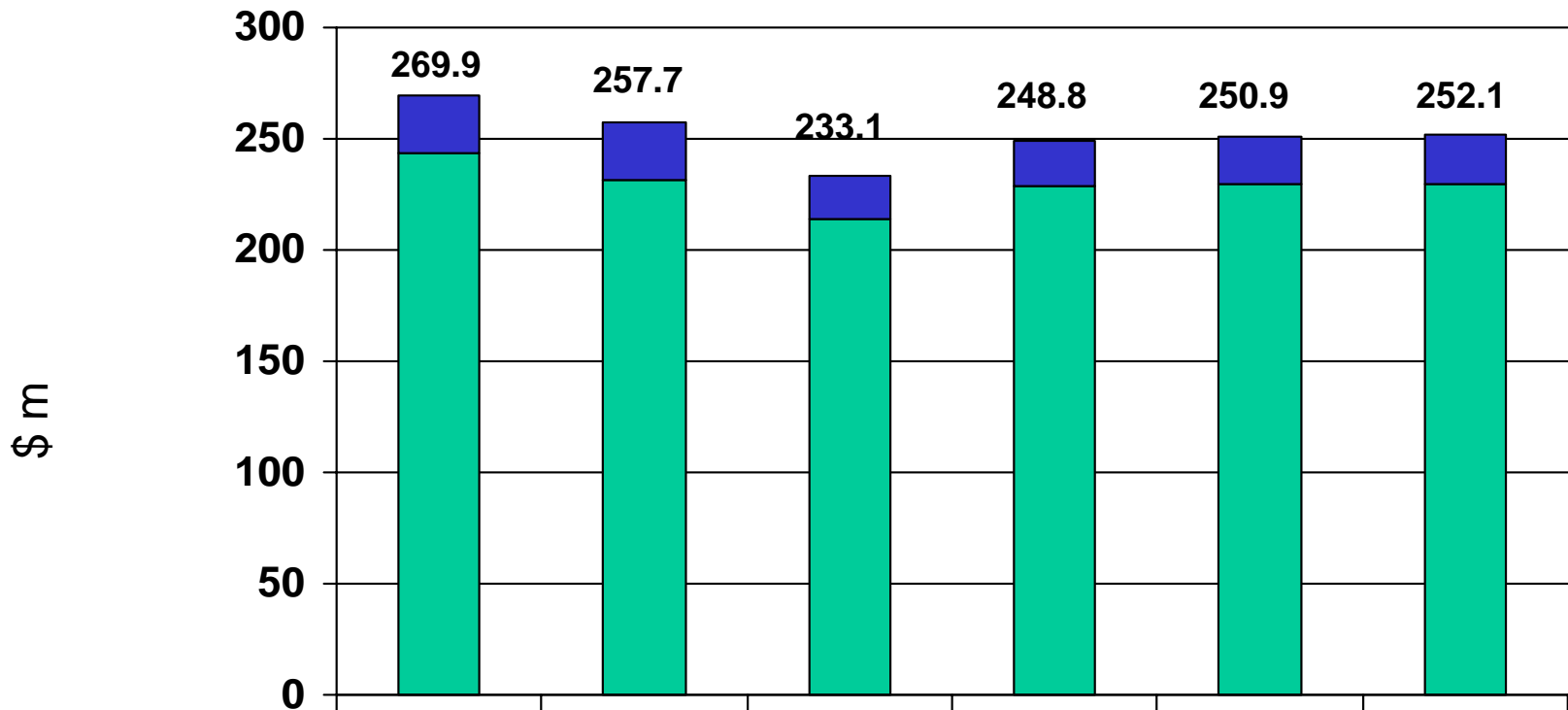
Base Case Service Standard Strategy

- Improve the position of customers not currently receiving average performance standards
- Maintain the current supply capacity/security risk profile at present levels
- Arrest the deteriorating condition trend of the network asset base
- Achieve corporate objectives in safety performance, environmental management and operational efficiency

Our Base Case proposal is about maintaining average reliability ...

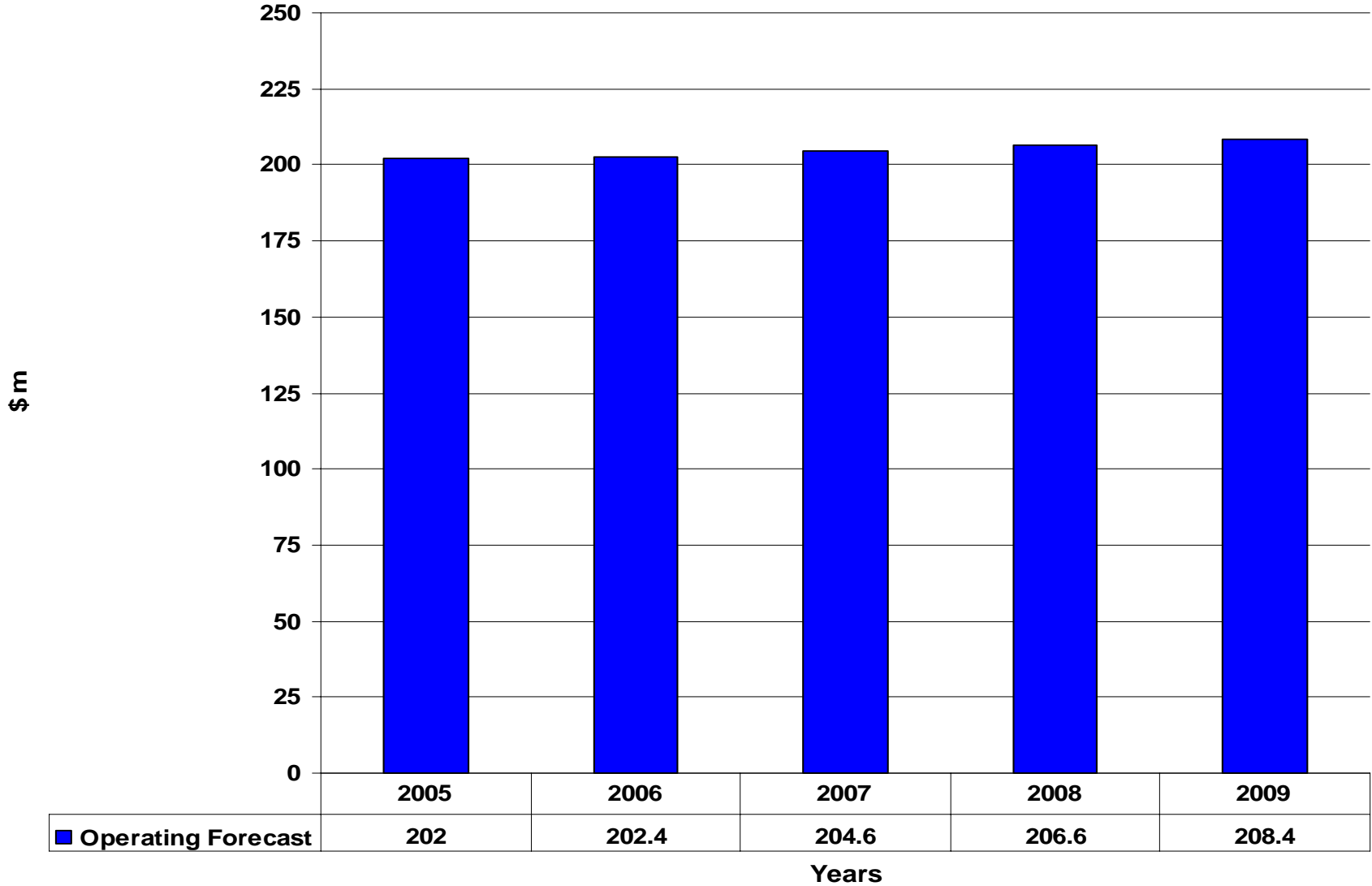


Network Capital Expenditure



	2005	2006	2007	2008	2009	Average Annual Capex
■ Non System Capex	26.3	26.3	19.6	19.7	21.5	22.7
■ System Capex	243.6	231.4	213.5	229.1	229.4	229.4

Network operating expenditure forecast





**Objectives and direction of Integral's
proposed pricing structure**

Proposed network price movements

- Integral's **network prices** are proposed to rise by
 - CPI + 11.6% in 2004/05
 - CPI + 1% for the following four years

Indicative retail price movement - domestic customers

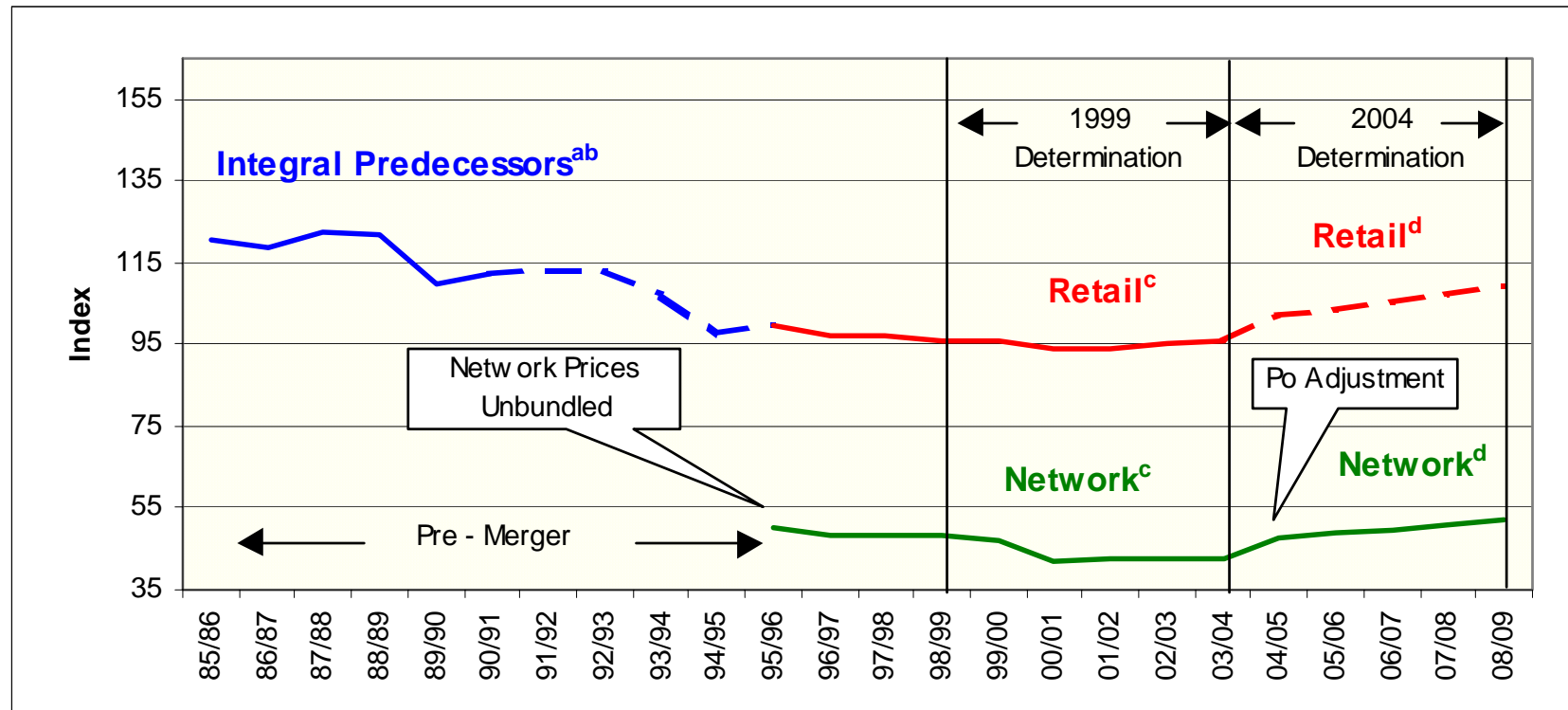
- This translates into a retail price increase for **domestic** customers of:
 - CPI + 4.9% in 2004/05
 - CPI + 0.4% for the following four years

- The retail price impact on a typical residential consumers' annual total bill* is:
 - \$44 pa (less than \$1/week) in 2004/05
 - \$4 pa (less than \$0.10/week) each year 2005/06 - 2008/09

* (Based on consumption of 7,500 kWh for domestic customers and 23,000 kWh for non-ToU General Supply customers ; CPI of 2.5%; TUOS and retail margin held constant in real terms)

These prices will address previous unsustainable price and cost reductions

Based on Domestic customer using 7500 kWh



Note:

Integral was formed in October 1995 from a merger of Prospect and Illawarra.

a Prospect Domestic Prices, 1986-89; **b** A weighted average Prospect/Illawarra price index for domestic and non-domestic customers, 1990-95; **c** Actual Integral Retail and Network Domestic Prices (excluding GST). **d** Integral's Proposed Domestic Retail and Network Tariffs beyond 02/03 are Indicative only;

Source: NSW Treasury; Integral

Indicative retail price movements - general supply non-ToU

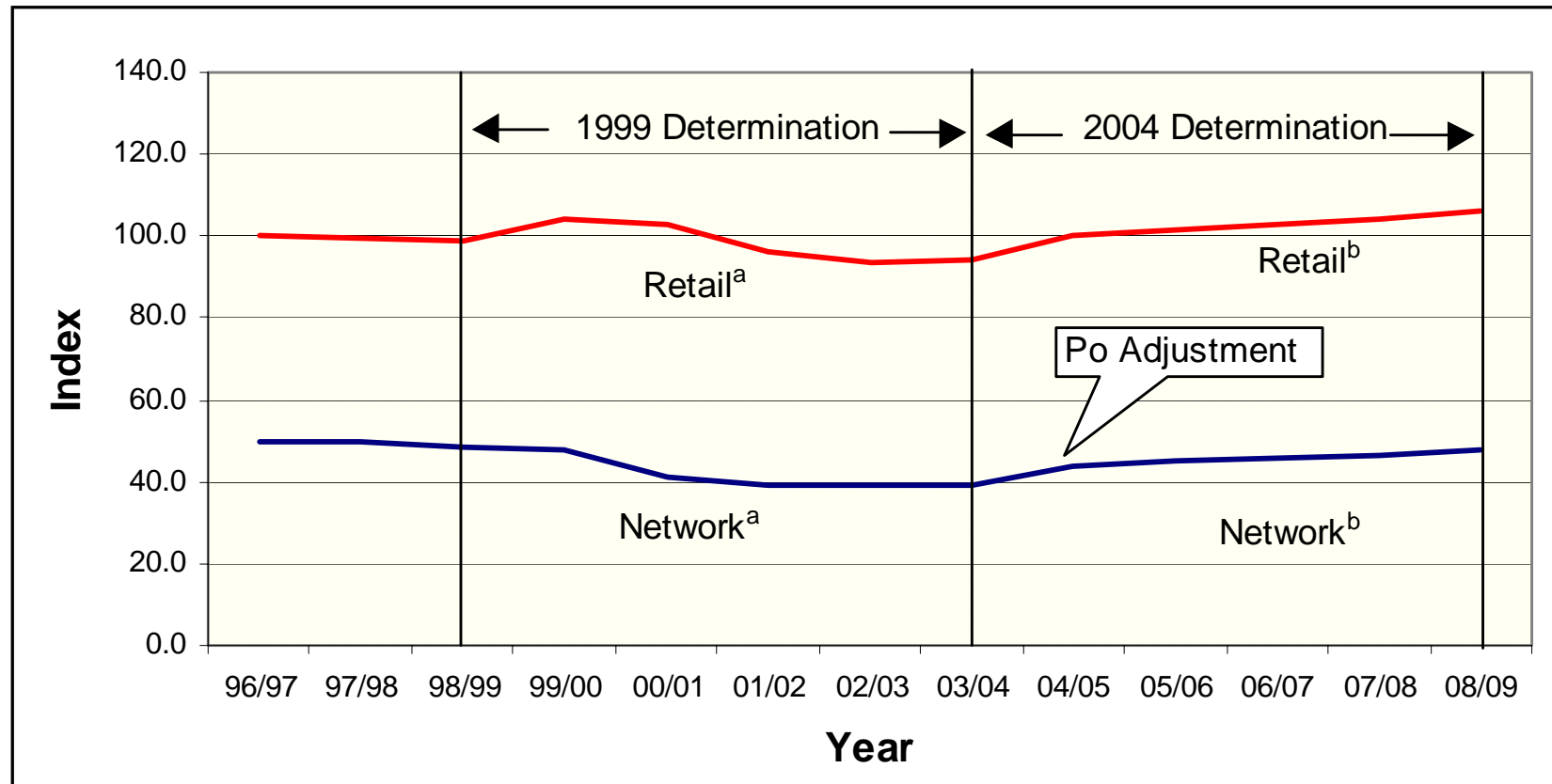
- The retail price impact for a customer on the standard general supply tariff using an **average** consumption of 23,000 kWh pa is:
 - CPI + 4.4% in 2004/05
 - CPI + 0.4% for the following four years

- In terms of the annual total bill* is:
 - \$112.70 pa (less than \$2.17/week) in 2004/05
 - \$10.40 pa (less than \$0.18/week) each year 2005/06 - 2008/09

* (Based on CPI of 2.5%; TUOS and retail margin held constant in real terms)

These prices will address previous unsustainable price and cost reductions

Based on a standard general supply customer using 23,000 kWh



Note: **a** Actual Integral Retail and Network prices(excluding GST);

b Integral's Proposed retail and network prices beyond 02/03 are indicative only

Objectives of tariff reform

- Integral's network tariffs should:
 - Signal the economic cost of future network investment
 - Promote more efficient utilisation of the existing network
 - Be as simple as practical for customers to understand
 - Consider customer equity
 - Consider the distribution business revenue outcomes
 - Consider implementation issues

Evaluation criteria for tariff reform

- **Economic efficiency:** Prices reflect economic costs by being subsidy free, reflecting the level of available capacity, signalling future investment costs, discouraging uneconomic bypass.
- **Revenue sufficiency:** Return the allowed revenue stream while recovering the gap between marginal and average cost in the least distorting manner possible.
- **Equity:** Promote equity, stability and consistency of outcomes by:
 - having regard to the impact of price changes on customers
 - being transparent
 - being based on published costs and methods

Case for tariff reform

- Integral commissioned Charles River Associates to:
 - **Independently investigate** the impact of air conditioning on Integral's network
 - To estimate the resultant economic cost of current pricing inefficiency (cross subsidy)

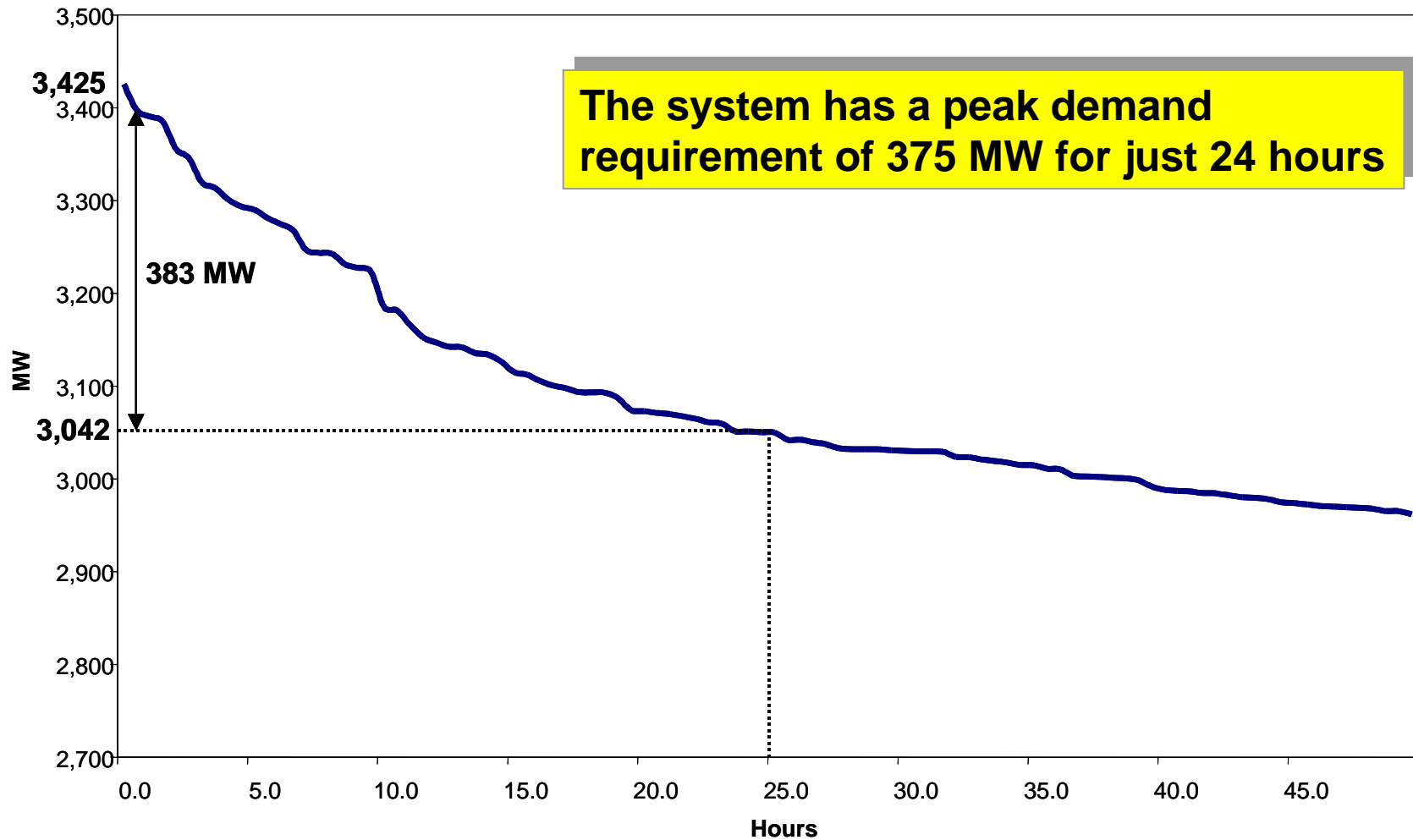
Their analysis found that:

- Preliminary indications are of a significant cross-subsidy of between \$80m and \$110m per annum
- High growth in residential air conditioning is driving peak demand
- High growth in commercial floor space is also driving peak demand - mostly with air conditioning

Pricing equity issues identified by CRA

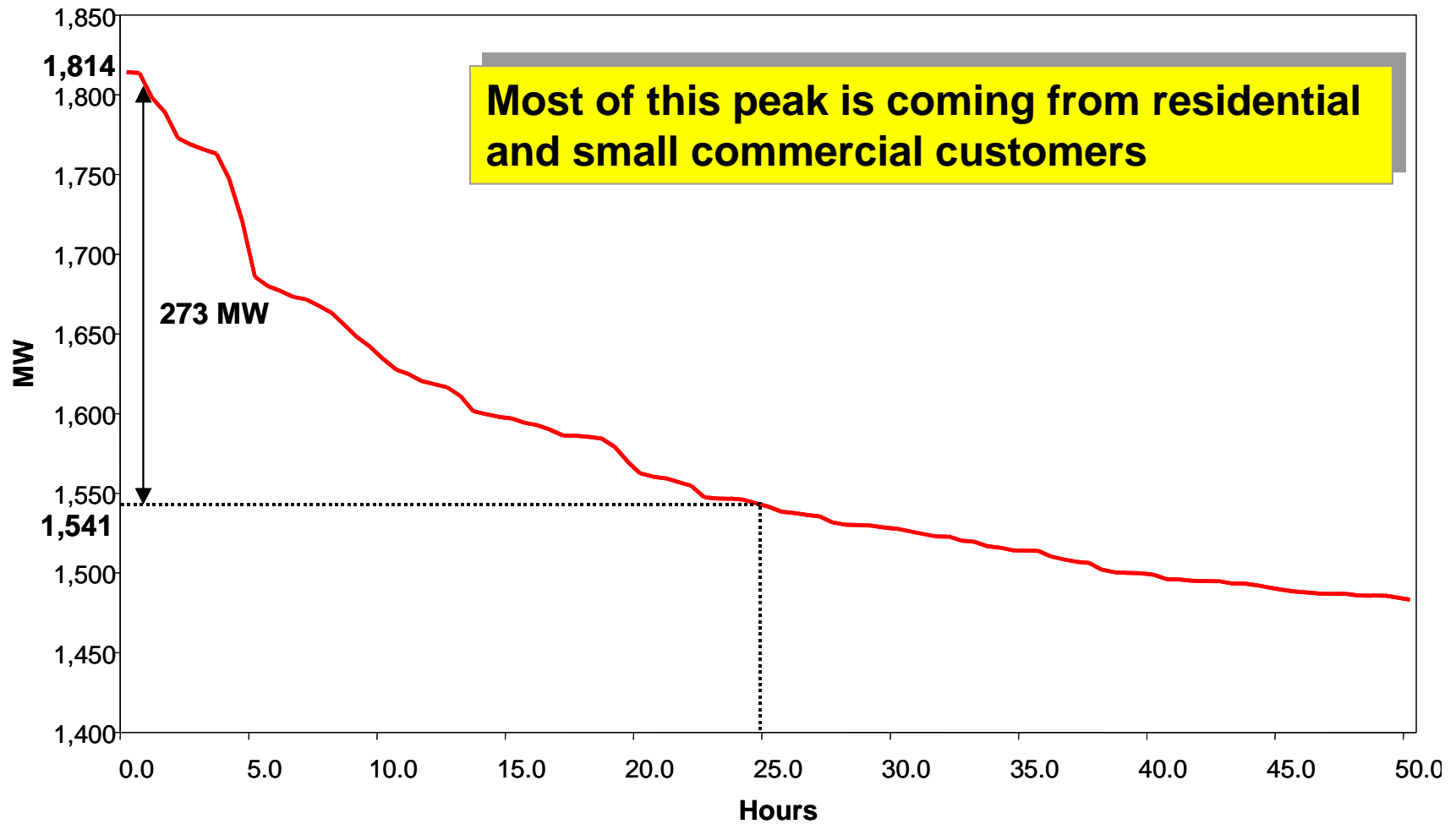
- Inherent Cross subsidy:
 - “ The real equity issue is that customers who are not contributing significantly to the need for peak capacity are paying for those customers that do - and these are likely to include low energy consumption households.”
- This falls inequitably on the smaller energy consumer and those that do not contribute to the peak
- Effective tariff reform in combination with new tariff options will go a long way to alleviating this cross subsidy

System load duration curve



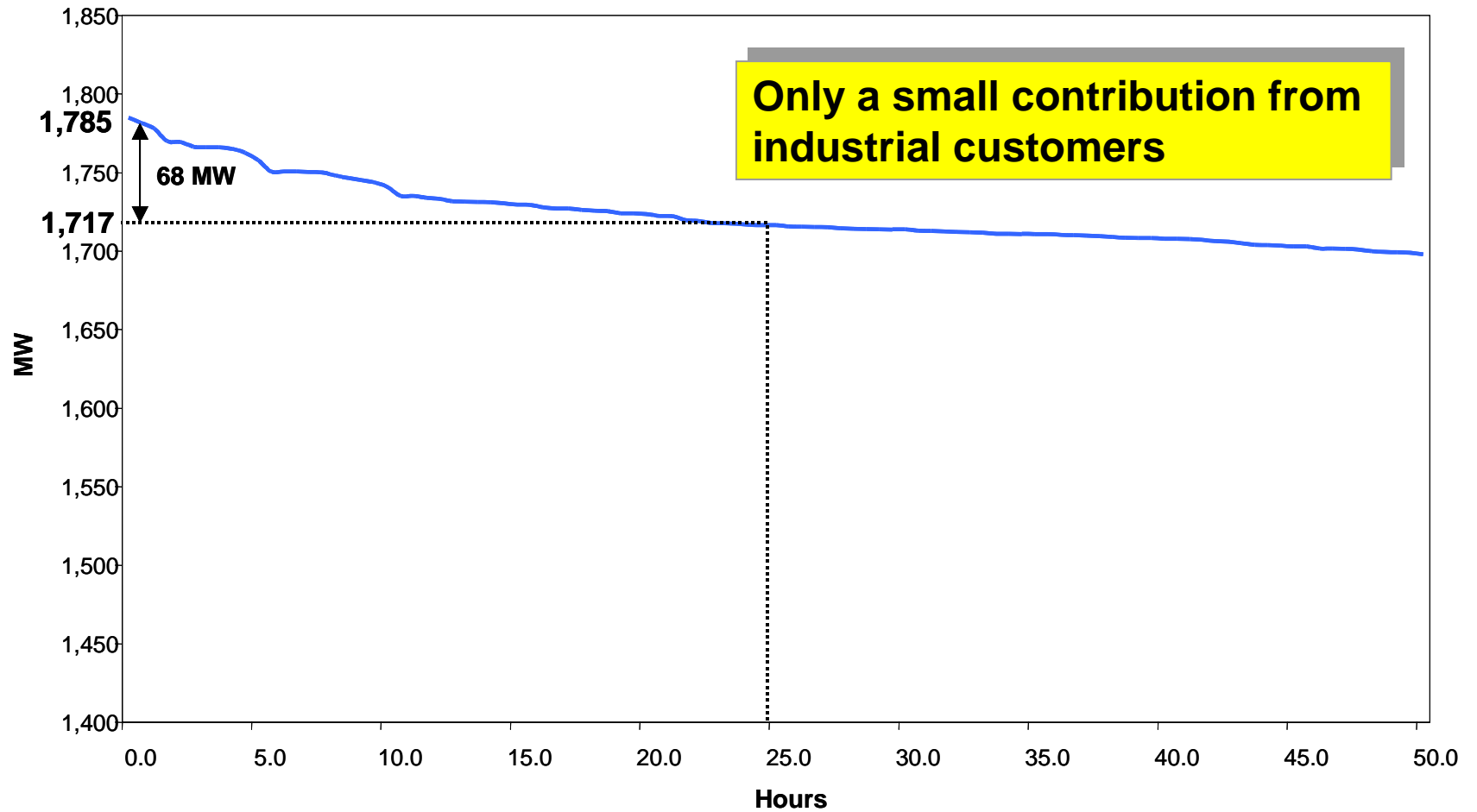
Top 50 Hour Load Duration – Total System (March 2002 – February 2003)

Load duration curve - domestic and general supply non-ToU customers



Top 50 Hour Load Duration Curve – Residential and General Supply Non-TOU (March 2002 – February 2003)

Load duration curve - industrial customers



Top 50 Hour Load Duration Curve – Interval Meter Customers (March 2003 – February 2003)

Direction of proposed pricing structure

- Integral's focus in the short-term is on:
 - Improving the price signal to customers on the standard domestic and general supply tariffs
 - Given existing single rate metrology, this requires a consideration of:
 - structural changes to both of these tariffs
 - possible introduction of new tariff options
 - The extent and type of reform undertaken will be based on an assessment of the benefits and costs from an economic, equity, revenue risk/sufficiency and implementation perspective

Issue impacting tariff reform - side constraints

- Current side constraints limit DNSPs ability to restructure tariffs, particularly at domestic level
- To support tariff reform, Integral propose that side constraints to be relaxed in the 2004 regulatory period, particularly for customers with high consumption and/or high summer consumption
- Notwithstanding, side constraints should be targeted to protecting well defined customers groups (ie pensioners or fixed incomes)

Major options for structural reform to standard tariffs

- There are four basic reform options available given current metering constraints:
 - **Fine tuning of the current tariff structure** - adjusting the balance between fixed and variable components
 - **Combination of seasonal and increasing block tariff** - charging a premium for peak summer energy consumption above a specified threshold
 - **Increasing Block Tariff** - charging a premium for energy consumption above a specified threshold
 - **Seasonal Tariff** - charging a premium for energy consumption during the peak summer period

Major new tariff options

- Integral is investigating the possible introduction of a range of new tariff options, including:
 - **Time of Use Tariffs - Seasonal summer ToU Tariff:** involves charging a summer premium for energy consumption during the daily peak period
 - **Load Control Tariffs - The Summer Saver Tariff:** involves customer receiving a rebate or lower tariff to allow the network to cycle their air conditioners

Other reforms under consideration

Option under consideration	Benefits to customers
Wider use of demand-based tariffs	<ul style="list-style-type: none">• A more efficient price signal• Provide customers with better financial incentives to reduce maximum demand
Changes to the definition of peak and shoulder period	<ul style="list-style-type: none">• A more efficient price signal• Provide customers with a better financial incentive to manage their daily load profile
Better signalling of TUOS cost	<ul style="list-style-type: none">• A more efficient price signal from transmission perspective

Direction on pricing structure - industrial customers

- To comply with the Pricing Principles and Methodologies, Integral is obligated to, where practicable, preserve the economic signals present in the structure of TUoS charges
- To meet this obligation, Integral is investigating adopting a 10 MW threshold for site-specific DUOS and TUOS charges
 - This proposal will lead to 17 customers on individually calculated tariffs
- Integral is committed to:
 - Consulting with the affected customers ahead of price change
 - Ensure appropriate transition arrangements are established with customers
 - Working with customers on demand management opportunities
 - Providing customers with a clear indication of future price path

Integral's demand management strategy/approach

- Integral's demand management strategy aims:
 - To cost effectively reduce demand to defer/avoid network investment
 - To work with customers to identify opportunities for demand reduction
 - To target large electricity users, particularly in areas where network is constrained
 - To investigate the development of innovative and more efficient network tariffs

Seven Hills Industrial Area - a case study of Integral working with industrial customers

- Seven Hills Zone Substation reached capacity of its transmission feeders in 1998
- Integral negotiated with a major electricity user that operated two large induction furnaces
- Customer accepted an offer of payment per kVA hour for reduction in demand of between 2.5 and 4 MVA on request
- Agreement has assisted in the deferment of the construction of a new substation

- **Outcome:**
 - Customer received the benefit of financial compensation for demand reduction
 - Integral received the benefit of cost-effectively deferring capital expenditure

Further research

- Integral understands that there is not necessarily a direct correlation between customer's consumption and their ability to pay
- Integral intends to undertake detailed research and analysis of the tariff impacts under an Increasing Block Tariff structure, particularly on the potential correlation between:
 - High consumption;
 - Air conditioning use (and contribution to peak demand)
 - The number of consumption threshold(s)
 - The pricing level
- Potential time of use metering trials

Indicative real retail tariff impacts - domestic

Consumption (kWh)	03/04 Total Bill (Real)	Indicative 04/05 Total Bill (Real)	Difference (\$)	Real Difference (%)
Existing Tariff Structure				
4000	\$522.13	\$545.82	\$ 23.70	4.5%
7500	\$904.04	\$948.48	\$ 44.43	4.9%
12000	\$1,395.08	\$1,466.17	\$ 71.09	5.1%
Increasing Block Tariff				
4000	\$522.13	\$525.47	\$ 3.35	0.6%
7500	\$904.04	\$951.08	\$ 47.03	5.2%
12000	\$1,395.08	\$1,519.25	\$ 124.16	8.9%
Seasonal Tariff Structure				
4000	\$522.13	\$541.78	\$ 19.65	3.8%
7500	\$904.04	\$940.89	\$ 36.84	4.1%
12000	\$1,395.08	\$1,454.03	\$ 58.95	4.2%

* based on:

- Integral's indicative DUOS tariff proposal; Retail Margin & TUOS component increases by CPI
- Seasonal Tariff - Approx. 15% Summer consumption. Note: Tariff Impact varies depending on ratio of summer energy use
- Increasing Block Tariff - 5000 kWh pa 2nd Block threshold

Equity considerations

- Integrated and proactive support program - provide a range of customised solutions to assist customers, including;
 - Tailored payment plan
 - Bill smoothed payment plan
 - Centrepay
 - Energy advice
 - Trial of prepayment meters

Indicative real retail tariff impacts - general supply

All customers on the non-ToU general supply tariff

Consumption (kWh)	03/04 Total Bill (Real)	Indicative 04/05 Total Bill (Real)	Difference (\$)	Real Difference (%)
Existing Tariff Structure				
5000	\$ 659.51	\$ 684.01	\$ 24.50	3.7%
16000	\$ 1,804.25	\$ 1,882.64	\$ 78.39	4.3%
80000	\$ 8,464.55	\$ 8,856.49	\$ 391.93	4.6%
Increasing Block Tariff				
5000	\$ 659.51	\$ 663.30	\$ 3.78	0.6%
16000	\$ 1,804.25	\$ 1,832.33	\$ 28.08	1.6%
80000	\$ 8,464.55	\$ 8,849.69	\$ 385.14	4.5%
Seasonal Tariff Structure				
5000	\$ 659.51	\$ 682.08	\$ 22.57	3.4%
16000	\$ 1,804.25	\$ 1,876.48	\$ 72.23	4.0%
80000	\$ 8,464.55	\$ 8,825.68	\$ 361.13	4.3%

Summary

- Price increases are required to deliver network strategy to meet customers expectations
- Tariff reform is required to establish a more efficient and equitable pricing structure
- Further research and consultation are required to ensure that various customers' issues are properly addressed