



Australian Government

Department of the Environment, Water, Heritage and the Arts

Australia's Approach to Standby Power

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New Delhi, India, April 2008



www.energyrating.gov.au

EQUIPMENT ENERGY EFFICIENCY



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





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





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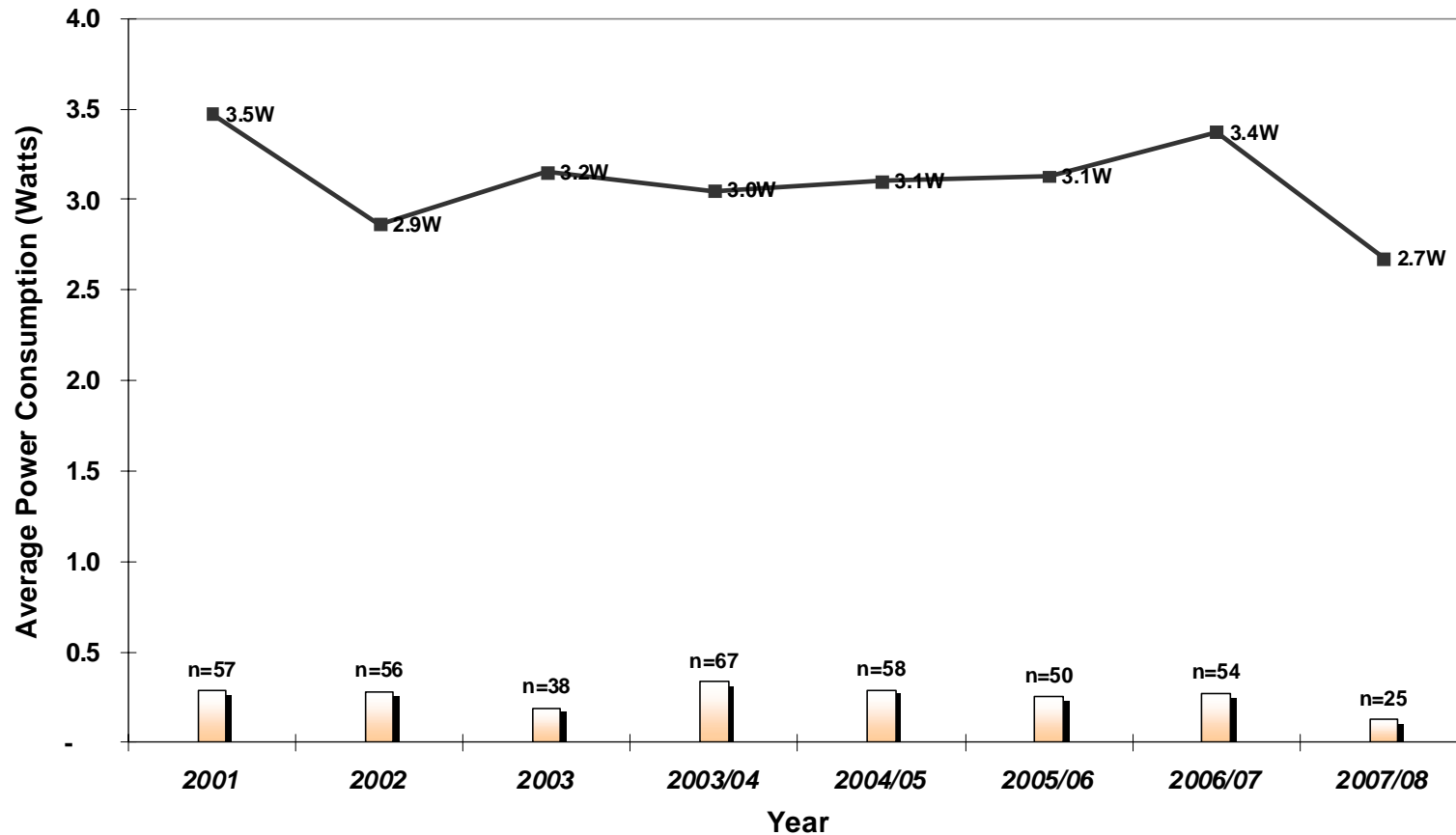


Trends in Standby



Microwave Ovens – Passive Standby

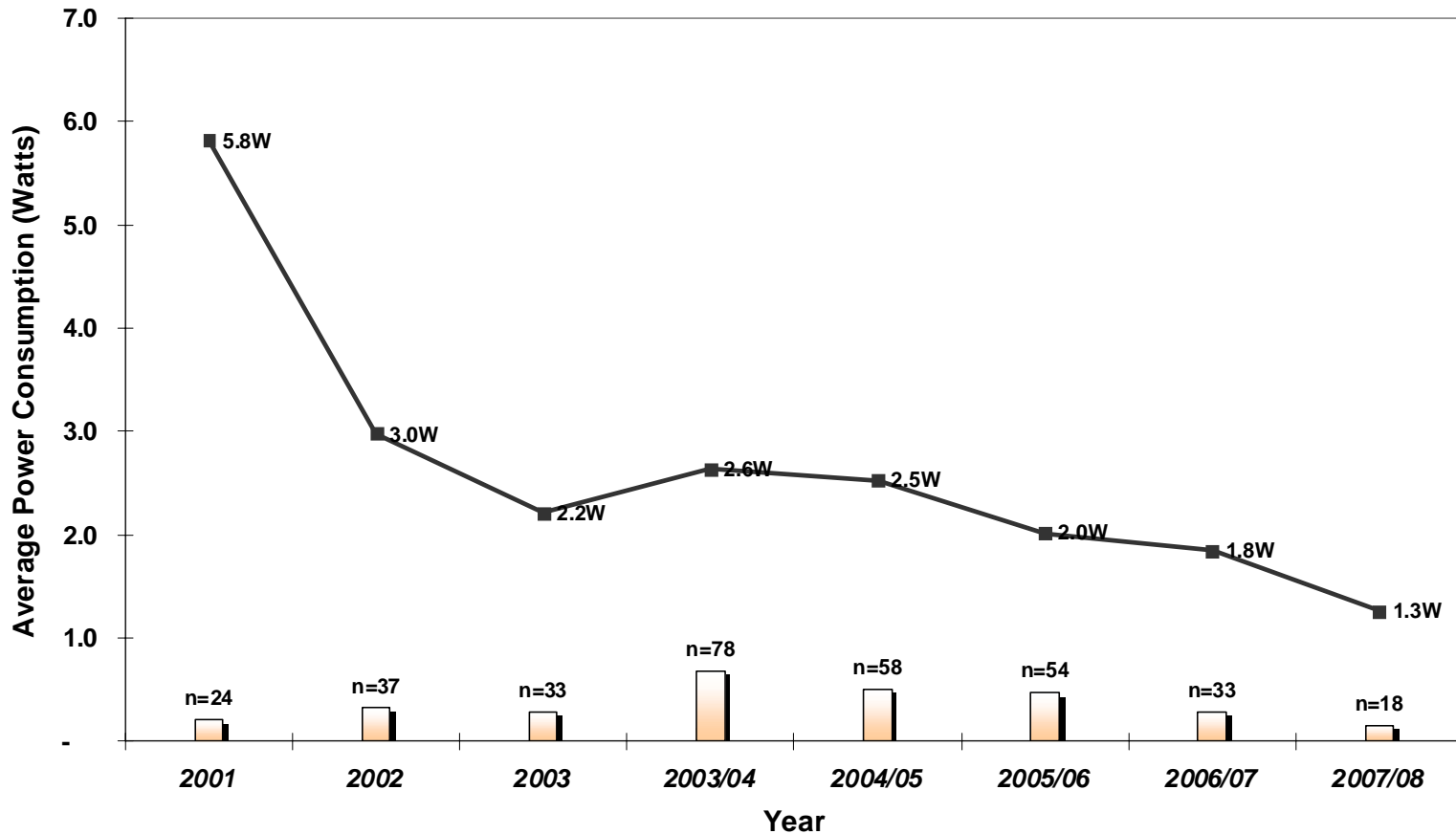
Australia: Microwave: Power - Passive: Time Series





DVD Player – Passive Standby

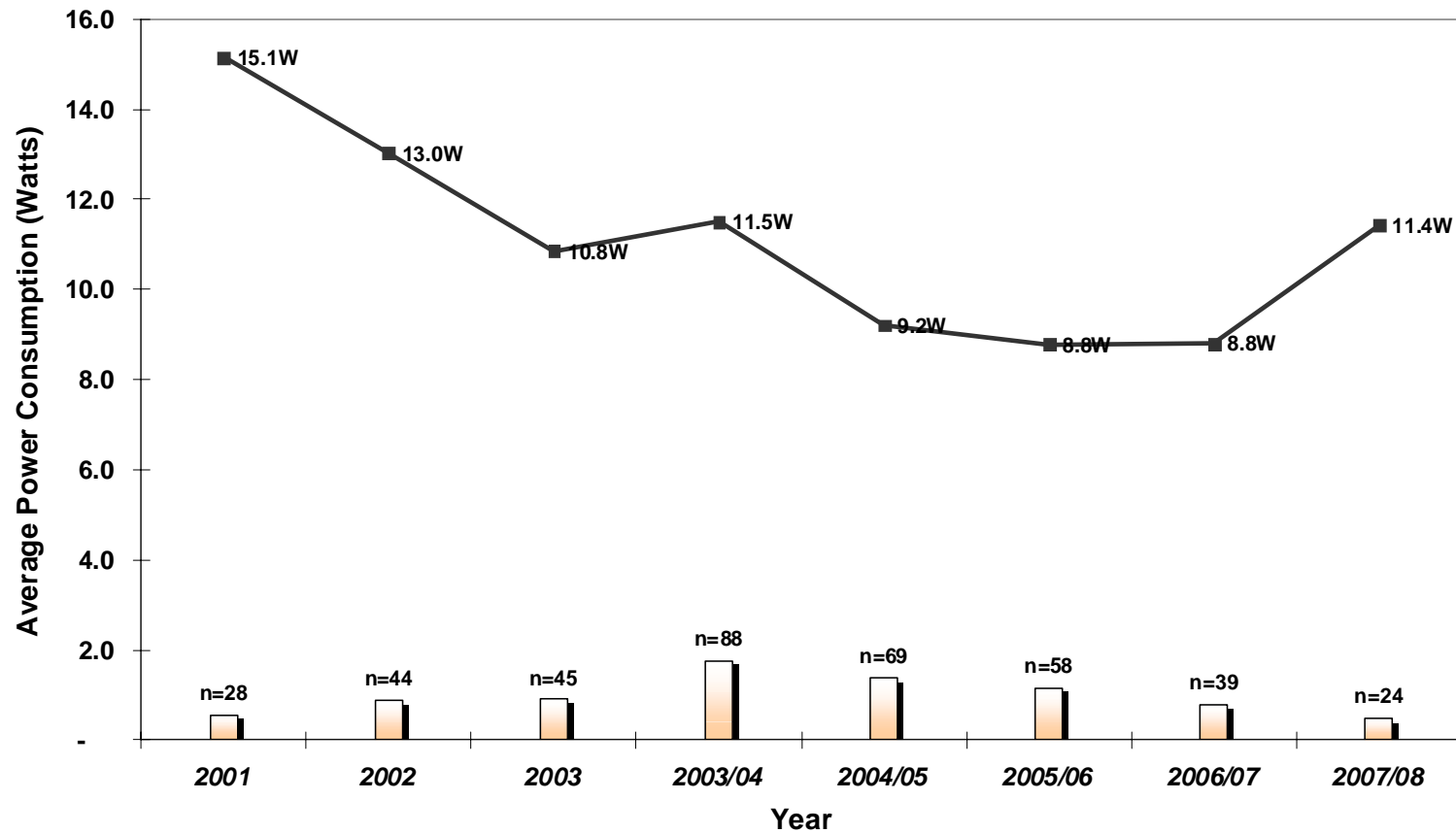
Australia: DVD Player: Power - Passive: Time Series





DVD Player – Active Standby

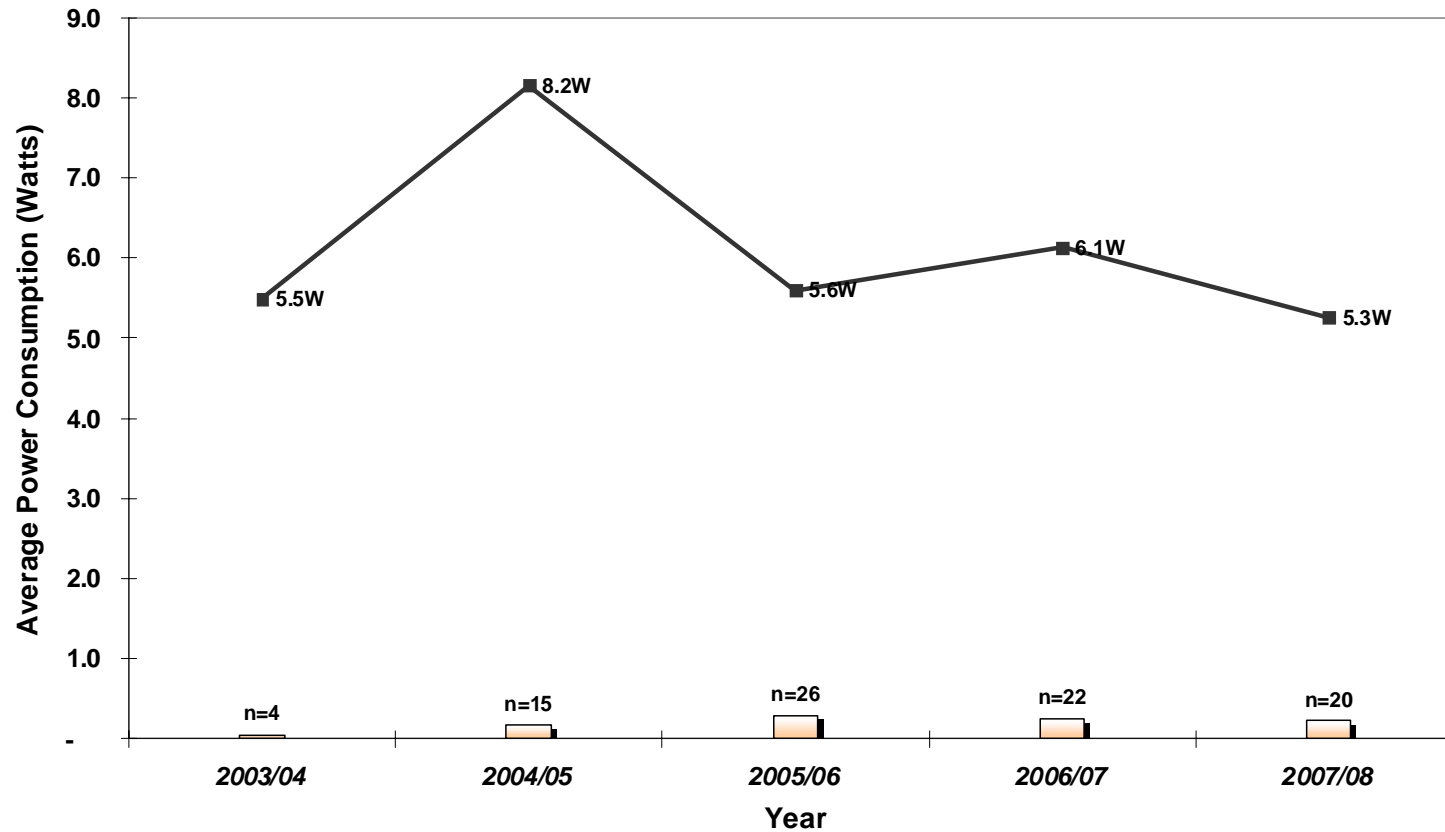
Australia: DVD Player: Power - Active: Time Series





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





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The End

For more information see:

www.energyrating.gov.au

in the electronic library under standby

Thank you

