

PRODUCT PROFILE



PORTABLE STEREOS

AUSTRALIA'S STANDBY POWER STRATEGY 2002 - 2012

AN INITIATIVE OF THE MINISTERIAL
COUNCIL ON ENERGY FORMING
PART OF THE NATIONAL
GREENHOUSE STRATEGY

The National Appliance and Equipment Energy Efficiency Committee seeks comment on this proposal from any interested person or organisation.

Please email comments to:

energy.efficiency@greenhouse.gov.au

Alternatively, hard copy comments can be mailed to:

Portable Stereos Product Profile
Equipment, Appliances & Transport Team
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Comments received by 30 December 2003 will assist in determining the final form of the policy proposals taken to government regarding portable stereos.

An electronic version of this Standby Product Profile and other Profiles released for public discussion can be obtained from www.energyrating.gov.au under standby.

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PRODUCT DESCRIPTION

Portable stereo units combine various audio components with an internal amplifier and speaker system. They can be run using mains electricity or battery operated. The most common combination on the market at present usually includes compact disk player and tuner. Some models also include tape decks and multi stack CD devices. The most simple definition of a portable stereo as distinct from other stereo equipment is that portable stereos are able to be run using battery power and will usually include a carry handle. This profile on portable stereos does not include devices such as walkmans, discmans or portable mini disk players.

CURRENT OWNERSHIP AND TRENDS

Ownership and penetration data specifically for portable stereos is limited, however, a NAEEEC commissioned study of standby power usage in Australian households in late 2000 found that penetration of portable stereos was 44%. This intrusive survey of 64 Australian households in Melbourne, Sydney and Brisbane found that 28% of households with a portable stereo had at least one, while 9% had two portable stereos. The survey also found that saturation of portable stereos was 1.54 per household. The results are presented in Table 1 below.

TABLE 1: OWNERSHIP DATA FOR PORTABLE STEREOS - AUSTRALIA

Portable Stereos	Household survey conducted Dec 2000 (n=64)
1 Portable Stereo	28%
2 Portable Stereos	9%
3 Portable Stereos	5%
4 Portable Stereos	2%
Penetration	44%
Saturation	1.54
Ownership	0.67

Source: EES & EnergyConsult, 2001

The NAEEEC commissioned survey of households found the average age of portable stereos in stock was 11 years.

RELEVANT MODES FOR THE 'ONE WATT' POWER PLAN

Portable stereos can have four modes of operation: on, active standby, passive standby and off. However, most new models have remote control operation with no "hard" off switch, making passive standby the lowest power state.

Active standby mode applies to portable stereos that have been activated and are ready to perform a task. In this mode most units have some kind of visual display communicating the activation status to the user.

Passive standby mode (where the unit is put to sleep either via a remote control or standby button on the unit) is now standard on the majority of portable stereos. In fact the 2002 and 2003 in-store surveys found this to be the lowest power state for all models tested.

The 2000 household survey conducted for NAEEEC, recorded the mode that the portable stereo was in prior to testing. About 47% of units were in passive standby mode, with 9% being switched to 'hard off' and about 30% being unplugged from the mains.

KNOWN STANDBY DATA FOR NEW PRODUCTS

A NAEEEC commissioned survey conducted in late 2000 measured standby consumption of 34 new portable stereos on display in major retailers in Brisbane and Sydney. Since this survey, two follow up surveys have been conducted in stores in Melbourne, one in early 2002 and the most recent in January 2003. In 2002, 32 units were measured and in 2003, 38 units were measured.

The store surveys have found that most new portable stereos (92% in 2000 and 100% in 2002 and 2003) have no 'hard' off switch. None of the units with an off mode had power consumption less than 1W when switched to hard off. In the 2002 and 2003 surveys, active standby was also measured with average consumption being 5.2W and 5.4W respectively. No models consumed less than 2W in active standby mode.

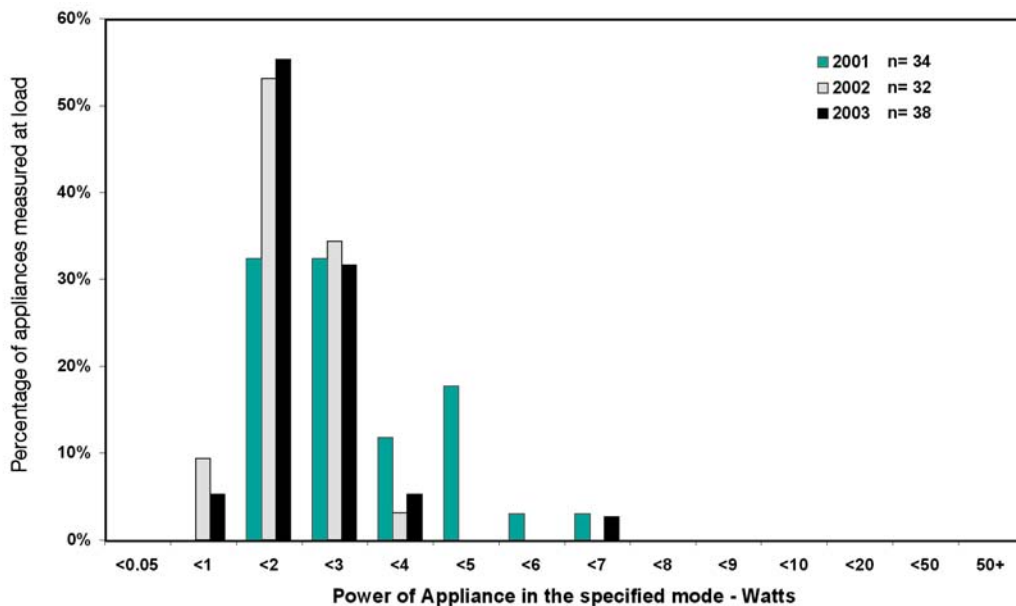
Average passive standby power consumption for new portable stereos in 2003 was 2.0W, with the distribution varying from 1W to 6.5W. There has been little change in average passive standby consumption since the 2001 store survey. Table 2 below summarises the results for the 2001, 2002 and 2003 NAEEEC store surveys.

Figure 1 shows the distribution of measurements taken for portable stereos in each year of the store survey. It appears that there has been a slight increase in the proportion of units registering a passive standby of less than 2W compared to 2001. However, there is still much room for improvement in the passive standby consumption of portable stereos with 95% of units measured in 2003 registering more than 1W.

TABLE 2: SUMMARY OF RESULTS FOR 2001, 2002 AND 2003 NAEEEC STORE SURVEYS

	2001 (n=34)	2002 (n=32)	2003 (n=38)
Average Active Standby	NA	5.2W	5.4W
Minimum Active Standby	NA	3.1W	2.1W
Maximum Active Standby	NA	8.6W	15.4W
Average Passive Standby	2.8W	1.8W	2.0W
Minimum Passive Standby	1.0W	0.8W	1.0W
Maximum Passive Standby	6.8W	3.6W	6.5W
Average Off	5.3W	NA	NA

FIGURE 1: STORE SURVEY – DISTRIBUTION OF PORTABLE STEREOS STANDBY POWER CONSUMPTION 2001, 2002 AND 2003



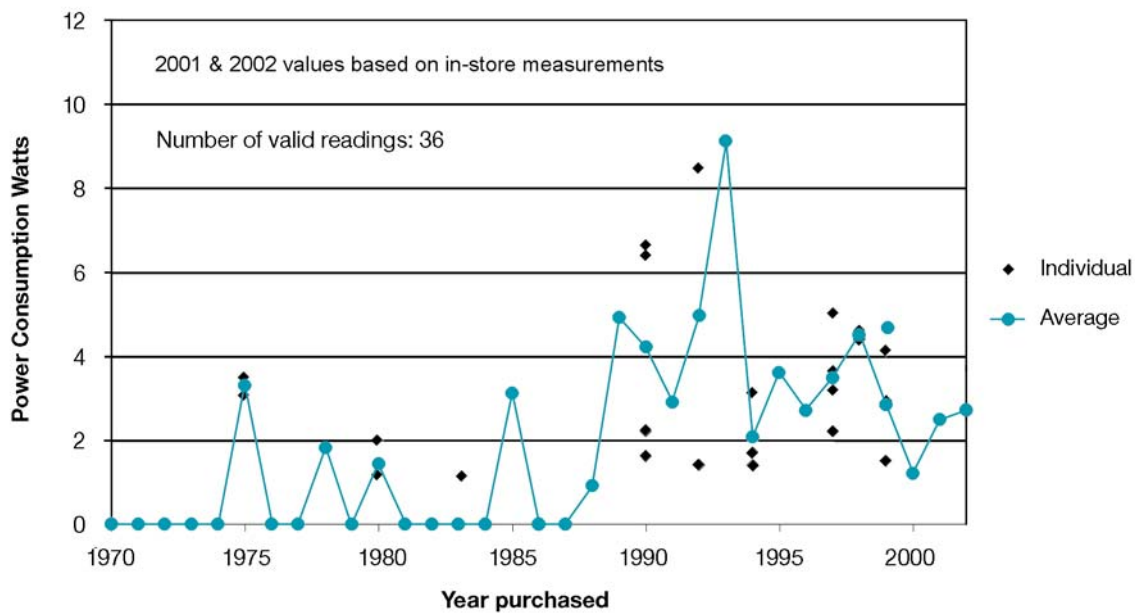
KNOWN STANDBY DATA FOR INSTALLED STOCK

The household survey conducted in late 2000 measured the off, standby and on mode of some 43 portable stereos in 64 households in Melbourne, Brisbane and Sydney. The power consumption results from this survey can be measured as a function of the age of the unit.

In contrast with portable stereos currently available in stores, the intrusive survey found that 19 units (39%) had an off mode. Around 24% consumed less than 1W in off while one unit recorded zero consumption. Six units (32%) consumed either 2W or more and one unit measured as much as 5.6W in off.

Passive standby readings ranged from 0.9W to 11.4W. Nearly half (44%) of all units registered less than 2W in passive standby. The average passive standby power consumption for portable stereos was 3.34W. Figure 2 provides the distribution of measurements for portable stereos in stock, as measured in the household survey. Samples are small so the results are indicative but it appears that there has been some improvement in passive standby consumption since the mid 1990's.

FIGURE 2: INTRUSIVE SURVEY – DISTRIBUTION OF PORTABLE STEREO PASSIVE STANDBY POWER CONSUMPTION BY AGE



GREENHOUSE EMISSIONS

The GHG emissions reductions potential for the proposed standby target of 1W is in the order of 23 kt CO₂-e pa by 2012 and 35 kt CO₂-e pa by 2020. Overall, the estimated model weighted passive standby power consumption of all portable stereos sold Australia in 2003 was approximately 3W.

To examine the potential for greenhouse savings, one scenario was modelled based on a standby power

target of 1W for 80% of the market in 2005. Figure 3 shows the potential GHG emissions reduction.

The projected effect on total energy consumption used annually by these portable stereos based on the implementation of these targets in Australia is shown in Figure 4.

FIGURE 3: BAU VS POLICY TARGET GHG EMISSIONS FOR PORTABLE STEREOS

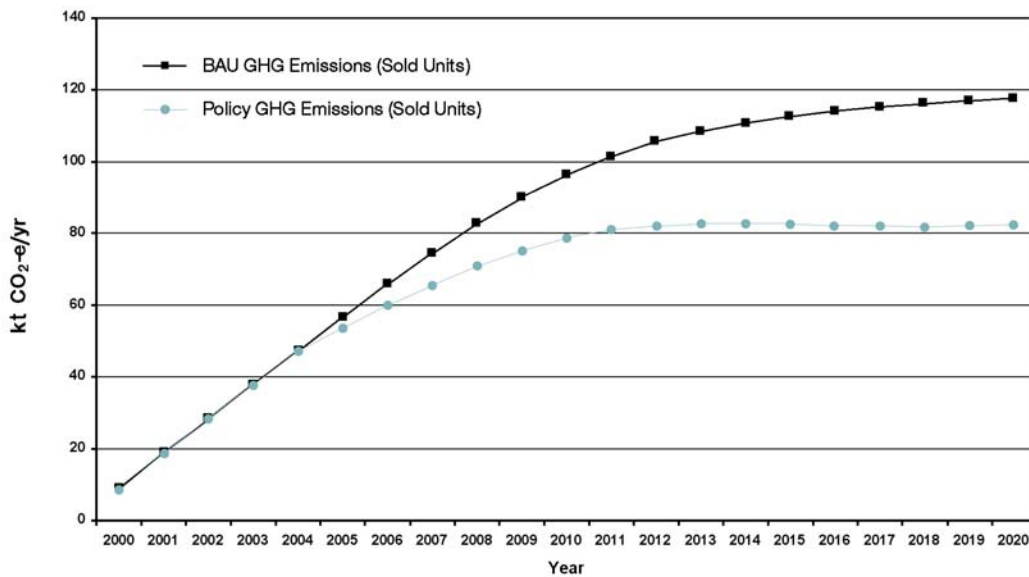
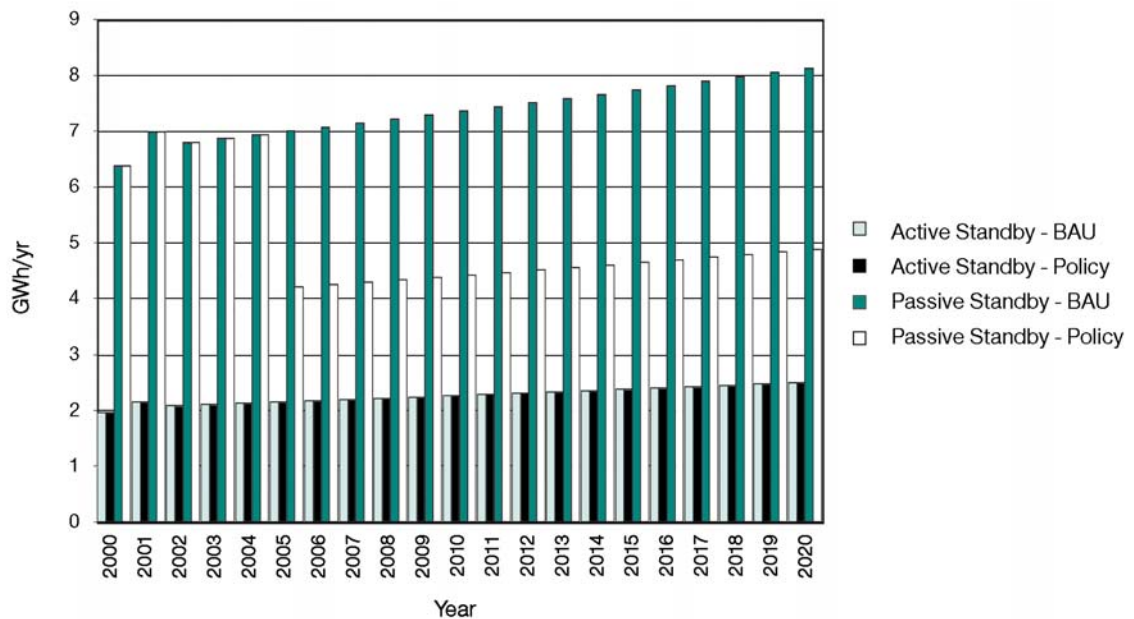


FIGURE 4: BAU VS POLICY TARGETS FOR ENERGY CONSUMPTION OF ALL PORTABLE STEREOS SOLD



CURRENT OVERSEAS POLICIES AND TRENDS

USA AND INTERNATIONAL

In the US and internationally, the ENERGY STAR Program run by the US Environmental Protection Agency (US EPA) aims to encourage industry best practice by forming partnerships with manufacturers and setting performance targets for appliances. The ENERGY STAR program is a voluntary program and is being implemented in two phases. Phase I concluded on 31 December 2002 while Phase II commenced on 1 January 2003. The Phase II criterion requires a passive standby of less than or equal to 1W. Specifications for Phase II applies to products that manufacturers begin to ship after 31 December 2002. More details can be found on www.energystar.gov and www.energystar.gov.au

EUROPE

The Group for Energy Efficient Appliances (GEEA), which is made up of representatives from a number of European national energy agencies and government departments, encourages industry best practice through a voluntary energy labelling scheme which covers a wide range of home electronics products and office equipment. The criteria for each product are

generally reviewed (although not necessarily altered) on an annual basis. As at January 2003, to be eligible for a GEEA label portable stereos must use no more than 1W in passive standby mode. In addition, it requires that in off mode portable stereos should use no more than 0.5W. If the portable stereo is able to play discs or cassettes, the unit should enter passive standby mode automatically within 15 minutes after having finished playing the medium. More details can be found on www.gealabel.org/home.htm.

INTERNATIONAL INITIATIVES

The International Energy Agency (IEA) has been promoting the "One Watt Initiative" energy saving program to cut world-wide electricity losses from appliances in standby. Launched in 1999, this campaign aims to guide government policy-makers and appliance manufacturers towards equipment that consumes no more than 1W when in standby mode. The Australian Government has endorsed the One Watt standby target for appliances sold in Australia. More details can be found in Ministerial Council on Energy standby strategy "Money isn't all you're saving" (MCE 2002).

TABLE 3: SUMMARY OF PROGRAM REQUIREMENTS FOR PORTABLE STEREOS - INTERNATIONALLY

	Mode	Dates	Criteria
Energy Star	Passive standby	Phase I: until 31/12/2002	≤2W
	Passive standby	Phase II: from 1/01/2003	≤1W
GEEA, Europe	Off	Until 31/12/2003 From 1/01/2004	≤0.5W No requirement
	Passive standby	Until 31/12/2003 From 1/01/2004	≤1W ≤1W

Note: GEEA criteria are reviewed annually.

GOVERNMENT TARGET

In accordance with the National Standby Strategy, NAEEEC intends to recommend to the Ministerial Council on Energy an 'interim' target. The purpose of which is to provide governments with confidence that Australian products will meet the ultimate target, of one watt in 2012. If the 'interim' target is not met in the specified year, government will commence dialogue with industry to explore other options, including the possibility of moving to Stage 2 mandatory measures.

1. INTERIM TARGET - 2006

Product	Off mode power ¹⁾	Passive standby mode power ²⁾
Portable stereo	Less than 1 Watt	Less than 4 Watts

Notes:

1. *Lowest power when connected to the mains. Limit is applicable to models which have an off mode*
2. *When switched off using a remote control, where applicable.*

This target applies to all portable stereos brought into Australia for sale in that year. NAEEEC proposes to monitor the sale of portable stereos in that year and to move toward regulation should that target not be met by a significant number of suppliers of products.

2. NATIONAL STANDBY STRATEGY TARGET – 2012

Product	Off mode power ¹⁾	Passive standby mode power ²⁾
Portable stereo	Less than 0.3 Watt	Less than 1.0 Watt

Notes:

1. *Lowest power when connected to the mains. Limit is applicable to models which have an off mode*
2. *When switched off using a remote control, where applicable.*

The National Standby Strategy sets out the target of one watt, to be achieved by 2012. This is consistent with international activities, in particular, the IEA "One Watt Initiative" and the current Energy Star requirements. This target should apply to all portable stereos.

The above requirements will be inserted into the relevant Australian Standard.

GOVERNMENT PROPOSALS TO ACHIEVE THIS TARGET

Government agencies intend to take the following actions to assist industry meet the standby targets for portable stereos:

Voluntary Tool Available	Use for this Product	Rationale	Date
Energy Star	✓	<ul style="list-style-type: none"> This Program will continue to be supported and communicated to stakeholders, particularly emphasising the value of investing in Energy Star compliant portable stereos. 	ongoing
		<ul style="list-style-type: none"> NAEEEC will set voluntary targets for the market share of portable stereos that are Energy Star compliant. 	2nd Q - 2004
		<ul style="list-style-type: none"> MCE will consider creating Government Policy of purchasing Energy Star portable stereos where available and fit for purpose. This policy will encourage manufacturers to supply Government agencies with portable stereos that are Energy Star compliant. 	4th Q - 2003
		<ul style="list-style-type: none"> Publish Energy Star Partner compliant portable stereo data on www.energystar.gov.au 	1st Q - 2004
Industry Code of Conduct	✗	<ul style="list-style-type: none"> Not considered appropriate at this stage 	NA
Australian Standard	✓	<ul style="list-style-type: none"> To communicate government expectations consistent with Energy Star levels in a new Australian Standard, likely to be a part of AS/NZS 62301 	Initiate 3rd Q - 2003
Annual in-store survey	✓	<ul style="list-style-type: none"> To collect data on all modes for new portable stereos and to analyse trends 	ongoing
Publish Statistics	✓	<ul style="list-style-type: none"> NAEEEC will highlight the range of performances of portable stereos in the marketplace through publishing data on a website or other means. 	ongoing
		<ul style="list-style-type: none"> NAEEEC will also consider highlighting manufacturers who are not Energy Star partners 	2nd Q - 2004

Government will announce whether this product should be targeted for stage two intervention under the National Standby Power Strategy (involving possible regulatory intervention) or whether the abovementioned actions together with industry intervention have been successful in meeting the target at the NAEEEC Forum in the year:

2007

REFERENCES

- EES & EnergyConsult 2003, *Appliance Standby Energy Consumption: Store Report 2003*, report for the National Appliance and Equipment Energy Efficiency Committee prepared by Energy Efficient Strategies & EnergyConsult, March 2003, Canberra. NAEEEEC Report 2003/04. www.energyrating.gov.au
- EES & EnergyConsult 2002, *Appliance Standby Energy Consumption: Store Report 2002*, report for the National Appliance and Equipment Energy Efficiency Committee prepared by Energy Efficient Strategies & EnergyConsult, June 2002, Canberra. NAEEEEC Report 2002/08. www.energyrating.gov.au
- EES & EnergyConsult 2001, *Quantification Of Residential Standby Power Consumption In Australia: Results Of Recent Survey Work*, report for the National Appliance and Equipment Energy Efficiency Committee prepared by Lloyd Harrington (EES) and Paula Kleverlaan (EnergyConsult), Canberra. www.energyrating.gov.au
- MCE 2002, *Australia's Standby Power Strategy 2002-2012 - "Money Isn't All Your Saving"*. Final report of long-term strategy to achieve Australia's One-Watt Goal 2002 to 2012, Ministerial Council on Energy. NAEEEEC Report 2002/12. www.energyrating.gov.au

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