

# Lessons learnt from Australia's standards & labelling program

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## Abstract

Like the majority of Europe, Australia has had a national end-use energy efficiency program. Between 1992 and 2000, its mandatory labelling of appliances delivered cumulative abatement of **5 Mt CO<sub>2</sub>-e**; a small contribution to our national stationary energy emissions calculated as 295 Mt CO<sub>2</sub>-e pa in 2000. With an expanded mandatory standards program now being implemented, experts project the program will save almost **136 Mt CO<sub>2</sub>-e**, (community energy benefits alone totalling almost 3 billion Euro) over the next 15 years.

How has and will Australia expand its program between 2000 – 2005 to become arguably the most successful per capita national end-use energy efficiency program, sometime this decade?

Australia has a small manufacturing base and imports many products from Europe, Asia and North America. From 2000, Australian governments agreed to a regulation policy of matching world-best regulated efficiency standards (but importantly not exceeding those minimum standards). Products cannot be sold unless they comply with these minimum levels, stipulated in Australian Standards which are called in law. Industry is a partner, publicly committed to bringing only complying product to market (eliminating the sale of lower efficiency products). Government and industry dialogue can be characterised as no longer an argument about whether a product will be regulated but rather an economic debate about the cost of the regulation compared to the level of efficiency improvement.

Australia is a federation (with 6 states and 2 territories) so its regulatory experience has application to the European Union. The Australian Greenhouse Office manages the regulatory program on behalf of all Australian governments.

## World Context

“I envisage a future several decades from now in which virtually all countries will have implemented energy efficiency standard-setting and labelling programs. Within this vision, I see all test procedures, standards and labels will be so well accepted and routine as an element of the marketplace that their existence will be given hardly a second thought.” (Stephen Wiel, CLASP, 2000)

Within this vision, the international body CLASP (Collaborative Labelling and Standards Program) advocates that each country should include energy-performance improvements in consumer products as an essential element in any government's portfolio of energy-efficiency policies and climate-change-mitigation programs. CLASP advocates that governments should develop balanced programs, both voluntary and regulatory, that remove cost-ineffective, energy-wasting products from the marketplace and stimulate the development of cost-effective, energy-efficient technology. (CLASP (2000), Energy-Efficiency Labels and Standards: An Overview, page 10).

Energy efficiency standards are procedures and regulations that prescribe the energy performance of electrical and gas products. Standards are credited with shifting the distribution of energy-efficient products sold in any market by eliminating inefficient models. Energy efficiency labels provide information to the market empowering consumers

to make informed choices and motivating suppliers to deliver more efficient products beyond the minimum level of acceptability in terms of efficiency and performance.

These programs have existed since the 1970s as a response to the first oil price shock. The benefits of well-designed and implemented standards and labelling schemes include:

- Large energy savings;
- Cost-effective without stifling economic growth;
- Impacting on all suppliers equally, making change manageable and fair;
- Change that is assured, quantifiable and verifiable.

Effective standards and labelling programs reduce unnecessary energy used by products in the domestic, commercial and industrial sectors. This outcome may result in lower capital investment in energy supply infrastructure, enhance consumer outcomes, strengthen competitive markets, deliver climate-change abatement and benefit industry through improving product efficiency and improving export opportunities.

Most who work in this field can agree on the benefits of standards and labelling programs. The devil, so they say, is in the implementation. How should a national scheme operate to maximize its effectiveness?

## **Australian Circumstance**

Two earlier papers were delivered to the ACEEE Summer Studies in 2000 and 2002 that dealt with this theme of implementing an effective scheme. These papers (Holt et al 2000, Harrington et al 2002) detailed how Australia was adopting an “international” approach for its standards and labelling program. The initial results were encouraging with both the product range expanded and the process accelerated.

The Australian standards and labelling programs operates on the other side of the world, away from close comparison to similar schemes in Europe and North America. Recent international interest has centred on policy instruments like Kyoto, but Australian governments are looking to energy efficiency to achieve resource conservation and improve overall cost-effectiveness. While the international focus of these instruments tends to be on major economies such as Europe continuing to set stringent efficiency standards, Australia has developed its own policy goals to meet local political goals and realize climate change outcomes, free from some of the constraints apparent on the European and US schemes.

Australia is a federation of almost 20 million people on a landmass larger than continental USA. The Australian economy is of similar size to the Netherlands. Our greenhouse emissions equate to less than 1.4% of total world emissions though our per capita emissions are amongst the highest of developed nations because of our reliance on fossil fuel, changing land-use patterns, significant transport needs and greenhouse intensive export industries (eg aluminium). Pressure on future emissions growth is coming from faster population growth than projected for other developed countries, which is mainly driven by immigration.

Australia is just one of nearly 40 governments around the world (including members of the European Union) that have adopted mandatory energy efficiency standards or labels for at least one product. While initially copying the products regulated in North America, the Australian program is now mature, having commenced in a coordinated national program in 1992 (the first states had products labelled from 1987).

The Australian Greenhouse Office (on behalf of a number of federal, state and territory government agencies) manages the national appliance and equipment energy efficiency program which is summarized in Table 1.

There are a range of tools used in the Australian program. Like most other nations’ schemes, mandatory labelling followed by mandatory standards were the tools of choice. The need to provide long lead times for potential standards has led Australia to pioneer the concept of “high efficiency” as well as minimum standards. Not only can a product meeting the high efficiency level be marketed as the best of class (with a voluntary label to identify it to customers), it is guaranteed to meet the next iteration of a minimum standard giving products at least an 8 year life in the market. The need to develop a specific tool to address standby has led to the concept of a warning label being mooted. Such a label would be affixed to products that fail to meet government specified energy-efficiency targets over time.

**Table 1: Product Coverage of the Australian Program**

Product	Mandatory Standard	Mandatory Comparative Label	Mandatory Warning Label	Voluntary Endorsement Label	Future Standard identified
<b>Household products</b>					
Refrigerators & freezers	1999 X	1987 X		1988 X	2005 X
Electric water heaters	1999 X				2004/6 E
Clothes washers		1990 X		1990 X	
Clothes Dryers		1989 X		1989 X	
Dishwashers		1988 X		1988 X	
Air conditioners	2004 E	1988 X		1988 X	2007 E
Home entertainment		2006 P		2000 X	
<b>Commercial equipment</b>					
Lighting ballasts	2003 X	2003 X			
Lamps	2004 E			2004 E	
Air conditioners	2001 X				2007 E
Office equipment		2006 P		1998 X	
Refrigeration	2005 E				
<b>Industrial equipment</b>					
Electric motors	2001 X				
Distribution Transformers	2004 E				
<b>Standby</b>					
40 products			2005 P	2004 E	

X = in place

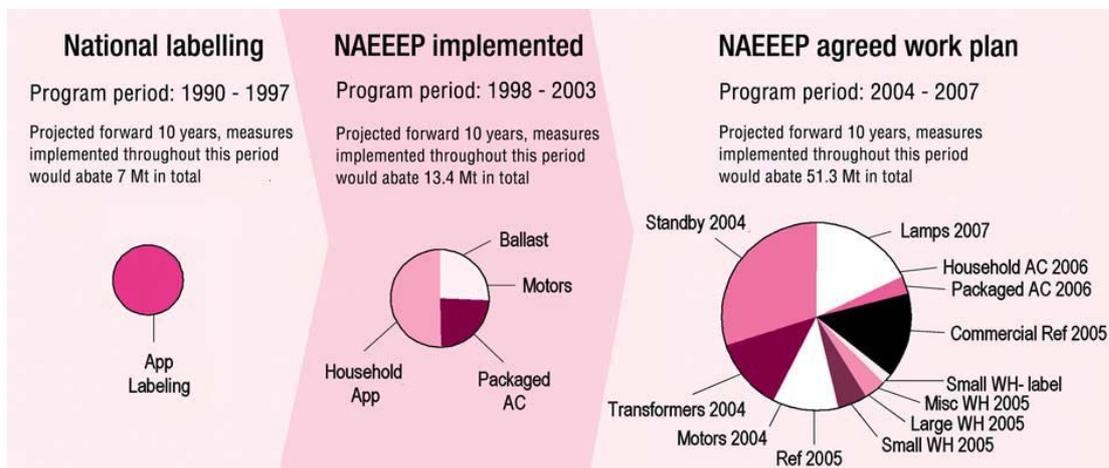
E = expected

P = possible

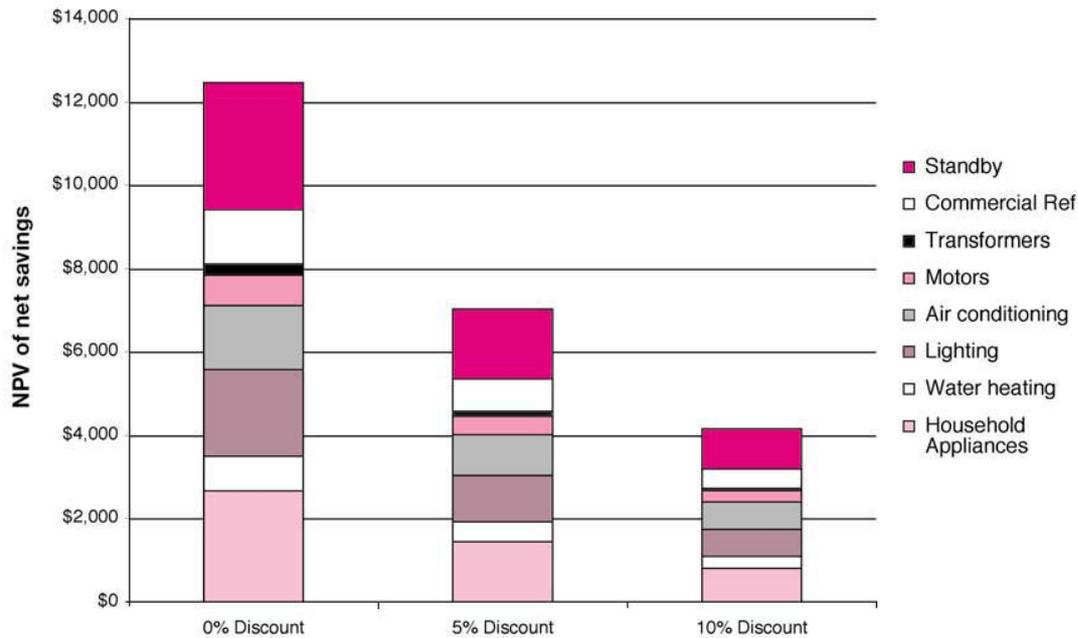
## Australian Program Measures

With only limited additional resources in the last five years but with greenhouse abatement as a policy driver, the previously stagnant Australian labelling program has expanded to become one of the most cost-effective standards and labelling abatement programs in the world. Figure 1 shows that the emission savings are growing rapidly as the program matures. Figure 2 illustrates that the program is extremely cost effective, irrespective of the evaluation criteria. The program is expected to result in a *net saving* to society of \$30. tonne of CO<sub>2</sub>-e abated (ie negative cost).

**Figure 1: Projected greenhouse impacts of NAEEEP measures by phase**



**Figure 2: Projected net savings from each product type**



## The Australian Approach

The core changes to the Australian program were two interrelated policy decisions. They shifted the existing paradigm challenging the traditional presumption of how such programs should operate and improving the transparency of our public regulatory processes.

### Policy decision to match world best regulatory standards for any product

In late 1999, the Ministerial Council responsible for energy matters agreed to adopt the following policy expectation:

“...developing standards for Australia that match best [regulatory] practice levels imposed by our major trading partners for internationally traded products that contribute significantly to Australia’s growth in greenhouse gas emissions” (NAEEEC 1999).

In broadening the limits of the program, the Ministerial Council acknowledged that regulatory options would only be used where the economic benefits were clearly demonstrated. Any proposed legislation will be subject to formal economic analysis and extensive community consultation. The Ministerial Council agreed only to support legislative intervention, where:

- the community benefits outweigh any costs; and
- the objective can only be delivered by regulatory means.

Previously, like other national schemes, government officials (supported by energy efficiency experts) entered into time consuming debates with industry about what was technically possible and then settled for something less. The new policy means that Australia looks at the standards imposed around the world by major economies and matches the most stringent.

The issue is not what is technically possible rather when the most stringent standard should take effect in Australia. Matching world best regulatory practice effectively reverses the responsibility so that industry must identify reasons why the standard level should not come into effect (rather than government officials needing to justify a standard to industry).

### Policy decision to identify potential products in work programs and to set a regulatory timetable

The Ministerial Council also agreed to publish both work plans identifying products for possible inclusion in the program and a timetable for the introduction of a standard for that product. These decisions provide certainty to the process and gives industry adequate notice to undertake changes to production or importing procedures. While the timetable is indicative and flexible enough to take account of specific circumstances that may arise, it creates

reasonable expectations about when a standard may commence. The process is transparent and several examples exist of products originally identified for a standard ultimately rejected for that measure because a regulatory standard or label were not the best outcomes for Australia<sup>1</sup>.

With Ministerial decisions about standards and labelling now being taken every year, stakeholders understand the regulatory process. Moreover, with three consultation opportunities before the Ministerial Council takes a final decision on any standard and as much as 5 years notice of a standard (though 3 years would be the norm), ample opportunity exists to develop a consensus on an appropriate level for Australia.

The issue is that no stakeholder can argue “surprise” when a product is eventually regulated in Australia; the dialogue has been orchestrated for years in meetings like Australian Standards Committees, at industry conferences, in formal consultation processes to the extent that key parties are already debating the next standard level when the first finally comes into effect.

## **Australian Program Direction for 2003 and 2004**

Energy efficiency and greenhouse abatement are not the only drivers operating on this field and expanding the program:

- Australia is a signatory to the Montreal Convention on ozone-depleting substances. Energy efficiency regulation of electrical products (mainly refrigeration and air conditioning) must also take account of the development of new refrigerants and insulating agents, also subject to legislative bans. The need to monitor if not coordinate change to assist industry meet these twin factors increasingly directs energy and environmental regulators to a closer relationship.
- Australian government officials and gas appliance representatives have agreed to explore during 2003 incorporating the voluntary standards and labelling program for water heaters, space heaters and cookers into the previously electrical only regulatory framework.
- Australian government officials and water-using appliance suppliers have agreed in-principle during 2003 to examine a common labelling scheme for water use of major appliances (such as clothes washers and dishwashers).
- Australia is the first of the IEA member countries to formally launch a coordinated push in 2003 and 2004 to reduce standby power of consumer appliances. This program includes the new tool of warning labelling which could apply to as many as 40 products within a few years.
- By 2004, Australian government officials expect to have completed the preliminary studies necessary to determine whether energy efficiency standards should be imposed in Australia upon every product regulated elsewhere in the world.

## **Lessons Learnt in Australia**

The premise of gatherings like the ECEEE Summer Study is that representatives can learn from the experiences of others. No single scheme should be slavishly applied to every country: rather government officials and stakeholders should select the best features from the various potential designs available to develop a scheme most suitable for their circumstance.

For economies like Australia, regulating products to the limits of technical feasibility is neither economically justifiable nor politically acceptable for a market representing little more than 1% of world production. Copying existing test methods and matching world best regulatory standards (alternatively called matching the best “worst acceptable” standard) is viable, in political, economic and environmental terms.

The improvements arising out of the Australian experience might be characterized into a list of considerations.

### ***Industry engagement***

To overcome unacceptable delays arising from poorly understood process, the Australian Greenhouse Office (AGO) has, in effect, reversed the onus of proposing standards levels. With a clear policy goal from Ministers to match best regulatory practice, industry representatives are empowered and resourced to discuss the proposal and to negotiate the final standard within a reasonable timetable. For example, the AGO will spend almost 100,000 Euro

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<sup>1</sup> For example, standards have been considered for air compressors, boilers, evaporative air conditioners and electric cookers, but these have been found to be not cost effective in the Australian context.

on testing for commercial refrigerators and electric storage water heaters to help fine-tune the next standard at the request of industry representatives in 2002/2003.

The AGO has created a healthy environment where all parties are aware of their obligations to agree the standard in a reasonable period by:

- publishing draft standard levels;
- publishing a timetable for implementation;
- resourcing key industry representatives to engage in debate;
- making amendments taking account of market circumstances, environmental concerns, local factors (such as usage or climate) or industry's capacity to adjust.

### ***Industry collaboration***

The use of 3-year work plans announcing targeted products allows time for stakeholder collaboration to be developed. With more time to identify key players and discuss options, industry is more of a policy partner that is able to influence and direct outcomes. Unlike the divisive standards debates that may characterize some debates at times in other nations (e.g. in the USA, Turiel 1996), the standards program is presented to the community as a partnership, with industry groups contributing to the final outcomes.

The impact of collaboration might best be demonstrated with three case study examples:

1. **Domestic refrigeration:** When the key industry representatives representing the principal companies from Europe, Asia and North America, as well as the 2 local manufacturers, agreed to match the USA 2001 standards, only 5 of the 340 models registered to be sold met the unanimously agreed standard. As Australia's refrigerator standards in 1999 were weaker than the USA 1993 standards, this meant Australian suppliers were agreeing to improve an even greater amount than the USA (refer to Harrington et al (2002) for further details).
2. **Residential and commercial packaged air conditioning:** When government officials suggested matching the world best levels from Asia in 2007, industry responded with a proposal to introduce an interim step imposing standards for residential products from 2004 (removing the worst 30% to 40% of existing models years earlier than officials had expected).
3. **Commercial refrigeration:** When officials proposed matching the world best regulatory standard (Canadian) for this equipment, local suppliers rejected the proposal as not stringent enough. At present industry is in the process of adopting the European test method and will finalise more stringent standards in partnership with government early in 2003.

Industry is no longer a begrudging participant in standards debates but a leader in translating standards from other nations and creating equivalent or better standards for Australia.

### ***Recognising our place in the world***

As a rule, Australia is a technology taker rather than developer of consumer products. The key to the policy of matching world best regulatory standards is allowing reasonable time for that technology to filter into our marketplace. It is unrealistic to demand Australian industry develop technologies in advance of the rest of the world; it is more realistic to expect locally based industry to match existing, proven technologies within a reasonable timeframe. The focus of standards debate is shifting from disputes about technical feasibility issues to discussions about introduction dates.

### ***Clarity and certainty of process***

The AGO has expanded its mandatory tools (Annex A) and documented its processes to the point where stakeholders accept and expect the program to deliver real greenhouse gas abatement. Suppliers understand that regulatory standards are now part of "doing business" in Australia. All parties understand the need for standards and can access explanations of the process. This has led to improved transparency and stakeholder confidence in the scheme. One tangible result is that Australia was in 2000 the first developed nation to re-base its categorical appliance labelling scheme. For example, a previously 5 star refrigerator is now labeled with 2 stars in a process that had the support of industry, consumer groups and marketing law regulators.

### ***Promoting industry success***

Ministers also agree to funds to assist industry promote its better products, when regulating the worst from the market. The Australian scheme adopts a holistic approach embracing voluntary industry measures, such as efficiency sales training, web-based selection tools and other measures aimed at capturing synergies with or economies-of-scale not available through regulation alone. For example, the use of voluntary endorsement labels,

which have the backing of government, have proved very effective to identify best-of-class to potential purchasers (free from the taint of marketing hyperbole). Another example might be the program website which receives hits from almost 10% of those purchasing labelled appliances. The website has selection tools to allow prospective purchasers to choose between all the products on the market.

### ***Promote compliance***

Many commentators urge the need for a viable enforcement regime (eg du Pont 2000) as a cornerstone to building confidence in a standards scheme. In addition to withdrawing the right to sell products that fail independent laboratory testing of their performance claims, Australia also uses marketing laws to enforce standards. In 2003, one of our largest electrical retail chains and the Chinese supplier Haier made a promise to Australian Courts about future marketing of their products and offered previous purchasers of washing machines refunds for those products that failed to comply with mandatory performance standards. The quantum of total penalty could be as high as Euro 450,000 in addition to the impact on corporate reputations.

Close observation of the above list reveals that neither technical rigor nor scientific merit are specific priorities. A key benefit of matching an existing technical level is avoiding divisive debates about what the standard level should be; Europe, Asia or North America has determined that for Australia. The debate is focused on taking account of any special Australian circumstance to modify those pre-determined standards. In the few years since the policy has been in effect, it has expedited our program beyond our expectations. The new approach has real benefits for:

- the environment (lower greenhouse);
- end-users (lower lifetime costs);
- bureaucrats (avoiding expensive technical debates to focus on being able accelerate abatement faster than the market could otherwise deliver); and, in particular
- industry as a group and technical /regulatory representatives.

It is not an accident that each of the “improvements” identified above have an industry focus. In the past, industry representatives charged with negotiating standards have suffered the lecturing of government officials, been unable to gain funding approvals from their boards for standards development, and been expected to be experts in every piece of equipment used within their products. The changes to the scheme were specifically targeted to improve the position of these technical experts within industry, not only in the debates with government officials but also in their capacity to commit their companies. Their management can no longer ignore standards nor can they encourage their employees to obfuscate. Public sector funding is available to determine the important questions in creating equivalent standards for Australia.

The authors assert that the greatest change in the system has been in the attitude and participation of industry. As an example, the president of the suppliers association of commercial packaging air conditioners in Australia recently said:

“I wish we had been regulated years ago; it would have got rid of the shady operators and allowed reputable suppliers to get on with supplying the market with quality product (Albany, Mitsubishi Heavy Industries 2003).”

### **Lessons from Europe**

Standards are a process of continual improvement. The Australia scheme will continue to monitor overseas developments to identify new ideas and measures that can improve our own scheme. For example, the AGO wants to:

- work with European based organizations such as the Joint Research Centre in Italy to share experiences and ideas; and
- examine the European green lights program and procurement initiatives as model for application in Australia.

At its core, the AGO wants to encourage Europe (as well as the USA, Canada and Japan) to continue to strive to set stringent energy-efficiency goals for a complete range of products. Not only is this outcome in accord with the international goals of bodies like CLASP and the International Energy Agency but is also important on a pragmatic level - so that Australia may copy them into our program.

Australia has not only embraced the CLASP vision for a national standards and labelling program but hopes to provide a vibrant example to other nations of how such programs can be successfully implemented in accelerated timeframes faster than 20 years.

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