



The more stars the more savings!



Standby power

Standby power consumption significantly contributes to Australia and New Zealand's greenhouse gas emissions and is now one of the largest electrical end-users in our homes. Based on a 2005 survey (<http://www.energyrating.gov.au/wp-content/uploads/2011/02/200602-intrusive-survey.pdf>) of 120 Australian households, it is estimated the average standby power accounts for more than 10% of Australia's residential electricity consumption. This level of residential standby power consumption was estimated to cost Australian consumers approximately \$950 million (at an average retail tariff of 15c/kWh) and will have resulted in emissions of nearly 6.5 million tonnes of carbon dioxide.

Products with Standby generally operate in three modes: Off mode, Standby mode, and Active (or On) mode.

- **Off mode:** the energy using product is connected to a mains power source and is not providing any standby or active mode function. This situation may persist for an indefinite time.
- **Standby mode:** the energy using product is connected to a power source and offers one or more of the following user orientated or protective functions which may continue for an indefinite period:
 - ability to activate other modes (including active mode) by

- remote switch (including remote control), internal sensor, timer
- continuous function: information or status displays including clocks
- continuous function: sensor-based functions
- **Active mode:** The energy using product is connected to a mains power source, has been activated and provides one or more main functions. There may also be transition phases that occur pre or post the provision of the main function, when the product is preparing to be used or is completing functions before powering down to Standby mode.

Regulating standby power consumption has been recognised as one of the most cost effective potential end-use energy efficiency measures. Australian Governments have been developing policy on standby for some time. Background on the development of this policy is available [here \(http://www.energyrating.gov.au/products-themes/standby-power/background/\)](http://www.energyrating.gov.au/products-themes/standby-power/background/).

The Ministerial Council on Energy (MCE) initially proposed to expand its commitment to reducing excessive standby by formulating a coordinated product-specific 10-year Standby plan (2002-2012) within the umbrella of the International Energy Agency's (IEA) "One Watt" initiative. More recently it was announced that a regulatory approach to limit standby power to one watt would be introduced by 2013. Regulatory proposals in Australia are likely to be broadly harmonised with the requirements in Europe in the first instance.

In order to obtain better information on products and trends, every five years a survey of Australian households is undertaken to quantify the contribution of standby energy usage. The first survey was completed in 2000, and provided measurements and information on 2,500 appliances from 64 houses in Brisbane, Melbourne and Sydney. The second survey was completed in 2005, and provided measurements and information on 8000 appliances from 120 houses in Brisbane, Melbourne, Sydney and regional Victoria.

2010 Survey of Standby Power Use and Lighting Attributes in Australian Households

The Australian Government Department of Climate Change and Energy Efficiency have commissioned a [study into the standby power use and lighting attributes \(http://www.energyrating.gov.au/products-themes-2/standby-power/2010-survey/\)](http://www.energyrating.gov.au/products-themes-2/standby-power/2010-survey/) of Australian households. This research is being conducted through a series of surveys of 150 homes in Brisbane, Sydney, Melbourne and regional Victoria.

An international project to compare standby power consumption across a range of countries is now under way. See the main project page to find out more about [International Projects on Standby \(http://www.energyrating.gov.au/products-themes-2/standby-power/international/\)](http://www.energyrating.gov.au/products-themes-2/standby-power/international/).

As part of Australia's contribution to the International project on standby, it has been collecting standby data from appliances in retail stores. This survey of standby power consumption of appliances is conducted as part of the Alignment of National Standby Power Approaches Project, which is being driven by the Australian Government's Department of Climate Change and Energy efficiency with assistance from Korea, as part of the Asia Pacific Partnership on Clean Development and Climate Change (APP). The standby project is one of several being undertaken by the APP's Building and Appliances Taskforce (BATF).

Australia is also undertaking surveys in line with the Basket of Products Approach. This survey is the key component of the Alignment of National Standby Power Approaches Project and has been designed to enable consistent collection of standby power data, resulting in a representative set of standby measurements. The data will be gathered for a common set of products in different regions and countries around the world. Such a comprehensive set of data will facilitate international comparisons and tracking trends in standby consumption by products and/or by countries over time. The benefit of such a high quality data set is to enable benchmarking to provide a sound basis for policy development and analysis.

While the amount of standby power varies markedly between countries, the global energy consumption from standby power has been estimated by the IEA to be between 200TWh and 400TWh per year.

In September 2005 Standards Australia (<http://infostore.saiglobal.com/store/>) and Standards New Zealand (<http://www.standards.co.nz>) published the test method for the measurement of standby power AS/NZS 62301-2005. This is referenced by test methods and regulatory standards for various product categories where standby requirements are specified. This standard is equivalent to Edition 1 of IEC62301. IEC62301 is being revised and Edition 2 (and the AS/NZS equivalent of this standard) is expected in early 2011. Edition 2 will have some significant improvements such as improved stability requirements, use of sampling as the preferred test method, refined measurement uncertainty requirements for more difficult low power modes and improved guidance on measurement approaches.

Please follow the links to further information on standby:

- Background on standby power (<http://www.energyrating.gov.au/products-themes/standby-power/background/>).
- Description of standby product profiles (<http://www.energyrating.gov.au/resources/product-profiles/>).

A joint initiative of
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Comments to energyrating@industry.gov.au (<mailto:energyrating@industry.gov.au>)