Standby Power and How to Use Less of It

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ABSTRACT

In 2000, a survey of 65 homes in Australia produced some startling findings – standby power was around 90 Watts continuous (>10% of residential electricity). Realistic projections suggested this was set to grow at 7% per annum. These facts, confirmed by other studies around the world, prompted the development of an Australian government plan to combat excessive standby power. In late 2002, the Ministerial Council on Energy in Australia launched a 10-year strategy to deal with excessive standby power use by appliances. More than 30 problem products were identified for specific standby improvement plans. Half of those plans have been released with the remainder scheduled for October 2004.

Australia's standby strategy is to build around the IEA plan, which encourages all member nations to address standby in a coordinated manner. Australia has also been active in the development of standby test methods within the IEC. The Australian approach uses product specific targets that must be met by 2012. If industry fails to reach the targets, voluntary action may be replaced by mandatory actions such as energy labeling of standby, warning labels for poor product or banning from sale. Industry involvement and support for the program is strong, especially for independent verification of standby claims. Australia is working with other nations like Korea to develop viable standby policies.

The Australian approach cannot achieve its complete potential without real action by other major economies. The paper calls for coordinated action on standby by the major economies and a continuation of action by multinational energy bodies.

Context

Since the late 1990s, the government officials managing the Australian end-use product program have struggled to develop a viable program to reduce excessive standby power. Based on this experience, two self-evident truths can be extracted about the Australian program, providing a message for other countries:

1. mitigating standby power can be a very cost-effective measure to reduce greenhouse gas emissions or to conserve energy; and
2. reducing excessive standby power for electrical products cannot be achieved by any one nation operating alone.

The apparent inconsistency between these two conclusions helps to explain the conundrum that confronts all nations when tackling standby and may explain the lack of coordinated international action to date. This paper is about the program devised in Australia to reduce excessive standby power to levels acceptable to all stakeholders, manufacturers, consumers and government. It is both a treatise on "lessons learned" and a call for those charged with management of codes and standards programs throughout the world to better address

excessive standby or risk it overwhelming us. No single national program can be fully effective; only coordinated international programs can really reduce excessive standby to acceptable levels.

What Is Standby Power?

In lay terms, standby power is the energy used by an appliance while plugged in but not actually carrying out its central function[1]. Standby power is that power consumed not while the appliance is being fully utilized but while it awaits instruction; while it is "standing by".

Many products are designed to draw power 24 hours a day, seven days a week, every month of the year simply so that they can react more quickly when consumers want the appliance to provide full function. The IEA provides a more complete definition for standby, identifying low power modes required to provide remote control capability, network sensing, digital display and other non-core or sensing functions (IEA, 2001). IEC62301 uses the term standby to refer to the lowest power consumption when connected to the mains, mainly for the sake of defining at least one default mode for use in the test procedure.

In this paper, excessive standby power is the term used (not leaking electricity, vampire sucking machines, lopomos or other latest buzz terms) to refer to appliances that offer poor power consumption in low power modes (ie usually not their central function) in comparison to competitive products. At its essence, excessive standby power is about waste energy; waste because most of it is unnecessary to deliver the service. Any standby policy must balance the undoubted consumer benefit offered by services in low power modes against the excessive energy use by many models compared to best possible practice.

It is not practical for consumers to address excessive standby through behavioral change. Maybe twenty years ago, consumers could turn off their appliances with a hard switch and power use would just stop. Today, despite even the best endeavors of motivated consumers to limit energy use while the appliance is not providing its main function, meters keep running because appliances are designed with low power modes providing services that some may not want (but many do). Most appliances sold today do not even have a hard off switch. Governments cannot expect consumers to overcome all excessive standby power through behavior change. Governments will have more success targeting manufacturers, encouraging products designed to use technology to minimize excessive standby. Our ultimate goal is to ensure that standby power consumption is so trivial that consumer behavior becomes irrelevant.

Standby Is a Big Problem, and Getting Bigger

In the last 5 or so years, experts throughout the developed world have systematically quantified the magnitude of standby power. The latest readings are summarized in Table 1.

These studies suggest a general conclusion that standby power constitutes around 10% of residential sector electricity and, if past trends continue unabated, standby will only continue to grow with the current proliferation of new products and functions.

[1] The issue of what constitutes standby and what does not is complex – it can be argued that many products with a monitoring function such as smoke alarms, burglar alarms, answering machines and so on are performing their primary function for the majority of the time, despite this being a low power mode. These are treated as "standby" in this paper.

But Excessive Standby Is Capable of Being Fixed, and Fixed Quickly

The IEA reports, "we can reduce standby power consumption by about 75 per cent using cost-effective technologies and design changes" (IEA 2001). German experts suggested that, though standby power draws 20 TWh per annum in private households, it could be reduced to 8 TWh within ten years, if adequate measures are taken (IEA 2001). Australian projections suggest our measures could reduce standby power by 56% by 2020 and abate 39 Mt CO_2-e over the period 2003-2020 (Wilkenfeld 2003). Potential Australian savings are illustrated in Figure 1 and Figure 2.

The reasons such dramatic reductions are touted in the academic literature is that fixing standby is not difficult, if addressed at the design stage. The "cost" of fixing standby is a combination of generally inexpensive existing technology and better product design practice within manufacturers' research and development departments. The roadblock is that Governments collectively around the world have not raised their concerns with manufacturers in a coherent way that encourages the design engineering specification to require standby functions to operate at best available technology levels – standby has not really hit the radar until recently.

Table 1. Standby Power in the Household Sector – Summary of Global Measurements

Country/Region	Number Homes	Year	Standby Power (W)	Energy (kWh/y)	Fraction of Total *	Country /Region
Australia	64	2000	87	760	12%	Australia
Australia	1	2001	112	980		Australia
Canada/Nova Scotia	79	2001	38	329		Canada
China/Beijing	42	2001	33	n.a.		China
China/Guangzhou	115	2001	35	n.a.		China
Denmark	100	2001	60	530		Denmark
France	178	1999	38	235	7%	France
France/Paris	1	1999	70	600		France
Greece	100	2001	50	440		Greece
Italy	100	2001	57	500		Italy
Japan	36	1997	60	530	12%	Japan
Japan	42	2000	45	398	9.4%	Japan
Japan/Tokyo	1	1999	80	700		Japan
New Zealand	29	1999	100	880	11%	NZ
New Zealand/North Island	2	2001	125	1015		NZ
Portugal	100	2001	46	400		Portugal
Sweden	1	1997	80	475		Sweden
United Kingdom	32	2000	32	277		UK
USA/California (East Coast?)	10	2000	67	590	9%	USA
USA/California	4	2001	115	1010		USA
USA/Colorado	5	2001	46	405		USA

Source: Meier, 2002. Note *: Estimated fraction of national household electricity, where known.

Figure 1. Forecast Standby Trends in Australia

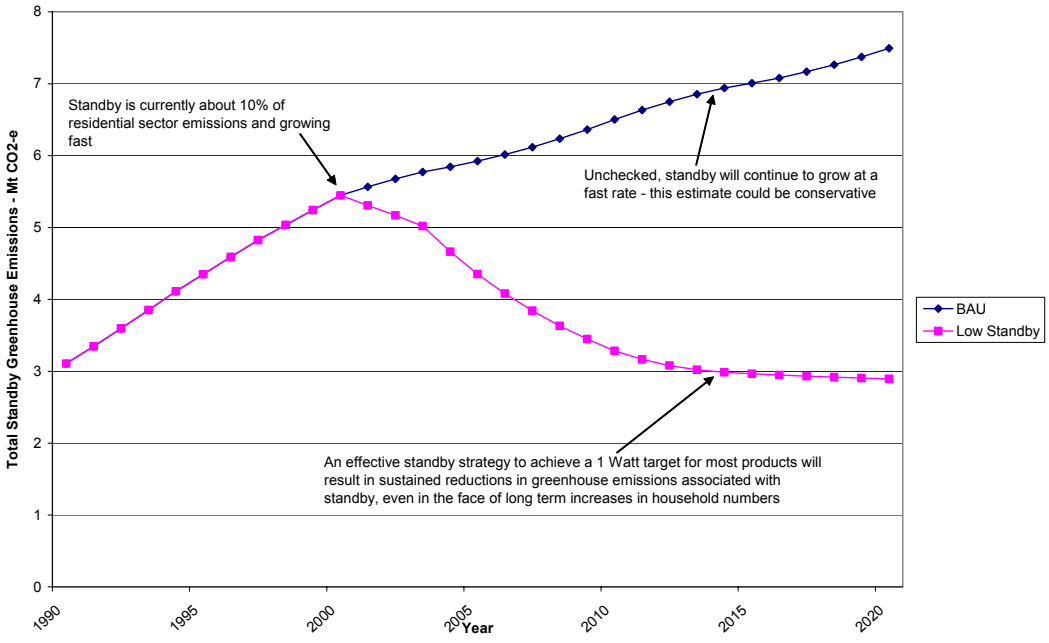
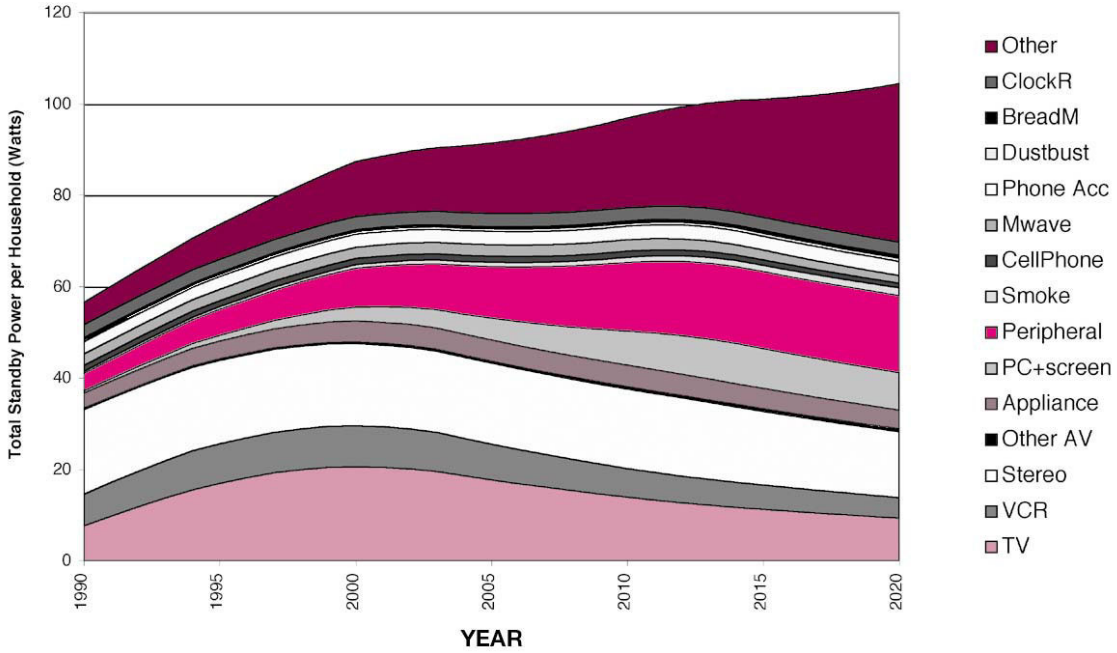


Figure 2. Forecast Standby Trends in Australia by End Use: BAU



Cost-effective solutions exist for excessive standby. Australian standby field measurements of new products in retail outlets has shown that for some product types there is a huge variation in the standby power, even though the features, price and functionality of products appear to be the same. For example, standby mode of new televisions (where the product can be activated by a remote control) varies from as little as 0.2 W to as much as 35 W, with an average of 5.9 W (EES et al 2003). A similar range for TVs was found in similar surveys undertaken in

2002 and 2001. Nearly 25% of models had a standby of less than 1 Watt in 2002 and 2003. Similarly, standby for DVD players varied from a minimum of 0.1 W to a maximum of 5.7 W (average of 1.7 W). A similar pattern is displayed for many products with standby ranging from the good to the excessive. The evidence is that there is not a strong correlation between low price and excessive standby power use (or the reverse).

So If It's So Easy Why Haven't Viable Standby Power Programs Emerged?

The fact that excessive standby can be reduced so dramatically and so cost-effectively is now widely known amongst energy efficiency experts and even government agencies. But these people have been less than successful in raising the profile of the issue with manufacturers until recently. International efforts about standby can be characterized are sporadic and spasmodic, lacking the coherent and consistent message that multinational suppliers require before changing their business practice.

Between 1999 and the end of 2002, Australia similarly discussed the problem with key industry and consumer groups. The consistent message from Australian-based suppliers was that they were rarely in a position to direct or even influence appliance design practice. Most appliances (especially smaller products such as consumer electronics where standby is common) were manufactured overseas with Australia representing only 1% of the world market. Local suppliers only had the choice of importing the best available products, which may or may not meet government standby targets. They claimed they often were unable to obtain standby power data before the product arrived in Australia and therefore could only test locally. Their collective response to government was that industry was willing to address the problem but first the scientists should resolve a simple and inexpensive method of testing for low power modes and second government should resolve internationally accepted targets. In that context, Australian industry would assist by working with their multi-national suppliers to deliver product to meet Australia's and the world standby target.

The IEA vision for an international program identifies similar considerations (published as, *Things That Go Blip In The Night*, IEA, 2001). The catalyst for Australian action was the 2001 IEA call for member countries, working with industry, consumers and other interested parties, to encourage the design and introduction of new, more efficient appliances that meet the needs of consumers and the environment.

The Australian Program

The Australian Greenhouse Office, the responsible federal agency, developed a multi-pronged approach to address excessive standby reduction:

1. A clear statement of policy from the highest levels of government;
2. A commitment to participate (and lead if necessary) international endeavors to develop international standards and definitions for standby;
3. A commitment to benchmark standby for Australian products over time; and
4. A long-term strategy that develops and applies agreed standby policies to particular problem products.

Statement of Policy – Government Leadership

In August 2000, the Council of Commonwealth, State and Territory Ministers in charge of energy matters endorsed a program of work to lead Australia towards achieving the goal of "One Watt" for all consumer appliances and office equipment. They agreed to develop policies designed to ensure the maximum passive standby power of all appliances manufactured in or imported into Australia is One Watt. Australia was the first national government to agree to this target, endorsed by the IEA.

This statement of principle sent a clear message to industry and provided a coherent structure for a diverse range of policies designed to combat excessive standby power.

The Federal Government went further and announced in October 2001 a policy to purchase only equipment that complies with the US Environmental Protection "ENERGY STAR" specifications, where it is available and fit for the purpose. In 2004, this policy of giving preference to Energy Star compliant product has taken a step further when all Australian governments agreed to the policy and the creation of a "high efficiency" database to help promote those products (similar to the US Federal Energy Management Program database). The Australian program currently is exploring synergies between low standby power use products and the most energy efficient products with both to be promoted on a website with a working title of "energyallstars".

Participation in International Endeavors

In 2000, Australian Governments also agreed to continue to support international cooperative programs to help reduce excessive standby. Since so many appliances and components are traded internationally, government acknowledged that consistent approaches (such as test methods, standards and associated voluntary programs) would not only lead to better environmental outcomes but could benefit manufacturers by reducing costs and barriers to trade and consumers through international labeling and education programs.

Australia agreed to contribute to the IEA work program for standby. Australian delegates participated in each of the IEA's three standby workshops. Australia has funded the work of the chair of IEC TC59 Working Group 9, which developed the international test method for the measurement of standby power for appliances (IEC 2003 – see Annex A for a history). In 2003, Australia published the test method to allow industry access while the IEC process is completed.

Regular Measurement of Standby

Since 2001, Australia has conducted annual store surveys measuring product power use (in active and passive standby modes) and from 2004 these surveys have moved to a six-month cycle. This independent verification process checks manufacturers standby claims, providing some transparency to the process. It provides a trend line for products over time and, in the absence of better data, represents how the program is measured.

Money Isn't All You're Saving – Australia's Standby Power Strategy 2002 – 2012

The development of this ten-year strategy is an Australian Government commitment to reduce excessive standby power (MCE 2002). It is available from www.energyrating.gov.au in

the electronic library. It is the culmination of considerable industry and community consultation and sets out:

1. A long-term plan for the measures to combat excessive standby consumption;
2. The 30 "problem" product types targeted for remedial action plans in 2003 and 2004 and the process for identifying additional products that may require such plans;
3. The procedure for setting standby targets; and
4. The sanctions that could be applied should suppliers not meet targets.

In December 2002, the AGO secured agreement from the US Environmental Protection Agency to provide unfettered access to the ENERGY STAR labeling scheme for all products traded internationally currently within that scheme. This means the ENERGY STAR logo can be used in Australia as the symbol of best standby product in its class. This mandate was renewed and extended in 2004.

So What Is Useful about AUSTRALIA'S APPROACH?

The Australian plan has three features that will be useful to North American policy makers interested in developing a standby power program.

1. Specific Product Profiles

The first is that Australia has gone beyond a general statement of principle (One Watt) to:

- identifying actual problem products; and
- identifying short-term standby targets to be met by individual products within a few years to ensure the One Watt target is met by 2012. Table 2 sets out product profiles released to mid 2004 with interim and final targets by mode.

Other products are set to have standby product profiles and targets released during 2004:

- space heaters (electric and gas with mains connections)
- cooktops and ovens (electric and gas with mains connections)
- range hoods (cooking exhaust fans)
- bread makers
- coffee machines
- remote operated roller doors
- motion detector lamps
- security systems
- modems and routers (dialup, ADSL & ISDN)
- PC speakers
- fax machines

It is important to note that three key products have been withdrawn from the standby profile process after consultation with stakeholders:

- televisions (all technology types),
- computer monitors, computers and power supplies
- set top boxes (pay TV).

For these products, the active mode (on) accounts for a significant part (if not the majority) of the total power consumption, so regulation that covers all modes will be more effective. In October 2004, the AGO and key stakeholders will propose mandatory energy labeling and minimum energy performance standards (maximum power or minimum efficiency levels) commencing in 2006 rather than voluntary action within the 10-year standby strategy.

Table 2. Summary of Standby Targets by Products – mid 2004

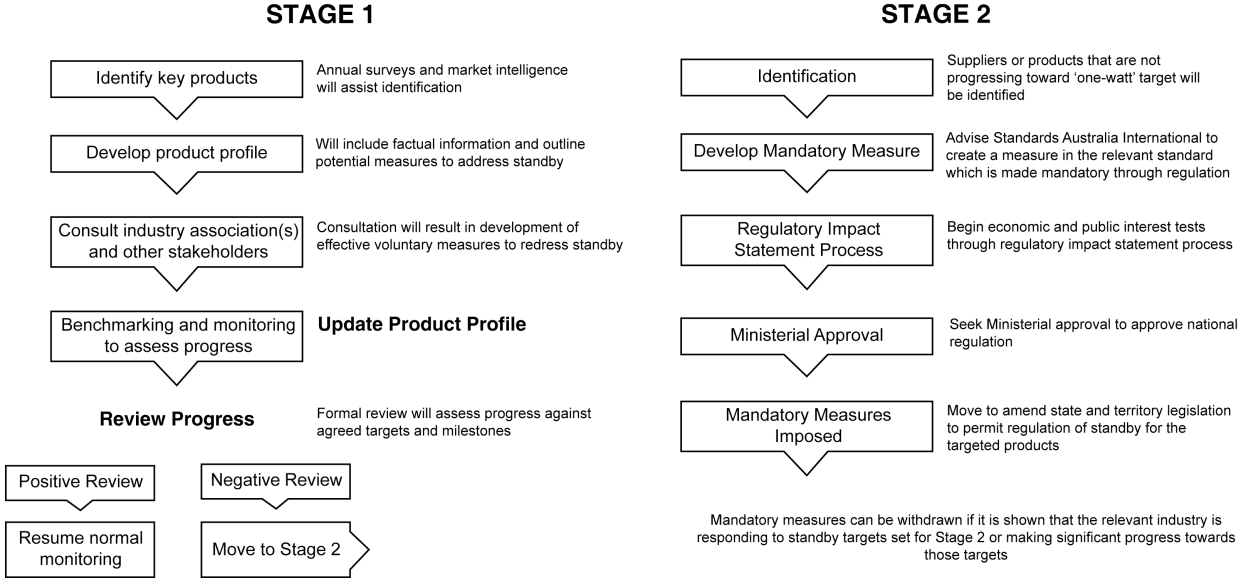
Product	Interim target – 2007/8	Final Target – 2012
DVD Players	Passive standby < 4W Off mode < 1W Auto power down ≤ 30 minutes	Passive standby < 1W Off mode < 0.3W Auto power down ≤ 10 minutes
Photocopiers	>75% sales exceed Energy Star (1995); or >25% sales exceed Energy Star (2005)	Under consideration
Computer Printers	>66% sales exceed Energy Star (2000); or >25% sales exceed Energy Star (2005)	Under consideration
Microwave Ovens	Passive standby < 4W	Passive standby < 1W
Scanners and MFDs	>75% sales exceed Energy Star (1997); or >25% sales exceed Energy Star (2005)	Under consideration
Portable Stereos	Passive standby < 4W Off mode < 1W	Passive standby < 1W Off mode < 0.3W
VCRs	Passive standby < 4W Off mode < 1W Auto power down ≤ 30 minutes	Passive standby < 1W Off mode < 0.3W Auto power down ≤ 10 minutes
Air conditioners	Passive standby < 3 W Off mode < 1 W Positive temperature coefficient controls on crankcase heaters (where present)	Passive standby < 1 W Off mode < 0.3 W Elimination of crankcase heaters (where feasible)
Clothes Washers	Off mode < 1W End of program mode < 4W	Off mode < 0.3W End of program mode < 1W
Clothes Dryers	Off mode < 1W End of program mode < 4W	Off mode < 0.3W End of program mode < 1W
Dishwashers	Off mode < 1W End of program mode < 4W	Off mode < 0.3W End of program mode < 1W
Integrated Stereos	Passive standby < 4W Off mode < 1W Auto power down ≤ 30 minutes	Passive standby < 1W Off mode < 0.3W Auto power down ≤ 10 minutes
Home Theatre Systems (includes AV Receivers)	Passive standby < 4W Off mode < 1W Auto power down ≤ 30 minutes	Passive standby < 1W Off mode < 0.3W Auto power down ≤ 10 minutes
Free-to-air Digital Set Top Boxes	Off mode < 1W Passive standby < 4W On/active mode ≤ 11W	Off mode < 0.3W Passive standby < 1W On/active mode ≤ 6W
Instantaneous Gas Water Heaters	Passive standby < 3W	Passive standby < 1W
Smoke Alarms (mains powered)	Active standby < 0.4W	Active standby < 0.2W

Note: All profiles can be downloaded from www.energyrating.gov.au under standby.

2. A Two-Stage Promotion and Shaming Process

The second is that Australia has introduced a potential two-stage process. Stage 1 allows industry time to address excessive standby using voluntary measures. Stage 2 escalates matters to include mandatory action underpinned in regulation should satisfactory progress has not been made within Stage 1. The detailed elements of each stage are illustrated in Figure 3.

Figure 3. Stage 1 and Stage 2 Assessment and Review



3. Policy Tools

The third feature is the range of measures that may be used with a particular product to achieve the standby power target. The Ministerial Council agreed to authorize a range of measures best suited to address standby for that particular product type. It is the combination of measures that best addresses the particular circumstances of the product, its market and its excessive standby use. The measures are:

- Endorsement labeling for low standby product - Energy Star
- Government procurement of One Watt compliant product
- Industry Codes of Conduct on data collection
- Australian Standards for specific problem products to record standby targets for all to see
- Regular standby measurement studies in stores
- Public reporting of progress (or lack of it)
- Mandatory appliance energy labels to include standby in algorithms
- Future use of minimum energy performance standards, should voluntary targets not be met
- Future use of mandatory warning labels, should voluntary targets not be met

The policy measure that may be unfamiliar is this idea of publicly reporting poor performance (and not just encouraging best performance). In the first voluntary stage, the public reporting is straight-forward (the worst standby performers in store surveys will be reported to the marketplace in publicly available reports so that their competitors and resellers are able to

use that data). In the second mandatory stage, the public reporting takes the novel approach of a mandatory warning label, affixed to the worst performing products, to identify them as under-performing in comparison to competitive product. A conceptual example of such a label is shown in Figure 4.

Figure 4. Possible Warning Label for Products with Poor Standby

Lessons Learnt

The Australian national program has been a resounding success when benchmarked against its goals. However, the main potential weakness is its reliance on other countries to lead by example to set standby targets: if there is no international progress, the program may not achieve its full potential. The program as configured delivers:

- A partnership between industry and government (demonstrated by industry's preparedness to move products from the 10-year standby strategy to mandatory efficiency standards for 3 products and industry's endorsement of the 13 standby plans released to date);
- Projected savings in the next 15 years from the Australian standby project actually exceed the projected savings of all the whitegoods currently subject to mandatory labeling and efficiency standards (a potential 5 or more percent reduction in household energy use by 2012 below business-as-usual);
- Proof of Government's determination to expand energy efficiency measures in the home beyond whitegood labels and efficiency standards.

The program measures meet with strong industry support because:

- The 10 year process meshes with industry product development cycles allowing standby to be addressed in cost effective ways when the product is scheduled for redeveloped;
- The standby strategy is a non-threatening process of engaging industry stakeholders in debates about energy efficiency improvements that does not move immediately to mandatory regulatory measures;
- The Australian standby targets are subject to the reality test of following technology developments in the world's leading economies (meaning Australian-based industry is not required to undertake more than its fair share of standby R&D);
- The product plans are looking to overcome non-compliance with specific targeted sanctions (adverse publicity, warning labels on only the non-compliant product) rather than across-the-board sanctions imposing costs on all irrespective of compliance with the voluntary targets.

Case Study to Demonstrate the Problem

Australia is not alone in creating an operating standby program. The Korean government has a national standby program that Australian officials are using to drive our own program. The example of microwaves is a case to prove the point.

> *The Australian plan for microwaves released in late 2003 set an interim voluntary target of 4 watts to be reached by 2007. The target was resolved by targeting the worst quartile of product in our market (using an inverted model of the US Energy Star principle, which targets the top 25% of the market).*
>
> *Australia sources microwave product primarily from Asia with possibly a quarter of sales of microwaves from Korean suppliers. There are no manufacturers of microwave ovens in Australia. In 2003, the Korean Government and its multi-national manufacturers agreed to their own national target in 2006 of 2 watts.*

This more aggressive target by the Korean government is a demonstration of both the limitations of individual national government negotiations and the benefit coordinated international endeavors can bring to national programs. You might correctly conclude Australian-based industry is now very supportive of the Australian target as they "got a great deal". You might be surprised to learn that the AGO management is content with this weaker target imposed later than our major trading partner. The authors suggest that Australian government "contentment" would have tested if say the USA had also set more stringent power and time targets for microwave ovens.

Someone Other than Australia Must Lead

Industry support for the Australian program is predicated on "following" the lead of the world's major economies. The support within Australia will evaporate should the world continue to procrastinate over international endeavors on standby. Since January 1999, the IEA has encouraged member countries to deal with standby as a project of international collaboration. Very few experts or policy makers disagree with the view that improving energy efficiency is a cost-effective way to reduce greenhouse emissions. The very low costs in addressing standby and the correspondingly high energy saving and emission reduction benefits of international programs suggest they should easily spread to other countries. An international program would reduce administrative burdens and associated costs to national governments, it would leverage national and regional promotional investments and minimize the risk of developing unintended trade barriers.

The weakest measure in the Australian strategy is coordinating our national endeavors with international standby proposals. That is not to say the Australian commitment is weak but rather that the international vision of a coordinated standby program remains an apparition, despite all efforts to date. Major economies appear content not to organize a shared international vision and implementation. It is only through concerted effort in North America, Europe and Asia, that standby power can be effectively addressed.

Conclusion

While some existing national policies and programs may appear inconsistent, the development of these national approaches is actually creating a climate ripe for an agreed

overarching international approach. The international response could be seen to build on existing national policies and processes of these existing programs including those of Australia and Korea. It is time to commence the implementation phase of the international plan proposal, which eventually can supplant disparate national programs and varying regional targets.

The AGO looks forward to working within the IEA to develop an implementation strategy for the international plan. It also looks forward to working with the Asia Pacific Economic Cooperation (APEC) to raise the profile of standby in that important regional forum. While these regional and global endeavors try to gain some momentum, Australia will continue to use the opportunities presented by the developing Korean standby power plans to drive our own measures. The authors believe however that if the IEA, APEC and other multi-national gatherings fail to move past the discussion stage, Australia's national program will stall within this decade and the projected abatement will fail to materialize. A wider integrated multi-national standby power strategy for internationally traded product is really "the only game in town".

An oft-used analogy used to identify energy efficiency opportunities is that of "low-hanging, ripe fruit ready for harvest". Excessive standby power is then the "over-ripe fruit that squashes between the toes" of those harvesting energy efficiency fields. The challenge for gatherings like ACEEE is to minimize the time wasted before the harvest. It is not funding, it is not the absence of technology, the problem is energy efficiency agencies "staying the distance", maintaining a coherent and consistent message to ensure world manufacturing first listens and then acts.

References

EES et al 2001, *Quantification of residential standby power consumption in Australia: Results of recent survey work*, Lloyd Harrington of Energy Efficient Strategies and Paula Kleverlaan of EnergyConsult, for NAEEEC, April 2001. Available from www.energyrating.gov.au in the electronic library.

EES et al 2003, *Appliance standby power consumption: Store survey 2003*, prepared by Lloyd Harrington of EES and Paula Kleverlaan of EC, for NAEEEC, March 2003, Report 2003/04. Available from www.energyrating.gov.au in the electronic library.

IEA 2001, *Things That Go Blip In The Night*, International Energy Agency, Paris, 2001. Available for purchase from www.iea.org

IEC 2003, *Measurement of Standby Power: IEC62301 Edition 1*, International Electrotechnical Commission, Geneva, 28 November 2003. Committee Draft for Voting, IEC 59/362/CDV. Details are available from www.energyrating.gov.au in the electronic library under standby.

MCE 2002, *Money isn't all you're saving: Australia's standby power strategy 2002 – 2012*, by the Ministerial Council on Energy, forming part of the National Appliance and Equipment Energy Efficiency Program, November 2002, NAEEEC Report 2002/12. Available from www.energyrating.gov.au in the electronic library.

Meier 2002, Standby Power Workshop, *ACEEE Summer Study*, August 2002, Asilomar, California.

NAEEEC 2002, *Standby Power Consumption: A long-term strategy to achieve Australia's One-Watt Goal 2002 to 2012*, prepared by the National Appliance and Equipment Energy Efficiency Committee, a discussion paper, July 2002, NAEEEC Report 2002/09. Available from www.energyrating.gov.au in the electronic library.

NAEEEC 2003, *Standby Product Profile – DVD Players*, proposal by NAEEEC to limit standby consumption of DVD players, March 2003. Standby Profile 2003/01. Available from www.energyrating.gov.au in the electronic library. Other product profiles are available.

Wilkenfeld 2003, *When You Can Measure It, You Know Something About It – NAEEEP Projected Impacts 2000-2020*, George Wilkenfeld & Associates, prepared for the National Appliance and Equipment Energy Efficiency Committee, Australia, January 2003, NAEEEC Report 2003/02. Available from www.energyrating.gov.au in the electronic library.

Annex A: Brief History of the Development of an IEC Test Method for Standby

The International Electrotechnical Commission (IEC) technical committee TC59, which covers electric household appliances, first considered the issue of standby at its meeting in Kyoto in October 1999. It agreed to form an ad hoc working group to consider the issue of standby and whether the development of a test method was warranted. The ad-hoc working group concluded that standby was an important issue and that the development of an international test method could provide a sound basis for the rapidly growing international work in this area.

Accordingly, a proposal for a new standard on standby was prepared by the TC 59 ad-hoc WG on standby in May 2001 (document IEC 59/254/NP). This proposal was approved by voting of member countries in September 2001 and at its meeting in Florence in October 2001, TC59 approved the creation of Working Group 9 to continue this work to publication.

WG9 finalized a committee draft (CD) at its meeting in March 2002 and this was circulated for public comment in mid 2002 (document IEC 59/297/CD). As all national comments on the CD were favorable or of a minor technical nature (see compilation of comments 59/317/CC), it was initially proposed that the document proceeded to committee draft for voting (CDV) in early 2003. However, objections from CECED (Europe) in February 2003 meant that the document had to be issued as a second CD (document 59/325/CD - closed in June 2003). Progress to CDV was approved at the TC59 meeting in Washington in October 2003 and this was released in November 2003 (voting closed April 2004). Voting on the CDV was positive an it is hoped a final draft international standard (FDIS) will occur later in 2004 with publication shortly after. To expedite the process, the methodology has been published as an interim standard in Australia (AS/NZS 62301-2003).

The objective of the standard is to provide a method of test to determine the power consumption of a range of appliances and equipment in standby mode (generally where the product is not performing its main function). The standard defines "standby" mode as the lowest power consumption when connected to the mains. The test method is also applicable to other low power modes where the mode is steady state or providing a background or secondary function (e.g. monitoring or display). The standard is intended to cover appliances and equipment that fall within the scope of IEC TC59, although it is acknowledged that, if desired, it can be applied to the relevant low power modes of other similar products.