The Design of a Codes and Standards Program: The Australian Experience

Shane Holt, Australian Greenhouse Office
Anthony Marker, Australian Greenhouse Office
Lloyd Harrington, Energy Efficient Strategies

ABSTRACT

This paper examines the Australian appliance and equipment energy efficiency program; a codes and standards program. In 1992, the program expanded from product labelling to also include the concept of minimum energy performance standards; specified in legislation withdrawing the right to sell products not meeting those standards. The minimum standards program progressed slowly. After seven years, the first minimum standards commenced (applying to domestic refrigerators and electric storage water heaters) while others still await finalisation (for example, linear fluorescent lighting ballasts first mooted in 1993 may commence in 2002 or 2003).

Following the Australian Prime Minister's November 1997 climate change statement immediately before the Kyoto summit and the subsequent publication of Australian domestic response measures as the *National Greenhouse Strategy*, the program was reinvigorated.

The minimum standards program now incorporates an expanded scope to consider a wider range of products and improved processes. Agreed procedures should see new product MEPS introduced within a maximum of 5 years from the date of publicly commencing the assessment process. Australia also proposes to adopt the most stringent standards imposed by our trading partners provided:

- Experts can "translate" those overseas levels into Australian standards taking account of our national circumstances;
- Regulatory impact studies demonstrate the proposed standards benefit our community; and;
- The entire process is subject to open public consultation that can affect the outcome.

The revised codes and standards program aims to be a cooperative pact between government and industry, avoiding the delays and conflict of the immediate past.

Introduction

Energy consumed by equipment and appliances in the industrial, commercial and residential sectors of the developed world is a major source of greenhouse emissions. Codes and standards programs, where legislation and regulation are used to improve product energy efficiency, are amongst the most cost effective and widely used measures employed to reduce these emissions.

While the form of these types of legislative programs reflect unique national conditions and circumstances, many of the experiences and problems faced in developing such programs are common to all developed economies. This paper explores the Australian national experience built on local initiatives and modified by examining similar programs overseas, especially the North American models.

Australia has a Federal system of government, under which regulation of energy efficiency codes and standards is a State rather than a Federal responsibility. The Commonwealth Government plays a leadership/coordination role to ensure that nationally consistent outcomes are achieved. The Australian program embraces two mandatory elements:

- Comparative *energy labelling* empowering consumers to choose energy efficient products when considering a purchase;
- Minimum energy performance standards (*MEPS*) where government withdraws the right of manufacturers, importers and retailers to lawfully supply products that do not meet predetermined energy efficiency levels.

The Australian codes and standards program was limited for many years to energy labelling of appliances. Energy efficiency labelling for major appliances in Australia was first proposed in the late 1970s, by the State governments in New South Wales and Victoria (the two most populous of Australia's six states and two territories). When raised with the appliance industry in 1982, these proposals met with considerable resistance on two grounds: that any program should be nationally uniform rather than risk different State approaches; and that it should be voluntary rather than mandatory.

Although several states commenced mandatory labelling in the mid 1980s, it was not until 1992 that a mandatory national labelling scheme was finally agreed, and legislation in the last jurisdiction was not passed until 2000. Now the national labelling scheme covers refrigerators, freezers, air conditioners, dishwashers, clothes washers and clothes dryers. The appliance manufacturers and importers, together with their trade associations, now recognise the commercial value of mandatory energy labelling, and are generally very supportive of the program.

However, extending the Australian codes and standards program to embrace the MEPS concept for appliance and equipment products has proven to be difficult. In 1992, governments commissioned expert reports to explore MEPS for three commercial equipment types and three domestic appliances. More than seven years later (in October 1999), MEPS commenced for the three domestic products: refrigerators; freezers and electric storage water heaters. MEPS for the industrial equipment types (electric motors, packaged commercial air conditioning and fluorescent lamp ballasts) remain to be finalised but reasonably firm commencement dates have been proposed for 2001 (ballasts in 2002 or 2003).

This paper examines the processes and procedures Australian government agencies have adopted to improve the general MEPS process for the future. It uses the 1999 MEPS for refrigerators and freezers as a case study and contrasts it with proposals and procedures for the next MEPS round to enter into force in 2004. Refrigerators and freezers were amongst the first products subject to MEPS in Australia and are the first products subject to a second round of MEPS negotiations.

The Australian Context

Australia is a federation of 19 million people on an island continent about the same size as continental USA. This population is about same as the greater Los Angeles basin. The Australian economy is of similar size to the Netherlands with 1998 GDP estimates of

around A $593 billion (US $340 billion) and growth at almost 5% per annum.[1] Australia's greenhouse emissions equate to less than 1.4% of total world emissions though our per capita emissions are amongst the highest of developed nations. This is because of our heavy reliance on fossil fuels (particularly coal for electricity generation), changing land use patterns, significant transport needs and higher projected population growth than other developed countries.

The Australian market for domestic refrigeration appliances is on a somewhat different scale to that of the USA. In 1997, retail sales were in the order of 500,000 of which 77% were either two-door frost-free or cyclic defrost units. The average size of the fresh food compartment was 253 litres and the freezer compartment 92 litres. The popular side-by-side models in the US market account for only 3% of the Australian market (EES, 1999). In 1997, exports and non-retail sales may account for an additional 200,000 units suggesting a total market in the order of 700,000 units (APEC, 1999).

Australian stakeholders may be characterised as being similar to those in the United States though the much smaller market does change the paradigm. Australia has two domestic manufacturers whose sales account for around 75 per cent of most product groups with up to 10 importers competing for the remainder. The scale of the market means that non-government community interest groups tend not to actively participate in the energy efficiency debates. The technical staff of the Australian Consumers' Association are the exception as they regularly test refrigerators and report the outcome in their subscriber magazine.

Australia is a party to the United Nations Framework Convention on Climate Change, and took an active part in negotiating the Kyoto Protocol to that Convention which Australia subsequently ratified. If sufficient countries ratify the Protocol, Australia will enter into legally binding limits on its future emissions. The National Greenhouse Strategy is the primary mechanism through which international commitments will be met. This strategy represents a whole-of-government (federal, state and local) approach, which sets the policy direction of all domestic climate-change response measures including the codes and standards program. The strategy was agreed in 1998 and clearly establishes the goal of improving product energy efficiency by "*extending and enhancing the effectiveness of the existing labelling and MEPS programs*" (NGS 1998, p48).

The Commonwealth Government created the Australian Greenhouse Office (AGO) in 1998. It is the world's first dedicated agency on greenhouse and coordinates the Australian domestic response to greenhouse emissions. In the context of delivering an improved codes and standards scheme, the AGO (for the Commonwealth Government) chairs the National Appliance and Equipment Energy Efficiency Committee (NAEEEC), which works under the authority of a Ministerial Council of Energy Ministers drawn from all jurisdictions.

[1] Australia and New Zealand have a free trade agreement and jointly develop Australasian standards for products including refrigerators. With the passage of legislation authorising product MEPS as a domestic response measure, New Zealand sources believe equivalent MEPS will be a reality in 2000. This means a further 4 million people and the New Zealand GDP of around $80 billion (Australian dollars) can be added to the common market.

Old Approach

The first Australian MEPS for household refrigerators and freezers took effect in October 1999. Established after a cost-benefit study in 1993, the proposed MEPS levels were originally modelled to commence by the end of 1996 (GWA 1993). Negotiations were not completed until July 1996 and, in accordance with undertakings previously given, industry was then given formal notice of the MEPS levels to commence more than three years later. Table 1 records the 1999 MEPS levels and a revised MEPS level that the AGO has proposed to industry should commence in October 2004 (but not yet agreed with industry). The proposed 2004 MEPS levels are equivalent to the U.S. 2001 levels after taking account of differing test procedures, climate and other considerations.

Table 1: Australian Refrigerator 1999 MEPS and Proposed 2004 Levels

Australian Standard Group	MEPS fixed 1999 kWh	MEPS Slope 1999 kWh/adj litre	MEPS fixed 2004 kWh proposed	MEPS Slope 2004 kWh/adj litre	Group Description
1	368	0.892	276	0.35	Cellar or all refrigerator (no freezer) automatic defrost
2	300	0.728	275	0.32	Manual defrost (one door) with icemaking compartment
3	330	0.800	275	0.32	Manual defrost (one door) with short term freezer
4	424	1.020	273	0.33	Refrigerator freezer - cyclic/manual defrost
5T	424	1.256	298	0.36	Refrigerator-freezer - no frost (top freezer)
5B	424	1.256	496	0.164	Refrigerator-freezer - no frost (bottom freezer)
5S	465	1.378	551	0.16	Refrigerator-freezer - no frost (side by side)
6C	248	0.670	189	0.468	Separate chest freezer
6U	439	0.641	280	0.276	Separate upright freezer - manual defrost
7	439	1.020	346	0.429	Separate upright freezer - no frost

Notes: All 2004 levels still under negotiation. MEPS levels are defined in terms of energy tests to AS/NZS4474.1, which has an ambient temperature of 32°C. Anti-sweat heaters are operated on their maximum setting for all tests. The following additional allowances are also included in the 1999 MEPS level (equivalent factors for 2004 are not yet determined):

- additional 120 kWh/year for a through-the-door ice maker (these are uncommon in the Australian market);
- additional door allowance for models that have more doors than the designated number of reference doors for the product group in the Australian Standard.

The approach to setting the 1999 MEPS levels can be labelled a "statistical approach"; looking at the models available on the market and performing a regression analysis to determine the relationship between energy use and model adjusted volume. The original proposal would have eliminated 50% of the current models in 1992, though the delay in implementation dramatically decreased the energy savings and greenhouse reductions attributable to the implementation of this MEPS level (GWA, 2000).

Table 2 is a comparison of the Australian 1999 MEPS levels with those commenced in the USA during 1993. It demonstrates that the U.S. 1993 levels are more stringent than those that took effect in Australia some six years later.

Table 2: Australian MEPS 1999 Compared with USA 1993

Australian Standard Group	AUS MEPS fixed 1999 kWh	AUS MEPS Slope 1999 kWh/adjust volume	USA MEPS fixed 1993 kWh	USA MEPS Slope 1993 kWh/adjust volume	Group Description
1	368	0.892	350	0.56	Cellar or all refrigerator (no freezer) automatic defrost
2	300	0.728	350	0.42	Manual defrost (one door) with optional icemaking compartment
3	330	0.800	350	0.45	Manual defrost (one door) with short term freezer
4	424	1.020	435	0.39	Refrigerator freezer - cyclic/manual defrost
5T	424	1.256	386	0.58	Refrigerator-freezer - no frost (top freezer)
5B	424	1.256	398	0.59	Refrigerator-freezer - no frost (bottom freezer)
5S	465	1.378	546	0.41	Refrigerator-freezer - no frost (side by side)
6C	248	0.670	195	0.53	Separate chest freezer
6U	439	0.641	277	0.40	Separate upright freezer - manual defrost
7	439	1.020	412	0.53	Separate upright freezer - no frost

Notes: See Table 1 notes for additional details. USA 1993 levels expressed in terms of the Australian Standard energy consumption test. Source: Harrington 1994.

The relative leniency, in comparative terms, of the Australian levels is due to a combination of the inherent flaws in a statistical MEPS approach and unforeseen delays due to an absence of agreed process. MEPS programs are about accelerating energy efficiency uptake rates in advance of what the market will otherwise deliver, modelled as business as usual (BAU). The original modelling (GWA, 1993) projected that if the MEPS levels as recommended were introduced in 1996, the electricity used by the stock some ten years later would be 5.4% below the BAU case. Given the delayed implementation, the actual impact is now estimated as 1.4% below BAU after ten years (GWA, 1999). However, even these relatively weak MEPS levels offered an additional protection due to declining efficiencies that resulted from the phase-out of CFCs in Australia. The CFC and energy efficiency debates were undertaken separately in Australia and industry argued that it would prefer to phase out CFCs as rapidly as possible and then deal with the question of MEPS. Both manufacturers eliminated CFCs by 1994 when the energy efficiency impact of the new generation of refrigerants and blowing agents was not known.

This lag in implementation is characteristic of Australian MEPS debates through the 1990s, resulting in delays in implementing MEPS in legislation from the dates originally

proposed in expert reports, which were supported by cost-benefit analyses and accepted by Ministers at the time. These delays were the result of effective industry lobbying and bureaucratic difficulties in creating legislation to give effect to MEPS in Australia's six states and two territories. The MEPS gestation period for the six product types proposed in the 1990s ranged from seven years for appliances to as long as ten years for some equipment types.

U.S. commentators are correct in suggesting that this type of MEPS paradigm creates difficulties in any country. Typically, industry representatives criticise proposed efficiency standards as too stringent and energy efficiency advocates complain that they are too weak (Turiel, 1996). In the United States, government officials were left with this conundrum and were without an established process for resolving differences between stakeholder positions.

The Australian process was similarly constrained, not through bad faith of any party, but through the absence of a clear public sector process and timetable for the national MEPS program. Because no single stakeholder group had control of the entire process, no one knew how long the process would take until the first MEPS was finally implemented. The absence of rules generated complaint and concern amongst all stakeholders.

A growing recognition of the need to improve process lead to the 1998 government policy directive, contained in the National Greenhouse Strategy, to expand and extend the existing appliance and equipment codes and standards program. Although that program was launched in 1992, by 1998 the national program had not yet implemented MEPS for any product. The AGO was given the challenge of expanding and extending MEPS from this base.

Australian MEPS debates are not constrained by a similar legislative imperative as that imposed by the U.S. Congress on the U.S. Department of Energy (DOE). DOE and its advisers undertake a detailed seven-step engineering analysis overlaid with calculations of such complicated issues as life cycle costs, payback periods and other such externalities to determine an appropriate MEPS level. Some U.S. MEPS levels have removed all the then available models from the market by the date of MEPS implementation, some years hence. However, the greater degree of openness and transparency imposed by Congress since 1997 on U.S. MEPS processes has meant that negotiated limits and more significant stakeholder input has been possible in recent years.

These formal and resource-intensive processes may well be the most appropriate approach for the USA but it is very difficult for a country the size of Australia to impose energy efficiency levels beyond existing world's best practice. As a generalisation (with many notable exceptions), the Australian economy is generally a taker of research and development advances in domestic refrigeration and not a market leader.

New Approach

The new approach in Australia is based on ensuring more effective engagement of all parties in a MEPS debate that delivers more certain outcomes. The changes might be divided into three areas, two that shift the existing policy paradigm and one that improves our public processes. We deal with each issue separately.

Policy Goal of Matching MEPS Best Practice

In the consumer appliance and industrial equipment sectors, Australia is increasingly becoming part of a global market. Australasian manufacturers are exporting throughout the world and importers have easier access to our markets. Australian standards are developed in an environment of international harmonisation and alignment. The development of 'international' products means that specific Australian rules for these products are becoming less relevant and could constitute unintended trading barriers. In 1999, the Ministerial Council responsible for energy efficiency agreed to consider:

> *"developing MEPS for Australia that match best 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, p.8)

Where appropriate, reaching this established level may be achieved through a staged process that introduces progressively more stringent requirements over time.

The import of this decision bears some interpretation. The Ministers not only authorised energy agency staff to explore the possible application of MEPS to a range of new products but also endorsed the concept of overseas best practice as the goal for the program. Our MEPS policy now seeks to overcome past insular compromises in favour of a program of continuous improvement expanding the range of products and revising MEPS levels using changes in the levels imposed by our trading partners as the trigger.

In broadening the scope of the national program, the Ministerial Council built in safeguards. It agreed that regulatory options will only be used if the economic benefit can be clearly demonstrated. Any proposed new legislation must be subject to a regulatory impact analysis, which includes formal economic analysis and extensive community consultation. Australian Governments will only support legislation:

- where the community benefit outweighs the cost; and
- where the objective can only be achieved by regulatory means.

This simple policy decision has dramatically expanded the scope of our potential MEPS program. It will allow the AGO to explore MEPS for as many as 30 new products[2] and to propose refreshing our existing MEPS levels following the subsequent adoption of more stringent levels by any of our major trading partners. In its work plan for 1999 – 2002, the AGO identifies more than a dozen new products earmarked for MEPS consideration during that period (NAEEEC 1999).

Policy Goal of Introduction of a MEPS Timetable

Government ministers have agreed upon a target time frame for the introduction of MEPS, to provide some degree of certainty to the process and give industry an appropriate notice period to undertake any necessary modifications to product designs and/or production procedures. While this proposed timeframe is indicative only and flexible enough to take into account specific circumstances that may arise, it creates reasonable expectations amongst all parties of the time that MEPS will commence.

[2] Canada alone appears to imposes MEPS on at least that many products.

The AGO hopes the timetable will act as a performance indicator, spurring all stakeholders to work toward positive outcomes within the allocated times. If the AGO observes "slippage" on these indicative periods, it can direct greater resources to that issue or resolve to proceed alone if consensus is unlikely within a reasonable extension. Table 3 is the published timetable that aims to reduce MEPS development periods to between three to five years (compared with the seven to ten taken during the 1990s).

Table 3: MEPS Timetable

1.	**MEPS Development Stage** • Initial planning and review of the energy impacts and assessment of the feasibility of mandatory measures. (3 – 6 months). • Cost/benefit analysis of potential legislative options (3 - 6 months). • Industry consultation on potential legislative proposals (3 – 6 months). • Development of Australian and New Zealand Standards for inclusion in regulations (9 – 12 months). • Ministerial approval required before introduction of any new regulations.	**Period** Up to 2 years
2.	**MEPS Notification Stage** Period of notification will depend on the level of manufacture undertaken in Australia. Longer periods would apply if Australian industry is required to undertake substantial development or re-tooling	Between 1 – 3 years
3.	**MEPS Duration Stage** This is the 'stability period' in which no changes to regulations are made (ie MEPS levels unchanged). Longer periods will occur if world best practice is maintained.	Minimum of 4 years
4.	**MEPS Renegotiation Stage** Discussions will continue on progressive enhancement for products where best practice was not achieved in the first round of MEPS. Where Australia has matched best practice, the international situation will be monitored regularly and further negotiations commenced only if a major trading partner improves MEPS beyond the Australia levels.[3]	To be determined on a case by case basis

Procedural Goal of Developing Consensus Processes

In addition to these policy improvements, Australia is embracing a more collaborative approach to MEPS negotiations. A range of procedural improvements have been agreed to better engage stakeholders, improve transparency and deliver more certainty to the process. These changes are best explained by summarising the new approach.

[3] Like most other developed economies, Australia has a number of ways of promoting products at the edge of technology. The most notable are national awards publicised in the media, pamphlets identifying the best models within groups and a website, www.energyrating.gov.au listing all models and allowing purchasers to choose between models that suit their needs.

Step 1: the AGO releases a public discussion document detailing possible MEPS levels translated from those postulated for or operating within a major trading partner. These levels are derived from translating the best MEPS levels of our trading partners into a form compatible with Australian Standards and which take account of climate and market differences. The release of these proposed levels marks the beginning of the timetable.

Step 2: the AGO enters into negotiations with industry to consider modifying the proposed MEPS to take account of agreed variations in standards, climatic or competition issues or any other matter. The AGO uses a "steering committee", comprising key industry and other stakeholders, as the mechanism for these negotiations. The committee provides a forum for stakeholders to provide public data and explanations in support of their proposed revisions of the AGO proposals. The aim is to develop a consensus position within the committee acceptable to all stakeholder groups and government officials, which can be presented to the Ministerial Council for endorsement. In the absence of agreement, the default position is the AGO published draft MEPS levels that will be put to government.

Step 3: the AGO commissions formal regulatory impact statements (involving a detailed cost-benefit analysis modelling economic and social impacts together with formal consultation processes) on the proposed MEPS levels. Currently, MEPS levels are assessed within a "no regrets" framework (the net present value of the energy savings over the life of the product must outweigh the additional purchase cost of the re-engineered product to consumers). Environmental externalities such as greenhouse emissions are not included in these economic analyses though the AGO is exploring acceptable methods of costing greenhouse emissions in that measurement process. The formal consultation process provides an opportunity for all stakeholders to comment on and hopefully endorse the MEPS levels.

Step 4: the AGO obtains the necessary formal State and Territory Government approvals to use the relevant product standard (where the MEPS levels and testing procedure are stipulated) and arranges for these matters to be called into regulation after the consultation process and economic analyses are completed. The AGO informs all suppliers of that product of the MEPS levels before the regulation comes into effect.

Comparison to the U.S. Consensus Approach

The Australian procedural improvements reflect a similar desire to that which reportedly drove the USA to achieve greater stakeholder input and feedback on analyses (Turiel, 1996). The interactions amongst participants are less formal and more frequent with the aim limiting the number and scope of contentious issues. In this sense, the two approaches are very similar though the impact of the policy changes arguably transforms the Australian model in ways not possible in the USA. These differences are explored later in the paper.

Future Directions

Beyond Energy Efficiency to Include Greenhouse Considerations

The AGO has been invited by industry to consider greenhouse and global warming issues in addition to energy efficiency as part of the MEPS deliberations. In the first

instance, industry representatives have suggested they may seek a less stringent MEPS level as an encouragement to use "greenhouse friendly" blowing agents for polyurethane foam—which is used to insulate refrigeration appliances. Australian based suppliers currently use hydrocarbon substitutes instead of HCFC-141b but may consider returning to HFC-245fa in order to meet the proposed MEPS levels because of their stringency. The use of alternative refrigerants (HFC-134a versus R600a) also raises similar questions with respect to the total global warming impact of various alternatives, although the volume of gas involved is significantly less than the foam blowing agents. In the past, MEPS debates have been limited to product energy efficiency rather than life cycle greenhouse gas emissions. It is too early to report what may result from this interesting development.

The AGO notes that the US 2001 MEPS levels were a compromise to avoid introducing global warming issues into energy efficiency debates. The original 1998 MEPS levels (agreed as early as late 1994) were proposed with a two-stage implementation with a 10% energy use allowance for HCFC-free products. This was done at a time when little was known about the insulating properties of cyclo-pentane or the HFC substitutes for HCFCs. The compromise was to delay introducing MEPS until other blowing foams became available and to better synchronise with the EPA's ban on HCFCs in 2003. We are not in a position to report how this issue will be handled in Australia.

Trial Process

The procedural improvements described above are being implemented and will be used over the next few years. Australia will review and refine these procedures in the light of that experience. To date, the improvements have met with strong support from stakeholders. The Ministerial Council will monitor developments to assess the merit of any improvement proposals.

Conclusions

The Australian model for MEPS deliberations is one of many within a variety of potential designs for any country embarking on developing a codes and standards program. The AGO recognises that the task of negotiating reasonable MEPS levels for a range of new products is only starting but it is satisfied the policy and procedural changes provide an adequate framework to progress MEPS policies. The premise of this paper is not that all countries should adopt a single model for MEPS but rather that countries can learn from the experiences of others in implementing and improving their own schemes.

Lessons Learnt from Developing the Australian System

The improvements arising out of the revised Australian model might be characterised in the following list of considerations:

Clarity and Certainty. Before October 1999, the Australian MEPS scheme was not recorded in law nor was it recorded in a set of administrative documents. Government officials as well as stakeholders were disempowered through that absence of "due process". In Australia, the action of recording the MEPS process has opened it to robust critique and

helped interested parties understand and improve the scheme. The previous statements about the MEPS process lacked a coherent policy objective and a clear procedure. Following these improvements, the AGO believes it has the tools and process to implement an expanded and enhanced MEPS program.

Industry Engagement. To overcome unacceptable delays arising from poor process, the AGO has, in effect, reversed the onus of proposing MEPS levels. With a clear policy goal from government to match best practice and a published development timetable, industry representatives are empowered to propose final MEPS levels within a reasonable timetable. The publishing of "fall-back" draft MEPS level, establishing a steering committee and publishing a timetable, create a healthy environment where all parties are aware of their obligations to determine the final MEPS levels within a reasonable period.

Pragmatism. Delays occur especially when applying MEPS to a new product and involving a new set of stakeholders for the first time. The delays are additional to other reasonable periods necessary to gather information, conduct testing and debate issues fully. The AGO will consider accepting MEPS levels lower than matching our trading partner's levels where substantial improvement is required or as a means of securing industry support for the concept. In balancing between what is possible and what is reasonable, the AGO acknowledges the first MEPS may need to spread the product development costs over a longer period. This staged approach to best practice carries an obligation upon all parties in later MEPS debates to match best practice as quickly as possible.

Collaboration. The AGO seeks to promote MEPS in conjunction with major stakeholder groups (eg Industry Associations). In addition to improved communication with member companies, the AGO has found working with and promoting MEPS as a joint initiative had a number of additional benefits. Industries with products being considered for MEPS are often suspicious of government regulation. Joint industry and government promotion lessens suspicion and even allows "case studies" from other industries to confirm the mutual benefits that can be negotiated in a MEPS environment. The AGO has found early offers of collaboration lessens delays and enhances industry confidence in the process.

Transparency. Procedural improvements empower stakeholders to not only influence consultation processes but also to improve outcomes. The AGO uses steering committees as the means of focussing debates but also holds public meetings, and uses newsletters and other communication tools to inform stakeholders of its MEPS plans. Matters in real dispute are readily identified and common strategies can be proposed to work through sectorial concerns. The AGO is also committed to building extra layers of consultation before the formal requirement needed in Australia before legislation can be enacted. Not only does this approach limit later disputes but the AGO also finds it improves MEPS outcomes.

Recognising our Limitations. Australia is primarily a technology taker rather than developer (although there are areas where local R&D is leading the world) so our program allows time for world's best technology to filter into our marketplace. It is unrealistic to demand that Australian industry always develop technologies in advance of the rest of the world; it is more realistic to expect Australian industry should adopt existing, proven

technologies to meet climate change mitigation goals in a reasonable timeframe. In Australia, the focus of MEPS debates is shifting from claims about technical impossibility to—debates about the dates for introduction.

Promoting Common Test Procedures. The AGO recognises that Australian MEPS debates need to be conducted against the background of international harmonisation of test procedures. Not only will harmonisation result in freer movement of product but it will also enhance comparability of national MEPS levels. The AGO is actively involved in promoting harmonisation of the various standard test methods (or conversion algorithms) at international fora. Any assistance from other jurisdictions on the question of harmonising test methods in these international meetings is always welcome.

Promoting Industry Success. The AGO has agreed to assist those industries subject to MEPS to promote and acknowledge those products that pass MEPS by a wide margin. The mandatory comparative energy rating tool (the "star" label) is an effective means of providing information to purchasers about the advantages of purchasing more efficient refrigerators. The algorithms for the refrigerator and freezer star rating label have recently been regraded to take into account the MEPS levels that came into force in 1999 and will no doubt be regraded again to take account of new MEPS levels in 2004. The Australian codes and standards program goes beyond just regulatory mechanisms to adopt a holistic approach embracing voluntary industry initiatives and complementary information programs which support and promote best practice. Public sector funds are made available to assist with these schemes where real energy savings are identified.

Neither *technical rigor* nor *scientific merit* figure in the above list of considerations. The benefit to Australia in "matching" an existing MEPS level is that it avoids a debate about what our MEPS level should be: North America; Europe or Asia decides that for us. The Australian debate is focussed on modifying those predetermined levels to take account of Australia's unique circumstances. It remains to be seen if this policy shift expedites and enhances our outcomes or just gives rise to a new range of debatable issues. The AGO, however, is hopeful that the approach will be successful. Positive engagement with stakeholders has established a framework to improve MEPS levels in future.

Lessons Worth Exploring from North America

MEPS is a process of continual improvement. MEPS is also a process that can be measured within a country and benchmarked against other countries. This benchmarking is not confined to just the MEPS levels and can include procedural issues. For example, the AGO is examining the USA model of including NGO environmental advocates in negotiating MEPS agreements. This is not presently possible in Australia. Environmental groups generally do not have expert staff nor the time or resources to contribute effectively in these debates. In Australia, these groups are provided with a formal opportunity to comment during consultation processes but arguably it is more difficult to change proposed MEPS levels at this later stage.

Bodies akin to American Council for an Energy-Efficient Economy, such as the National Resources Defense Council, the Alliance to Save Energy and other non-government instrumentalities do not exist in the same form in Australia. The inclusion of independent,

energy efficiency advocates on AGO steering groups would add an additional dynamic to these negotiations. It should be noted that the major consumer organisation in Australia is technically competent (with its own accredited test laboratories), has resources for energy policy, and provides a strong and welcome NGO input into current processes.

The AGO will examine the listings of products under MEPS regimes in Canada, United States, and Mexico, amongst others. The number of appliances and equipment types regulated by MEPS in North American economies offers opportunities not even considered some 12 months ago in Australia. The AGO looks forward to developing MEPS levels on other products beyond those for the three appliances already in place and the three further equipment products scheduled to commence within a few years. Preliminary work is already underway in this direction, and priorities for this new phase of work should be clear by the end of 2000.

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Upon request, the AGO will provide copies of these papers, some of which are on our website www.greenhouse.gov.au