

“Disaster ahead” users say: Distributors game regulators block demand side and under- forecast air-conditioning

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The Ministerial Council on Energy was just shifting the deck chairs, and had perpetuated a culture of keeping consumers powerless while making them pay, said Dr Jeff Washusen. Speaking at the *Australian Energy User Conference* Brisbane, 15 September 2004, he said grid disasters and chaos seem likely due to clever self-interest lobbying by distributors and regulations with

the wrong incentives. He warned the MCE still blocked consumers from control while users paid network costs of \$5.5 billion/year, and rising. “Real costs will continue to rise because of failure to address air conditioning demand growth,” he said.

EnergyAustralia moots \$3,700/MWh NSW peak-price tariffs for interval meter users

Energy Australia was considering cost reflective Critical Peak 30 rates of up to \$3,700/MWh, moderated to \$2,000 and a Critical Peak 50 rate of \$2,600 to \$1,200.

How it works: In a paper to the World Energy Conference, Harry Colebourn and Christopher Amos of EnergyAustralia proposed four types of critical peak pricing considered for NSW electricity customers.

"Pricing experiment": The paper said EnergyAustralia was currently considering undertaking a "pricing experiment" with a small group of customers, to evaluate the effectiveness of these and similar options.

Communications needed: This form of pricing was dependent upon the availability of a communications channel and display unit, to signal periods of high price to the customer.

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week in brief

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Monday spikes: A Friday-Saturday demand slump picked up through Sunday to spike on Monday 13 September, pushing average prices up 18-42 per cent to the \$36.81-42.62/MWh range.

Decades of extreme weather: Australia's biggest insurer, IAG, said that the world was headed for decades of more cyclones, storms, floods and droughts as a result of global warming.

Cyclones to go inland: IAG believed that the current pattern will change and higher water temperatures will cause cyclones to travel much further south before leaving the mainland.

World Energy Council meeting: Last week's World Energy Council met last week to discuss the world's energy demands, potential solutions to the impact of burning ever larger quantities of fossil fuels and the exploration of alternative energy sources.

Lack of energy solution: What the recent World Energy Congress in Sydney showed was that while there was a lot of talk

about of getting a bigger bang for the world energy buck, there was a general lack of courage to achieve this.

Halve emissions, high demand: How do we halve emissions by 2050 with increases in demand asked the World Energy Congress.

Peak demand grows 4500MW: Peak demand was up 4500MW since 1999/2000, while scheduled capacity rose in the same period by 4300MW, noted NECA reliability panel's draft annual report.

NEMMCO guessed it: Actual peak demands for 2003/04 were within the 10 per cent forecast by the National Electricity Market Management Company (NEMMCO) Statement of Opportunities (SOO) in July 2003.

Capacity available: Adequate capacity was available to meet customer demand in all National Electricity Market (NEM) regions throughout 2003/04, the National Electricity Code Administrator (NECA) reliability panel said.

We're (almost) all fanatics: Greenhouse 'fanatics' appeared to be everybody except executive

government and a small number of power executives, said SA's Premier.

Poor Green power take up: There has been a less than one per cent take-up in green choice power in Australia - a total of 91,602 customers.

87pc environmentally aware: 87 per cent of people said they were concerned a great deal or a fair amount about environmental problems, in a new survey.

Energy efficiency report: The Australian Government has asked the Productivity Commission to report within 12 months on the economic and environmental potential offered by energy efficiency improvements.

Govt doubles its money: The revised figures on the size of budget surpluses over a four-year period more than doubled the estimates made by Treasury in the May budget this year to \$25 billion.

3.5pc growth forecast: The latest Federal Treasury forecasts, released ten days into the election campaign under the Charter of Budget Honesty, predicted that the economy would grow by 3.5 per cent this financial year.

Inadequate Qld demand data: Queensland power distributors Energex and Ergon Energy failed to produce adequate data on future electricity growth and the impact of appliances such as airconditioners, found a report.

Bushfires, Qld threaten NEM: Bushfires and a one hour secession by Qld were behind two of three threats to the NEM in 2003/04, said the Neca reliability review.

Energex recruitment squeeze: Energex plans to increase the size of its workforce by 10 per cent, about 300 workers, was further squeezing the availability of skilled workers.

Wastage accounts for 10pc: Energy SA said wasted energy could account for up to 10 per cent of business-related energy costs.

South Australians pay more: South Australians were paying an average of \$507 a year more for gas, water and electricity than they were five years ago.

Interval pricing peak reduction: An EnergyAustralia "pricing experiment" showed how interval metering could reduce Critical Peak rates.

Democrat buildings policy: All ACT Government buildings would have to use energy from renewable sources and the ACT should aim to recycle all of its waste water by 2030, under a Democrats policy.

Naturally cooled house: An environmentally-designed house with natural air-conditioning keeps its internal temperature at 26°C.

Air-con premises double: Air-conditioned premises use more than double the electricity of non-conditioned premises in summer.

Roof top garden efficiency: Roof top gardens prevent overflowing storm-water drains and make electrical appliances more efficient.

Chinese demand rises 16pc: Chinese electricity demand had risen a phenomenal 16 per cent in the past 20 months.

Unstoppable Chinese growth: China's industrial output in August picked up again compared with July, which suggested the government's efforts to slow the economy may be failing.

China demand-side cut: China said it would order a demand side energy cut of 5pc per year.

Chinese coal imports jump: Chinese coal imports have increased by half, according to a statement released by Coal Trade.

Chinese steel tariffs scrapped: China scrapped antidumping tariffing Russia, South Korea and Taiwan to help prevent a shortage of the product.

China, India, Latin America: The strongest growth in energy use will come from countries like China, India and Latin America where energy demand is expected to soar by 9 per cent over the next two decades.

Japan to lead energy saving: Japan has set itself the goal of becoming the world's preeminent energy-saving nation, and a model to other countries in this respect.

Japanese users get CO2 bills: From August 2002, the Tokyo Electric Power Company monthly consumption notice to customers features "CO2 check sheets" which allow consumers to calculate CO2 emissions based on their energy usage.

Japan exports weakening: Japan's economic recovery was solid but its export growth was losing steam.

Korea Power China focus: South Korean state power monopoly Korea Electric Power Corp (Kepeco) has focused on its huge regional neighbour China as a new source of potential growth.

China full-mart economy: The Association of South-East Asian Nations trade ministers announced that they recognised China as a full market economy.

Australia-China FTA cusp: Australia was on the cusp of a momentous decision about how far and fast to take its relationship with China, according to an editorial in *The Australian Financial Review*.

China FTA warnings: Australian manufacturers risked "collateral damage" in a free trade agreement with China, and predatory pricing by Chinese exporters was a threat to Australian living standards.

Chinese disunity on FTA: Disunity among Chinese ministries may hamper the FTA with Australia.

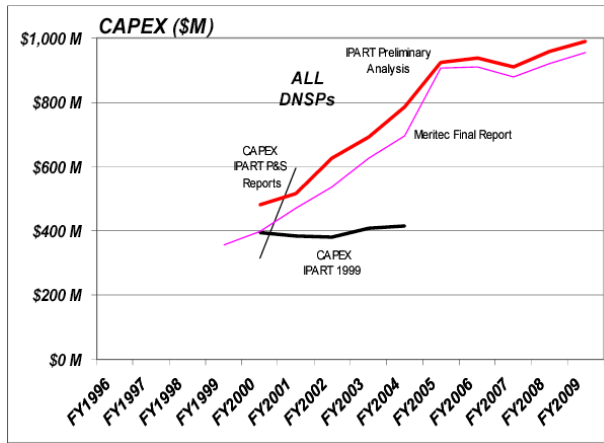
Australia preferred by Chinese: An FTA with China could confer preferred supplier status on Australian mineral & energy exporters.

Aus manufacturers fear FTA: Australian manufacturers felt "extremely vulnerable" and needed to be persuaded - or cajoled - into supporting an FTA with China.

Chinese FTA hangs on study: Foreign Minister Alexander Downer has said that no decision on granting market economy status to China would be taken until a feasibility study into the agreement was completed.

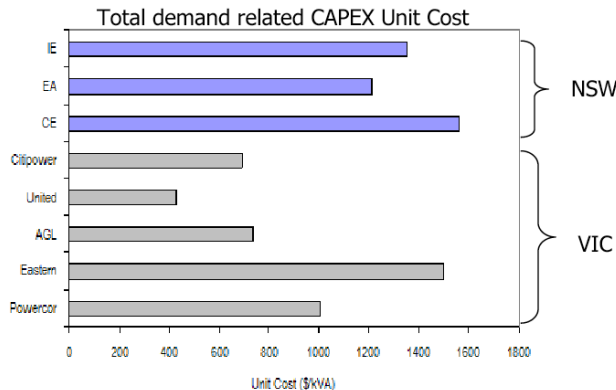
Aluminium demand strong: Norsk Hydro reiterated that demand for aluminium was increasing despite Alcoa's experience.

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NSW regulator goes overboard: OPEX totalling \$3.8 billion, some \$250M/y (~ 37 per cent) above levels allowed by IPART in 1999; but still no user-pays pricing for 18pc peak load rise from domestic airconditioning.

Source: Energy User Conference: Pitfalls for Customers in Network Pricing & Regulation. Dr Jeff Washusen.



Golden road for distributors: Forecasts appear too high as regulators listened to the supply side and ignored demand side pleas for time of use retail pricing.

Source: Energy User Conference: Pitfalls for Customers in Network Pricing & Regulation. Dr Jeff Washusen.

Hypothetical \$3,700/MWh for Energy Australia aircon price

Harry Colebourn and Christopher Amos of EnergyAustralia said the hypothetical options for its peak-price user-pays tariffs were:

- **Critical peak 30**, in which the peak period would target the top 30 hours of: Network peak loading; pool price; and both network peak loading and pool price.
- **Critical peak 50**, in which the peak period would target the top 50 hours of both network peak loading and high pool price.

Lower the real price: The paper said the tariffs were “Significantly less than cost reflective rates. For the critical peak prices, the peak rates were significantly less than the cost reflective rates, which were considered to be unacceptably high”.

Meters needed: Both would use interval metering plus at least a single one way communications channel and customer display, to advise on high price periods.

Reference: "Infrastructure pricing and sustainability", September 2004, Harry Colebourn, CEng, MIEE BSc, BE (Hons), MEngSc, MBA. Manager - Network Pricing and Customer Connection EnergyAustralia. Phone: 61 (0)2 9269 4171. Mobile: 61 (0)412 328 549. hcolebourn@energy.com.au

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Air-con premises use more than double the electricity of non-con premises in summer: Heavy users subsidised

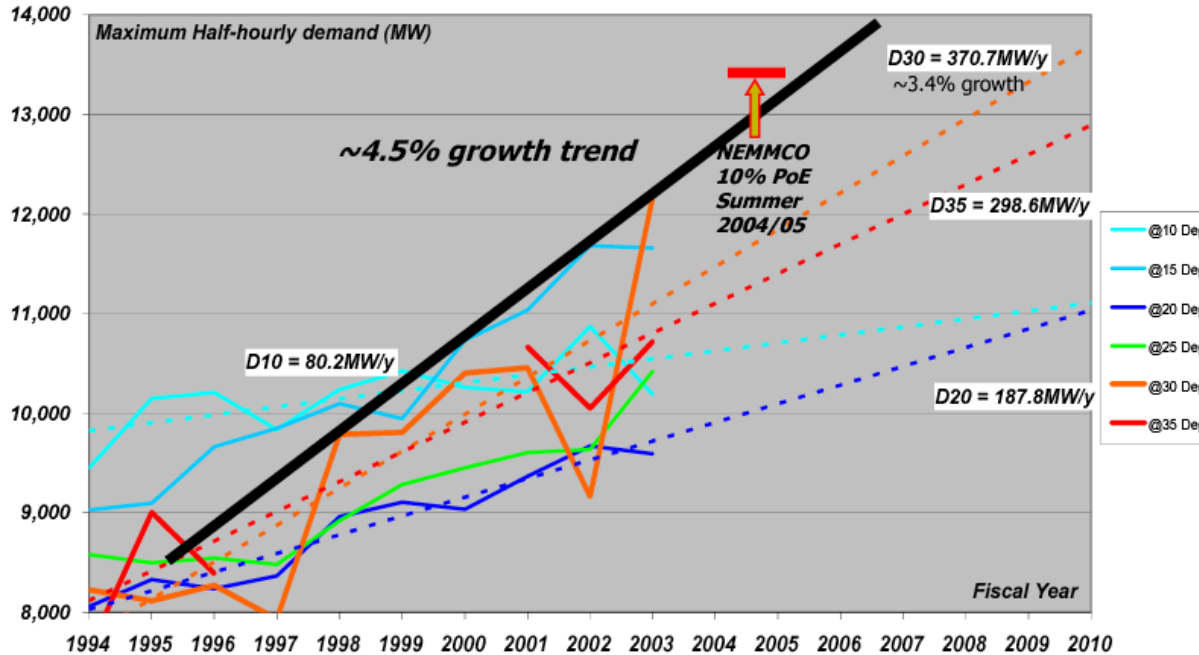
A hot day had little effect on the consumption of non airconditioned customers. However, there was a very significant increase in the consumption of those customers with air conditioning.

Summer demand doubled: The average air-conditioned premise imposed a summer demand in excess of twice the average non air-conditioned premise. The average air-conditioned premise tended to be somewhat larger and have a higher base consumption, but the peak consumption increased dramatically in hot weather.

Peaks come at the worst time: Furthermore, this consumption was at its highest from 14:00 to 18:00 hours, the very period when high summer ambient temperatures would adversely affect the capacity of network equipment.

Capital expenditure increased by air-con: The increased penetration of air-conditioning load created a noticeable change in the system demand profile at an aggregate level, which in turn increased the levels of capital expenditure required to maintain acceptable levels of reliability for customers connected to the system.

WORKING DAY MAXIMUM DEMAND TRENDS



370MW per centigrade: The consequences for NSW if growth trend was ~4.5 per cent, above, then the NEMMCO 10 per cent Summer 2004/05 would be surpassed in summer of 2004/2005. Even "back of the envelope" analysis suggests temperature sensitive demand growth continuing and in South Australia it was 375 MW per centigrade.

Source: Energy User Conference: Pitfalls for Customers in Network Pricing & Regulation Dr Jeff Washusen

Energy Australia says non air-con users pay aircon subsidy of \$70 p.a. to heavy users

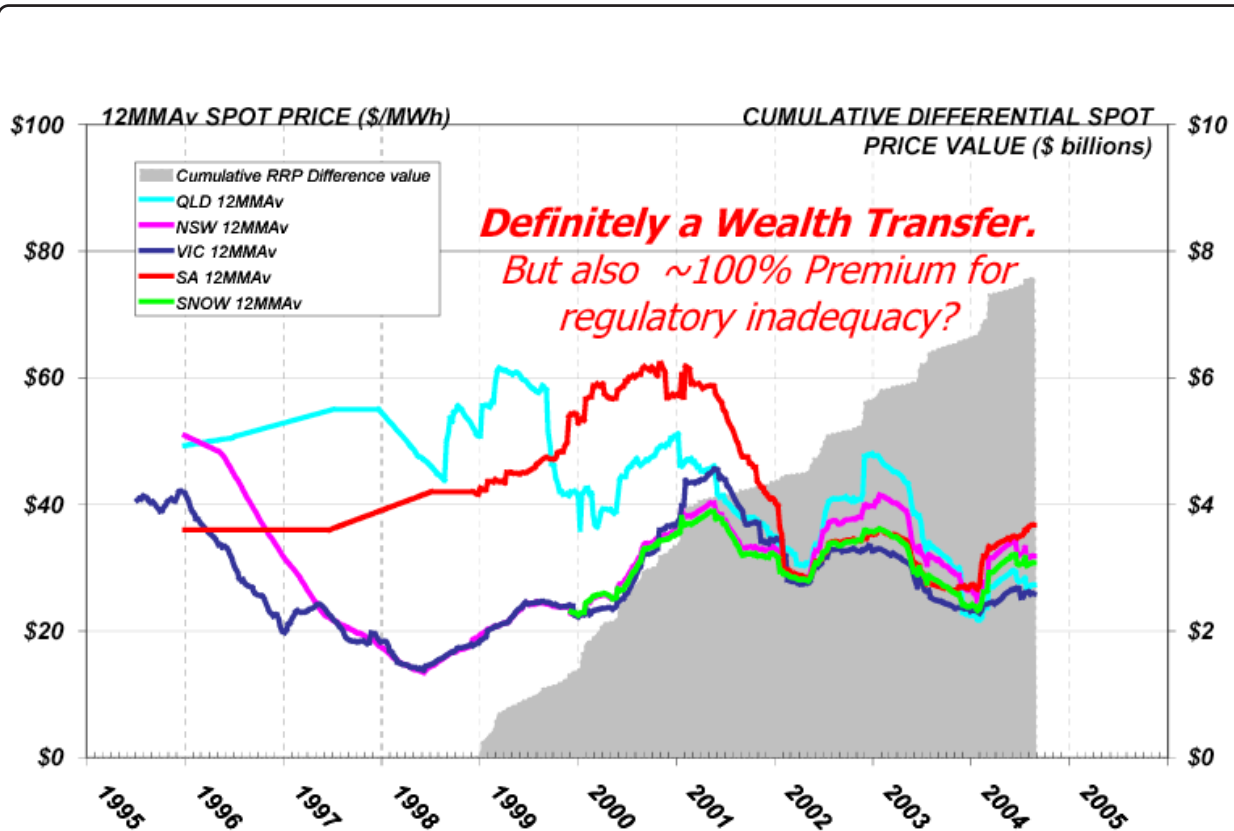
The extent of the NSW air-conditioning cross subsidy was estimated to be approximately \$50 Million p.a., or \$70 p.a. by each domestic non air-conditioned customer.

Hurting EA revenue: An issue that was exacerbating the growth in air-conditioning demand was that the revenue cap during the course of the current determination, when combined with higher than expected average energy growth rates, led to network prices in 2003/04 significantly below their sustainable levels. Air conditioning also created a social issue.

Load factor less than 10pc: The load factor of air-conditioners was less than 10 per cent, as they were on average used by domestic customers on a relatively small number of hot summer days.

Existing rates mean cross subsidies: EnergyAustralia's existing single rate domestic and small business tariffs only recovered a small fraction of the cost such appliances impose on the network, leading to a significant cross subsidy from customers without air conditioners to those with them.

Reference: Infrastructure pricing and sustainability. September 2004. Authors: Colebourn, Harry CEng, MIEE BSc, BE (Hons), MEngSc, MBA. Manager -



Wealth Transfer to network from users?: Consumers pay ~\$1.3 billion/year for TNSP services and “enjoy” the privilege of handing ~\$1.3 billion/year to generators because rules and regulators refuse to address transmission constraints. Networks had gamed the regulators, and transmission and distributor mis-forecasting was a “classic” demonstration of

“strategic behaviour”. Low forecasts increased unit prices (in a price cap regime) – and generated compounding above forecast revenue for the network when actual load or demand exceeded its forecast. NEMMCO forecasts were higher, and more accurate, suggested Dr Jeff Washusen at the Energy User Conference: Pitfalls for Customers in Network Pricing & Regulation.

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NSW regulator’s decisions a “harbinger of doom” for end-users in Qld, SA and Vic

Dr Jeff Washusen, speaking at the Australian Energy User Conference, Brisbane, 15 September 2004, predicted “real pitfalls for consumers and said IPART’s 2004 Electricity Distribution Price Review was a harbinger of doom for end-users in Qld, SA and Victoria. He said the MCE Reform Agenda was an opportunity to fill in the pits affecting network regulation and get better outcomes generally but he feared the MCE would just paper over the pits, or shift the deck chairs.

Bad news: He said operations expenditure (OPEX) totaling \$3.8 billion, some \$250M/y (~37 per cent) above levels allowed by IPART in 1999 was allowed to distributors by IPART. He said IPART had made no comment on obvious discrepancies in its Meritec expert report, even though Meritec indicated the DNSPs cost forecasts were inefficient.

Deliberate mis-forecasting by DNSPs: He said mis-forecasting was a classic

demonstration of strategic behavior or poor management. He told delegates distributors had gamed the regulators with low forecasts.

Real air-con load faster than forecast: This had the effect of increasing unit prices (in a price cap regime) and the generation of compounding above forecast revenue when air con load or demand exceeded forecast.

NSW 370MW per °C: temperature sensitive demand growth as consumers stay cool

Even air-conditioning back of the envelope analysis suggested temperature sensitive demand growth continuing, Dr Jeff Washusen, speaking at the Australian Energy User Conference Brisbane, 15 September 2004 said.

How IPART made bad decisions: IPART had created limited opportunities to moderate growing air conditioning demand. He said DNSPs were offered incentives to support DM, but no one in NSW seemed interested in modifying incentives for air conditioning users. The simplest measure suggests falling standards, he said, and said IPART had used industry data to show NSW DNSPs had better reliability than Vic DBs, even though IPART's own Price & Service Reports showed the opposite.

DNSPs learned the regulatory game: He said DNSPs and IPART responded to

aspirational government policy that hoped Demand Management would kick in after two Regulatory Reviews in a row. It had not, as DNSPs had learned to play the regulatory game.

Consumers stay cool: Washusen said consumers showed little interest in the regulatory process; they were, and are, motivated by their (literally) overwhelming desire to stay cool and have been for at least the last decade. "Who can blame them? The process is complex and pricing signals say for it".

What's wrong with the process: Commenting on IPART's decision process, he said, "informed comment, late in the process, is not sufficient to influence a regulatory outcome"; and so he advised consumers "Do not rely on regulators". He told consumer advocates they must be prepared early, be adequately resourced, undertake robust analysis, develop positive alternative proposals and be involved throughout right from the start. Advocate forcefully and by every means; or, cop it sweet, he said. He says the State processes get serious from late October; and the

- SA EDPR was well underway with inadequate input;
- Qld EDPR was well underway with inadequate input; and
- Vic EDPR was kicked-off in March 2004.

No advocacy support yet: The independent consumer cohort was still trying to get resources, as he said COAG showed little interest in technical, economic and financial issues or time of use (ToU) pricing.

What the NEM needs now: Pricing incentives for air conditioning users

According to Dr Jeff Washusen, speaking at the Australian Energy User Conference Brisbane, 15 September 2004, meaningful pricing incentives on air-conditioning acceptable to consumers (air-conditioning users) were required urgently with technology that allows air conditioning users to respond - before all consumers get clobbered with higher bills. He said the IPART process showed consumers must either:

- engage fully in informed participation; or
- delegate through the regulatory/political process.

What's wrong with the NEM: The problem was governments and regulators had different priorities and focus than consumers; and sometimes get it wrong.

MCE still blocks consumers from control while users pay network costs of \$5.5bn/year

Dr Jeff Washusen, speaking at the Australian Energy User Conference in Brisbane, 15 September 2004, said there was still no recognition that consumers pay all shared network costs of \$5.5 billion/

year (\$1.3 billion/year for transmission) and rising, but were denied all the benefits available. Consumers pay ~\$1.3 billion/year for transmission network (TNSP) services.

Why suppliers block consumers: Effective demand side (DSM) had real potential, he said, but was of little or no interest to the supply side or those small consumer advocates hell bent on government protection as, he said interval metering may only improve cost allocation and equity by punishing high-cost consumers.

Cheaper than regulators think: Low-cost, two-way load control and metering technology that can give consumers real choice is being used now at costs well below those accepted by regulators and governments, said Washusen.

The way to go: Retail pricing should be truly cost reflective provided consumers had real and practicable choices he said. He said the outcomes from the IPART review demonstrated why consumers must be intimately involved in regulatory processes.

Big users say NEM needs time-of-use pricing for air-con

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Air-conditioning subsidies for small consumers had led to a split between large and small consumer advocates and between political and social activists, Dr Jeff Washusen told the Australian Energy User Conference, Brisbane, 15 September 2004.

- The same consumer behaviors/cost drivers are evident in Qld, Vic, SA and Tas;
- Air-conditioning use is increasing everywhere and the same outcomes can be expected said;
- Governments will insist that suppliers continue to invest;
- Costs will rise and clobber non-air conditioning users including industrial and commercial customers operating in internationally competitive markets.

Low prices man more peak AC demand: He warned air-conditioning demand growth was a rational response to price signals, and lower air-conditioning costs and non-time of use (ToU) energy policy would lead to more air conditioning demand and to higher bills spread across all users.

Australian Energy User Conference, 2004 Australia's Evolving Energy Markets: Getting Value to the Customer Brisbane, 15 September 2004 Pitfalls for Customers in Network Pricing & Regulation Dr Jeff Washusen.

NEM peak demand up 4500MW - 18pc since 1999/2000

Peak demand had grown by almost 4500 megawatts (MW) or 18 per cent since 1999/2000, the National Electricity Code Administrator (NECA) reliability panel said in its draft annual report for 2003/04.

5 per cent growth in summer: The report said annual growth was averaging around 2

per cent in winter and 5 per cent in summer. It said scheduled capacity between 1999/2000 and 2003/04 had risen by more than 4300MW with additional increases from smaller unscheduled plant.

Extra 250MW of capacity from upgrades: An additional 250MW of capacity, resulting from upgrades to existing plant occurred during 2003/04. Another 115MW of non-scheduled capacity was registered during the year.

1200MW rise in national peak demand: In comparison, the national peak demand, which occurred in summer, increased by more than 1200MW, or 4 per cent, compared to the previous summer.

Reference: Draft annual report for 2003/04 by National Electricity Code Administrator (NECA) reliability panel. 6 September 2004. Address: Level 5, 41 Currie Street, Adelaide. SA. 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

Energex says QCA report underestimates growth: Extra 4106MW needed this summer, 5686MW in 2009-10

A report prepared by Energex showed the needed power company had forecast an extra 4106MW would be used this summer, growing to 5686MW in 2009-10, or an average increase of 7.8 per cent each year, reported *The Courier-Mail* (8/9/2004, p. 3).

Forecasts reassessed after last summer:

Strong economic growth in the southeast corner of Queensland and the escalating use of air-conditioners was behind the higher forecasts, which had been reassessed following last summer's storms and heat-waves which prompted record demand.

QCA report criticised: Energex said a recent study commissioned by the Queensland Competition Authority, was flawed and had underestimated the expected growth rates. The QCA report had predicted Queensland's power utilities would have to cope with a 6 per cent annual increase in peak summer electricity demand in coming years. But it also said Energex and Ergon did not have coherent data they held to forecast demand trends.

Upgrades on track: Energex announced it was on track to upgrade 23 substations, with new transformers delivered to Archerfield, Nundah, Gaven and Carindale this week.

Energex and Ergon bite back after MMA study finds distributors failed to produce adequate data on demand

Queensland power distributors Energex and Ergon Energy failed to produce adequate data on future electricity growth and the impact of appliances such as air-conditioners, according to a study

conducted by Melbourne company McLennan Magasanik Associates (MMA). The Queensland Competition Authority commissioned it as part of its review into regulatory arrangements set to apply to the distributors from July 1 next year, reported *The Australian Financial Review* (8/9/2004, p. 6). Energex claimed the MMA report failed to demonstrate its forecast proposals were unreasonable. Ergon said it had discovered discrepancies in the report.

Actual peak demand within 10pc of NEMMCO forecasts

Actual peak demands for 2003/04 were within the 10 per cent forecast by the National Electricity Market Management Company (NEMMCO) Statement of Opportunities (SOO) in July 2003, the National Electricity Code Administrator (NECA) reliability panel claimed in its draft annual report for 2003/04.

Peak demand nearly 30,000MW: The report said national peak demand reached almost 30,000 megawatts (MW) in February. This represented an increase of more than 100MW or 4 per cent compared to the previous summer.

Record demands in NSW, Vic and Qld: Record demands of around 12,470MW, 8580MW and 7920MW occurred throughout the year in NSW, Victoria and Queensland respectively. Peak demand had grown by almost 4500MW or 18 per cent since 1999-

2000 with annual growth averaging around 2 per cent in winter and 5 per cent in summer. Maximum temperatures over the same period had tended to be just above average with the exception of the mild summer of 2001-02.

Scheduled capacity almost keeps pace: Scheduled capacity over the same time had risen by more than 4300MW with additional increases from smaller unscheduled plant.

Comparison of SOO forecasts and actual: The following table compares actual maximum demand with the 2003 SOO peak forecast for Queensland, NSW, Victoria and South Australia:

Season forecast and actual	Queensland	NSW	Victoria	South Australia
Winter 2003 SOO forecast (10%)	6912MW	12940MW	7824MW	2462MW
Actual maximum*	6778MW	12468MW	7499MW	2158MW
2003/04 summer peak forecast (10%)	7968MW	13140MW	9417MW	3230MW
Actual maximum*	7918MW	12216MW	8583MW	2802MW
Winter 2004 SOO forecast	7210MW	13300MW	7966MW	2516MW
Actual maximum*	7106MW	13041MW**	7437MW**	2156MW**

* The metered demand for comparisons with SOO forecast. This is different to market demand.
 ** Winter maximum occurred in July 2004.

Reference: Draft annual report for 2003/04 by National Electricity Code Administrator (NECA) reliability panel. 6 September 2004. Address: Level 5, 41 Currie Street, Adelaide. SA. 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

High-price-risk forecast for South Australia, November, and Victoria in December

The latest Medium Term forecast issued Tuesday, 14 September, contained three changes in 2004 for new low reserve

conditions (LRC), to that issued last week, and 20MW extra demand side for SA. The changes now listed low reserves and possibility of high prices for:

- November in 2004 for SouthAustralia; and
- December for Victoria.

The detail: In the 14 September MT PASA, NEMMCO flagged the following LRC conditions for a number of week days in the following months:

2004

- South Australia: November and December; and
- Victoria, December.

2005

- South Australia: January, February, March, and December.

2006

- South Australia: January, February and March; and
- Victoria: January, February and March.

NEMMCO said demand side participation (DSP) was modelled as an injection of supply in each region as follows:

- NSW: 14MW.
- Queensland: 157MW.
- South Australia: 74MW (previously 54MW).
- Victoria: 129MW (previously 109MW).

Market response sought: NEMMCO said it was seeking a market response to these reserve shortfalls.

Summary graphs available: NEMMCO also said it was publishing summary graphs of the latest MT PASA results for the summer period (01/12/2004 - 31/03/2005).

These graphs could be found on NEMMCO's website at the following location: <http://www.nemmco.com.au/data/mtoutlook.htm>

Plenty in all NEM to meet demand in 2003/04: NECA

Adequate capacity was available to meet customer demand in all National Electricity Market (NEM) regions throughout 2003/04, the National Electricity Code Administrator (NECA) reliability panel said in its draft annual report for 2003/04.

Continuity of supply factors: In its executive summary, the reliability panel said that overall continuity of supply to customers depended on:

- the energy market delivering a reliable, or adequate level of capacity to meet customer demand;
- the secure, or technically safe, operation of the power system as an integrated whole; and
- the performance of transmission and distribution networks.

Key elements to be discussed: The panel said its report would address the performance of each of those three key elements of the supply chain in turn. The report also discussed the initiatives undertaken by the panel aimed at improving the arrangements for ensuring continuity of supply to customers.

Third year of no shortage: On reliability, the panel said adequate available capacity meant there were no interruptions to customer supply caused by inadequate capacity in the NEM for the third consecutive year.

Reference: Draft annual report for 2003/04 by National Electricity Code Administrator (NECA) reliability panel. 6 September 2004. Address: Level 5, 41 Currie Street, Adelaide. SA. 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

Environmental architecture: House with natural air-conditioning keeps internal temperature at 26 degrees

The house that environmental architectural designer Luke Middleton drew up and built for his mother, Faye, in Prahran, is a residence of subtle deceptions, reported *The Age* (8/9/2004, p. 8). In the four years since he went out on his own as EME (Ecologically Motivated Environments) Group, he has dreamt up buildings including multi unit townhouses in Brighton, a classroom in Baxter, a day spa in Berwick, offices, auction auditoriums and houses.

Guiding ideals: Using his mother's two storey house as an example, Middleton illustrates some guiding ideals:

- concentrate thermal mass to capture free heat;
- give walls an inner structure of hebel bricks, made of aerated concrete with high thermal efficiency;
- a concrete bench and fireplace hearth set before north facing windows;
- ground floor concrete slab with thermal properties; visually softened by an overlaid timber floor of 60 millimetre-wide spotted gum from an outfit called Timber Savers;
- kitchen benchtops and contrasting wider feature floorboards are honeyed English oak, salvaged from the 1980s storms that tore down ancient forests in England;
- rainwater stored on site in a 5500-litre fibreglass tank 70 per cent submerged below the back deck. The water is used for watering, toilet flushing and washing. A shallow, rectangular pool of water (1.5 by 5.5 metres) is a feature of the entry;
- the void and pool at the entrance are not only picturesque, but cool the house in summer. The void is surrounded by cross-ventilating windows and breezes that blow across the pool then cool the interior;
- tested during a series of 35 degree days last year, the natural air-conditioning kept the internal temperature at 26 degrees;

- all through the house, windows are strategically set for light, framed outlooks and to encourage "direct cross ventilation to all rooms". Where heating is needed, it is either dramatic, as in the "folded open fireplace", that dominates the huge but understatedly elegant living, dining and kitchen area;
- heating is hydroponic and concealed. Light sources are not featured.

Middleton says stashing low energy fluorescent lights into ceiling recesses, kitchen cupboards and other unexpected places, gave rooms a dramatic, sculptural & quality at night. The light source is more environmentally conservative and creates "a softer wash of light".

CBD roof top gardens cut "heat island" effect, save money: Ritz-Carlton Hotel

Once roof gardens were just a matter of aesthetics; now there's something called a "green roof" in the United States that has environmental benefits, reported *The Australian Financial Review* (9/9/2004, p. 54).

Developers urged to consider roof gardens: For example, the Ritz-Carlton Hotel & Towers off Boston Common had a green roof that was part garden, part sponge and part insulation. Mayor Thomas Menino was urging developers

to consider similar roofs for new projects. "Many of the people who stay in the hotel request a room that overlooks the green roof. It's so tranquil."

Roof gardens cool cities: A conventional roof, usually a black rubber membrane, became a "heat island" on a hot day, said John Dalzell, senior architect for the Boston Redevelopment Authority, the city's planning agency. A large building's air-conditioning and ventilation systems were often sited on the roof. With conventional roofs, these systems operated in an "ultra-hot environment," he said. On a green roof, heat did not build up as much so these systems worked more efficiently.

Listen to the "wacky" ones says SA Premier who agrees climate change greater threat to Australia than terrorism

South Australia's Premier, Mike Rann, said "in the long term, climate change poses a greater threat to Australia than terrorism", wrote James Gormley, Coffs Harbour, NSW, in a letter to *The Australian Financial Review* (6/9/2004, p. 59).

Scientists gone wacky on the climate: "Where are all these "extreme" views coming from? The blame lies with scientists like our own CSIRO, the Bureau of Meteorology and

ultimately the International Panel on Climate Change, a UN body of 2500 of the world's scientists focused on climate science. The only bastions of "rationality" left are a small group of powerful politicians and the captains of mighty industries like coal and power.

Greenhouse 'fanatics' not listened to:

"[These figures], insulated against these bleating greenhouse 'fanatics', hold Australia to the 'sensible' carbon economy that has worked so well for us in the past. It may be disappointing for Greenpeace et al to learn that their contentious views are being adopted by a rabble-rousing majority of doctors, farmers, clergy, soldiers, scientists and other riff-raff."

Less than 1pc take-up of green power, with majority in Qld

There has been a less than one per cent take-up in green choice power in Australia - a total of 91,602 customers.

47pc of green households in Qld: According to figures for the first quarter of 2004 released by the National Green Power Accreditation program nearly one in two (47 per cent) of all Australian households buying green power were in Queensland.

Qld greater than NSW and Vic combined: Energex, responsible for half the Queensland green power consumers, noted the Queensland total was greater than NSW and

Victoria combined. Only 300 businesses have signed on to the Energex green power scheme.

Reference: Coal21. September 2004. Contact: Phone: 02 6273 6044. Fax: 02 6273 6060. Email: info@coal21.com.au. http://www.coal21.com.au

Business could save 10pc of energy bill by watching the basics: SA advice Energy

Energy SA said wasted energy could account for up to 10 per cent of business-related energy costs and, in some cases, much more, according to *The Advertiser* (8/9/2004, p. 52). Most small to medium sized firms, whatever their activity, could save hundreds of dollars a year with surprisingly little effort, cost or dislocation.

Dedicated energy manager required: Energy SA said that to be successful, energy management programs needed a dedicated energy manager. They did not have to be energy experts, simply someone to take overall responsibility for planning and implementing the program. The energy manager should either be the manager of the business or someone who has the support of the manager.

Only operate equipment when needed: Savings could often be achieved simply by making sure that equipment only operated when it is needed. The operating hours of equipment could be controlled manually, by timers or by automatic control systems.

Where savings can be made: Areas where savings could be made included:

- **Air-conditioning:** Costs could be reduced by controlling operating hours, closing windows and doors, ensuring thermostat settings were appropriate, installing Insulation and fitting draught arresters;
- **Office equipment:** Switch off photocopiers, computers and printers at night and weekends or when not in use. When buying new equipment make sure that it has low stand by power consumption;
- **Refrigeration:** Make sure fridges are no bigger than required, are well energy rated and positioned away from direct heat or sun;
- **Water heating:** Minimise the amount of hot water you use by fixing dripping taps and installing aerators on taps and low-flow shower roses. Kettles and instant water boilers are more efficient than urns;
- **Electric motors:** Make sure motors are correctly sized and are not running lightly loaded for long periods. Consider using electronic speed controllers on motors driving variable speed conveyor line or pumps;
- **Compressed air:** Turn the compressor off when not in use and have the system checked regularly for leaks; and
- **Process heating:** This is a complex area where significant savings can be made. Seek expert assistance to help identify the most energy and cost efficient options.

Average SA utility bills up 30pc since mid-2004: Electricity up \$218pa; gas \$87

South Australians were paying an average of \$507 a year more for gas, water and electricity than they were five years ago, according to *Electrical World* (September 2004). The 30 per cent rise - more than double the inflation rate - was on top of more than 20 miscellaneous service charges, which in some cases had risen by 348 per cent.

Major impact for low-income family: It was revealed the average household was now paying \$2192 on combined utility bills compared with \$1685 in mid-2000. The state's peak welfare group claimed that for many low-income families, the steep rises effectively meant "no food on the table".

Call for govts to intervene: The South Australian Council of Social Service called on the State and Federal Governments to intervene to "protect the weak and vulnerable".

Increases for all utilities:

- the biggest increase was for electricity, which now cost an extra \$218 a year, rising 30 per cent from \$735 to \$953;
- water and sewerage costs had soared \$202 - up 33 per cent from \$617 to \$819; and
- gas prices had climbed \$87 - up 26 per cent - from \$333 to \$420.

Outstripping the CPI: The increases all outstripped the national Consumer Price Index, which rose 14 per cent during the same period.

ESCOSA due to report: The Essential Services Commission was due to report again before Christmas on whether or not power prices should rise further.

Property values boost sewerage charges: While sewerage charges had fallen by more than 20 per cent, higher property values had significantly increased actual costs. Sewerage connection fees were up 142 per cent from \$1799 to \$4365 and the minimum charges rose 17 per cent from \$223 to \$261.

Study analyses average households: Five-year power, gas and water figures had been analysed by the Institute of Chartered Accountants and accounting firm Deloitte Touche Tohmatsu. Deloitte's report *Trends in Domestic Utilities Prices* was based on the average Adelaide home consuming 21,000 megajoules of gas, 250,000 litres of water and 4500 kilowatt hours of electricity.

SA power charge increases since mid-2000: 30 per cent

According to a five-year study of South Australian Power Supplies by the Institute of Chartered Accountants and accounting firm Deloitte Touche Tohmatsu, average households now had to spend an extra \$218 a year on electricity. This was a rise

of 30 per cent since mid-2000, from \$735 to \$953. Deloitte's report *Trends in Domestic Utilities Prices* was based on the average Adelaide home consuming 4500 kilowatt hours of electricity. According to the report:

- fixed supply access charges for domestic users increased by 32.4 per cent from \$93.84 to \$124.21;
- off-peak controlled load supply access charges jumped by 93.1 per cent from \$9.88 to \$19.62;
- the standard application fee had increased 37.5 per cent from \$24 to \$33;
- New connections undertaken during business hours were free between 2000-02, but the fee was re-introduced in July, 2003, and increased 7.2 per cent this year from \$30.69 to \$32.89;
- after hours connection fees rocketed 348 per cent from \$19.05 to \$85.36;
- special meter reading fees rose 40.4 per cent from \$17 to \$23.87;
- late payment fees climbed 139.8 per cent from \$5 to \$11.99;
- the combined disconnection and reconnection fee (business hours) associated with non-payments was up 38.7 per cent from \$49.40 to \$68.53;
- after hours disconnection and reconnection fees associated with non-payments increased 67.2 per cent from \$68.50 to \$114.51;

- single phase meter testing is up 89.6 per cent from \$43.80 to \$83.05; and
- double phase meter testing costs rose 47.9 per cent from \$56.15 to \$83.05.

NSW wants exclusive distributor metering services: ACCC wants Code amendment submissions

On 27 August 2004, the Australian Competition and Consumer Commission received applications for derogation (Nos A90928, A90929, and A90930) to the National Electricity Code. These applications were lodged by the National Electricity Code Administrator (NECA) on behalf of the New South Wales Department of Energy, Utilities and Sustainability, according to a statement by the ACCC (9/9/2004).

Looking to ensure exclusive metering: The purpose of the applications for authorisation was to seek amendments to New South Wales's derogations from Chapter 7 of the Code, and ensure exclusivity for the provision of metering services by distribution businesses in New South Wales. Copies of the proposed amendments are available from the ACCC's web site, <http://www.accc.gov.au>.

Submissions invited: To assist in the ACCC's consideration of these applications, interested parties were invited to comment on the potential anti-competitive detriment and public benefit associated with the proposed

derogations, and any comment relating to the authorisation of the derogations. All submissions would be placed on the public register unless confidentiality for the submission (or any part of the submission) is requested.

Submissions can be sent electronically to: electricity.group@acc.gov.au Contact: Sebastian Roberts, General Manager Regulatory Affairs - Electricity ACCC, GPO Box 520J MELBOURNE VIC 3000. Closing date for submissions Friday 24 September 2004. Further information contact Eloise Campbell on (03) 9290 1968.

Productivity Commission report on energy efficiency due within 12 months

The Australian Government has asked the Productivity Commission to report within 12 months on the economic and environmental potential offered by energy efficiency improvements.

Efficiency improvements must be cost effective: The terms of reference for the inquiry defined energy efficiency as maintaining or increasing the level of useful output or outcome delivered, while reducing energy consumption. It also stated that energy efficiency improvements should be cost effective for individual producers and consumers.

No examination of climate change policy: While the Commission was required to consider the economic and environmental costs and benefits of such improvements, it

had not been asked to comment on Australia's policy response to climate change.

Barriers to improved efficiency to be probed: The Commission was asked to consider the barriers and impediments to improved energy efficiency, the influence of government energy efficiency programs and appropriate policy options.

Submissions called for: The Commission invites all interested individuals and organisations to register an interest in the inquiry. You can then participate in the inquiry by making submissions and/or through appearance at public hearings or other discussion forums.

Who would be interested? The inquiry was likely to be of interest to all levels of government, energy producers and their associations, energy users (both industry and consumers) and their associations, and the providers and users of energy efficiency consulting services.

Regular updates: You can also register online through the inquiry home page. You will be kept informed about the inquiry's progress and key dates through regular circulars. The Commission will send subsequent circulars and other information only to those who indicate their interest in the inquiry. The Commission will also post updates about the inquiry on the inquiry home page.

Reference: Australian Government Productivity Commission, Inquiry into energy efficiency, 6 September 2004. <http://www.pc.gov.au>