



Australian Government

Department of the Environment, Water, Heritage and the Arts



# Australia's Approach to Standby Power

Simone Tiele

Department of the Environment, Water, Heritage and the Arts, Australia

New Delhi, India, April 2008





# Early Work in Australia

- Undertook an “intrusive” survey in 2000, covered 64 homes, standby measurements on 3,000 appliances
- Standby accounted for over 11% of residential electricity consumption (around 90W)
- This appears to be a growing problem as more and more products use power when not in use - can be due to more functions and/or poor design
- Trends were unclear – some products were improving, some were getting worse
- Large distribution in the range of standby levels for similar products suggested that large reductions in power can be made while maintaining functionality





# Australia's initial response National Strategy 2002 – 2012

- Released November 2002, endorsed by Energy Ministers
- Notional One-Watt target for all products by 2012
- Identified and categorised problem products
- A two-stage process
  - Stage 1 – voluntary measures
  - Stage 2 – mandatory options





## Early Work

- A series of 30 product standby profiles were prepared and released for public comment over 2003-2004 – these set stage 1 and stage 2 standby targets for 2008 and 2012
- Regular measurements of standby power for new appliances on display in retail stores was commenced in 2001 – now 2 to 3 surveys per year (500+ products per survey)
- Pool of data of around 8,000 new products now available to assess trends (and growing)



# Test Method and Data Collection

- Australia has been active in IEC test method development – Lloyd Harrington has been the chair of TC59 Working Group 9 since its formation in 2001 (IEC work started in 1999)
- A second “intrusive” survey was conducted in 2005 – some 120 homes, 9,000 appliances – this survey confirmed that standby is a significant residential sector issue and that further policy actions were warranted



## Results: Intrusive Survey 2005

- Standby estimated as 11% of residential electricity
- All plug loads in 120 homes measured
- Standby was a total of 92 W - about 800kWh/y
- The average home had:
  - 67 plug loads (range 16 - 136)
  - 48 plug loads were actually plugged in
  - 27 of these used some power when not “on”
  - some not normally considered as “standby”
- Average standby per house could be less than 32 W if a 1 Watt limit applied



Australian Government

Department of the Environment, Water, Heritage and the Arts

# Mandatory 1 Watt Announcement

- Australia hosted an international standby conference in November 2006 in Canberra
- At this conference, the Ministers for Industry and Environment jointly announced a mandatory 1 Watt target for all electrical appliances by 2012
- Preparations are under way to implement this through regulation as part of the Australia and New Zealand Equipment Energy Efficiency Committee work plan





# Why is a mandatory limit needed?

- At an individual product level, standby is trivial
- A product with poor standby has energy costs of \$10 pa - the product itself may cost \$100's or \$1000's
- Information is hard to find - even if it was readily available it would be too trivial to take into account
- Attempting to raise awareness with consumers is probably pointless (especially if there is little they can do with existing equipment)



# Why is a mandatory limit needed?

- Manufacturers are being pressured by government over standby, but consumers as a rule remain ignorant
- Split incentives - manufacturers want to supply features to attract consumers but do not pay energy costs
- Manufacturers in Australia have asked government for a mandatory requirement – this is the only way to ensure a level playing field where there is fierce international competition
- Need to ensure that standby is kept in perspective - danger of over-emphasis if it is the only information available



Australian Government

Department of the Environment, Water, Heritage and the Arts

# Trends in Standby



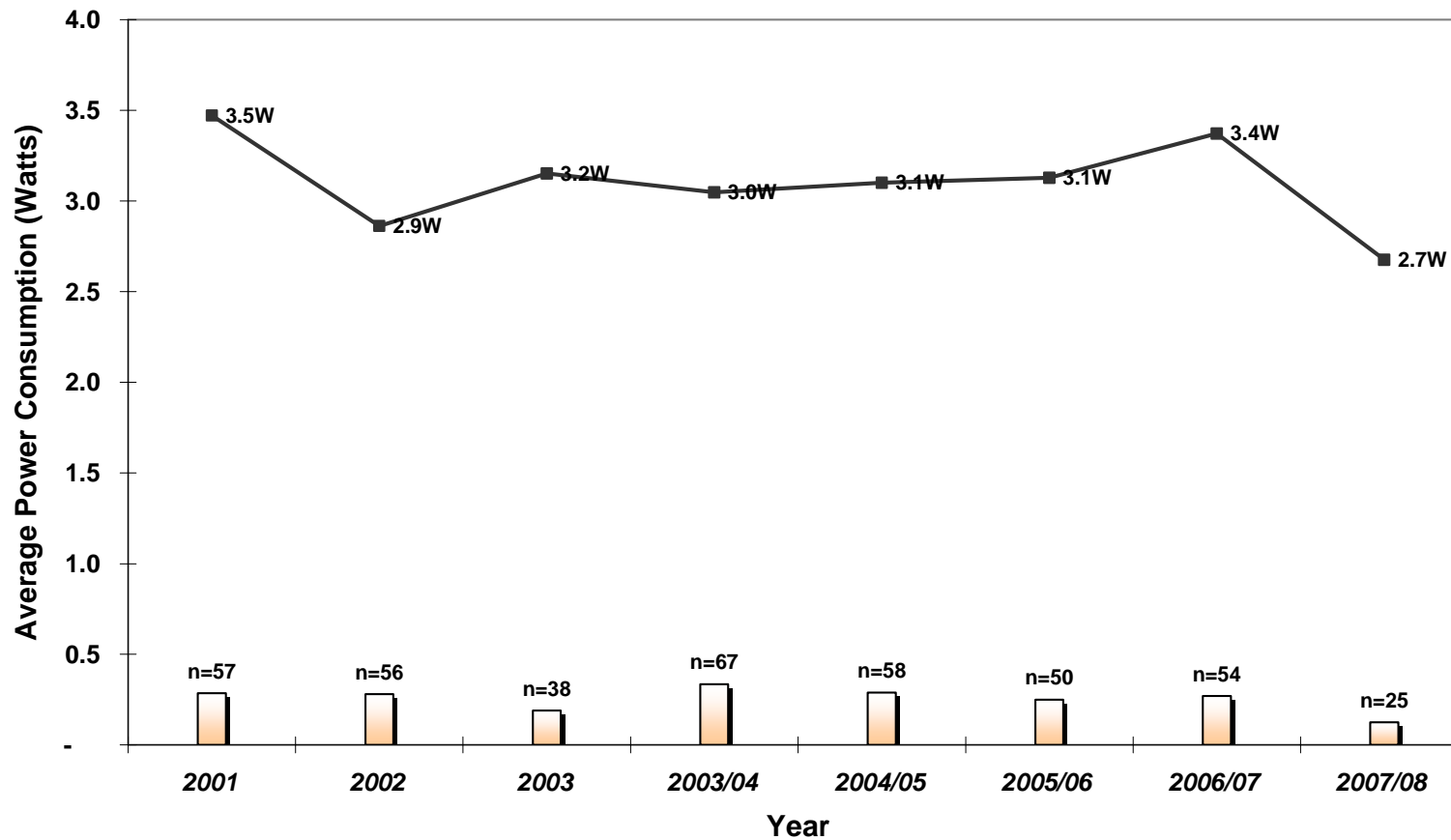


Australian Government

Department of the Environment, Water, Heritage and the Arts

# Microwave Ovens – Passive Standby

Australia: Microwave: Power - Passive: Time Series



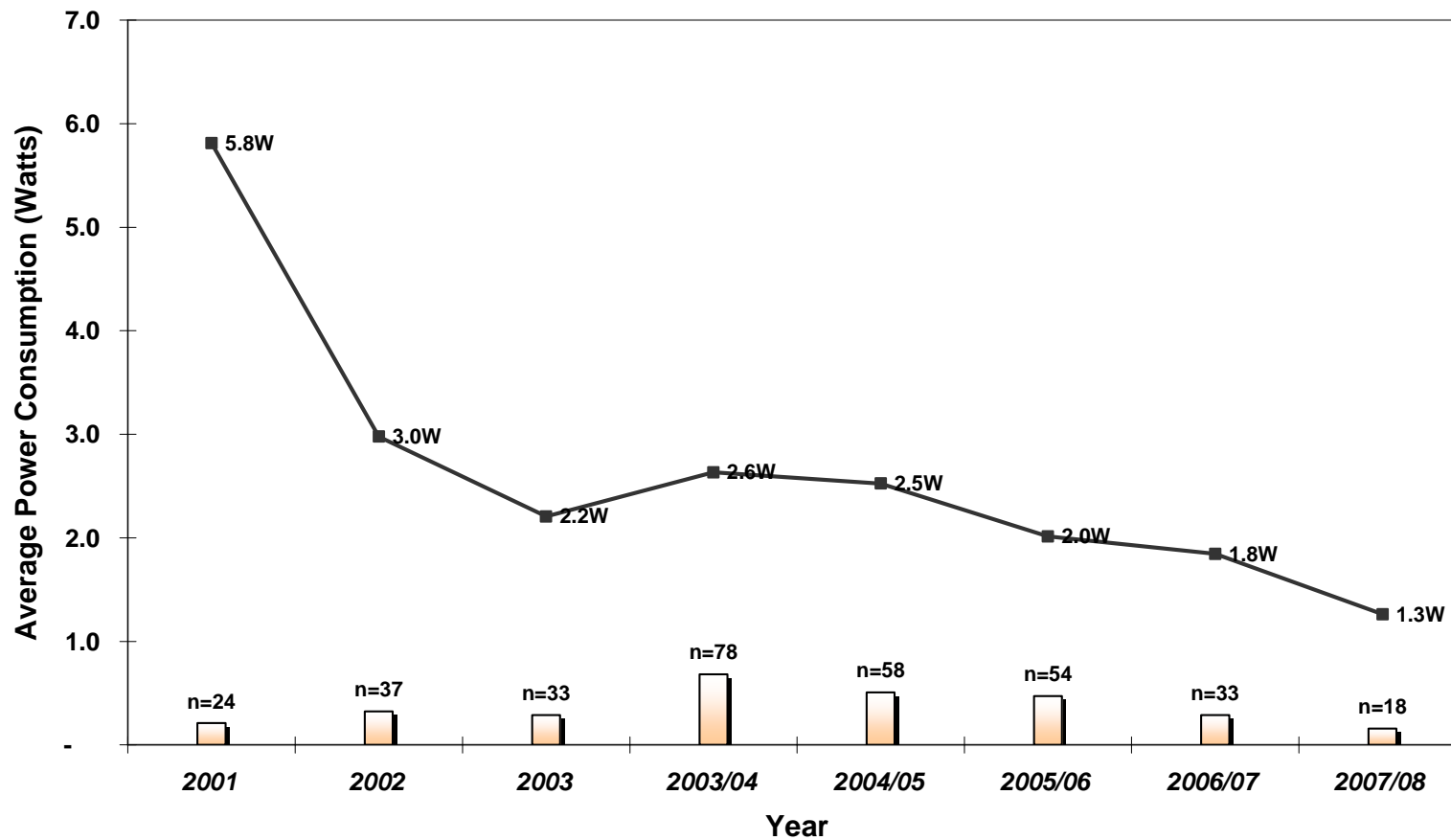


Australian Government

Department of the Environment, Water, Heritage and the Arts

# DVD Player – Passive Standby

Australia: DVD Player: Power - Passive: Time Series



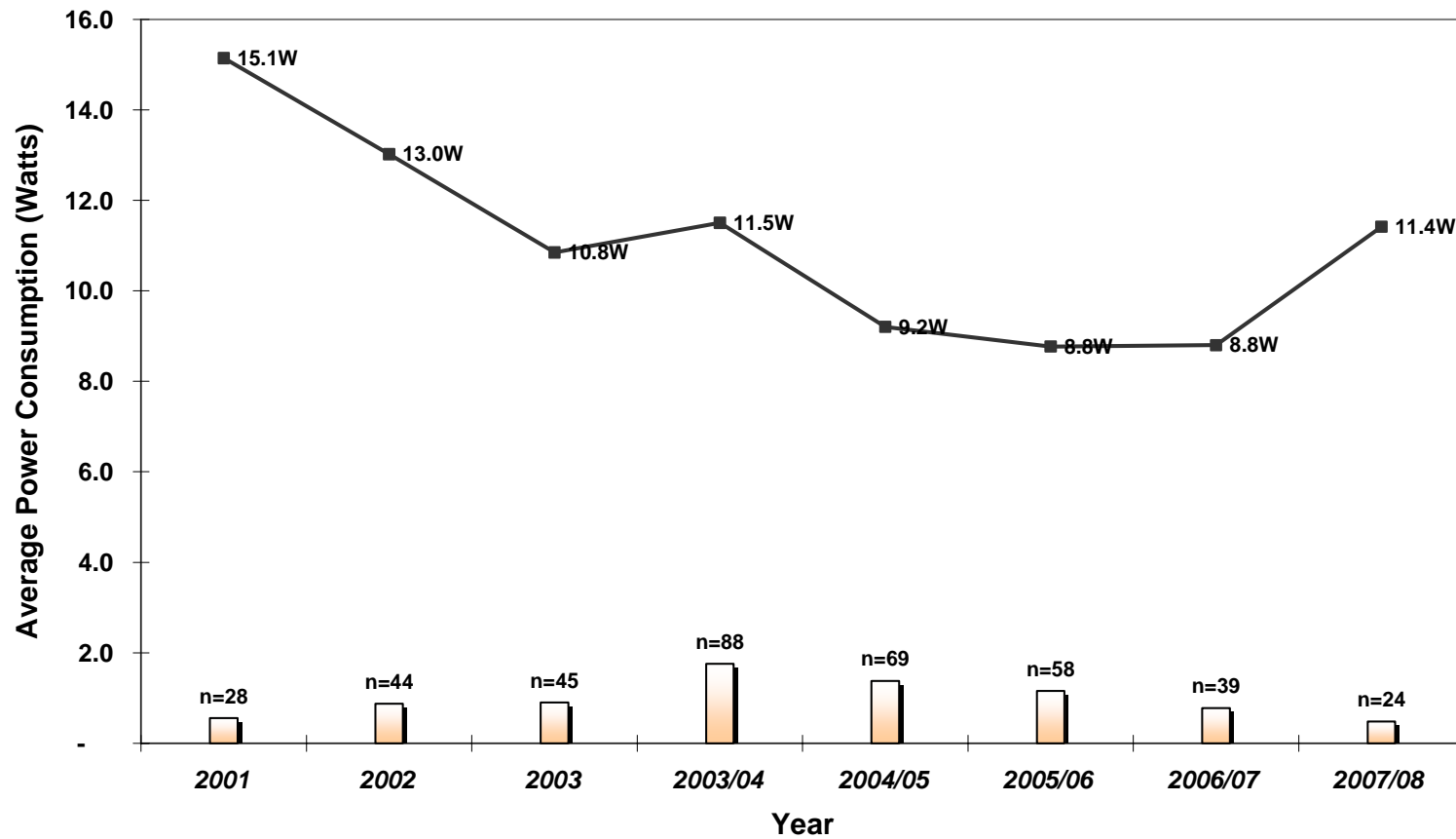


Australian Government

Department of the Environment, Water, Heritage and the Arts

# DVD Player – Active Standby

Australia: DVD Player: Power - Active: Time Series



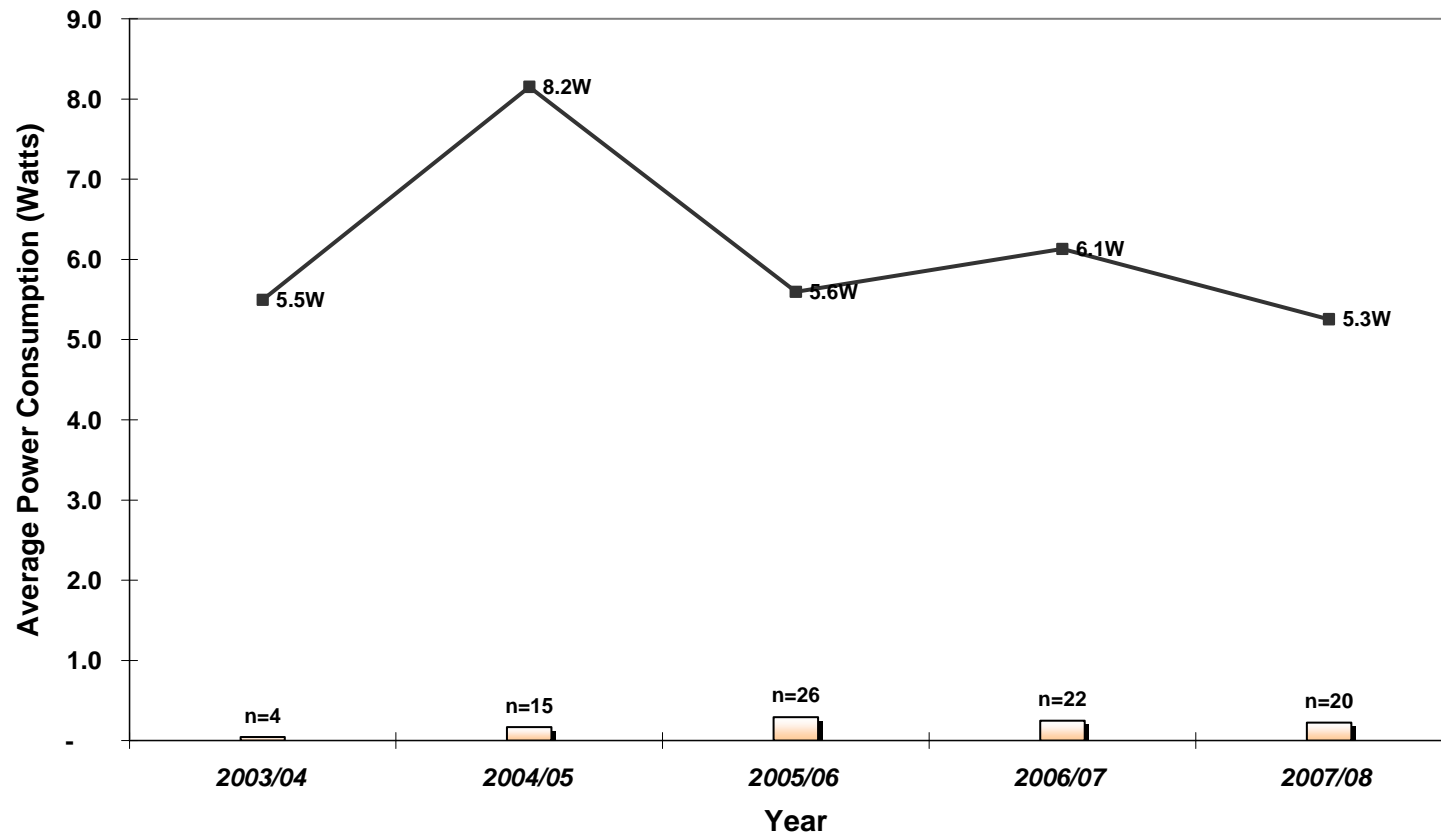


Australian Government

Department of the Environment, Water, Heritage and the Arts

# HD Recorder – Passive Standby

Australia: Hard Disk Recorder: Power - Passive: Time Series





## Vertical measures - Australia

- For selected products it makes sense to add standby energy to on mode energy
- Standby already included into the label energy for clothes washers and dishwashers
- MEPS have been announced for set top boxes and external power supplies (includes standby elements)
- Energy labelling and MEPS for televisions – also covers standby modes as well as active
- MEPS and labelling will include standby and crankcase heater energy after 2009



# Conclusions

- Ultimately, the power consumed in low power modes is largely wasted
- Consumers want features. Consumers and government would be happy if the standby levels consumed by most products were negligible
- Technological solutions are already available
- Policy action is required to focus the attention of manufacturers to ensure that best practices are adopted in a timely manner, in spite of the lack of direct incentive to do so
- Unfortunately it appears that standby energy is likely to be an issue that requires decisive measures now and in the foreseeable future





Australian Government

Department of the Environment, Water, Heritage and the Arts

# The End

For more information see:

[www.energyrating.gov.au](http://www.energyrating.gov.au)

in the electronic library under standby

Thank you

