

**Productivity
Commission
Energy Efficiency**

**Energy Retailers Association of
Australia**

November 2004

More Energy Consumed

- **Growth in the Australian economy**
- **More spending on electrical equipment because of:**
 - lower interest rates
 - more disposal income
 - more employment
 - growth in household wealth
 - availability of different types of credit.
 - lower cost of appliances
- **changing lifestyles and expectations**
- **changing construction techniques in private dwellings**
- **number of new dwellings**

Air Conditioning Changing The Energy Business

- Metropolitan Sydney will require \$3.5 billion in network investment over the next 5 years
- Around 80 percent of that investment is needed to meet just 20 percent of (peak) load

Demand for energy in the different seasons in Sydney

Residential Load Profile

Note differences in cold winter and hot summer profiles

Graph

Source: Presentation by Integral Energy to the NSW Independent Pricing and Regulatory Tribunal 2003.

The Effect of Air Conditioning Usage on the Customer Demand Profile

Graph

***Source: Presentation by EnergyAustralia to the World Energy
Congress 2004 on Air Conditioning Use in Sydney***

ERAA Submission Shows

- NSW households without air-con subsidise those with - \$70 per year
- The real cost of a 1 kw air-con is \$300 per year while the NSW customer is only paying \$12 per year
- Households are spending an average of \$2.55 per day for all domestic fuel and power

Air-conditioning Survey: South Australia

- About 90% penetration
- Turned on when temperature was 32.5 degrees Celsius
- Used 11.5 days per month over summer
- Those from the low income segment were also more likely to indicate that they had specific cooling needs due to illness, disability, age or other

Increase in Electricity Charges in 2010 due to Abatement Schemes

Graph

Source: ERAA

Price Volatility for Retailers

Graphs

Summary

- Australians are increasing their demand for energy.
- The penetration of air-conditioning in households is rapidly increasing.
- Households are paying very low prices for energy.
- Non-air-conditioned households are cross subsidising air-conditioned households.

Summary

- There are no incentives for domestic consumers to change their behaviour.
 - Remove price caps
- Large amounts of uneconomic capital are needed to over-come *very* few peak demand days per year.
 - Demand related network tariffs
- Greenhouse gas abatement and energy efficiency schemes are fragmented, costly and are not transparent to the consumer and do not change behaviour

No 'Silver Bullet' Solution

- **demand side management**
- **demand side response**
- **supply of energy**

Effective DSR requires

- Load shedding on command
- exposure to a pricing signal or tariff
- suitable metering, not necessarily interval
- appropriate building and appliance standards
- education

What Governments should do to improve energy efficiency

- Internalise the costs and benefits of energy efficiency
- Ensure national coordination & consistency of energy efficiency policy

What Governments should not be doing in this area

- **Mandatory energy efficiency audits**
- **Energy efficiency `industry development'** — unless market forces are demonstrably inadequate, providing assistance to the energy efficiency sector is likely to impose costs on other industries, without a corresponding net benefit to the economy.
- **Implementation of emissions intensity requirement**
— an intensity requirement is not the lowest cost or most effective greenhouse gas abatement mechanism available and nor is and administratively simple