

STANDBY PRODUCT PROFILE 2004/7

NOVEMBER 2004

PRODUCT PROFILE



BREADMAKERS

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.rating@deh.gov.au](mailto:energy.rating@deh.gov.au)

Alternatively, hard copy comments can be mailed to:

Equipment & Appliances Team  
Australian Greenhouse Office  
Department of Environment and Heritage  
GPO Box 787  
CANBERRA ACT 2601

Comments received by 28 February 2005 will assist in determining the final form of the policy proposals taken to government.

An electronic version of this Standby Product Profile and other Profiles released for public discussion can be obtained from [www.energyrating.gov.au](http://www.energyrating.gov.au)

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## PRODUCT DESCRIPTION

A breadmaker or bread machine is an electric appliance that combines mixing, warming and cooking functions; i.e. automatic mixing, kneading and baking. Its primary function is to make bread loaves, however depending upon the machine it may be able to make not only bread, but dough for pasta, pizza bases, jam etc. Features that differ across appliances include: single or multi loaf options, different bread textures and sizes; automatic fruit and nut dispensers; and baking times. Most machines have electronic timer devices which set mixing, warming, cooking, and delay start times. Breadmakers generally have no power on/off switch, being ready for activation once plugged in.

## CURRENT OWNERSHIP AND TRENDS

The modern breadmaker first appeared in the United States in 1987; arriving in the Australian market place in the mid 1990's. Initially viewed as a novelty item, sales have been strong with consumers embracing the technology. However being a relatively new and a small kitchen appliance little research has been done on ownership.

In 2001, NAEEEC commissioned a household telephone survey based on a sample of 801 households and an intrusive survey of 64 households. From this we can estimate that the penetration of breadmakers in 2000 was between 17% and 22% and that this figure is likely to have risen during the last four years. These results are shown in Table 1.

**TABLE 1: PENETRATION OF BREADMAKER OWNERSHIP IN 2000 - AUSTRALIA**

Year	Penetration	Source	N
2000	21.7%	NAEEEC Telephone Survey	174
2000	17.2%	NAEEEC Intrusive Survey	11

The telephone survey found only one household with more than one breadmaker and no-one in the intrusive survey owned multiple machines. Ownership data is presented in Table 2.

**TABLE 2: OWNERSHIP DATA FOR BREADMAKERS - AUSTRALIA**

No. of Breadmakers	2000 (NAEEEC) telephone survey	2000 (NAEEEC) intrusive survey
None	78.3%	82.8%
1	21.6%	17.2%
2 or more	0.01%	0%
Ownership	0.217	0.172
Saturation	1.0115	1.0

Sales of breadmakers in Australia are collected by GFK Marketing Services. The latest sales data for the market shows that annual sales are declining, from approximately 200,000 pa in 2000 to under 90,000 in 2002. It is unlikely that the sales trend will continue to decline, as the replacement market is estimated to be 100,000 pa based on an estimated 1.5M breadmakers in Australian households.

## RELEVANT MODES FOR THE 'ONE WATT' POWER PLAN

Breadmakers available in Australia usually have only two operational modes: on and active standby. The on mode is not generally relevant for the standby power plan, although the on mode power consumption and the hours of use are critical in determining total energy consumption of breadmakers.

Active standby mode applies to all breadmakers. This mode occurs while the unit is plugged in and waiting for instruction. It also applies to a machine that has been pre programmed to begin functioning at a later time i.e. delay start. In this mode the breadmaker will at a minimum be powering a clock display feature and depending upon the model, programming lights or displaying instructions.

The telephone survey of appliance usage asked respondents to indicate the current status of their breadmaker. The results found that 10% had their breadmakers plugged in, but not activated i.e. in active standby. Adding to this, 33% reported that they mostly used the delay start feature rather than activating the cooking cycle immediately, indicating that many machines are left in the active standby mode. Given this usage pattern and the fact that active standby is the lowest possible mode for breadmakers, the National Standby Strategy will need to consider active standby for breadmakers.

## KNOWN STANDBY DATA FOR NEW PRODUCTS

The NAEEEC store surveys measured breadmakers in active standby mode. In the four years of the survey only one model has been found to have an on/off function and this measured 1.1W in this mode. In use measurements are not taken.

Table 3 below summarises the results for the 2001 - 2003/04 NAEEEC store surveys.

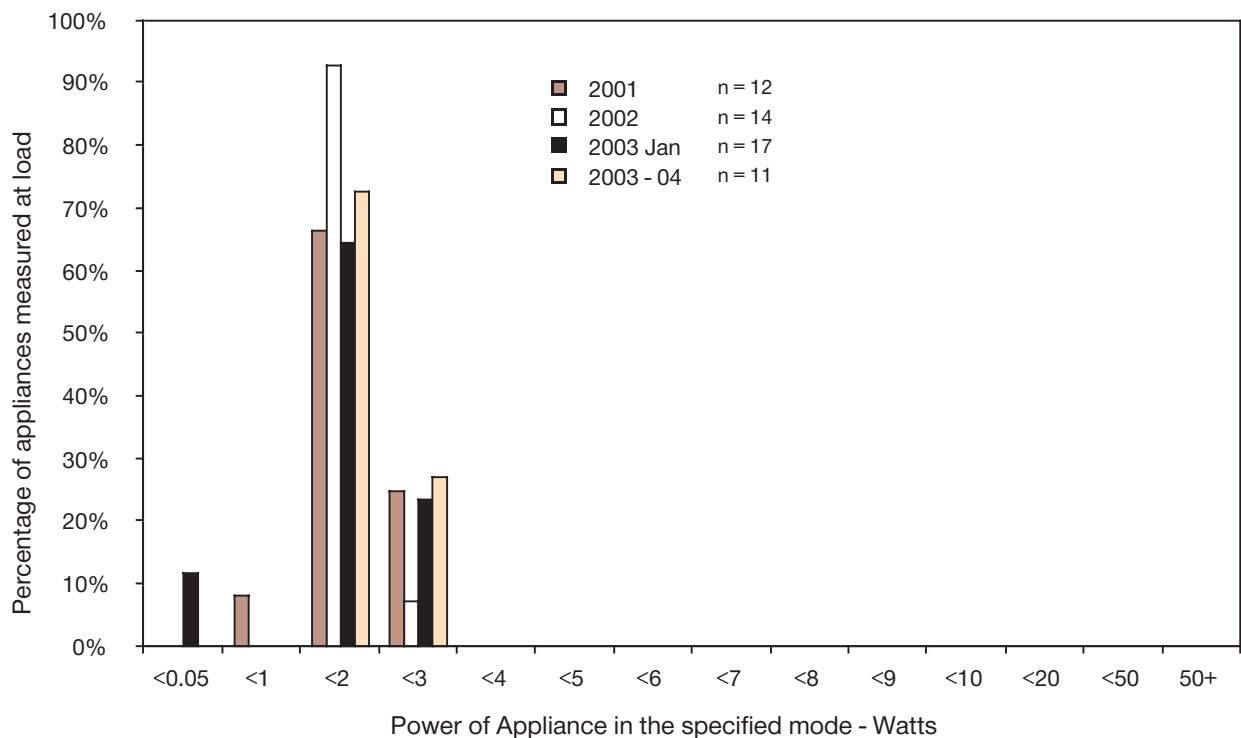
In active standby mode the results for breadmakers have been consistent across all the surveys. Figure 1 indicates that the vast majority of breadmakers consume less than 2W in active standby mode.

**TABLE 3: SUMMARY OF RESULTS FOR 2001 - 2003/04 NAEEEC STORE SURVEYS**

	2001 (n=12)	2002 (n=14)	2003 (n=17)	2003/4 (n=11)
Average Active Standby	1.6W	1.5W	1.6W	1.7
Minimum Active Standby	0.7W	1.1W	0.0W	1.2
Maximum Active Standby	2.5W	2.6W	2.9W	2.1

*Note: n is total sample size in survey*

**FIGURE 1: POWER MEASUREMENTS FOR BREADMAKERS: ACTIVE STANDBY MODE**



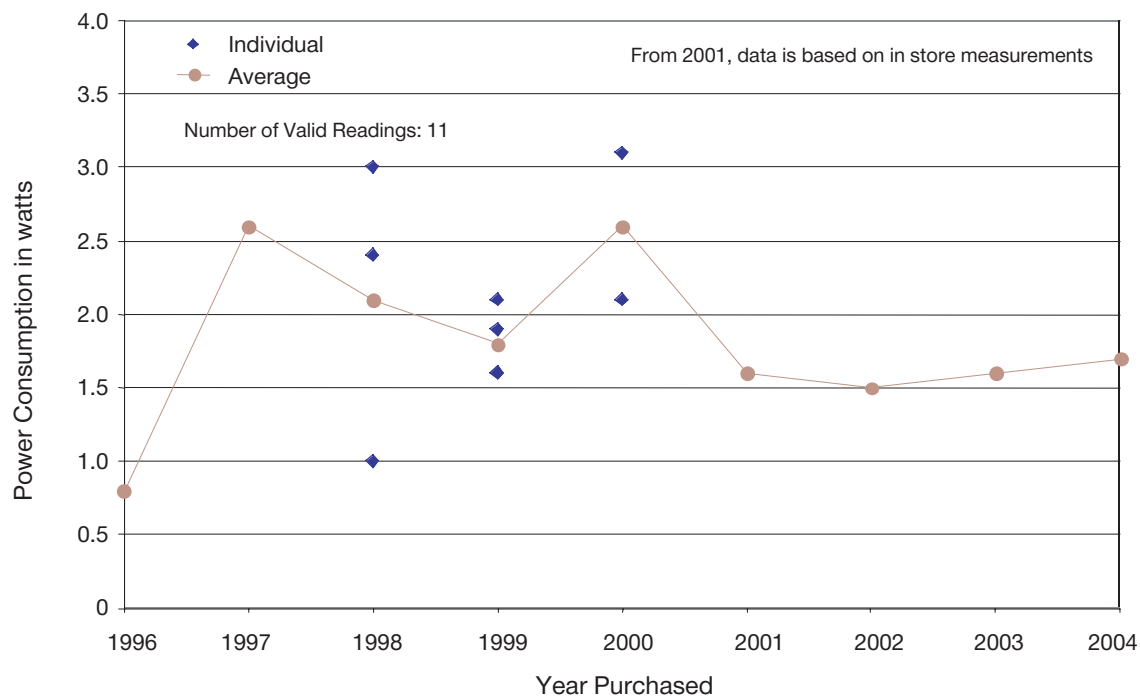
## KNOWN STANDBY DATA FOR INSTALLED STOCK

An intrusive household survey of 64 households in Melbourne, Brisbane and Sydney in late 2000 found 11 breadmakers installed. The active standby of these units was measured. None were found to have an on/off button. The average age of breadmakers in the intrusive survey was found to be 3 years with the oldest machine being purchased 5 years earlier.

This intrusive survey found the average active standby mode power consumption was 2 watts, with a maximum of 3.1

watts and a minimum of 0.7 watts. Figure 2 below presents the average active standby consumption of breadmakers. Given the small sample numbers it is hard to make concrete statements. However while most earlier models appear to have consumed more than 2W in active standby the last four years has seen average standby fairly stable at just over 1.5W.

**FIGURE 2: INTRUSIVE SURVEY – DISTRIBUTION OF BREADMAKERS ACTIVE STANDBY POWER CONSUMPTION BY AGE**



## GREENHOUSE EMISSIONS

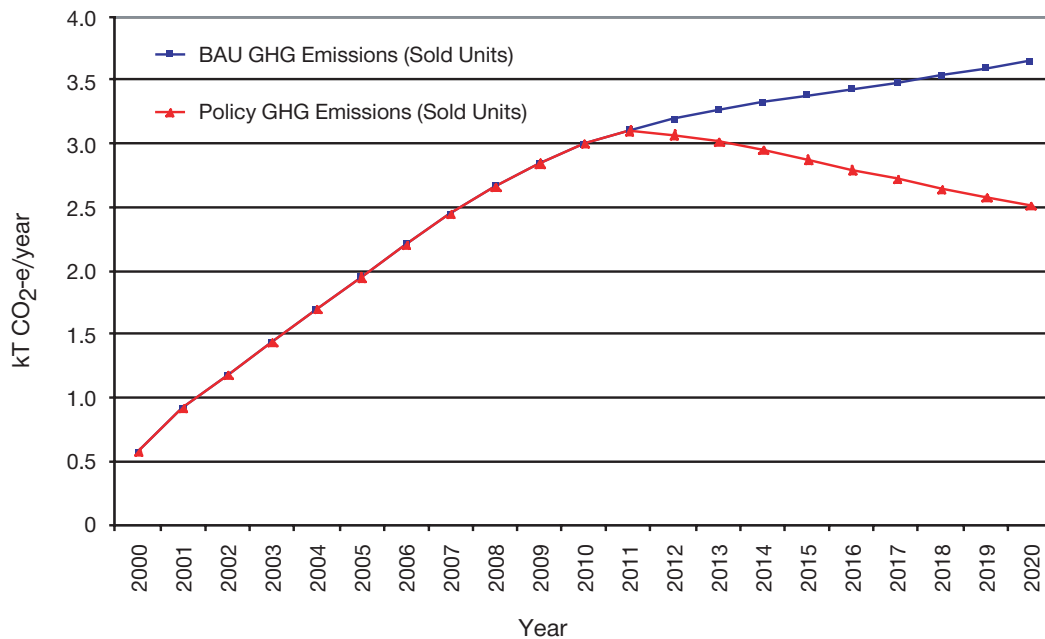
For the purposes of estimating greenhouse emissions, it has been assumed that breadmakers are in-use for approximately 3 hours per day over 5 days/week, 20% of the remaining time is spent in active standby mode and 80% in off mode. In addition, 100,000 breadmakers are estimated to be sold per annum from 2003.

The greenhouse emissions reduction potential for the proposed active standby target of 3W by 2007 and 1W

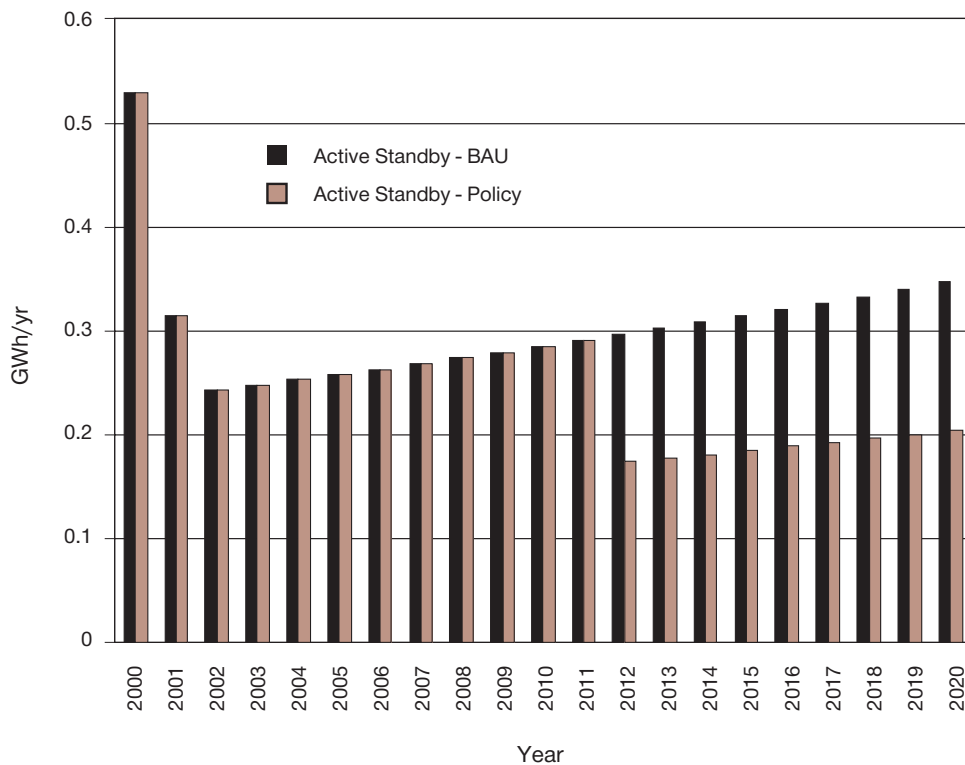
by 2012 is shown in Figure 3. This indicates potential reductions of 123 t CO<sub>2</sub>-e pa by 2012 and building to over 1132 t CO<sub>2</sub>-e pa by 2020. Note that Figure 3 shows the cumulative effect of the greenhouse savings over time.

The projected effect on total annual energy consumption by breadmakers based on the implementation of these targets in Australia is shown in Figure 4.

**FIGURE 3: BAU VS POLICY TARGET – CUMULATIVE ANNUAL GREENHOUSE EMISSIONS FOR BREADMAKERS**



**FIGURE 4: ANNUAL EFFECT ON ENERGY CONSUMPTION OF POLICY TARGETS VS. BAU FOR BREADMAKERS**



## CURRENT OVERSEAS POLICIES AND TRENDS

Currently there are no known guidelines or regulations for breadmakers internationally.

## 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 this target is to provide governments with confidence that Australian products will meet the ultimate target, of 1W in 2012. If the 'interim' target is not met in the specified year, governments will commence dialogue with industry to explore other options, including the possibility of moving to Stage 2 mandatory measures.

### 1. INTERIM TARGET - 2008

#### Active standby mode (W)

Less than 3

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This target applies to all breadmakers sold in Australia in that year. NAEEEC proposes to monitor the sale of these products in that year and to move toward regulation should that target not be met by a significant number of products.

### 2. NATIONAL STANDBY STRATEGY TARGET – 2012

#### Active standby mode (W)

Less than 1

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This target should apply to all breadmakers from 2012.

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 breadmakers:

Voluntary Tool Available	Action / Rationale	Date
Government procurement list	<ul style="list-style-type: none"> <li>MCE are considering a policy of preferencing the purchase of low standby breadmakers where available and fit for purpose. Qualifying products to be included on the government Energy Allstars procurement database.</li> </ul>	2005/6
Australian Standard	<ul style="list-style-type: none"> <li>To communicate government expectations in a new part of AS/NZS 62301.</li> </ul>	From 2005
Annual survey	<ul style="list-style-type: none"> <li>To collect data on new breadmakers and analyse trends. This data will be published annually.</li> </ul>	ongoing

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:

**2009**

## 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. NAEEEC Report 2003/04. [www.energyrating.gov.au](http://www.energyrating.gov.au)

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