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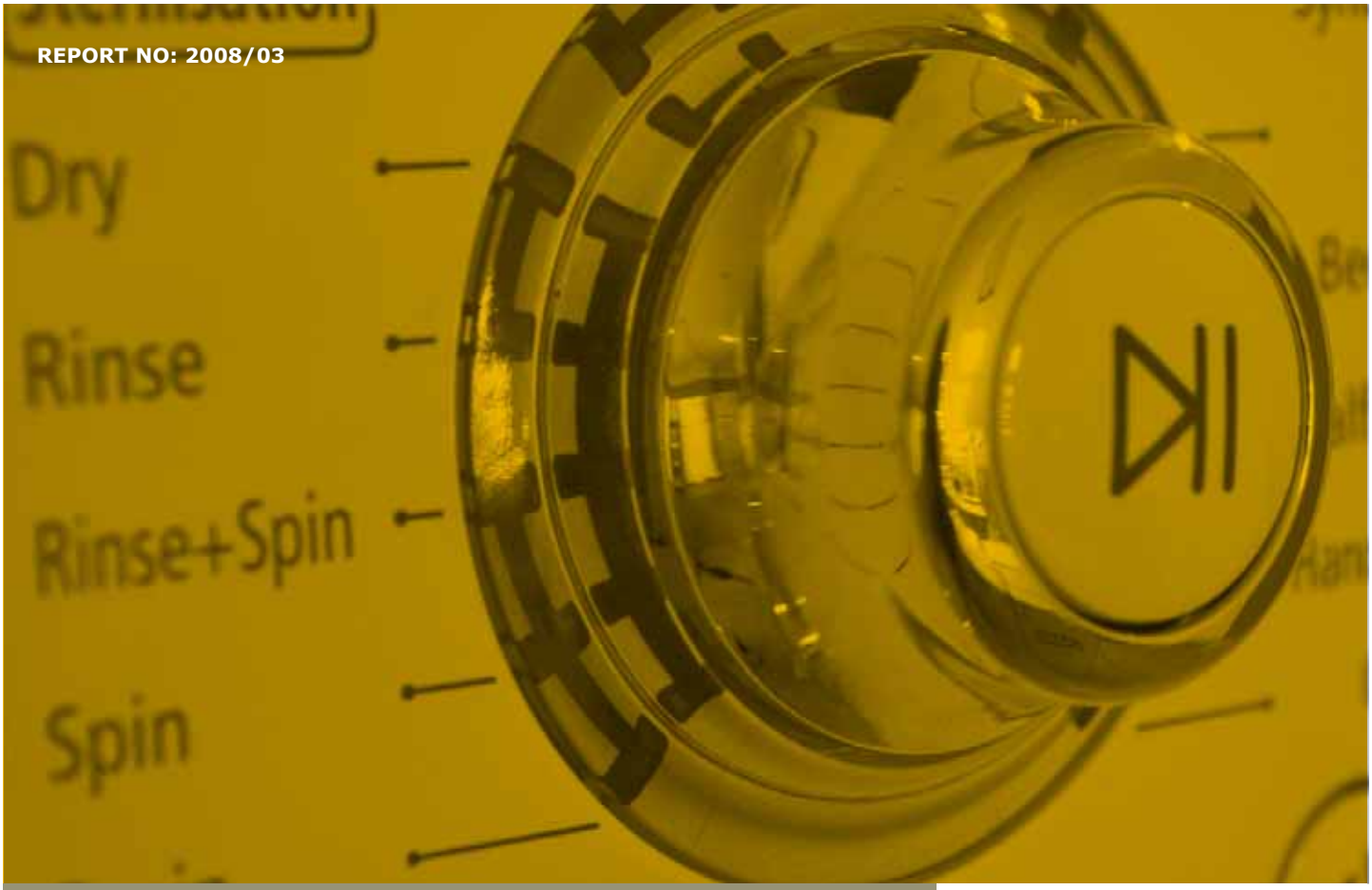

EQUIPMENT ENERGY EFFICIENCY PROGRAM

SEPTEMBER 2008

ACHIEVEMENTS > 2007/08

AN INITIATIVE FORMING PART OF THE AUSTRALIAN NATIONAL FRAMEWORK FOR ENERGY EFFICIENCY AND THE NEW ZEALAND NATIONAL ENERGY EFFICIENCY AND CONSERVATION STRATEGY

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EQUIPMENT ENERGY EFFICIENCY

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Australian Government
Department of the Environment, Water, Heritage and the Arts

- ACHIEVEMENTS 2007/08 IS THE ANNUAL REPORT OF THE EQUIPMENT ENERGY EFFICIENCY PROGRAM. IT REPORTS THE PROGRESS MADE IN THE 18 MONTH PERIOD FROM 1 JANUARY 2007 TO 30 JUNE 2008, AGAINST THE GOALS SET FOR THE PROGRAM BY THE MINISTERIAL COUNCIL ON ENERGY. THIS REPORT IS FOR AN 18 MONTH PERIOD BECAUSE PREVIOUS ANNUAL REPORTS WERE BY CALENDAR YEAR, BUT WILL REPORT BY FINANCIAL YEAR IN THE FUTURE.
- MORE INFORMATION ABOUT THE PROGRAM, WHICH COMMENCED NATIONALLY IN AUSTRALIA IN 1992, CAN BE FOUND AT WWW.ENERGYRATING.GOV.AU
- THIS IS THE 8TH ANNUAL REPORT SINCE THE PROGRAM WAS SUBSTANTIALLY UPGRADED.

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ACRONYMS

CFL - compact fluorescent lamps
CPRS - Carbon Pollution Reduction Scheme
E2WG - Energy Efficiency Working Group
E3 Program - Equipment Energy Efficiency Program
- formerly known as the National Appliance and Equipment Energy Efficiency Program
IEC - International Electrotechnical Commission
MCE - Ministerial Council on Energy
MEPS - Minimum Energy Performance Standards
NATA - National Association of Testing Authorities
NFEE - National Framework for Energy Efficiency
RIS - Regulatory Impact Statement
WELS - Water Efficiency Labelling Standards

1 EQUIPMENT ENERGY EFFICIENCY PROGRAM

PROGRAM CONTEXT

Energy consumed by appliances and equipment is a major source of greenhouse gas emissions in Australia and New Zealand. Improving the energy efficiency of appliances and equipment is a key objective for all Australian governments and the New Zealand Government.

Performance codes and standards are the most widely used measures internationally to reduce energy use and greenhouse gas emissions from equipment and appliances. The Equipment Energy Efficiency Program (the Program) embraces a range of measures aimed at increasing the energy efficiency of products used in the residential, commercial and manufacturing sectors in Australia and New Zealand.

Some of these measures are backed by regulations mandating the energy labelling of products at the point of sale, or specifying minimum energy performance standards (MEPS) that products must meet or exceed to be lawfully sold. A number of individual sub-programs stimulate the development of world class products as well as helping to create fairer competition in the marketplace by:

- informing consumers of comparative energy consumption;
- endorsing the best performing models in a product range (through labelling); or
- by stipulating minimum acceptable efficiency levels below which products may not be sold.

The main policy tools used to achieve these outcomes are:

- mandatory MEPS (set-out in the relevant product standard published by Standards Australia);
- mandatory energy efficiency labelling (set-out in the relevant product standard published by Standards Australia and Standards New Zealand); and
- voluntary measures including endorsement labelling, training and support to promote the most efficient available products.

The Program measures improvement by increasing the number of products covered, increasing the stringency of existing energy requirements through a process of regular review, and increasing the intensity of the program in key areas so that a range of program tools are used to maximise the energy saving outcomes.

GOVERNANCE

In 2001 the Council of Australian Governments (COAG) established the Ministerial Council on Energy (MCE) who became responsible for energy efficiency policy (http://www.mce.gov.au/). MCE comprises of Ministers with responsibility for energy from the Australian Government and each of the states and territories. The New Zealand Minister of Energy has full membership and voting rights when Trans Tasman Mutual Recognition Arrangement issues are being considered. This trigger applies whenever any proposals for mandatory performance standards or labelling for end-use products are considered. Otherwise, like the Papua New Guinean Minister for Petroleum and Energy, New Zealand has observer status on the Council. A current MCE membership list is at Appendix 1.

MCE has identified one of the key goals for the National Framework for Energy Efficiency (NFEE) (www.nfee.gov.au) which is to improve end-use product energy efficiency performance. The New Zealand Energy Efficiency and Conservation Strategy aims to improve the efficiency of energy appliances used in homes and businesses, in conjunction with Australia, through the development of MEPS and comparative energy labelling. The Program is the principal means pursued to meet these goals. Management of the Program is the responsibility of the Equipment Energy Efficiency (E3) Committee, which consists of officials from Commonwealth, State and Territory Government agencies, as well as representatives of the New Zealand Government. A current E3 Committee membership list is at Appendix 2.

The E3 Committee is responsible for advising

the MCE on efficiency implementation measures to address the efficiency needs of all types of electrical equipment. MCE has given the E3 Committee a mandate to assess any energy-using product for possible regulation, subject to community consultation and the completion of a Regulatory Impact Statement (RIS) as required by COAG. In 2006, the MCE for the first time agreed to consider regulating products even in circumstances where a cost is imposed upon the community providing such action may offset even more expensive mitigation action sometime in the future. The E3 Committee charter provides the Terms of Reference for the Program and is listed in Appendix 3. The Program operates under Stage One of the Implementation Plan for the NFEE which is reproduced in Appendix 4.

TARGETS

The Program publishes three-year work plans. The current work plan for 2007/08 is listed in Appendix 5 and represents stage one of the NFEE. The Program has already delivered impacts across a range of end use product groups including:

- Household appliances;
- Standby power;
- Lighting;
- Electricity distribution transformers;
- Air conditioners;
- Commercial refrigeration;
- Water heaters; and
- Electric motors.

Products from each of these groups are considered for inclusion within the Program on the basis that the community will benefit from its regulation. Individual energy efficiency mandatory levels are either the equivalent of world-best regulatory levels, or are more stringent because of strong support of key stakeholders.

In 2004, Australian and New Zealand officials agreed to a common list of products to be targeted under a joint Trans-Tasman program. This list remains current as of June 30 2008 and is in Appendix 6.

COST-EFFECTIVE OUTCOMES

The Program is an extremely cost effective measure that delivers real benefits for the economy, the environment, and to Australasian consumers. In 2007 key outcomes that were projected by 2020 include:

- The Program will deliver economic benefits to Australia - with a total estimated value of $4.8 billion by 2020;
- The Program will deliver economic benefits to New Zealand - with a total estimated value of $0.25 billion by 2020 (excluding CO_2 benefits);
- The Program will deliver environmental benefits to Australia – with over 200 Mt of abatement projected by 2020;
- The Program will deliver environmental benefits to New Zealand – with over 1.8 Mt of abatement projected by 2020; and
- The Program will deliver these economic and environmental benefits at a consumer benefit, not cost – measured in terms of greenhouse gas emission reductions, the community cost is minus $23/tonne of CO_2-e reduced, (net present value).

Please note that these values were estimated before the Government announced its intention to introduce a Carbon Pollution Reduction Scheme (CPRS), and will be revised once the details of the CPRS are finalised.

COMMON AUSTRALIA/ NEW ZEALAND WORK PROGRAM

A common end-use energy efficiency work program between Australia and New Zealand benefits program stakeholders because:

- The same regulatory standards apply to suppliers in both countries offering improved economies of scale in local production and lower compliance costs;
- Consumers are not confused by differing regulatory arrangements or labelling schemes in each country;
- Efficiency regulators deliver common regulatory proposals with resultant public sector resource savings; and
- It fulfils the obligations of the Australia New Zealand Closer Economic Relations Trade Agreement and the Trans-Tasman Mutual Recognition Arrangement.

2 MAJOR ACHIEVEMENTS

HIGHLIGHTS

- The completion of Stage 1 of the National Framework on Energy Efficiency presents an opportunity to reflect on not only highlights over the last 18 months but also to report on endeavours to prepare for NFEE Stage 2 commencing in July 2008.
- The election period and the work to reflect the new Federal Government's agenda in this field provided an opportunity to reflect upon changes to improve this program. A number of these changes demonstrate the robust public-private partnership that underpins this long-term program.
- Initially the Garnaut review involving all Australian jurisdictions and then the Wilkins review by the Commonwealth examined the validity of this program. The Garnaut Review context was in relation to whether this program should continue when a Carbon Pollution Reduction Scheme (CPRS) commences. The Wilkins Review looked at the funding implications for regulatory programs following the introduction of a CPRS. While these reviews were not publicly reported by June 2008, preliminary results are favourable for the continuation of the E3 program.
- Throughout the period, some industry stakeholders expressed concern about the regulatory process. These valid concerns turned on unnecessary red tape and inconsistencies between laws in participating jurisdictions. The E3 Committee commissioned Standards Australia to explore options to improve the process which has resulted in proposals to change the regulatory process.
- Similarly, the Commonwealth Office of Best Practice Regulation and the E3 Committee have invested significant time in exploring ways to present the economic justification for regulatory proposals. The policy settings in all jurisdictions are now aligned and several regulatory impact statements have been cleared recently for public comment.
- No additional regulations came into effect during 2007 and the first half of 2008.
- In February 2007, the then Environment portfolio Minister, Malcolm Turnbull, MP announced the phase-out of inefficient incandescent light bulbs in 2009 or 2010. The current Minister for Environment, Peter Garrett, AO MP announced on 5 June 2008 that the import of these inefficient products would cease from November 2008, if in Australia's economic interests.
- The television industry also agreed to work with Government to develop a voluntary labelling scheme to commence later in 2008. This proactive step demonstrates that the strong public-private partnership continues to develop between government and industry within Australia and New Zealand.

PROGRAM ENFORCEMENT AND MANAGEMENT

In mid 2007, a Four Corners investigation questioned the rigour of E3's compliance and enforcement program. A number of air conditioning units were tested for Four Corners and did not meet the MEPS or their star ratings. The program went on to say that a testing facility had 'irrefutable evidence that large numbers of air conditioners are sold illegally each year'. However, the testing facility was unable to provide this evidence to the Chair of the E3 Committee, and rather than indicating a failure of the compliance program, this demonstrated the need to continue to select products for testing on the basis of their likelihood of failure, rather than random testing. As a further demonstration of its commitment to ensuring products comply with mandatory MEPS and/or labels, the E3 Committee has increased the funding allocated to compliance and enforcement activities. A budget of $500,000 in 2007-08 allowed for an increase in the number of check tests undertaken across all product categories.

The E3 program received international acclaim at an international compliance conference held in Paris in February 2008. E3 continues to be regarded as having the most rigorous compliance and enforcement regime of any country.

Prior to 2007, the major sanction for companies supplying non-compliant products or making false or misleading statements about their products was either deregistration or referral to the Australian Competition and Consumer Commission (ACCC). Whilst these sanctions are significant, holding suppliers accountable for their actions in supplying non-compliant products to the market, they do not address the direct detriment caused to consumers and the environment by the additional electricity use resulting from the use of the product.

In a world first, in 2007/08 six companies voluntarily entered into agreements with the DEWHA to compensate both consumers and the environment, when their products were identified as failing MEPS and/or labelling requirements. These suppliers have agreed to identify and contact consumers who purchased their products, and offer compensation in the form of a cash rebate to the value of the extra electricity used by the product, or even to replace the product with a new, compliant model. In addition, the suppliers have also agreed to address the environmental damage caused by running their appliances, by purchasing and retiring greenhouse gas abatement credits equivalent to the amount of the extra carbon dioxide created as a result of the additional electricity used.

E3 PROGRAM REVIEW

In May 2008, a review entitled *Review of Action on Energy Efficiency and Local Greenhouse Action Program* was conducted for DEWHA.

The review came at an opportune time because of questions surrounding the role of energy efficiency programs in the context of Australia's broader climate change policies. The key findings of the review were that:

- The E3 program should be considered a foundational energy efficiency program, which provides an essential underpinning for other energy efficiency activities that are directed to individual economic sectors or groups of energy users

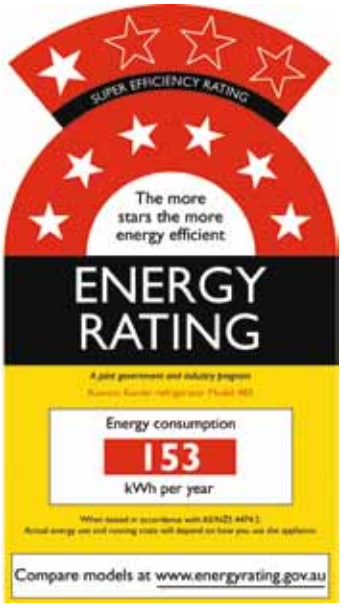
with common characteristics (such as government operations and local government).
- Having an equipment energy efficiency program can be considered as an essential underpinning for any serious national energy efficiency effort.
- The particular range of activities undertaken within E3 over the past three years, and the way the program has operated both ensure that it is consistent with government priorities, and ensure achievement of policy objectives.
- During the past three years the program has met its objectives.
  - The range of appliance and equipment types subject to MEPS and labelling has steadily increased and the stringency of some MEPS categories has been increased.
  - The 2005 consumer survey found that the energy label has a very high level of recognition.
  - The comprehensive stakeholder consultation processes that are a key part of the program – indeed essential for it to succeed – were continued and expanded. The check-testing and in-store surveys were continued, to ensure both the integrity of the program and its credibility with consumers.
- Quantitative analysis has estimated that significant energy savings, and consequent emissions reductions, can be attributed to the application of MEPS to a growing range of appliance and equipment types.
- Economic analysis found that this abatement occurred at a large negative cost; that is, the program has continued to deliver net benefits to consumers and the economy as a whole through reductions in the economic resources expended on the supply and consumption of energy. On these grounds, the program can be justified as an economic efficiency measure, even in the absence of the requirement to reduce greenhouse gas emissions.
- Given the nature of information programs it is difficult to estimate greenhouse-gas abatement. However, it is clear that a comprehensive and credible energy efficiency labelling system is a necessity if consumers are to make informed purchasing choices. Labelling is therefore an essential element of a comprehensive energy efficiency program.

ENERGY USE IN THE AUSTRALIAN RESIDENTIAL SECTOR 1986 – 2020

In 2008 the most comprehensive study of residential energy use ever produced in Australia was released. The report entitled '*Energy Use in the Australian Residential Sector' 1986-2020,* was commissioned by the Department of the Environment, Water, Heritage and the Arts.

This report also highlights the ongoing need for the Equipment Energy Efficiency (E3) Program, with residential sector energy use rapidly increasing - even with improved technologies and increasing electricity prices. It provides a clear picture of the current break down of residential energy use, measures the impacts of MEPS and labelling of equipment and appliances, and identifies trends in energy use by equipment and appliances to 2020. This detailed data allows E3 to identify and prioritise equipment and appliances for MEPS and labelling based on energy savings. For example the report identified an increase in the energy consumption of televisions, which are now the fourth-largest user of electricity, behind water heating, domestic refrigeration and lighting. Without Government action, television energy use is predicted to double between 2004 and 2014.

The household sector is forecast to grow by almost 4 million homes and over 1,600 million square metres in floor space by 2020, creating increased demand for heating, cooling, lighting and electrical appliances. The report forecasts an increase in energy usage of 56 per cent by 2020, emphasising the need for immediate, comprehensive and coordinated action on energy efficiency.



NEW 10 STAR LABEL

After 20 years of promotion, community awareness of the appliance energy label is almost universal, with most consumers having a good understanding of the basic concepts and features.

One draw back with the current label for some product types is that because ratings are only calculated out of six stars, highly efficient products are bunched at the top end of the scale. This disadvantages consumers, who don't have the right information to make cost-saving decisions, and is unfair to manufacturers, who are not recognised for energy-saving innovations.

To resolve this issue the program will improve the 6-star Energy Rating Label scheme so that up to ten stars can be awarded. This will give manufacturers incentives to continually improve their products and give consumers more accurate information to help with their choices.

Transition to the 10-star label will occur gradually and will be triggered when products exceed the current 6-star maximum. The next step in the transition process will be incorporating the new label formats and relevant star-rating algorithms into the relevant product standards. The 6-star version will continue to appear on regulated product types, with the new 10-star version likely to commence as soon as industry is able to provide super-efficient products to the marketplace.

3 AUSTRALIAN LEADERSHIP ON EFFICIENCY ISSUES

The effectiveness of the Program is not only measured by its achievements within Australasia but also its ability to influence global efficiency debates. In 2007/08 Australia demonstrated how the international agenda can be influenced by domestic initiatives through the phase-out of inefficient lighting, and through pushing the Standby power agenda.

PHASE-OUT OF INEFFICIENT LIGHTING

Lighting energy use has shown steady and relatively strong growth since 1986 but is expected to decline from 2010 to 2015 then begin to rise again until 2020 (Figure 1). On 20 February 2007 the Australian Government announced world leading action to reduce energy consumption and greenhouse gas emissions from domestic lighting. Through the E3 Committee, the federal and state governments have been working with industry to:

- progressively remove the least efficient incandescent lamps from the market, including the familiar pear-shaped tungsten filament lamps, otherwise known as general lighting service (GLS) lamps of less than 150 watts;
- set mandatory standards for the efficiency and quality of compact fluorescent lamps (CFLs); and
- remove the least efficient Extra Low Voltage Converters from the market.

The first stage of the phase-out will be banning the importation of ordinary GLS lamps from November 2008, followed by a retail sale ban of the same products from November 2009.

The full Ministerial announcement is at Appendix 7.

Over the period to 2020, the proposed measures are projected to contribute 28.5 Mt CO_2-e to abatement in Australia and 3.34 Mt CO_2-e to abatement in New Zealand, and will reduce the cost of lighting services by $2.2 billion in Australia and $NZ0.5 billion in New Zealand.

The incandescent phase-out measure has had repercussions around the world. The week after the announcement, the European Commission announced its intention to move further and faster on efficiency, with an explicit mention of lighting. Equivalent moves are in the pipeline in the US, Canada and East Asia.

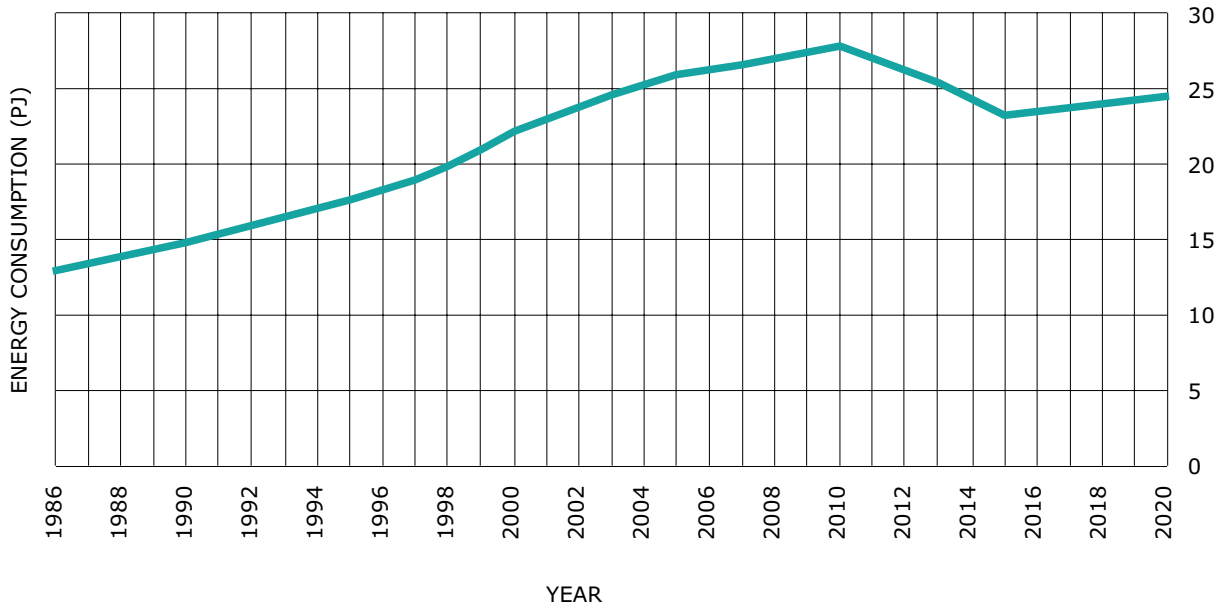
Australia is a leader in international efforts to develop global standards for CFLs, including with China, where 85% of the world's CFLs are produced. In December 2007 Australia held a workshop in Beijing to present Australian Phase-Out plans to over fifty Chinese officials and industry representatives.

The International Energy Agency estimates that globally, incandescent lamps consume 970 terawatt hours of electricity per year and result in greenhouse gas emissions of 560 million tonnes. Switching to CFLs (or other high efficiency lighting) will see energy savings of 800 terawatt hours and greenhouse gas abatement of 470 million tonnes – equivalent to 118 million cars off the road or 470 million new trees planted per year.

The various energy efficiency characteristics of the various lamp technologies can be summarised in Figure 2. Note the following:

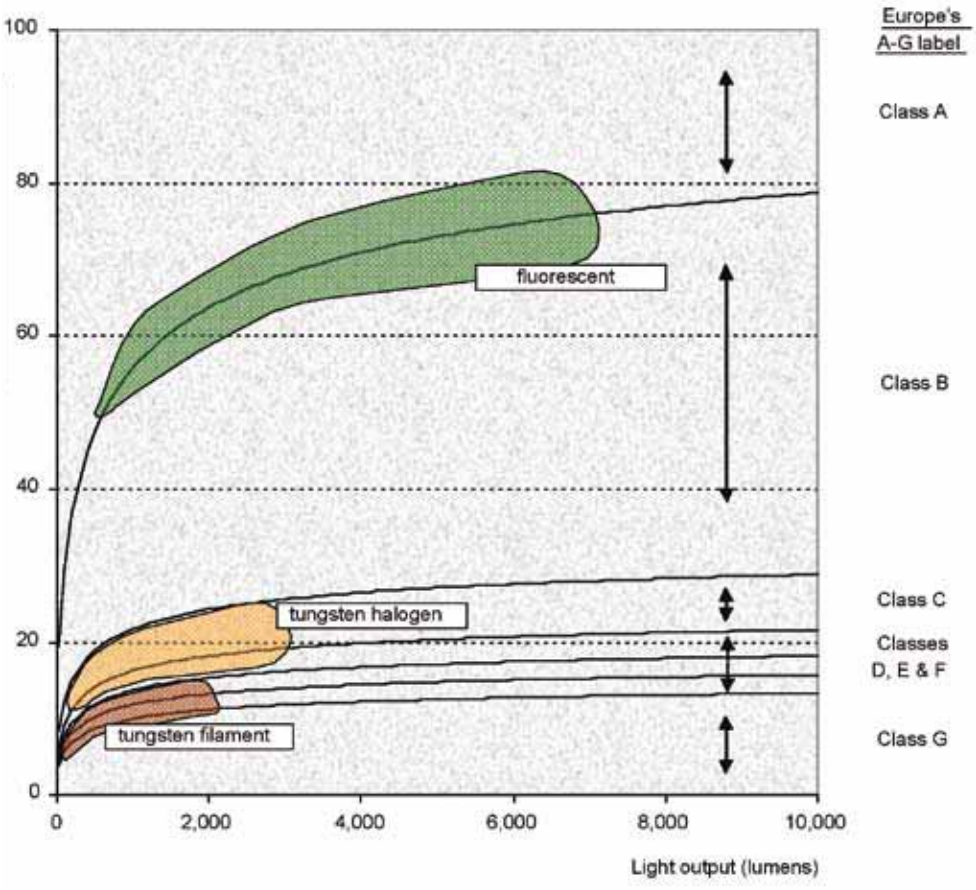
- Light output is measured along the horizontal axis in lumens, which refers to a measure of the amount of visually useful radiation that is emitted by a lamp. For example, a common 60 watt globe emits approximately 750 lumens.
- Lighting professionals use the term 'efficacy' for the ratio of the rate of light production (lumens) to the rate of energy input (watts). Efficacy is measured along the vertical axis in lumens/watt.
- In 1998 the European Union introduced a lamp labelling scheme with seven classes, labelled A to G. The thresholds increase with lamp output because it is easier to efficiently produce large amounts of light and more difficult to efficiently produce small amounts of light. The incremental class thresholds are extremely non-linear, with relatively small differences between classes D and G in the lower regions but a larger gap between classes A and C in the upper regions – see Figure 2.
- Incandescent lamps convert less than 10% of the radiation emitted by a white hot body into light, and inhabit the lower regions of Figure 2. Suppliers seldom place incandescent lamps higher than class C.

FIGURE 1. ENERGY CONSUMPTION (PJ) OF LIGHTING IN AUSTRALIA'S RESIDENTIAL SECTOR FROM 1986-2020



(Source: DEWHA (2008). Energy Use in the Australian Residential Sector: 1986-2020 page 65)

FIGURE 2. RELATIVE EFFICIENCIES OF LIGHTING TECHNOLOGIES



(Sourced from Equipment Energy Efficiency Committee "Proposed MEPS for incandescent lamps, compact fluorescent lamps and voltage converters" in press)

INTERNATIONAL PHASE-OUT CONFERENCE

In May 2008 Australia organised and led an international inefficient lighting phase-out conference in Shanghai, China as part of its commitment to the Asia-Pacific Partnership on Clean Development and Climate. ***Phase-Out 2008*** was co-hosted by the Global Environment Facility (GEF), International Energy Agency (IEA) and the China Association of Lighting Industries (CALI). This was the first global event aimed at sharing information and strategies on the phase-out of inefficient lighting.

Phase-out 2008 was an opportunity for Australia to share its experience and lessons learnt with other countries planning or considering similar approaches. It provided a forum for key stakeholders to meet and exchange information on lighting initiatives taking place around the globe, and to consider key challenges to the phase-out and implications for industry, and identify how the move towards efficient lighting can benefit from cooperation at the regional and international level.

The Conference also included a workshop on CFL Quality, a stakeholder consultation forum in order to shape and design the Global Environment Facility (GEF) international inefficient lighting phase-out project, and a visit to one of the world's largest CFL production facilities.

More than 120 people attended from 20 countries including manufacturers, regulators (from both countries already on the phase-out path and those considering phase-out action), lighting experts and international organisations.

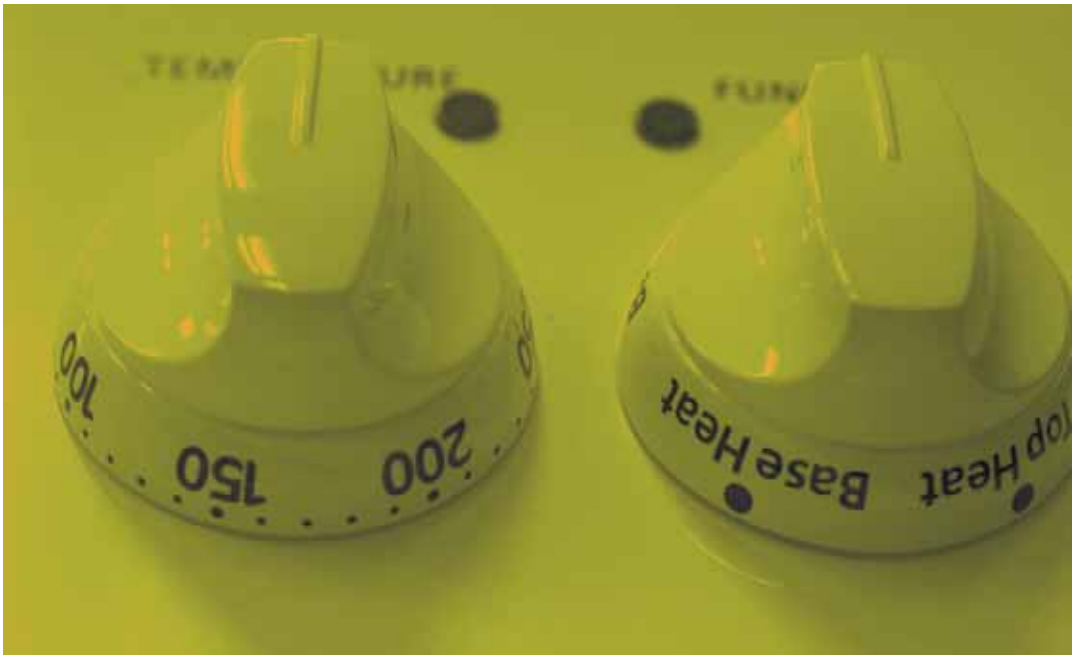
Presentations are available from http://www.energyrating.gov.au/forums-2008-phase-out.html

INTERNATIONAL STANDBY CONFERENCE

Regular international conferences on reducing Standby Power have helped to keep the issue at the forefront of national energy efficiency strategies and stimulate co-ordination amongst countries. The 2008 Conference in New Delhi, India, featured a selection of speakers from around the world (including Australia) and from India, and provided an opportunity to share information about:

- Asia-Pacific Partnership Projects underway to tackle standby power;
- National and International trends in standby power consumption;
- Proposals for policies to address Standby Power;
- Recent national policy developments and future proposals; and
- Developments in the standby power test procedure, IEC 62301.

Presentations are available from http://www.iea.org/Textbase/work/workshopdetail.asp?WS_ID=352



4 PRODUCTS REGULATED BY THE EQUIPMENT ENERGY EFFICIENCY PROGRAM

The MEPS program currently covers 13 product types listed in Table 1.

TABLE 1: PRODUCTS REGULATED BY THE EQUIPMENT ENERGY EFFICIENCY PROGRAM

Product	Sector	MEASURE		Regulatory Standard
		MEPS	Labelling	
Whitegoods				
Refrigerators	R,C	1999, 2005	1992, 2000 (2010)	AS/NZS4474.2
Freezers	R	1999, 2005	1992, 2000 (2010)	AS/NZS4474.2
Clothes washers	R		1992, 2000	AS/NZS2040.2
Clothes dryers	R		1992, 2000	AS/NZS2442.2
Dishwashers	R		1992, 2000	AS/NZS2007.2
Electric Water Heating				
Electric Water Heaters	R,C	1999, 2005		AS/NZS4692.2
Air Conditioners				
Single-phase air conditioners	R,C	2004, 2006	1992, 2000 (2010)	AS/NZS3823.2
Three-phase air conditioners	C	2001		AS/NZS3823.2
Lighting				
Linear fluorescent ballasts	C,I	2003		AS/NZS4783.2 NZHB4783.2
Linear fluorescent lamps	C,I	2004		AS/NZS4782.2 NZHB4782.2
Commercial and industrial				
Commercial refrigeration	C	2004		AS1731.14
Distribution Transformers	I	2004		AS2374.1.2
Electric Motors-Three-phase	C,I	2001, 2006		AS/NZS1359.5

Sectors	R-residential, C-commercial, I-industrial
Measures	MEPS – minimum energy performance standards
Codes	AS/NZS Australian/New Zealand standard, NZHB-New Zealand handbook (a regulatory standard prepared by the NZ Government and published by standards NZ)
Labelling	Some states had mandatory energy labelling regulations prior to 1992 for a range of products. Refrigerators were first labelled in late 1986. Algorithm changes occurred in 2000 for all products. Algorithm changes for refrigerators, freezers and air conditioners are scheduled for 2010.

5 INTERNATIONAL INITIATIVES

The Program has long held links with other national and regional activities, which assist regulators to apply that knowledge to our own program. In 2007/08, the key international exchanges included those outlined below.

ASIA-PACIFIC PARTNERSHIP ON CLEAN DEVELOPMENT AND CLIMATE (APP)

The APP brings together key developing and developed countries in the region to address the challenges of climate change, energy security and air pollution in a way that is designed to promote economic development and reduce poverty. The E3 Committee is involved in leading or participating in two APP projects (http://www.ap6.gov.au/) under the Building and Appliances Task Force (BATF):

- Alignment of national standby power approaches; and
- Harmonisation of Test Procedures.

In September 2007, the Australian Government approved final funding of nearly $2 million for the project 'Harmonisation of Test Procedures' under the Asia-Pacific Partnership on Clean Development and Climate (APP) Buildings and Appliances Taskforce (BATF). In an effort to eliminate a major barrier to developing successful standards and labelling programs, this project aims to develop harmonised energy efficiency test procedures for the priority products of three-phase electric motors, lighting, HVAC and electronic products (including computers). Two project workshops have been held in Beijing, on 10 June 2007 and 10 December 2007 to further progress the two Electric Motors and Motor Systems subprojects and a testing round robin is planned for late 2008.

HARMONISATION OF TEST PROCEDURES – COMPACT FLUORESCENT LAMPS

In order to eliminate a major barrier to trade in efficient lighting products among APP member countries, this project seeks to develop and implement harmonized minimum performance standards and test/compliance procedures for compact fluorescent lamps (CFLs). The project is intended to feed into the ongoing work being conducted by the Asia-Pacific Economic Cooperation (APEC)-supported Compact Fluorescent Lamp

International Harmonization Initiative (CFLI). Harmonised standards are an important step in ensuring the supply of efficient and high quality CLFs to the Australian market. To date the project has included support for the development of sampling methodology and the review of test methodology for CFL quality and mercury testing. Australia has worked with the US Agency for International Development's ECO-Asia Clean Development and Climate Program to implement sampling and collection of more than 3,000 samples of CFLs representing 160 product models from Australia, India, and the four largest ASEAN countries (Indonesia, Philippines, Thailand, and Vietnam). Australia/US sponsored testing is underway in test laboratories in China and India to carry out benchmark testing of CFLs.

FACILITATION OF REGIONAL PHASE-OUT OF INEFFICIENT LAMPS

In order to promote the take-up of efficient lighting alternatives such as CFLs in developing nations, this sub-project seeks to assist national action on the phase-out of inefficient incandescent lighting. The project aims to (1) complement and expedite the work proposed by the Global Environment Fund (GEF) and UN Committee for Sustainable Development (CSD) on phase-out in China and other developing nations, (2) collate data with a view to constructing a coherent and achievable schedule for phase-out action. The project will aim to empower countries considering phase-out as a policy option by providing a roadmap for early action and enabling them to engage with international networks of support and funding. Action to date includes the December 2007 manufacturer's workshop in Shanghai and the Phase-Out 2008 Conference in Shanghai in May 2008.

ASIA-PACIFIC ECONOMIC COOPERATION (APEC)

APEC brings together twenty-one economies from the APEC region who currently account for around 60% of world energy demand. The APEC Energy Working Group (EWG), launched in 1990, seeks to maximize the energy sector's contribution to the region's economic and social well-being, while mitigating the environmental effects of energy supply and use. The EWG is assisted by five Expert Groups and two task forces which concentrate on particular strategic aspects of the EWG's agenda. Australia participated in all meetings, and is supporting NZ in chairing the experts group.

For more information see http://www.apec.org

Asia-Pacific Economic Cooperation

BILATERAL PARTNERSHIPS

The Australian Government Bilateral Climate Change Partnerships Program was introduced in 2004-05 to develop and implement projects that deliver mutual practical benefit for Australia and partner countries, help build the capacity of developing countries to take action on climate change and provide an additional mechanism to facilitate strategic policy dialogue with key countries. The bilateral partnerships are a useful complement to other international forums, providing more flexible mechanisms for reaching agreement and building stronger cooperative relationships on climate change. Energy efficiency is a focus area in a number of bilateral partnerships, including China, the United States, New Zealand, the European Union and Fiji. There are currently seven active or developing bilateral projects on energy efficiency. Cooperative areas include harmonisation of emissions monitoring, reporting, verification and certification procedures between Australia and partner countries.

China – Televisions

Australia and China are cooperating through a bi-lateral agreement in relation to Energy Efficiency Standards for Televisions. The major objective of the project is to develop aligned standards for LCD TVs between China and Australia and enhance cooperation and communication between technical experts on energy efficiency and standards and labelling agencies in China and Australia.

Fijian Standards and Labelling Program

The Australian and the Fijian Governments have been working together to develop energy efficiency standards (MEPS) and energy labels for refrigerators and freezers in Fiji. A number of workshops and stakeholder meetings were held in Fiji in 2006 and 2007 clearing the way for the regulatory case to be prepared for the Fijian public. A cost-benefit analysis for the scheme has been prepared and a preliminary 5-year roadmap has been developed incorporating a forward plan for expansion of the scheme to other electric appliances. Delays in implementation of the scheme have been experienced due to the political coup in Fiji in 2006. The Fijian Cabinet endorsed the scheme in October 2007 and the implementation date for the Fijian Appliance Standards and Labelling scheme for refrigerators and freezers as the first product is now set for 1 September 2008.

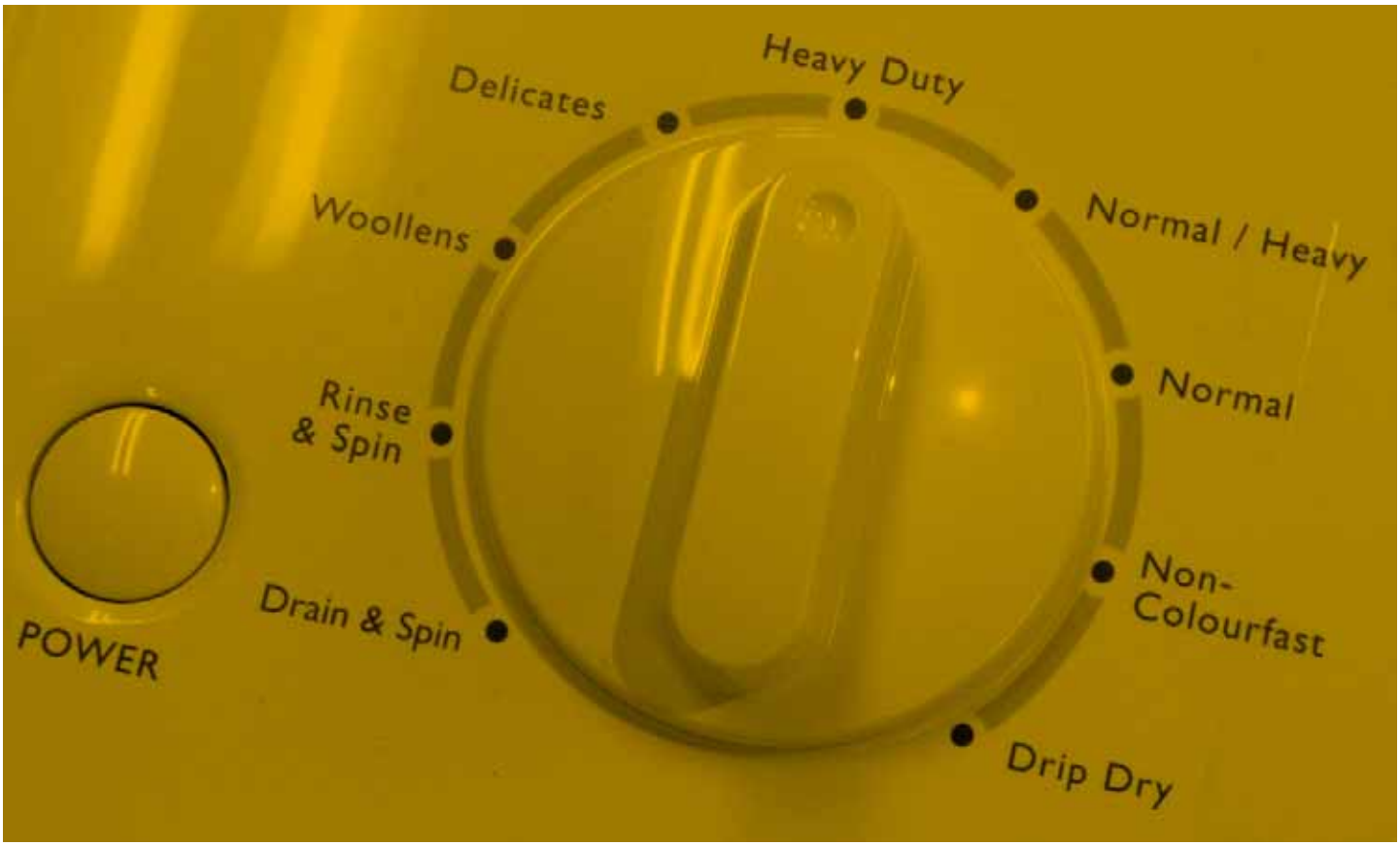
6 LONG-TERM STRATEGIES

A key feature of the Program is the development of 10-year strategies to clearly articulate government policy and to provide a road map for reducing energy use in that area. There are three existing long-term strategies in E3 (Table 2).

TABLE 2: EXISTING 10-YEAR STRATEGIES

(available at www.energyrating.gov.au)

Strategy	**Release Date**
National Standby Strategy – *Money isn't all you're saving*	2002
Lighting Strategy – *Greenlight Australia*	2005
Gas Strategy – *Switch on Gas*	2005



7 CONTINUING ACTIVITIES

ONLINE DATABASE FOR REGISTRATIONS

The on-line registration database system that facilitates the completion of application forms for prescribed appliances and equipment and also provides the database for the interactive products listing at www.energyrating.gov.au was introduced in 2002. Over the period 1 January 2007 to 30 June 2008 just over 1000 registered users of the on-line registration system completed approximately 5200 submissions to regulators resulting in approximately 3500 registration approvals.

Throughout the period 1 January 2007 to 30 June 2008, this system has continued to be enhanced and extended:

- In 2007, a new facility was provided whereby applicants could upload copies of test reports, energy rating labels and other relevant documentation directly to the on-line database. This new facility eliminated the need for separate delivery of these documents by suppliers to regulators and assisted regulators in the management of documentation.
- Revisions to both the Refrigerator and the air-conditioner registration forms were undertaken in accordance with amendments to the regulatory standards for these products.
- In 2007 new statistical analysis tools were added to the database to allow statistics relating to registration numbers (such as those in Table 3) to be generated.
- During 2007, a process was undertaken with industry to agree the range of data fields that should be made available to the public in both the interactive listings and tables that can be downloaded. The database was subsequently revised in line with that agreement.
- During the first half of 2008 development and testing of new registration facilities for both external power supplies and set top boxes was undertaken. These facilities are scheduled to be available for use in August 2008.

ADMINISTRATIVE GUIDELINES

The nationally consistent energy efficiency legislative scheme is delivered by state and territory legislation. The use of nationally endorsed model regulations allows each jurisdiction to follow a nationally consistent scheme. The scheme operates through a set of mutual expectations. Industry expects that regulatory agencies will act in a nationally consistent and cooperative manner and will use the Standards Australia processes in setting and publishing technical standards. Regulatory agencies expect that industry will participate constructively in those technical debates to ensure that technical requirements are fair and equitable for all participants.

The administrative guidelines play a crucial role in meeting these expectations. They help state and territory regulatory agencies work in a consistent manner so that costs and inconvenience to industry are minimised, and regulations concerning energy efficiency labelling and performance standards are enforced efficiently. The guidelines provide an explanation to industry about:

- The way legislation operates and is administered by state and territory regulatory agencies
- The standard procedures, rules and processes that underpin state and territory legislation
- The responsibilities of all stakeholders.

The guidelines have operated since the program began but were first published in April 2000. A major revision was published in 2005 with the guideline now updated from time to time on www.energyrating.gov.au

TABLE 3. THE NUMBER OF SUBMISSIONS AND APPROVALS FOR 11 DIFFERENT PRODUCT TYPES.

Product Type	Number of Submissions	Number of Approvals
Air-Conditioners	1718	1208
Clothes Dryers	124	63
Clothes Washers	329	174
Dishwashers	262	182
Electric Motors	1318	999
Water Heaters	85	72
Refrigerators	659	402
Ballats	94	23
Lamps	78	49
Commercial Refrigerators	566	329
Distribution Transformers	29	9
Total	**5262**	**3510**

8 REGULATORY IMPACT ASSESSMENTS

The Program must comply with national regulation-making processes in both Australia and New Zealand. Following agreement between relevant agencies on both sides of the Tasman, joint Regulatory Impact Statements (RIS) are prepared as a matter of course. This public economic analysis ensures that the costs and benefits (both social and economic) of regulating a product are canvassed in a timely, systematic, objective and transparent manner. A recommendation to regulate is only supported if it is the most cost-effective option.

Table 4 provides a summary of RISs cleared by the Office of Best Practice Regulation from January 2007 to June 2008. Updates are available as they occur at www.energyrating.gov.au/considered.html

REFRIGERATORS AND FREEZERS

Release Date:

In early 2008 a consultation RIS was prepared and this was cleared by the Office of Best Practice Regulation in May 2008 and was expected for public release in June 2008.

Outline:

The RIS proposes a new approach to the determination of star ratings based on a volume function to the power of 0.67. This better reflects the influence of size on energy consumption and hence the star rating of a refrigerator or freezer. Some small adjustments to the MEPS levels for Group 5 and 7 products were proposed to account for the impact of the test method and to keep the MEPS levels equivalent. The end of the transition period for the new label is proposed to be April 2010. The last label algorithm re-grade was in 2000.

Benefits and Costs:

Impacts of the proposal to introduce a label algorithm update and small test method adjustments for refrigerators and freezers from June 2008:

- For refrigerators, reductions in energy use are expected to approximate 106 GWh per year in 2020 and greenhouse gas emission savings of about 500 kt CO_2-e over the period 2005 – 2020. For freezers, reductions in energy use are expected to approximate 9 GWh per year in 2020 and cumulative greenhouse gas emission savings of about 43 kt CO_2-e over the period 2005 – 2020.
- It is expected the proposal will raise the cost of refrigerators and freezers expected to be sold from 2005 to 2050 by $49.2 million, but will deliver energy savings to consumers worth $82.8 million. This will result in an overall net benefit of $33.6 million in net present value terms with a benefit-cost ratio of 1.7 in Australia (2.7 for New Zealand) under base-case conditions.

TABLE 4. REGULATORY IMPACT STATEMENTS (RISs) THAT HAVE BEEN CLEARED BY THE OFFICE OF BEST PRACTICE REGULATION ARE FOR EITHER PUBLIC CONSULTATION OR MINISTERIAL DECISION FROM JANUARY 2007 TO JUNE 2008.

For Public Consultation	**Sector(s)***
Refrigeration \Freezer – label and algorithm change	R
AC chiller towers	C, I
For Ministerial Decision	**Sector(s)***
Set top boxes	R
External power supplies	C, R

** Where: R=residential, C=commercial, I=industrial*

AC CHILLER TOWERS

Release Date:

In December 2007, the MCE released a *Consultation RIS: Minimum Energy Performance Standards and Alternative Strategies for Chillers* seeking comments.

Outline:

Stakeholders were asked to comment on the proposed MEPS and the data and assumptions relating to the cost benefit analysis. The proposed strategy involves introducing mandatory MEPS that cover chillers of greater than 350 kWr from October 2008. The proposed MEPS includes minimum requirements for full load Coefficient of Performance (COP) and importantly, minimum requirements for part load (called Integrated Part Load Values or IPLV).

Benefits and Costs:

Impacts of the proposal to introduce MEPS for chillers from June 2009:

* Over the period 2009 to 2020, reductions in energy use are estimated to total 511 GWh/yr. This amounts to a cumulative greenhouse gas emission saving of 463 kt CO_2-e.
* From the proposed date of implementation of June 2009 to 2020, the additional cost of chillers is projected to increase by $22.1 million. However, savings to consumers will be worth $70.6 million, resulting in an overall net benefit of $48.3 million in net present value terms. The ensuing benefit-cost ratio is 3:19.

SET TOP BOXES (STBS)

Release Date:

In April 2007, a cost/benefit analysis was released for public comment, subsequently followed by the public release of a consultation RIS in October 2007.

Outline:

This RIS outlines a proposal to introduce mandatory MEPS requirements for passive standby, active standby and in-use modes, separate requirements for standard definition and high definition STBs as well as free-to-air and subscription television services. MEPS for STBs is expected to commence on 1 December 2008 in Australia and 1 April 2009 in New Zealand.

Benefits and Costs:

Impacts of the proposal to introduce MEPS for set top boxes from December 2008:

- Reductions in energy use are expected to approximate 1,561 GWh and cumulative greenhouse gas emission savings of about 1.46 Mt CO_2-e over the period 2000 – 2020.
- It is expected the proposal will raise the cost of 7.8 million set top boxes expected to be sold from 2006 to 2014 by $3.4 million, but deliver energy savings to consumers worth $42 million. This will result in an overall net benefit of $38.6 million in net present value terms with a benefit-cost ratio of 12:1.

EXTERNAL POWER SUPPLIES (EPS)

Release Date:

An initial RIS was released for public comment in March 2007 and subsequently revised in December 2007 to include information collected from stakeholder submissions.

Outline:

The RIS outlines a proposal to introducing mandatory MEPS for external power supply units. Some EPS units will be exempt from complying with the proposed mandatory MEPS including those used with medical\therapeutic devices in the Australian Register of Therapeutic Goods, or those used as spare parts for a period of five years from the introduction of MEPS.

Benefits:

Impacts of the proposal from December 2008 include:

- Reductions in energy use are expected to approximate 8,536 GWh and cumulative greenhouse gas emission savings of about 7.8 Mt CO_2-e over the period 2007 – 2025.
- It is expected the proposal will raise the cost of EPSs expected to be sold from 2006 to 2014 by $205.9 million, but deliver energy savings to consumers worth $485.9 million. This will result in an overall net benefit of $280 million in net present value terms with a benefit-cost ratio of 2.36:1.

PLANNED REGULATORY IMPACT STATEMENTS

A summary of Regulatory Impact Statements that are currently being reviewed by the office of best practice of regulation and planned for release between July and December 2008 are shown in Table 5. A summary of RISs anticipated to be completed after 1 January 2009 is presented in Table 6.

TABLE 5: REGULATORY IMPACT STATEMENTS THAT ARE ESTIMATED TO BE COMPLETED BEFORE 31 DECEMBER 2008.

Product	**Sector(s)***	**Current status**
AC chiller towers	C, I	Decision
Gas Water Heaters	R, C	Consultation
Televisions	R	Consultation
Single\Three Phase AC	R, C	Consultation
Reverse cycle heat pumps	R, C	Consultation (combined with Single\Three Phase AC)
Close control AC (for computer rooms)	C	Consultation
Standby Power (One Watt)	R, C	Consultation
Ice makers	C	Consultation
Refrigerated Beverage Vending Machines (RBVM)	C	Consultation
Distribution Transformers	I	Consultation
Lighting (Compact Fluorescent and Incandescent Lamps)	R, C	Consultation

** Where: R=residential, C=commercial, I=industrial,*

TABLE 6: REGULATORY IMPACT STATEMENTS THAT ARE EXPECTED TO BE COMPLETED AFTER 1 JANUARY 2009.

Product	**Sector(s)***
Electrical Products	
Heating and cooling	
Portable AC	R
Multi-split AC	R
Other products	
Swimming pool pump systems	R
Lighting	
Public amenity lighting (e.g. street lighting)	P
Halogen transformers	R, C
Gas Products	
Space Heating	R, C
Decorative Heaters	R, C

** Where: R=residential, C=commercial, I=industrial, TBA=to be announced*

9 ENFORCEMENT

In 2007 and 2008, the program continued to use a variety of compliance strategies to maintain the program integrity, including:

- Checktesting of products assessed as being at risk of not meeting MEPS requirements or efficiency and/or capacity statements made by suppliers on energy rating labels;
- Audits of products sold, to identify unregistered products; and
- Inter laboratory round robin testing to verify accuracy and reproducibility of testing results.

CHECKTESTING GUIDELINES

Checktesting is a quality assurance procedure which aims to ensure that electrical products meet the MEPS specified in legislation and that the performance of electrical products sold and offered for sale in Australia and/or New Zealand meet the energy efficiency and performance claims made by suppliers on labels and claims contained in registration applications.

Individual States and Territories, the NZ Regulator or Suppliers may undertake further checktesting procedures of their own. The checktesting procedure set out in this Section will generally be followed in respect of checktesting conducted as part of the E3 Committee's functions. The E3 Checktesting Program is administered by the Program Administrator on behalf of the E3 Committee.

To streamline the administration of the national checktesting program, the E3 Program Administrative Guidelines have been reviewed, removing the compliance components to the new 'Checktesting Guidelines'. These can be downloaded from the Energy Rating website at www.energyrating.gov.au.

The Guidelines have been developed to assist Suppliers and other stakeholders to understand the procedures that will generally be applied in the administration of the Checktesting Program. The Guidelines covers product selection criteria, stage 1 and stage 2 testing requirements and sanctions for non-compliance, as well as validity criteria applying to test results.

CHECKTESTING 2007/08

Since 1991, the Program has conducted regular checktesting of all products registered for either MEPS or energy labelling. One aim of this testing is to ensure that consumers can rely on the information contained in the energy rating labels affixed to appliances, and that suppliers provide accurate information when registering products for sale.

Table 7 summarises the 171 tests that have been commissioned from 1 January 2007 to 30 June 2008, across all product categories (refrigerators/freezers, air conditioners, three-phase electric motors, distribution transformers, clothes washers, clothes driers, dishwashers, commercial refrigeration, fluorescent ballasts and linear fluorescent lamps).

TABLE 7: A SUMMARY OF THE SCHEDULED TESTS THAT WERE CONDUCTED ACROSS ALL PRODUCT CATEGORIES AND THE NUMBER THAT PASSED, FAILED AND WERE NOT FINALISED (1 JANUARY 2007 TO 30 JUNE 2008).

Product	Scheduled Tests during period	Number that passed the initial Screen Test	Number that failed the initial screen test	Number with tests yet to be finalised
Air-conditioner	17	7	10	0
Ballast	20	16	4	0
Clothes Dryer	4	2	2	0
Clothes Washer	23	5	17	1
Dishwasher	11	8	3	0
Distribution Transformer	5	3	1	1
Electric Motor	15	8	7	0
Fluorescent Lamp	29	28	1	0
Refrigerated Display Cabinet	10	7	1	2
Refrigerator/Freezer	29	10	17	2
Water Heater	8	6	2	0
	171	100	65	6

TABLE 8. NUMBER OF PRODUCTS WITH CONFIRMED PASSES, FAILURES AND OUTCOMES PENDING.

Product	Number with confirmed passes	Number with confirmed failures	Number with outcomes pending
Air-conditioner	9	7	1
Ballast	20	0	0
Clothes Dryer	3	0	1
Clothes Washer	8	2	13
Dishwasher	9	1	1
Distribution Transformer	3	0	2
Electric Motor	9	2	4
Fluorescent Lamp	28	0	1
Refrigerated Display Cabinet	7	0	3
Refrigerator/Freezer	11	9	9
Water Heater	6	0	2
	113	21	37

Of these, 38% of products failed stage 1 testing, and were either deregistered or proceeded to stage 2 testing. As at 30 June 2008 a total of 113 of the 171 tests (67%) were deemed as passes as shown in Table 8. Twenty one of the 171 tests (12.3%) have now been confirmed as failures and the remaining 37 tests still have final outcomes pending.

The relatively high level of products failing checktesting does not reflect the average performance of electrical products on the market rather it is a result of the targeting of products which are deemed to be most at risk to fail.

In 2007-08, 18 products were either voluntarily withdrawn or deregistered following a checktest failure (see Appendix 8).

ACCC ACTION

As part of the Australian Government's ongoing program to improve the energy efficiency of buildings and appliances, E3 has been examining the claims made by suppliers about their insulating materials. In part, this commitment stems from representations from the air-conditioning industry.

After an initial test of 24 suppliers of insulation products in 2004, E3 commissioned BRANZ Pty Ltd to conduct a further round of tests of insulation samples from six suppliers of fibrous thermal insulation for buildings in accordance with Australian and New Zealand Standard AS/NZS 4859.1:2002. BRANZ obtained these specified insulation types from retail outlets, took samples and conducted R-value tests in their Wellington New Zealand laboratory in accordance with the procedure stipulated in the standard.

Of the six samples tested, four failed to meet the R-value claimed on the label. In the second round of testing, three of those four failed more detailed testing involving a larger sample size. These three suppliers together with the test reports were referred to the Australian Competition and Consumer Commission for further action.

The ACCC decided to take two of the three matters to Court and issued a letter of warning in the third, given its withdrawal from the market. As it stated in its media release, the ACCC considers that with these actions the insulation industry has been "given sufficient warning, and that while it assesses each case on its merits, serious consideration will be given in future to a criminal prosecution against insulation industry participants who do not comply with the Trade Practices Act 1974."

ACCC media releases relating to these actions can be viewed at: www.accc.gov.au/content/index.phtml/itemId/2332

ACTION BY THE ENERGY EFFICIENCY AND CONSERVATION AUTHORITY (EECA), NEW ZEALAND

In February 2008, a Christchurch company became the first business in New Zealand to be convicted for selling products that do not meet Minimum Energy Performance Standards (MEPS). The Christchurch District court found that the Crystal branded heat pumps sold by the Matipo Trading Company Limited (trading as the Cargo Shed Christchurch), did not meet the standards and were not labelled with the mandatory energy performance labels. This is the first conviction under the Energy Efficiency (Energy Using Products) Regulations 2002. The Cargo Shed was convicted and fined $15,000 and costs.

EECA is responsible for maintaining and enforcing the standards in New Zealand as part of its ongoing products program. A key part of ensuring the effectiveness of this program is monitoring compliance in the market place and prosecuting where necessary. In 2007 New Zealand achieved savings of approximately 1.8 Petajoules of energy and $71 million as a result of EECA's products program which includes a combination of regulation, labelling and information.

COMPLIANCE NEWSLETTERS

In October 2006, the E3 Committee published the first of its 'Compliance Newsletters'. Since then, four editions have been published, focussing on compliance matters in different sectors.

In February 2007 a special edition on whitegoods was released to highlight checktesting issues for these products.

The May 2007 edition focussed on the air conditioning sector, updating industry on recent activities, including the Australian Competition and Consumer Commissions (ACCC), actions regarding LG air conditioners, as well as testing of insulation products. A further air conditioning edition was released in

November 2007, reporting on the proactive stance of some air conditioning companies who voluntarily reported non-compliant products to E3. A motors compliance newsletter was released in March 2008. As the first newsletter for this industry, it provided an overview of the history of compliance for this sector, and presented the outcomes of a recent round of checktesting.

Copies of all compliance newsletters can be downloaded from the Energy Rating website at www.energyrating.gov.au.

ROUND ROBINS

In late 2007 and early 2008 a round robin of four clothes washers was conducted at four independent National Association of Testing Authorities (NATA) accredited laboratories plus two manufacturer laboratories. While the results are still being analysed, early data showed reasonable comparability between labs for most parameters, although the machines under test appeared to have higher than expected run-to-run variability. Standards Committee EL015/4 is reviewing the results and has formulated a number of minor amendments to AS/NZS2040.1 as a result of the round robin experience.

In March 2008, the Department of the Environment, Water, Heritage and the Arts (DEWHA), on behalf of the E3 Committee, approached the China Household Electric Appliance Research Institute (CHEARI) to conduct an international round robin for appliances. The purpose of the round robin was to strengthen testing ties between Australian and Chinese appliance test laboratories, and to build cooperation and confidence between Chinese and Australian governments on appliance testing matters. The international round robin also provides an opportunity to assess inter-laboratory reproducibility of test procedures used for selected appliances, and to clarify any ambiguities in the major test methods used for regulatory purposes. Given the large flow of appliances from China to Australia, the initial emphasis will be an assessment against Australian requirements for selected major appliances.

The initial phase of this round robin will cover six refrigerators, four air conditioners and two clothes washers.

10 STANDARDS DEVELOPMENT

MEPS are made mandatory in Australia by state government regulation which gives force of law to the relevant Australian Standards. In New Zealand, MEPS are made mandatory by central government regulations which give force to the relevant standards. Standards provide a "one-stop shop" for stakeholders of the Program to address testing and performance requirements, and also energy labelling and MEPS requirements for products.

In 2007/08, industry worked collaboratively with Government to progress work on the following standards to be used for energy efficiency regulation in Australia:

INFORMATION COMMUNICATION TECHNOLOGY (ICT)

Currently there is no Australian Standard for testing of computers and monitors. A Draft Standard was prepared for the Joint Standards Australia/Standards NZ Committee TE-001, Safety of Electronic Equipment. The objective of the Standard is to provide designers, manufacturers, importers, test laboratories, regulators and users of computers with a test method to assess energy efficiency of these devices.

The AS/NZS Standards draws on the Energy Star V4.0 computer test specification. The US Environmental Protection Agency (EPA) published the computer version 4.0 test method in 2005 as part of the Energy Star program. Energy Star V4.0 test method is the de-facto standard in the US.

It is intended that this Standard should be proposed as the basis for an International Electrotechnical Commission (IEC) Standard once it has been published in Australia. Standard consists of two parts: Part one: Test method (this Standard)

Part two: Minimum energy performance standards (MEPS) and energy performance label requirements.

LIGHTING

After an extensive consultation process, Interim standards for Self-ballasted lamps and Incandescent lamps were published by Standards Australia on 28 March and 9 April 2008, respectively. Both standards contain two parts - Part 1 mandates the test method to be used, while Part 2 sets the minimum energy performance (MEPS) levels. Final standards for extra low voltage converters (ELVCs), or commonly referred to as low voltage transformers, were published - also in two parts mandating the test method and MEPS levels.

The APP project Harmonisation of Testing Procedures – Compact Fluorescent Lamps, seeks to develop and implement harmonized minimum performance standards and test/compliance procedures for compact fluorescent lamps (CFLs) in order to eliminate a major barrier to trade in efficient lighting products among APP member countries.

AIR CONDITIONERS

In late 2006, the air conditioner industry raised the inadequacy of the current part load MEPS requirements for room air conditioners, contained in AS/NZS 3823.2-2005. At industry – government round table meetings in April 2007, it was agreed that a more stringent part load requirement should be introduced into the standard.

Amendment 3 to AS/NZS3823.2 was published and came into effect on 29 February 2008. This amendment requires that the measured EER at rated output cannot be less than 95% of MEPS. For any unit which does not meet 100% MEPS at rated capacity, data must also be supplied to demonstrate that there is at least one part load point that meets or exceeds a new variable output MEPS compliance line that notionally joins 95% MEPS at rated output and 110% of MEPS at 50% of rated output. The part load point selected must meet or exceed the MEPS level.

Standards are also being developed for the incorporation of demand respond enabling capabilities, including the interaction between the devices and electrical products. AS4755.3.2 – Operational instructions and connections for air conditioners has been drafted. This standard establishes a consistent approach to the configuration of interfaces between demand response enabling devices (DREDs) and air conditioners. Once finalised, this standard will provide assistance to manufacturers who wish to supply air conditioners preconfigured for connection to DREDs.

GAS HOT WATER SYSTEMS

A new draft Australian Standard (method of test and MEPS standard) was developed for gas hot water systems in 2007/08. The new method of test will underpin the establishment of the new MEPS and provide industry with a more robust, repeatable, reproducible and up-to-date method for assessing the energy use of gas hot water systems. Finalisation of the new method of test is anticipated for the second half of 2008.

CLOSED CONTROL AIR CONDITIONERS

Draft standards to mandate the performance of CCUs (a test rating method and minimum energy performance (MEPS) level) have been developed and published by Standards Australia and are now out for public comment.

EXTERNAL POWER SUPPLIES

An amendment to the EPS standard for MEPS (AS/NZS 4665 Part 2) requirements is now with Standards Australia for publication.

STANDBY

The STB standard for MEPS (AS/NZS 62087 Part 2) requirements is now with Standards Australia for publication.

HOME ENTERTAINMENT STANDARD

The Energy Efficiency Standards Committee is in the process of being formed. Working Groups of experts will be formed to draft the standards for each product group. The Home Entertainment standard will be a high priority for this new committee.

REFRIGERATED DISPLAY CABINETS (RDC)

In 2007 and 2008 stakeholders advised that the RDC standard AS1731 had several ambiguities, which were causing problems for industry in classifying RDC for MEPS registration. To rectify the problems a draft technical discussion paper was produced, to address these concerns and to present the findings with proposed amendments to industry. The industry consultation was successfully held in June 2008 at the Annual E3 HVAC Industry Stakeholder Forum, where a positive response and input was received from attendees.

Keeping with the E3 HVAC Forum it was announced that a High Efficient (HE) voluntary label scheme is to be initiated by industry and government. The labelling scheme will be up and running by the end of 2008.

REFRIGERATED BEVERAGE VENDING MACHINES (RBVM)

Significant progress was made in 2008 with the agreed publication of the Australian Standards for RBVM to occur in June 2008. This will be followed by the publication of a RIS later on in the year, before the proposed implementation of MEPS for 2009.

ICE MAKERS AND ICE STORAGE BINS

Progress was also made in 2008 with the publication of the Australian Standards for Ice makers and Ice Storage bins in the second half of the year. This will also be followed by the publication of a RIS later in the year, before the proposed implementation of MEPS for 2009.

ELECTRICITY DISTRIBUTION TRANSFORMERS

Draft standards for round 2 of MEPS for distribution transformers are currently being developed.

GAS DUCTED HEATERS

Work has commenced on an interpretive testing program for gas ducted heaters, to assess the suitability of the current test standard AS4556 for assessing the energy efficiency levels of the current generation of gas ducted heaters, and to identify improvements which could be made to the energy efficiency component of the test standard. This initial program of work will be completed in early August 2008, and is the first step in the development of improved MEPS and labelling for gas ducted heaters.

CHILLERS

Draft standards developed by the Commercial Air-conditioning Equipment standards committee were published and released for public comment in 2007. The final standard is now under preparation.

CLOTHES WASHERS

A revised Australian Standard (AS/NZS2040) which saw rinse performance fully integrated and required the energy label value to include standby power was published in late 2005. It required all clothes washer models on the market after 31 March 2007 be registered to the new Standard. This transition was completed without incident.

In early 2008 the washer working group considered a number of items for inclusion into a revision of AS/NZS2040.1, including allowing the use of the 'IEC load' instead of the current load. The test method will also be reviewed in-light of results from round robin testing conducted in 2007/08, and any necessary amendments will be made - particular focus will be the assessment of duplication and clarification of some rinse-related issues. Work on these new requirements is proceeding through 2008.

At the request of the Water Efficiency Labelling Standards (WELS) regulator, the energy and WELS registration databases were separated in January 2008 and now operate independently. However, there is an import facility that allows data from each system to be imported into the other for new registrations.

CLOTHES DRYERS

In September 2007 a regulatory ruling (13A) was issued to allow the use of the load from the Clothes washers Standard (AS/NZS2040.1-2005 Amendment 1) in dryer tests under AS/NZS2442.1. As the dryer standard is more than 10 years old, Standards Australia have advised that no further amendments are permitted.

In early 2008 the dryer working group considered a number of items for inclusion into a revision of AS/NZS2442.1. EL015/4 has agreed to proceed with a revised energy label to show the water consumption (if any) on the dryer label (only combination washer-dryers at this stage) and to include minimum energy performance standards (MEPS) requirement for standby modes on dryers. Work on these new requirements will proceed through 2008.

DISHWASHERS

A revision of AS/NZS2007.1 and AS/NZS2007.2 were published in late 2005. These required that all dishwasher models which remained on the market after 31 March 2007 be registered to the new test method AS/NZS2007.1-2005 and that the energy label value include standby power (off mode and end of cycle mode). The transition was completed without incident.

At the request of the WELS regulator, the energy and WELS registration databases were separated in January 2008 and now operate independently. However, there is an import facility that allows data from each system to be imported into the other for new registrations.

REFRIGERATORS AND FREEZERS

After extensive consultation in 2006 and 2007, a revised test method for refrigerators and freezers, AS/NZS4474.1, was published in September 2007. This included a different approach to temperature determination and specific measures to stop anti-circumvention of the test method (cheating). Amendment 4 to the Part 2 regulatory standard was published at the same time to compliment these changes and to allow use of the new test method immediately.

A revision to AS/NZS4474.2 has been prepared by EL015/23. This includes the new energy labelling algorithms, check testing tolerance reduced to 7.5%, adjustments to the MEPS levels to reflect test method change and the change in MEPS definition from average energy to maximum permitted energy and mandatory use of AS/NZS4474.1-2007. It will be issued for public comment as soon as the label design is finalised.

SWIMMING POOL PUMPS

The information gained from laboratory tests on a selection of pumps in 2006, and field trials in 2007, was used to develop an Australian Standard for testing the energy efficiency of swimming pool pumps in 2007-08. This is an important milestone in the development of energy labelling and minimum energy performance standards for swimming pool filtration pumps and pool solar water heater circulation pumps. It is expected that the Standard will be completed later in 2008.

IEC STANDARDS

TC 100 TV POWER MEASUREMENT

Australia was instrumental in developing the new IEC 62087 testing method for televisions. The new test method has been adopted by the EPA, EC, UK California and Australia as the appropriate test method for their MEPS and Energy labelling programs. This means for the first time there is now a commonly accepted TV power test method which will allow meaningful comparisons between the several data sets that have been collected and will continue to be collected around the world.

TC 100 STB POWER MEASUREMENT

It has been recognized that the IEC STB power measurement is also very out of date. Australia proposed a new project to update IEC62087 for STB power measurement. The aim is to develop test methods for all types of STBs. As in the case of TV power measurement the project is considered crucial and has support from the EPA, European Code of Conduct on Digital receiving systems as well as a significant number of National Committees. The program is aggressive with a CDV by early 2009.

11 COMMUNICATIONS

PROGRAM PUBLICATIONS

Twenty-eight publications were released during 2007, and five were released in the first half of 2008. A full list of the publications is at Appendix 9 and electronic copies (along with those from previous years) are available for download from the electronic library.

ENERGY RATING WEBSITES

www.energyrating.gov.au

The Energy Rating website commenced in 2000 and is now the main access point for all appliance and equipment efficiency programs. The website address has been displayed on all appliance energy labels since 2000.

The website has two main public sections. The first provides information and reports about government energy efficiency programs and regulatory requirements. The second section provides consumers with an interactive listing of all registered products. The website is updated on a daily basis. Information is also recorded on the number of logins by manufacturers for the purpose of registering products for energy labelling and MEPS.

Website usage has continued to increase in recent years as illustrated in Table 9.

TABLE 9. THE TOTAL VISITORS AND HITS TO WWW.ENERGYRATING.GOV.AU

Item	2002	2003	2004	2005	2006	2007	2008 *
Total Visitors to www.energyrating.gov.au		80,000	192,000	570,000	771,000	909,449	850,000
Total Hits to www.energyrating.gov.au (million)	0.22	0.523	1.1	7.4	8.2	8.75	8.50

Note * Annual estimate based on data to June 2008.

12 BUDGET

The Program operates with contributions from all Australian jurisdictions and New Zealand. Under the agreed funding formula, the Australian Government will contribute 5/12ths, with the states and territories and New Zealand contributing 5/12ths and 1/6th, respectively, on a population proportional basis.

The E3 Committee received funding from the MCE in FY 2005-06 of $1.533 million, in FY 2006-07 of $1.528 million and FY 2007-08 of $1.700 million.

The E3 Committee for Gas (see Appendix 10) received funding from the MCE in FY 2005/06 of $300,000, FY 2006-07 of $400,000 and FY 2007-08 of $300,000. This brings the total MCE funding for the period FY 2007-08 to $2 million.

APPENDICES

APPENDIX 1

MINISTERIAL COUNCIL ON ENERGY MEMBERSHIP

(AS AT 2 JUNE 2008)

The Hon Martin Ferguson AM, MP
Minister for Resources, Energy and Tourism, COMMONWEALTH
(Chairman, Ministerial Council on Energy)

The Hon Geoffrey Wilson MP
Minister for Mines and Energy, QUEENSLAND

The Hon Ian Macdonald MLC
Minister for Energy, NEW SOUTH WALES

The Hon Peter Batchelor MP
Minister for Energy and Resources, VICTORIA

The Hon Francis Logan MLA
Minister for Energy, WESTERN AUSTRALIA

The Hon Patrick Conlon MP
Minister for Energy, SOUTH AUSTRALIA

The Hon Chris Natt MLA
Minister for Mines and Energy, NORTHERN TERRITORY

Mr Jon Stanhope MLA
Chief Minister, AUSTRALIAN CAPITAL TERRITORY

The Hon David Llewellyn MHA
Minister for Energy, TASMANIA

OBSERVERS

The Hon David Parker
Minister of Energy, NEW ZEALAND

Hon Sir Moi Avei KBE MP
Minister for Petroleum and Energy, PAPUA NEW GUINEA

APPENDIX 2

EQUIPMENT ENERGY EFFICIENCY (E3) COMMITTEE MEMBER ORGANISATIONS

As at 2 June 2008

The Commonwealth, New Zealand and each state and territory are represented on the E3 Committee and participate in its deliberations. Representatives are officials within government departments, agencies and statutory authorities or people appointed to represent these bodies. Representatives are usually a senior officer directly responsible for energy efficiency. The membership is currently under review and may expand to include other agencies working in these fields. Current membership includes:

- Department of the Environment, Water, Heritage and the Arts
- Department of Resources, Energy and Tourism
- NSW Department of Water and Energy
- Energy Safe Victoria
- Sustainability Victoria
- Queensland Department of Mines and Energy
- Electrical Safety Office, Queensland Department of Employment and Industrial Relations
- Western Australia Sustainable Energy Development Office
- South Australian Office of the Technical Regulator
- Department of Primary Industry and Resources, South Australia
- South Australia Department for Transport, Energy and Infrastructure
- Office of Energy Planning and Conservation, Department of Infrastructure, Energy and Resources, TAS
- Energy and Water Policy, ACT Chief Minister's Department
- Northern Territory Department of Planning and Infrastructure
- New Zealand Energy Efficiency and Conservation Authority
- New Zealand Ministry for the Environment

Commonwealth

The Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA) delivers the majority of energy efficiency programs under the Australian Government's climate change strategy. A DEWHA Officer is the chair of the E3 Committee and others provide support for its activities.

The **Department of Resources, Energy, and Tourism** (RET) has the lead coordination role on implementing the Australian Government's energy white paper, Securing Australia's Energy Future. RET provides the Secretariat for the MCE which brings together all state and territory government ministers to work on national policy and governance for the Australian energy market. The Minister for Resources, Energy, and Tourism chairs the MCE.

New South Wales

The **Department of Energy and Water** leads the NSW Government's sustainable energy and urban water agenda. The Department is the agency responsible for regulating appliance and equipment energy efficiency in NSW.

Victoria

Energy Safe Victoria is the Victorian *Technical Regulator* responsible for electrical safety and equipment efficiency. Its mission is for Victoria's energy to be the safest and most efficient and its corporate vision is for Victoria to enjoy the safest, most efficient supply and use of electricity and gas. A strategic responsibility of the office is to ensure energy efficiency of equipment through the labelling of major domestic appliances and meeting (MEPS).

Sustainability Victoria's purpose is to show the way to using our resources more efficiently and reducing our everyday environmental impacts. The Energy Efficiency for Victoria Action Plan and the NFEE demonstrate commitment to a program of action on energy efficiency in the residential, commercial, industrial and government sectors. The Energy Efficiency for Victoria Action Plan sets out a comprehensive program of Government action to drive improvements in energy efficiency and greenhouse gas abatement. It also establishes the context for action - detailing where Victoria stands today and the opportunities and challenges with respect to energy efficiency - and outlines the VIC Government's broad objectives and strategies.

Queensland

The **Department of Mines and Energy** (Department) develops and manages the Queensland Government's energy policy and regulatory frameworks in which energy participants operate. The Department works with industry in identifying and proposing solutions for future strategic issues which may affect industry, business or domestic energy consumers. The Department is committed to providing Queenslanders with the tools and information needed to become more energy wise. The Queensland Government works with the Commonwealth and other states and territories to develop and implement national programs for energy efficiency through the NFEE.

Western Australia

Western Australian Department of Consumer and Employment Protection's mission is to create an employment and trading environment that provides for the growth, safety and protection of the community by enhancing capacity; ensuring an effective regulatory environment; and enforcing the law.

The Sustainable Energy Development Office is focused on delivering the Government of Western Australia's sustainable energy policy. Key objectives include the increased uptake of energy efficient products, best practice energy management and greater use of renewable energy. The Office plays a vital role in accelerating the adoption of renewable energy and energy-efficient strategies across all sectors of the community - from business and industry to government and the general public. By implementing programs that promote and highlight the importance of renewable energy and energy efficiency, the Sustainable Energy Development Office is fostering a sustainable energy industry that contributes to the Western Australian economy and the environment.

South Australia

The **South Australian Office of the Technical Regulator's** primary role is to ensure the safety of workers, consumers and property, and to ensure compliance with legislation and technical standards and codes throughout the electricity and gas industries. The Technical Regulator has been assigned, under the

Electrical Products Act 2000, the examination, testing, safety and energy labelling of electrical products and MEPS registration of electrical appliances and equipment. The Technical Regulator is involved in national regulatory developments to ensure national consistency within the electricity and gas industry.

Tasmania

The Tasmanian Government's interest is managed by the **Office of Energy Planning and Conservation** (OEPC) within the Department of Infrastructure, Energy and Resources. The OEPC provides policy advice on energy issues to the Minister and the Tasmanian Government and provides input into the development of the framework for the regulation of industry participants in Tasmania's energy industry.

Australian Capital Territory

The primary responsibility of **Energy and Water Policy**, within the **ACT Chief Minister's Department**, is to provide the ACT Government with strategic policy advice and direction on local and national energy and water issues. The section applies a whole-of-government approach, coordinating with agencies to achieve policy outcomes.

Northern Territory

The newly formed **Department of Natural Resources, Environment and The Arts** enables the NT Government to provide opportunities to better coordinate planning and development of the Territory's economic infrastructure, while balancing this with the need to protect and conserve the natural environment and heritage values and to achieve efficiencies in delivering services to Government.

New Zealand

The **Energy Efficiency and Conservation Authority** (EECA) is the principal body responsible for delivering the New Zealand Energy Efficiency and Conservation Strategy. EECA's function is to encourage, promote and support energy efficiency, energy conservation and the use of renewable energy sources.

The **Ministry of Environment** is the lead New Zealand Department advising the Minister of Energy on the development of government policy and advice on energy efficiency, conservation and the use of renewable sources of energy. It works with EECA and also monitors its performance under the Public Finance Act.

APPENDIX 3

TERMS OF REFERENCE EQUIPMENT ENERGY EFFICIENCY COMMITTEE

The charter of the E3 Committee encompasses the following functions:

- to provide assistance to all states and territories, as required, in the development and regulatory implementation of technical, legal, and administrative aspects of equipment energy efficiency initiatives
- to coordinate the national development and implementation of energy efficiency programs of a non-regulatory nature and enhance existing regulator programs. These may include voluntary labelling initiatives, market transformation projects, and similar voluntary actions
- to coordinate national marketing and communication projects to support new, and enhance existing, energy efficiency programs
- to review existing appliance energy consumption and improve standards and test procedures
- to monitor program performance and achievements
- to provide a forum to exchange information on enforcement/compliance issues and community information and marketing initiatives
- to administer an effective, coordinated testing regime of the energy efficiency claims of suppliers
- to coordinate broad consultative processes with industry and other interested parties in the development and implementation of energy labelling and associated programs.

The charter recognises the maturity of the program and the need for a "holistic" approach to government policies for greenhouse gas abatement in the appliance and equipment field. The focus of the program continues to be the delivery of nationally consistent regulation. The implementation of most voluntary programs remains an individual jurisdictional responsibility although voluntary programs that assist the regulatory program to maximise benefits are being added to E3 Committee work plans.

APPENDIX 4

E3 COMMITTEE OPERATING INSTRUCTIONS UNDER THE NATIONAL FRAMEWORK FOR ENERGY EFFICIENCY STAGE ONE IMPLEMENTATION PLAN

OBJECTIVES

The Equipment Energy Efficiency package aims to drive improvements to the energy efficiency of major energy using appliances and equipment. It will achieve this by increasing the number of products covered by the existing Program, increasing the stringency of existing MEPS requirements through a process of regular review, and increasing the intensity of the program in key areas so that a range of program tools are used to maximise the energy saving outcomes.

Specifically, under this package, the MCE has agreed that the existing Program will be:

- broadened in scope to include MEPS and labelling for gas products
- expanded through the introduction of new or more stringent MEPS for residential, commercial and industrial products, with a key focus on increasing the number of commercial and industrial products regulated.

The Program is a very cost effective policy measure for governments, and has demonstrated significant energy and greenhouse savings as well as net economic benefits. The current program is projected to deliver energy savings of around 5 PJ a year below business-as-usual in 2004, rising to 33 PJ in 2010 and 68 PJ in 2020.

An expanded and accelerated Program could deliver even larger savings and yet remain highly cost-effective:

- Independent experts estimate that the current Program has an average benefit/cost ratio of 2.4 to 1, and is achieving greenhouse gas abatement at a cost of minus $30/tonne, indicating potential for further expansion.
- The Program's current policy basis limits the scope for further expansion. By end 2006, Australia is likely to have implemented MEPS for all electrical products currently regulated by our major trading partners. Expansion would then rely on new products being regulated overseas or existing world's best practice MEPS being tightened.
- The Program's current guidelines require MEPS levels to be fixed for around four to five years. A more flexible approach, where agreed by industry, would enable MEPS levels to be reviewed more frequently and more closely track regulatory changes undertaken by our major trading partners.
- To date, the Program has focused on only electrical products. Gas appliances are covered by an industry-run scheme which lacks drivers for improving efficiency.

CURRENT STATE OF PLAY

The Program is an existing nationally coordinated program to improve the energy efficiency of, and reduce greenhouse gas emissions from residential, commercial and industrial appliances and equipment. The main tools employed are mandatory MEPS and energy labelling, and voluntary measures including information provision, endorsement labelling, training and support to promote high efficiency products.

The New Zealand government created its own mandatory MEPS and labelling program in 2002 after initially operating a voluntary labelling scheme.

Since 2000, key factors which have underpinned the Program are:

- A mandate to regulate any energy consuming product, subject to a positive cost-benefit study and community consultation
- Australia to match world's best regulatory practice, but with a suitable time-lag to allow local industry to adapt
- A requirement under the Trans-Tasman Mutual Recognition Agreement (TTMRA) for Australia to coordinate its program with New Zealand.

In its early stages, the Program concentrated on mandatory energy labelling for major domestic electrical appliances. Since 1999, there has been an increased focus on MEPS. By the end of 2004, three domestic, four commercial and two industrial product types will be subject to mandatory MEPS, with a further 12 proposals announced in October/November 2004.

KEY ELEMENTS

The expanded Program, to be implemented under this package, involves the continuation and expansion of the successful elements of the existing Program as well as the addition of new elements are summarised in Table 10.

The Program's guiding principles will also be updated to facilitate the introduction of more stringent MEPS levels and make the program responsive to other key policy drivers:

- Mandate to regulate any energy consuming product, subject to a positive cost-benefit study, and stakeholder and community consultation. The benefits of reduced peak demand and reduced water consumption will also be taken into consideration in the regulatory impact statement where appropriate.
- A more pragmatic approach to establishing MEPS levels by selecting the most appropriate option (in decreasing order of preference) from:
  - lead the world with regulatory standards – where there is no significant manufacturing base and is supported by industry
  - match world's best regulatory practice – where there is a significant domestic manufacturing base to
  - use market regressions to remove a percentage of the least efficient products – where there is no basis for international comparison or as part of a two-step process where a product type has not been previously regulated.
- Monitor and report on technical and regulatory developments relating to demand side management and demand response to identify options to facilitate further reductions in peak demand through appliance and equipment standards.
- Regular review of existing MEPS levels, with stability periods of less than four to five years, where this is acceptable to industry stakeholders.
- Coordination, and ideally harmonisation, of the Program's forward work plan with New Zealand through a policy framework approved by the MCE.

TABLE 10. KEY ELEMENTS OF THE IMPLEMENTATION PLAN FOR NFEE STAGE 1

EXISTING ACTIVITY	NEW/EXPANDED ACTIVITY
Expanded Electrical Appliance and Equipment Program	
Maintenance of existing program – MEPS, labelling (mandatory and voluntary) Implementation of new or upgraded MEPS and labelling regulations agreed to by the MCE in 2004	Complete regulation process for MEPS and labelling proposals released in 2004 Develop new/upgraded MEPS and labelling proposals for residential and commercial products
Gas Appliance and Equipment Program	
Complete 10-year strategic plan and three-year work plan for Gas Appliance and Equipment Program	Establish and introduce a nationally consistent MEPS and labelling scheme for gas appliances and equipment
Increased focus on industrial products	
	Identify and pursue opportunities for increasing industrial sector coverage
Consideration of other products/fuels	
	Consider regulating (non-electrical or gas) products proposed by New Zealand
Development of product strategies	
Implement National Standby Strategy and Greenlight Australia strategy	Develop cross-sectoral and multi-fuel product strategies for key technologies
Information and awareness	
Maintenance and continued development of the existing national websites Complete High Efficiency Product database	Link to the National Resource Labelling strategy Develop national promotional campaign targeting retail stores
Monitoring and evaluation	
Continue tracking efficiency of whitegoods sold and consumer attitudes Continue compliance surveys	Expand tracking to cover gas products Projected estimates of 2005–07 work plan

DELIVERING THE POLICY PACKAGE

DEVELOPMENT PROCESS

Ongoing stakeholder consultation will be used to design and implement key measures in the policy package including development of:

- detailed three-year work plans for electrical and gas appliances and equipment covering 2005–07
- 10-year product strategies, including the National Standby Strategy, Greenlight Australia and a range of others.

The standard Program process for developing and implementing MEPS and labelling regulations will continue to be used, including the preparation of product profiles, regulation proposals, regulatory impact statements, involvement in standards development and formal stakeholder consultation processes.

DELIVERY MECHANISM

The program for electrical and gas products, and any other product-types regulated, will continue to be implemented through the existing Program delivery mechanism:

- Test methods, MEPS levels and labelling algorithms defined in Australian or joint Australian/New Zealand standards, and based on international standards where possible
- Mandatory regulations implemented through state, territory and New Zealand legislation which call up the relevant standards for each product type
- Products tested to the standards and registered for MEPS or energy labelling by state-based regulators (or the Energy Efficiency and Conservation Authority in New Zealand)
- Public information provided through national websites.

REPORTING AND EVALUATION

The performance and results of government energy efficiency programs provide a valuable source of information for policy development and implementation, however during the development of NFEE Stage One it was found that program outcomes were not always reported in a way that allowed ready comparison, and often did not capture the range of benefits of improved energy efficiency outside energy and greenhouse savings. The Productivity Commission inquiry into energy efficiency also identified the value and importance of evaluation to determine the effectiveness of energy efficiency programs.

To improve the coordination of energy efficiency program monitoring, reporting and evaluation the NFEE Steering Committee is coordinating the development of a collection, reporting and evaluation framework, known as D-REF.

The framework is intended to provide a nationally consistent approach to data collection, reporting and evaluation for existing government funded energy efficiency programs and will become an integral part of the program design of future energy efficiency initiatives. It will be used to determine the efficacy of Government funded energy efficiency programs, identify deficiencies in current programs, and inform decisions about future funding priorities and program design.

D-REF will be used to report on and evaluate the actual impact of NFEE Stage One (as opposed to projected impacts), and may also be used for individual jurisdictions to report on and evaluate the implementation of jurisdiction-specific energy efficiency programs.

The draft framework has now been developed and is currently being reviewed by Government.

APPENDIX 5

THE REGULATORY AND VOLUNTARY POLICY TOOLS USED IN THE EQUIPMENT ENERGY EFFICIENCY WORKPLAN IN 2007/08

TYPE OF POLICY TOOL	DETAIL
Regulatory	Implement the second round of MEPS for: • Electric motors • Small electric storage water heaters • Single phase air conditioners
	Implement the first round of MEPS for: • Electric vented storage and electric heat exchange water heaters • Heat pump air conditioners
	Review label algorithm for refrigerators and freezers
	Include standby power on wet product energy labels
	Mandate the inclusion of rinse performance requirements for clothes washers
Voluntary	Long-term strategies:
	Monitor and maintain the national standby strategy, Money isn't all you're saving
	Develop and implement the first three year work plans for: • Greenlight Australia • Switch on Gas

	Develop 10-year strategies for:
	• Hot water systems
	• Building HVAC
	• DSM in the home
	• Electric motor systems in the industrial sector, including
	  · Fans and pumps
	  · Industrial measurement and data collection
	• Swimming pool equipment
	• Commercial catering equipment

	Review fluorescent lamp (linear) high efficiency level
	Complete air conditioning program
	Complete commercial refrigeration program
	Investigate second-hand products

APPENDIX 6

LIST OF COMMON E3 PRODUCTS WITH NEW ZEALAND (COVERED BY 2012)

			MEASURE			
LOCATION	NUMBER	PRODUCT	MEPS	LABELLING	STANDBY	ENERGY ALLSTARS
HOME	**Whitegoods**					
	1	Refrigerators	✓	ML		✓
	2	Freezers	✓	ML		✓
	3	Dishwashers		ML	✓	✓
	4	Clothes washers	✓	ML	✓	✓
	5	Clothes dryers		ML	✓	✓
	6	Ovens			✓	✓
	7	Cooktops			✓	✓
	8	Microwave ovens			✓	✓
	9	Rangehoods			✓	✓
	Browngoods and home entertainment					
	10	Televisions	✓	ML	✓	✓
	11	Set-top boxes	✓	HE	✓	✓
	12 13 14 15	Other home entertainment - DVDs - Home theatre - New technologies		HE	✓	✓
	Heating and cooling					
	16	Air conditioners (single phase)	✓	ML (non ducted), VL (ducted)	✓	✓
	17	Heat pumps (single phase) - Heating mode of household ACs	✓ (voluntary cold climate)	ML	✓	✓
	18	Dehumidifiers			✓	✓
	19	Ceiling fans			✓	✓
	20	Electric Storage water heaters	✓		✓	✓
	21	Electric space heaters			✓	✓
	Other products					
	22	Swimming pool equipment	✓	ML		✓
	23	Breadmakers			✓	✓
	24	Coffee machines			✓	✓
	25	Smoke alarms			✓	✓
	26	Motion detectors			✓	✓
	27	Roller doors			✓	✓
	28	Security systems			✓	✓

		MEASURE			
	PRODUCT	**MEPS**	**LABELLING**	**STANDBY**	**ENERGY**
OFFICE	**Heating and cooling**				
	Air conditioners (packaged – 3 phase)	✓	HE, VL	✓	✓
	Heat pumps (3 phase) Heating mode of business AC		HE, VL	✓	✓
	Close control AC (for computer rooms)	✓			✓
	Chillers for commercial AC	✓			✓
	IT and office equipment				
	Computers (including laptops) and monitors	✓	HE	✓	✓
	External power supplies (EPS)	✓	HE	✓	✓
	Internal Power supplies (IPS)	✓	HE	✓	✓
	Printers			✓	✓
	PC Speakers			✓	✓
	Modems			✓	✓
	Photocopiers			✓	✓
	Scanners and multifunction devices (MFDs)			✓	✓
	Lighting				
	Fluorescent ballasts (linear)	✓	ML		✓
	Fluorescent lamps (linear)	✓	HE		✓
	Compact Fluorescent lamps (CFLs)	✓	HE		✓
	Halogen lamps (including reflector lamps)	✓	HE		✓
	Halogen transformers	✓	HE		✓
	Luminaires	✓	HE		✓
	High intensity discharge lamps (HID)	✓	HE		✓
	High intensity discharge ballasts	✓	HE		✓
	Photoelectric cells	✓	HE		✓
	Emergency and exit lighting	✓	HE	✓	✓
	OTHER PRODUCTS				
	Chilled and boiling water dispensers	✓	HE		
	Refrigerated Vending machines	✓	HE		
FACTORY	**INDUSTRIAL**				
	Electricity distribution transformers	✓	HE		✓
	Electric Motors (3 phase)	✓	HE		✓
	Industrial fans	✓			✓
	Industrial pumps	✓			✓
	COMMERCIAL REFRIGERATION				
	Refrigerated display cabinets	✓	HE		✓
	Ice makers	✓	HE		✓
	Ice storage bins	✓	HE		✓
	OTHER PRODUCTS				
	Large electric storage water heaters	✓	HE		✓
	Miscellaneous electric water heaters	✓	HE		✓
STREET	**LIGHTING**				
	Public amenity lighting (street lighting)	✓	HE		✓
	Traffic signals (LED)	✓	HE		✓

Key: MEPS – minimum energy performance standards

HE – high efficiency voluntary label

ML – mandatory star rating energy label – can include separate HE label for many products, for ballasts ML mean display for energy efficiency index

VL – voluntary use of the star rating energy label

APPENDIX 7

MEDIA RELEASE

THE HON PETER GARRETT MP

Minister for the Environment, Heritage and the Arts

PG /82 5 June 2008

NEW MEASURES TACKLE SPIRALLING ENERGY CONSUMPTION IN HOMES

Celebrating World Environment Day, Environment Minister Peter Garrett today announced three new initiatives to help householders save energy and money while reducing greenhouse gas emissions.

"Today we are announcing three new measures:

- a new television labelling scheme to enable consumers to identify the most energy efficient sets at point of sale;
- a new guide to help householders and in particular renovators identify ways to incorporate energy saving measures into their homes; and
- the accelerated phase-out of traditional incandescent light bulbs

"The announcement coincides with the release of a new report on household energy usage which forecasts an increase in energy usage of 56 per cent by 2020, emphasising the need for immediate, comprehensive and coordinated action on energy efficiency.

"The report, Energy Use in the Australian Residential Sector 1986-2020 identifies clear priorities and opportunities for tackling climate change in Australian households and communities and sets the framework for action," Mr Garrett said.

"The household sector is forecast to grow by almost 4 million homes and over 1,000 million square metres in combined floor space by 2020, creating increased demand for heating, cooling, lighting and electrical appliances.

"This report estimates that one in four Australians buys a new television each year and that TVs are now the fourth-largest user of electricity, behind water heating, domestic refrigeration and lighting.

Without Government action, television energy use is predicted to double between 2004 and 2014.

"It is critical that we help households identify and invest in the latest cost-saving energy-efficient technologies in appliances, and energy and water saving design features.

"For more than 11 years, the previous Government sat on its hands when it came to dealing with climate change and helping Australians take steps to reduce the size of their carbon footprint.

"Since coming to office, the Rudd Government has announced and funded $1 billion in measures including our Green Loans program, assistance for landlords to install insulation in rental homes and the expansion of labelling and new standards for energy-efficient appliances.

"On World Environment Day we want to help all Australians 'kick the carbon habit'."

Details of the new measures follow:

TELEVISION AND OTHER ELECTRICAL APPLIANCE LABELLING

The Rudd Labor Government was elected with a commitment to deliver on a 10-star appliance rating scheme. These new appliance labels, which will be in phased in over the next 12 months, will help consumers identify super efficient appliances – like clothes dryers, washing machines and dishwashers.

The voluntary television energy label is similar to the energy label used on fridges, washing machines, clothes dryers and air conditioners, helping consumers save energy, save money and reduce greenhouse gas emissions.

This new voluntary scheme will come into effect within the next six months, backed by a proposal to introduce mandatory labelling and standards next year. Combined with the acceleration and expansion of minimum greenhouse and energy performance standards, and the introduction of new 10-star labels, these measures will help consumers save energy and provide manufacturers with recognition for energy-efficient innovations.

YOUR HOME RENOVATOR'S GUIDE

The Rudd Government wants to make it easier for people to access information on ways to 'green-up' their homes, with measures announced in the Budget like our new one-stop web portal to provide consumers with a single window to all federal, state and local government environmental programs for sustainability at home.

The Your Home Renovators Guide, was developed in partnership with the Victorian Building

Commission, Sustainability Victoria, other state Governments, the Centre for Design at RMIT and the Institute for Sustainable Futures at UTS.

Every page of this guide provides tips to help home owners save money, and make their homes healthy and comfortable and more environmentally friendly from the front door to the backyard.

There are 4.2 million homes in Australia that are over 20 years old so the Your Home Renovator's Guide has the potential to inform a large portion of the Australian community now and in the future, helping drive down energy usage.

LIGHTING

Lighting is an area where we can make quick, simple cuts in energy consumption and greenhouse gas emissions. More efficient lights like compact fluorescent lamps are already available on the market and are an easy, cleaner alternative to the traditional incandescent globe.

The Rudd Labor Government and Lighting Council Australia have joined forces to fast track the phase out of inefficient light bulbs in Australia, bringing forward an import ban to November this year. The 12-month acceleration of the four-year phase out, beginning with the introduction of a ban on imported incandescent lamps from this year will result in earlier cuts to greenhouse emissions of more than four million tonnes per year.

Retailers will then have a further 12 months to sell existing supplies before any sort of retail ban comes into effect.

MEDIA RELEASE

THE HON MALCOLM TURNBULL MP

Australian Minister for the Environment and Water Resources

20 February 2007

WORLD FIRST!

AUSTRALIA SLASHES GREENHOUSE GASES FROM INEFFICIENT LIGHTING

In a world first move, the Australian Government is taking action to phase out inefficient light bulbs.

The step, announced today by Minister for the Environment and Water Resources, Malcolm Turnbull MP, should reduce Australia's greenhouse gas emissions by 4 million tonnes by 2012.

The reduction in emissions will increase as the phase out progresses and the annual average reduction between 2008 and 2012 is estimated at around 800,000 tonnes.

However, by 2015 the annual cut in emissions will have soared to an estimated 4 million tonnes per annum.

Household lighting costs can be reduced by up to 66 per cent.

"The most effective and immediate way we can reduce greenhouse gas emissions is by using energy more efficiently," Mr Turnbull said.

"Electric lighting is a vital part of our lives; globally it generates emissions equal to 70 per cent of those from all the world's passenger vehicles."

"But it is still very inefficient. We have been using incandescent light bulbs for 125 years and up to 90 per cent of the energy each light bulb uses is wasted, mainly as heat."

"A normal light bulb is too hot to hold – that heat is wasted and globally represents millions of tonnes of CO2 that needn't have been emitted into the atmosphere if we had used more efficient forms of lighting."

"These more efficient lights, such as the compact fluorescent light bulb, use around 20 per cent of the electricity to produce the same amount of light."

"A compact fluorescent light bulb can last between 4 and 10 times longer than the average incandescent light bulb, which can lead to major savings in household energy costs."

"While they may be more expensive to buy up front, they can pay for themselves in lower power bills within a year."

In Australia, lighting currently represents around 12 per cent of greenhouse gas emissions from households, and around 25 per cent of emissions from the commercial sector.

Working with its state and territory counterparts, the Australian Government will gradually phase out all inefficient light bulbs and is aiming for full enforcement of new lighting standards legislation by 2009 to 2010. Special needs areas, such as medical lighting and oven lights, will be taken into consideration.

The Government will also work with the world's largest manufacturers of light bulbs, including China, to broaden the benefits beyond Australia.

"The International Energy Agency has estimated that if all countries made the global switch to compact fluorescent lights that by 2030, annually it would save energy equivalent to more than 5 years of Australia's current electricity consumption," Mr Turnbull said.

"The climate change challenge is a global one. I encourage other countries to follow Australia's lead and make the switch to more energy efficient products like compact fluorescent light bulbs."

MEDIA CONTACT:

Sarah Stock

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0404 848 186

APPENDIX 8

REGULATORY OUTCOMES FINALISED FROM JANUARY 2007 TO JUNE 2008

Appliance Type	Brand	Model	Date of Deregistration or Withdrawal
Air-conditioner	Air Master	A 30R220	13/07/2007
	CONIA	CA9005	17/04/2008
	OPTICAL	ACC-25V2	03/07/2007
	Crystal	VSD-12HD03	Unregistered Product
	Crystal	KFR 26	Unregistered Product
	CHUNLAN	KFR-35GW/VJ	24/12/2007
Clothes Washer	Homemaker	HMWM7	25/01/2007
	Centrex	CTW60560, CTW60560A	31/10/2007
Dishwasher	Asko	D3730	01/02/2008
Electric Motor	Neri	0.75 kw 4 Pole	Unregistered Product
	Neri	3 Kw - 4 Pole	Unregistered Product
Refrigerator/Freezer	HITACHI	R-480ET5, R-480ET5X, R-480ET5 PWH, R-480ET5 SLS	06/06/2007
	CENTREX	CTCF150	31/10/2007
	CENTREX	CTF210A	Unregistered Product
	NEC	NTM470R**	22/10/2007
	NEC	NTM360R**, NTM360RWH,NTM360RSS	24/07/2007
	CONIA	CF528	12/12/2007
	SMEG	FAB32 series	05/11/2007

APPENDIX 9

PUBLICATIONS RELEASED FROM JANUARY 2007 TO JUNE 2008

Copies are available from the Equipment Energy Efficiency Committee's electronic library at www.energyrating.gov.au

Number or Date of Publication	Title
2007	
2007-01	Achievements 2006
2007-02	Consultation RIS - MEPS and Alternative Strategies for External Power Supplies
2007-03	E3 Committee Cost-Benefit Analysis: MEPS and Alternative Strategies for Set-top Boxes
2007-04	E3 Committee Cost-Benefit Analysis: MEPS and Alternative Strategies for Home Entertainment Products
2007-05	Final Report on Community Attitudes to the Possibility of Energy Efficiency Labelling of Television Sets and Home Computers
2007-06	E3 Gas Committee Cost-Benefit Analysis: Proposal to Introduce a Minimum Energy Performance Standard for Gas Water Heaters
2007-07	E3 Committee Revised Regulatory Impact Statement: Proposal to Introduce Minimum Energy Performance Standards for External Power Supplies
2007-08	E3 Committee Cost-Benefit Analysis: MEPS and Alternative Strategies for Chillers
2007-09	Discussion Paper on Refrigerator Star Rating Algorithms in Australia and New Zealand - Revised Proposal, September 2007
2007-10	Discussion Paper on Television Energy Rating Labels: The case, and proposal, for MEPS and Labelling Televisions
2007-11	E3 Committee Regulatory Impact Statement: Proposal to Introduce Minimum Energy Performance Standards for Set-top Boxes
2007-12	Analysis of the Potential for Minimum Energy Performance Standards for Computers and Monitors - Technical Report
2007-13	Impact of Changes in AS/NZS4474.1-2007 on Energy Consumption
2007-14	Consumer Research to Guide the Next Round of Refrigerator and Air Conditioner Labels - Final Report
2007-15	Costs and Benefits of Proposed Revisions to the Method of Test and Energy Labelling Algorithms for Household Refrigerators and Freezers
2007-16	Consultation Regulatory Impact Statement: Minimum Energy Performance Standards and Alternative Strategies for Chillers - Technical Report
2007-17	Distribution Transformers - Proposal to Increase MEPS Levels - Technical Report
2007-18	Phase-Out of Inefficient Incandescent Lamps and Standards for Compact Fluorescent Lamps - Technical Report
2007-19	Supplementary Discussion Paper on MEPS and Energy Labelling for Televisions - Technical Report
Fact Sheet	Computers and Monitors: The Case for MEPS Standards - Fact Sheet
CFLI documents	The CSD Compact Fluorescent Lamp Harmonisation Initiative information, background paper and application form.
Fact Sheet	Television Energy Performance Standards and Comparative Energy Labels
Information Brochure	Motor Torque - Information for industry on mandatory efficiency requirements for electric motors. Produced jointly by E3 and AEEMA, May 2007.

Meeting Summary	Summary of Industry/Government Round Table - 12 April 2007. Summary of Air Conditioner EL15/16 meeting - 20 April 2007.
Discussion Paper	Inverter MEPS Discussion Paper
Conference Paper	Do energy efficient appliances cost more? Mark Ellis, Nigel Jollands, Lloyd Harrington, Alan Meier, ECEEE Summer Study, 4-9 June 2007, France.
Conference Paper	Standby Energy: building a coherent international policy framework - moving to the next level. Lloyd Harrington, Jack Brown, Shane Holt, Alan Meier, Bruce Nordman, Mark Ellis, ECEEE Summer Study, 4-9 June 2007, France.
Conference Paper	Energy consumption of whitegoods - what is improving and what is not: analysis of 13 years of data in Australia. Lloyd Harrington, Jack Brown, ECEEE Summer Study, 4-9 June 2007, France.
2008-01	Voluntary Labelling Program for Televisions - Rules for Participation
2008-02	Review of Standard AS 1731:2003 and Amendments - Technical Discussion Paper
2008-04	Consultation Regulatory Impact Statement of proposed revisions to the method of test and energy labelling algorithms for household refrigerators and freezers
2008-05	Towards a 10-Star Energy Efficiency Rating System for Major Household Appliances
Fact Sheet	Fact Sheet: MEPS for external power supplies

APPENDIX 10

EQUIPMENT ENERGY EFFICIENCY COMMITTEE-GAS MEMBER ORGANISATIONS

AS AT 2 JUNE 2008

Department of the Environment, Water, Heritage and the Arts
Department of Resources, Energy and Tourism
NSW Department of Energy and Water
Energy Safe Victoria
Sustainability Victoria
Electrical Safety Office, Queensland Department of Employment and Industrial Relations
Queensland Department of Natural Resources and Water
Queensland Department of Mines and Energy
Western Australian Department of Consumer and Employment Protection
Western Australian Sustainable Energy Development Office
Department of Transport, Energy and Infrastructure (SA)
South Australian Office of the Technical Regulator
Gas Technical Regulators Committee
Tasmanian Office of Energy Planning and Conservation, Department of Infrastructure, Energy and Resources
ACT Office of Sustainability
ACT Planning and Land Authority
Northern Territory Department of Planning and Infrastructure
New Zealand Energy Efficiency and Conservation Authority
New Zealand Ministry for the Environment