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# EQUIPMENT ENERGY EFFICIENCY PROGRAMME

AUGUST 2006

## ACHIEVEMENTS > 2005

AN INITIATIVE OF THE MINISTERIAL COUNCIL ON ENERGY 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 and Heritage
Australian Greenhouse Office

- ACHIEVEMENTS 2005 IS THE ANNUAL REPORT OF THE EQUIPMENT ENERGY EFFICIENCY PROGRAMME (FORMERLY KNOWN AS THE NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY PROGRAMME)
- IT REPORTS THE PROGRESS MADE IN THE CALENDAR YEAR 2005, AGAINST THE GOALS SET FOR THE PROGRAMME BY THE MINISTERIAL COUNCIL ON ENERGY
- MORE INFORMATION ABOUT THE PROGRAMME, WHICH COMMENCED NATIONALLY IN AUSTRALIA IN 1992, CAN BE FOUND AT WWW.ENERGYRATING.GOV.AU
- THIS IS THE 6TH ANNUAL REPORT SINCE THE PROGRAMME WAS SUBSTANTIALLY UPGRADED IN 1998.

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**ACRONYMS**

CFL- compact fluorescent lamps
E2WG - Energy Efficiency Working Group
E3 Programme - Equipment Energy Efficiency Programme
- formerly known as the National Appliance and Equipment Energy Efficiency Programme
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
TESAW - Top Energy Saver Award Winner

# EQUIPMENT ENERGY EFFICIENCY PROGRAMME

## PROGRAMME OVERVIEW

A major source of energy use and greenhouse gas emissions in Australia's residential, commercial and industrial sectors is generated through the use of equipment and appliances. 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 programme demonstrates the success of this approach - delivering economic, trade and environmental benefits to the community.

The programme (which commenced in 1992 as the National Appliance and Equipment Energy Efficiency Program) is a foundation element within the National Framework for Energy Efficiency (NFEE). The programme coordinates activities across all Australian jurisdictions that result in a nationally consistent framework to improve the energy efficiency of household appliances and commercial and industrial equipment. The resulting economic and environmental benefits from this nationwide effort are substantial and include significant reductions in greenhouse gas emissions coupled with reductions in energy costs to owners and operators of appliances and equipment.

The individual sub-programmes under Equipment Energy Efficiency stimulate the development of world class products as well as helping to create fairer competition in the marketing of products, thereby providing consumers the opportunity to make more informed purchasing decisions.

The main tools used to achieve these outcomes are:

- mandatory minimum energy performance standards;
- mandatory energy efficiency labelling; and
- voluntary measures including endorsement labelling, training and support to promote the best available products.

## GOVERNANCE

The Ministerial Council on Energy (MCE) has a goal, integral to the National Framework for Energy Efficiency (see www.nfee.gov.au) of improving Australia's energy efficiency performance. The Equipment Energy Efficiency programme is the principal means by which this objective is pursued for appliances and equipment. The Ministerial Council on Energy comprises the Energy Ministers from all jurisdictions with current membership listed at **Appendix 1.**

Management of the Equipment Energy Efficiency programme is however the responsibility of the Equipment Energy Efficiency Committee which consists of officials from Commonwealth, State, and Territory government agencies, as well as representatives of the New Zealand Government with current membership listed at **Appendix 2.**

The Equipment Energy Efficiency Committee is responsible for advising the Ministerial Council on Energy on any type of electrical equipment or appliance that should be regulated, subject to a regulatory impact statement (RIS). The Equipment Energy Efficiency Committee charter provides the *Terms of Reference* for the committee listed at **Appendix 3.** The Committee's operating instructions under the National Framework for Energy Efficiency Stage One Implementation Plan are at **Appendix 4.**

## PROGRAMME TARGETS

The work programme for 2005/06, announced in 2004 by the MCE is listed at **Appendix 5.** This work programme represents stage one of the National Framework for Energy Efficiency and is projected to impact across a range of end use product groups including:

- Household appliances (25% of projected savings from the programme);
- Standby power (24%);
- Lighting (12%);
- Electricity distribution transformers (10%);
- Air conditioners (9%);
- Commercial refrigeration (8%);
- Water heaters (7%); and
- electric motors (5% of projected savings).

Each product from the groups identified above will be considered for inclusion within the programme on the basis that the community will benefit from its regulation. Individual energy efficiency targets will be either the equivalent of world-best regulatory target, or a more stringent level developed specifically for Australia.

Stakeholders of the programme are notified of products that are likely to be regulated under the programme long before they are actually regulated.

The Equipment Energy Efficiency Committee notifies stakeholders of products likely to be regulated through its three year rolling work plans. In 2004, Australian and New Zealand officials agreed to a common list of products to be targeted under a joint Trans-Tasman programme by 2010. This list remains current as at 1 January 2006 and is at **Appendix 6.**

## COST EFFECTIVE OUTCOMES

The Ministerial Council on Energy has recognised the Equipment Energy Efficiency programme as being an extremely cost effective measure that delivers real benefits for the economy, the environment, and for Australian consumers across all sectors. Key outcomes expected for the period up until 2020 include:

- The programme delivers **economic benefits** to Australia - with a total estimated value of $4.8 billion by 2020 plus a benefit of $700 million for the New Zealand economy.
- The programme delivers **environment benefits** through significant greenhouse gas emission savings. In 2000, it was expected that the Equipment Energy Efficiency programme will generate greenhouse gas emission savings of 84 million tonnes in Australia over the next 15 years. By 2003, these projections were increased to 134 million tonnes of greenhouse gas emission savings below business-as-usual. Most recent estimates (January 2005) project that greenhouse gas emission savings of almost 204 million tonnes below business as usual between 2005-2020 will be achieved.
- The programme delivers **consumer benefits** - the level of greenhouse gas emissions savings are being achieved at a net present value of minus $23/tonne of $CO_2e$ - which means that over time the community actually save money by buying the more efficient products mandated under the programme. Independent experts have advised that the additional up-front cost to consumers purchasing these more efficient products will usually be recouped within, on average, one or two years as these products are cheaper to run. The programme will save consumers about $4.8 billion by 2020 as a result of reduced energy costs in using these products.

## E3 IN THE 21ST CENTURY

- With agreement for Stage 1 of the National Framework for Energy Efficiency and the agreement of New Zealand to join NAEEEP - it was appropriate in 2005 to change the name of the programme to better reflect its expanded scope.
- NAEEEC and E2WG members considered a number of possible names before settling on **Equipment Energy Efficiency programme.**
- To assist public awareness of the programme and its role in delivering economic and environmental benefits through energy efficiency, communication consultants were asked to advise on an attractive 'brand' for the entire programme. Subsequently the brand of **E3** was proposed and is being further developed. Branding is an iterative process that will ultimately support widespread, low cost mainstream media exposure of the programme and heightened public awareness of the programme and its objectives, as compared to earlier acronyms used to identify the programme that were a disincentive to media exposure and thus an obstacle to public awareness.
- The tagline for $E_3$ Programme has also been revised to more accurately reflect its role within the cooperative National Framework for Energy Efficiency and now reads:
- *An Initiative of the Ministerial Council on Energy forming part of the Australian National Framework for Energy Efficiency and the New Zealand National Energy Efficiency and Conservation Strategy*

# MAJOR ACHIEVEMENTS

In 2005, the Equipment Energy Efficiency programme evolved beyond an already mature programme with simple product by product initiatives (regulation) into one that recognises the interrelationship of products within a sector, be it commercial or industrial. This development was in keeping with the implementation of the first joint work plan between Australia and New Zealand (at **Appendix 5**) and in response to stakeholders calls to expand and extend the programme beyond business as usual.

The use of a common end-use energy efficiency work programme has delivered a number of benefits for all programme stakeholders:

- Suppliers have to meet the same regulatory standards in both countries supporting improved economies of scale in local production and easier compliance requirements;
- Consumers are not confused by differing regulatory and labelling arrangements;
- Energy efficiency regulators can deliver common regulatory proposals.

This joint work plan has also seen the delivery of a number of key achievements in 2005 that include:

- the continued expansion of the **programme's coverage** of residential, commercial and industrial products;
- the **streamlining of the Minimum Energy Performance Standards** process following extensive public consultations;
- the **endorsement of the www.energyallstars.gov.au website** as a one-stop-shop for locating available energy efficient products;
- the **creation of Energy Efficiency Star Awards** announced in recognition of international, domestic and individual achievements;
- the benchmarking of labels across **Trans-Tasman labelling survey;**
- the programme's engagement in a series of **international** initiatives.

## PROGRAMME IMPACTS

Increased efforts were made during 2005 to monitor and assess the impacts of the MEPS and labelling measures being implemented through the $E_3$ programme:

- targeted Check-testing Program to identify products that do not comply with their labelling and/or MEPS claims
- Australia-wide store surveys to assess the level of compliance with mandatory labelling and MEPS requirements
- Collection of Gfk data to continue tracking the sales-weighted efficiency trends for energy labelled appliances
- In store and in-home surveys to measure the standby power consumption of both new products and the existing stock
- Consumer surveys to track the awareness and influence of electrical and gas energy rating labels
- Commissioned consultants to undertake a review to evaluate the impacts of mandatory labelling and MEPS for residential refrigerators and freezers

## PROGRAMME COVERAGE

In 2005, minimum energy performance standards (MEPs Stage 2) were made more stringent for refrigerators, freezers and electric water heaters.The programme covers 13 product types listed in **Table 1.**

TABLE 1: PRODUCTS REGULATED BY THE EQUIPMENT ENERGY EFFICIENCY PROGRAMME

| Product | Sector | MEASURE | | | Regulatory Standard |
|---|---|---|---|---|---|
| | | MEPS 2005 | MEPS (existing) | Labelling | |
| Whitegoods | | | | | |
| Refrigerators | R,C | Jan 2005 | 1999 | 1992* | AS/NZS4474.2 |
| Freezers | R | Jan 2005 | 1999 | 1992* | AS/NZS4474.2 |
| Clothes washers | R | | | 1992* | AS/NZS2040.2 |
| Clothes dryers | R | | | 1992* | AS/NZS2442.2 |
| Dishwashers | R | | | 1992* | AS/NZS2007.2 |
| Electric Water Heating | | | | | |
| Mains pressure storage <80 litres | R,C | Oct 2005 | 1999 | | AS/NZS4692.2 |
| Mains pressure storage ≥80 litres | R,C | - | 1999 | | AS/NZS4692.2 |
| Heat exchange | R,C | Oct 2005 | - | | AS/NZS4692.2 |
| Vented storage | R,C | Oct 2005 | - | | AS/NZS4692.2 |
| Air Conditioners | | | | | |
| > Single-phase air conditioners | R,C | | 2004 | 1992* | 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 | | 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,
NZHB is a regulatory standard prepared by the NZ Government and published by standards NZ as a footnote
Labelling Some states had mandatory energy labelling regulations prior to 1992

## INAUGURAL ENERGY EFFICIENCY AWARDS

The Equipment Energy Efficiency Committee acknowledges the significant contribution of stakeholders who have helped to drive improvements in the energy efficiency of appliances and equipment sold in Australia and New Zealand. In 2005 the inaugural Energy Efficiency Star Awards were presented at Parliament House in Canberra on 14 September. The recipients were:

### INTERNATIONAL ENERGY STAR AWARD

#### Lighting Council Australia

The Lighting Council Australia encourages international cooperation on the energy efficiency of lighting products. For example, the Council and its members were strong advocates of the first international "Community of Practice" on compact fluorescent lamps and also supported the release of an international accord to develop a testing methodology and performance specifications that can be adopted throughout the world on either a voluntary or regulatory basis.

In 2005, it is projected that approximately half a billion compact fluorescent lamps will be sold throughout the world requiring 12 Terawatt hours of electricity. This is equivalent to the greenhouse gas emissions from almost 3 million vehicles. As the sales of these lamps are expected to double by 2012, it is critically important that we highlight which compact fluorescent lamps are the most efficient, using an internationally recognised rating scale.

The Council is also establishing a high level memorandum of understanding with its Chinese counterpart, the China Association of the Lighting Industry.

### DOMESTIC ENERGY STAR AWARD

#### Air Conditioning and Refrigeration Equipment Manufacturer's Association

This association has provided extensive advice and assistance to government to develop more stringent energy performance standards to increase energy efficiency within the air-conditioning industry. Its push for higher-level energy performance standards (MEPS) to be implemented 18 months earlier than planned, as well as its leadership role on the manufacture and supply of products that already meet these high performance levels are outstanding achievements.

The projected greenhouse savings from minimum energy performance standards from single phase air conditioners, based on the present phase-in timetable, will be 16.1 Mt $CO_2$-e over the period 2004-2020. If the phase-in were deferred 18 months the savings over 2004-2020 would be 13.4 Mt, the difference being 2.7 Mt $CO_2$-e.

### PROFESSIONAL ENERGY STAR AWARD

#### Dr George Wilkenfeld

Dr Wilkenfeld has made a substantial contribution to the delivery of a more effective and refined energy efficient policy framework for Australia. His many contributions include:

- Playing a key role in developing and implementing the appliance energy labelling programme in Australia since it began in the early 1980's. Dr Wilkenfeld continues to provide input into the development and maintenance of the programme.
- Developing a framework for Regulatory Impact Statements for assessing government regulatory energy policies. These statements have been praised by the Office of Regulatory Review as examples of best practice in Australia today

*Russell Loane, Daniel Tilbury - Lighting Council Australia Past and Present Chairmen*

*Rod King - President of AREMA*

*Dr George Wilkenfeld*

## TRANS-TASMAN LABELLING SURVEY

In 2005, the Equipment Energy Efficiency Committee conducted a quantitative study of electricity, gas and water labels within Australian and New Zealand. The broad objectives of the survey were to provide:

- quantitative measurements of awareness, attitudes, and the use of the three labels; and
- relative importance of labelling in the purchase decision-making process.

The key findings of the study will now be used to inform the communication strategies of the Equipment Energy Efficiency programme and include:

- overall an extremely high level of recognition of the energy label in mainland Australia - 94% of the general public claim to be aware (unaided) of the electricity energy label, in contrast 41% of the public are aware of the water label prompted by water authorities and 15% are aware of the gas efficiency label prompted by that industry.

  **Table 2** shows the level of awareness (prompted) of the Energy label by jurisdiction.
- energy rating labels have become a significant influence in consumer purchasing decisions; and
- increasing use of label in purchasing decisions drives manufacturers to compete on efficiency as well as design and established 'brand' values.

## INTERNATIONAL INITIATIVES

The Equipment Energy Efficiency programme has long held links with other national and regional activities which have supported Australian regulators applying the knowledge and lessons from overseas experiences to our own programme. In 2005, the key international exchanges included:

- Communities of Practice
- Asia-Pacific Partnership on Clean Development and Climate

### COMMUNITIES OF PRACTICE

The aim of "Communities of Practice" is to develop consistent international performance requirements. The first of these Communities of Practice, the *'International Compact Fluorescent Lamp (CFL) Harmonisation Initiative'* was launched in China during May 2005. By year end this initiative has the support of about 30 government, industry, and non-profit organisations from various countries across the world including the Asia-Pacific region, Europe, India and the USA. The objective of this initiative is to:

- create a uniform international testing method, covering the performance features of self-ballasted CFLs;
- identify a number of performance specifications for self ballasted CFLs to facilitate international comparisons of CFL performance requirements; and
- propose and promote these initiatives to the wider international lighting community.

One of the key aspects of the initiative is to develop an appropriate international reporting and compliance regime. Further information can be found at www.apec-esis.org/cfl/www/.

A similar international initiative on Set Top Boxes was launched in Korea in November 2005. Further information on this Community of Practice can be found at www.apec-esis.org/settopbox/www/ .

### ASIA-PACIFIC PARTNERSHIP ON CLEAN DEVELOPMENT AND CLIMATE

On 28 July 2005, the Australian Government, along with counterparts from the United States, Japan, China, India and South Korea (nations that between them account for almost half the world's population, GDP, energy use and greenhouse gas emissions) announced the formation of the Asia-Pacific Partnership on Clean Development and Climate. The Partnership brings together for the first time 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 Partnership has since developed eight Government/ Industry Task Forces covering the themes: (1) cleaner fossil energy; (2) renewable energy and distributed generation; (3) power generation and transmission; (4) steel; (5) aluminum; (6) cement; (7) coal mining; and (8) buildings and appliances. The work of the Equipment Energy Efficiency programme complements the Buildings and Appliances Task Force which aims to 'use cooperative mechanisms to support the further uptake of increasingly more energy efficient appliances, recognizing that extensive cooperative action is already occurring between Partner countries'. The Equipment Energy Efficiency programme will be providing a support role to the AP6 Task Force on Buildings and Appliances and on international projects where appropriate during 2006.

TABLE 2: PROMPTED AWARENESS OF THE ENERGY LABEL, BY JURISDICTION

| | **Total %** | **NSW %** | **VIC %** | **QLD %** | **SA %** | **WA %** | **TAS %** | **NT %** | **ACT %** | **NZ %** |
|---|---|---|---|---|---|---|---|---|---|---|
| **YES** | 96 | 97 | 94 | 98 | 94 | 98 | 88 | 98 | 99 | 85 |

# EQUIPMENT ENERGY EFFICIENCY STRATEGIES

The Australian Federal Government leads the Equipment Energy Efficiency programme in collaboration with all state and territory jurisdictions and New Zealand to implement minimum energy performance standards and energy efficiency labelling for a range of household, commercial and industrial equipment. A key feature of this joint work plan is the use of 10 year strategies, such as that for *Standby Power*, that clearly articulate government policy and that provide a road map for reducing energy use in specific sectors.

In 2005, the three-year work plans for two strategies, *Greenlight Australia* and *Switch on Gas* were released following the endorsement of their individual 10 year strategies by the Ministerial Council on Energy in 2004.

The Equipment Energy Efficiency Committee is expected to develop a further six 10 year strategies in the forward period commencing 2005 and as shown in **Table 3**. Updates will be available as they occur at www.energyrating.gov.au

TABLE 3: EQUIPMENT ENERGY EFFICIENCY COMMITTEE – FORECAST 10-YEAR STRATEGIES

| STRATEGY | SECTORS | RELEASE DATE |
|---|---|---|
| Hot Water systems | R,C,I | 2006/2007 |
| Demand side management in the home | R | 2006/2007 |
| Electric Motors in the industrial sector, including fans and pumps | C,I | 2006/2007 |
| Building heating, ventilation and air conditioning | C,I | 2007/2008 |
| Swimming pool equipment | R,C | 2006/2007 |
| Commercial catering equipment | C | 2006/2007 |

## THE STANDBY POWER STRATEGY

### ENHANCING DATA COLLECTION AND REGULATORY PROPOSALS

Many modern appliances consume power all day, every day, even when they're not in use. This standby power can make a substantial contribution to an appliance's overall energy consumption and is often required to maintain a convenient "ready" state for instant, on demand use. However, in some cases, standby power serves no useful function, or operates at excessive levels.

The following figures demonstrate the results from in-store surveys carried out by the Equipment Energy Efficiency Committee since 2001. **Figure 1** shows the distribution of *all modes*, for all products, while **Figure 2** shows the distribution of *passive standby* for all products. The trends are mixed, which indicates there are still significant opportunities in this area for energy savings.

FIGURE 1: SUMMARY OF AVERAGE POWER CONSUMPTION IN NEW PRODUCTS ACROSS ALL MODES

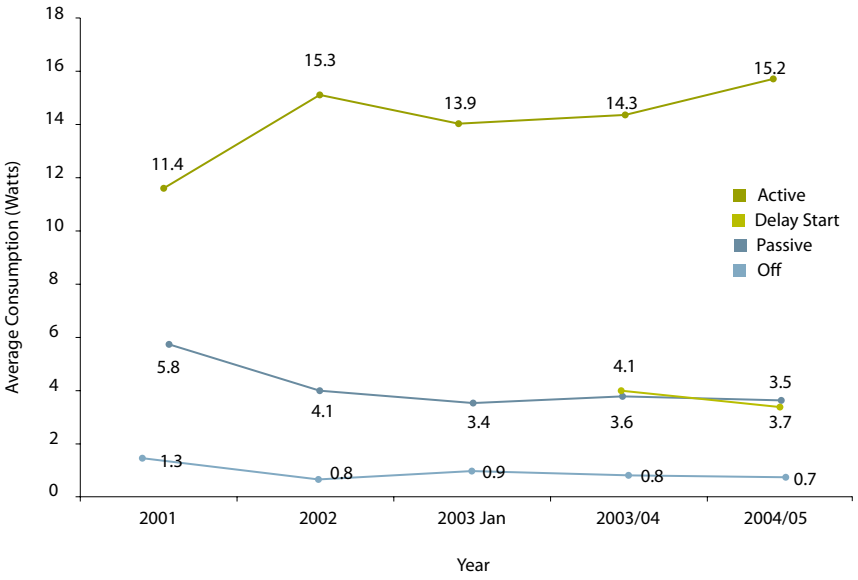
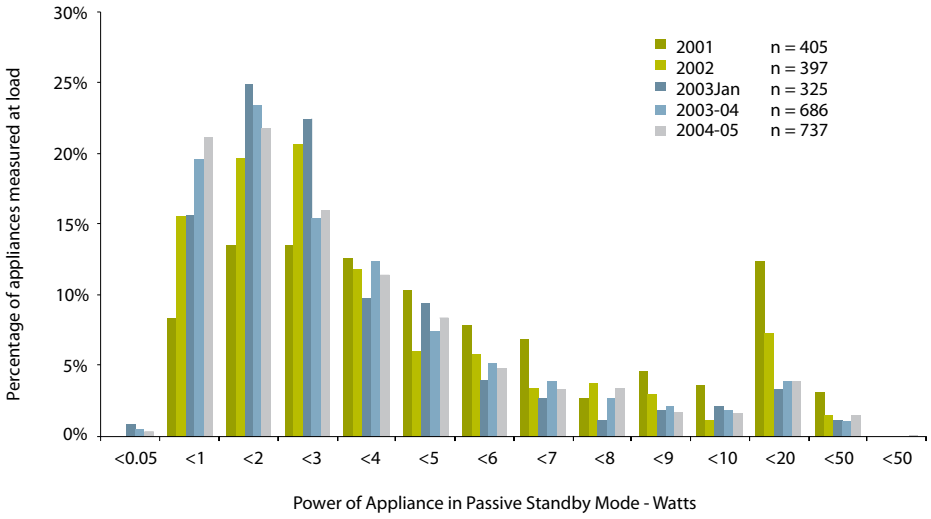



FIGURE 2: DISTRIBUTION OF PASSIVE STANDBY MODE POWER - ALL PRODUCTS



In November 2002, the Ministerial Council on Energy released Australia's Standby Strategy 2002–2012 – *Money Isn't All You're Saving*. During 2005, the key activities undertaken to implement this strategy were maintaining strong engagement with other economies, particularly the US, Europe and Korea. In fact, Australia co-sponsored *Global Cooperation on One Watt*, a standby power conference hosted by the Republic of Korea. Australia recognises that international cooperation is paramount to the success of standby power reduction. Australia is supporting the International Energy Agency's horizontal standard proposal that will cover all products. It will specify excluded products, as opposed to nominating those to be included.

Work is continuing on regulating the standby power of:

- External power supplies;
- Set-top boxes;
- Home entertainment products;
- Televisions.
- Work commenced on: delivering www.energyallstars.gov.au, the database of high efficiency products where standby power performance will be an important criterion for qualifying, in particular with office equipment. The Ministerial Council on Energy requested the development of the database as the part of a government energy efficiency purchasing policy. The site has been operational for some months.
- A second study into household standby power consumption was undertaken. Results can be found in the report 2006-02 at www.energyrating.gov.au/library
- The 2004-05 standby power in-store survey was undertaken to track trends in the consumption of a range of product types. Over 1300 appliances were tested, bringing the total to more than 4400 appliances during the past four years. With all proposed product profiles published now, the programme focus in 2006 moves to enhanced measurements and monitoring, to track the impact of the strategy and identify products which may require mandatory action.

## GREENLIGHT AUSTRALIA THE LIGHTING STRATEGY

- Lighting is a $2 billion industry that generates about 25 million tonnes of greenhouse gas emissions each year, or about 5% of national emissions.
- In December 2004, the Ministerial Council on Energy released *Greenlight Australia* with the full support of the lighting industry. This is a 10 year strategy that sets out how Australia expects to improve the energy efficiency of lighting products by 2015 through a range of both regulatory and voluntary measures.
- The strategy is important in providing a coherent and comprehensive plan that allows industry some certainty in moving forward. One of the most important aspects of the strategy is the target of a 20% saving in annual lighting energy consumption by 2015, when compared to the business as usual case. This target was suggested by the Australian lighting industry and Australian governments have endorsed it as an achievable measure of the strategy's effectiveness.
- As a result of *Greenlight Australia*, it has been estimated that the electricity consumed by lighting products will be reduced by 7.8 Terawatt hours or by almost 7 million tonnes of carbon dioxide equivalent per annum from 2015. This will also save the economy over half a billion dollars in reduced electricity costs.
- During 2005 work on the first of the *Greenlight Australia* projects commenced with the release of technical papers on:
- Compact fluorescent lamps;
- Extra low voltage halogen transformers and converters;
- Main roads lighting;
- Work on developing a training and education package and an appropriate compliance regime also commenced in 2005.

## SWITCH ON GAS THE GAS STRATEGY

The *Switch on Gas* strategy, released by the Ministerial Council on Energy in December 2004, is a blueprint jointly endorsed by government and industry outlining the actions to enhance energy efficiency for gas appliances and equipment from 2005 to 2015.

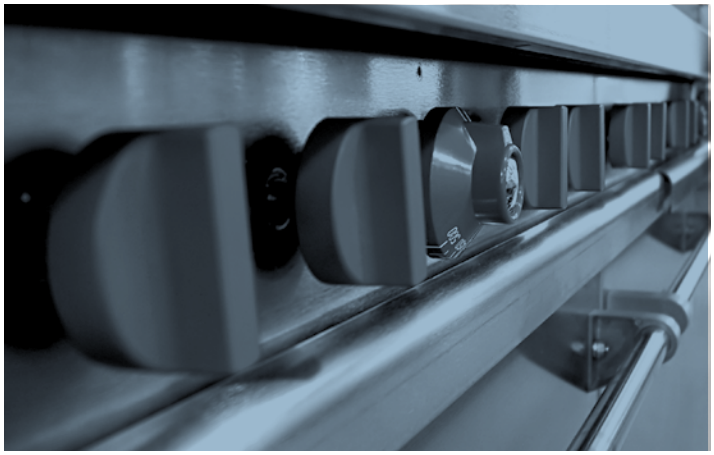
The 'Equipment Energy Efficiency – Gas committee' is responsible for implementing the *Switch on Gas* strategy and for its overall management. The committee consists of officials and representatives from Commonwealth, State, Territory and New Zealand government agencies with current membership listed at **Appendix 7.** The committee reports to the Ministerial Council on Energy via the Energy Efficiency Working Group.

In 2005 the principal industry stakeholders (the Gas Appliance Manufacturers Association of Australia, the Australian Gas Association, and the Gas Association of New Zealand) met with the committee to review the draft Work Plan for the 10 Year strategy. The products expected to be covered by this programme in 2010 are listed in **Table 4.** It now appears that some jurisdictions must pass enabling legislation to allow for nationally consistent regulation of gas products.

The development of an administrative legislative framework for the programme is being progressed, with a range of options being considered for further development in 2006.

TABLE 4: GAS PRODUCTS EXPECTED TO BE COVERED BY EQUIPMENT ENERGY EFFICIENCY PROGRAMME BY 2010

| No. | Product | MEPS | Labelling | Standby | Energy Allstars |
|---|---|---|---|---|---|
| **Gas Appliances** | | | | | |
| 1 | Gas water heaters | ✓ | ML | ✓ | ✓ |
| 2 | Gas space heaters | ✓ | ML | ✓ | ✓ |
| 3 | Commercial gas water heaters | ✓ | ML | ✓ | ✓ |
| 4 | Commercial gas space heaters | ✓ | ML | ✓ | ✓ |
| 5 | Gas stoves | ✓ | | ✓ | ✓ |
| 6 | Gas cooktops | ✓ | | ✓ | ✓ |
| 7 | Gas industrial equipment (eg. boilers & kilns) | ✓ | ML | | ✓ |



# CONTINUING ACTIVITIES

## ONLINE DATABASE FOR REGISTRATIONS

Through secure access to registration pages on the www.energyrating.gov.au website, product suppliers are able to complete online application forms for prescribed appliances and equipment and lodge them with one of the four registering state regulators, or with the New Zealand regulator. This feature improves administration processing times for government and saves industry time and money. The system automatically checks the data as it is entered and prompts the user if changes are required. It helps industry by providing access to records entered previously by the applicant that can be copied as new registrations, and modified as needed, and allows progress of the application to be monitored.

Online registrations started in 2002 with a substantial upgrade in 2004 to make it more user-friendly. Almost 9 out of 10 registrations are now lodged electronically. Upgraded user manuals for the system are also regularly posted on www.energyrating.gov.au .

## ENDORSEMENT LABELLING

- The Top Energy Saver Award Winner (TESAW) is an Australian Government award that recognises the most efficient products on the market. It applies to both electric and gas products that carry an Energy Rating label and is designed to help consumers quickly identify the most efficient products on the market.
- Energy Star (www.energystar.gov.au) is an international programme of endorsement labels for electronic equipment. It was created by the US Environmental Protection Agency in 1992 and has been adopted by several countries around the world, including Australia. It currently applies to office and home entertainment equipment.

The programme has supplied two labelling schemes. In 2005, the Equipment Energy Efficiency Committee recognised that two endorsement labels in the appliance and equipment market was an undesirable outcome for all stakeholders:

To overcome this problem, the Equipment Energy Efficiency programme has designed a transition to Energy Star for all relevant products. It is seen as the best vehicle given the global nature of the label and the relevance this had to the majority of suppliers. Energy Star also enables wider leveraging of marketing activities. Refrigerators and freezers are the first likely products to make the transition, proposed for April 2007.

In the interim, TESAW criteria remain in place and a list of TESAW star rated appliances for 2005 is provided at **Appendix 8.** The full list of TESAW rated products is available at http://www.energyrating.gov.au/tesaw-main.html

## ADMINISTRATIVE GUIDELINES

The national energy efficiency legislative scheme is underpinned by state and territory legislation. The use of nationally endorsed model regulations allows jurisdictions to create 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 embrace the Standards Australia processes in setting and publishing technical standards. Regulatory agencies expect that industry will participate constructively to ensure that technical requirements are fair and equitable for all participants.

The administrative guidelines play a crucial role in demonstrating compliance with 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. It provides 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 are intended to underpin state and territory legislation;
- The responsibilities of relevant state and territory regulatory agencies; and,
- The responsibilities of industry.

The guidelines have operated since April 2000, and to ensure they are relevant were reviewed during 2005. The latest version appears at www.energyrating.gov.au .

# REGULATORY IMPACT ASSESSMENTS

The Equipment Energy Efficiency programme is expected to meet the requirements for the creation of national regulations by complying with regulatory processes in both Australia and New Zealand. Preparation of a Regulatory Impact Statement (RIS) is a critical feature of the regulatory process and helps to ensure that the costs and benefits (both social and economic) of regulating a product are canvassed in a timely, systematic, objective and in a transparent manner with a recommendation supporting the most effective and efficient option. In 2005, a regulatory impact statement was released for public comment on the proposal to bring forward the date for introducing more stringent MEPS for room air conditioners.

## ROOM AIR CONDITIONERS

### RELEASE DATE:

The first Regulatory Impact Statement (RIS) was released in February 2005. A revised RIS was released in July 2005.

### OUTLINE:

This RIS outlines a three part proposal to increase the minimum energy performance standards (MEPS) for single-phase non-ducted air-conditioners, hereafter referred to as room air-conditioners (RAC).

The first part is to implement more stringent MEPS for certain RAC sizes and types from October 2008. The proposal follows a lead recently set by Korea. Korea implemented new MEPS in October 2004 and it is proposed that Australia follow Korea with a lag of 4 years. No further increases would be proposed before October 2012. This element of the current proposal is consistent with the MCE policy directive to match the best MEPS level of Australia's trading partners.

The second part of the new proposal relates to the most common single phase non-ducted air conditioners of less than 7.5 kW and will bring the 2007 MEPS forward by 18 months. This is a response to new evidence that more efficient air conditioners are already available in a number of supplier countries, indicating that there is little impediment to earlier implementation of the 2007 MEPS. The MEPS for these air conditioners would therefore rise in two stages, first in April 2006 and subsequently in October 2008. The timing of other types of air conditioners are not affected.

The third part of the proposal is relatively minor. It will eliminate historical differences between the MEPS applying to single-phase and three-phase air conditioners. Currently there are several sub-markets where different MEPS apply to single-phase and three-phase appliances with the same range of applications.

### BENEFITS AND COSTS:

Impact for the medium term changes proposed for October 2008:

- Reductions in energy use and greenhouse emissions amount to about 1.3% of BAU energy use and emissions in 2010, which is the mid-point of the first commitment period under international arrangements to reduce emissions. This builds to 5.8% over the 10 year life of the regulation, to 2018.
- It is estimated that the proposal will raise the cost of air conditioners by $127 million but deliver energy savings worth $209 million, resulting in an overall net benefit of $82 million.

Impact analysis for the intermediate changes proposed for April 2006

- Relative to the BAU scenario for these units, the proposal would deliver energy and emissions savings of 0.7% in 2010.
- It is estimated that the proposal will raise the cost of air conditioners by $15.5 million but deliver energy savings worth $28 million, resulting in a net benefit of $12.5 million.

Impact analysis for proposals to eliminate MEPS differences between single-phase and three-phase units

- Elimination of sub-markets where different MEPS apply to single-phase and three-phase appliances with the same range of applications, creating a level playing field.

### EFFECTIVE DATE:

Revisions to the most common non-ducted single phase MEPS levels are planned to occur in April 2006, and October 2008. MEPS revisions for all other types are scheduled for October 2007. Once all of the levels are implemented, these revised MEPS levels will be equivalent to world best regulatory practice for this product group. There are ongoing reviews of changes to MEPS levels that are occurring in other countries.

## UPCOMING REGULATORY IMPACT ASSESSMENTS

Regulatory impact assessments are planned for a number of household appliances and commercial and industrial equipment during 2006 and 2007 as detailed at **Table 5**. Further updates will be available as they occur at www.energyrating.gov.au/considered.html .

| **2006 Regulatory Impact Assessments** | **2007 Regulatory Impact Assessments** |
|---|---|
| Air conditioning | Home entertainment equipment |
| Refrigerator label and algorithm | Air conditioning label revision |
| Standby power - washing machines and dishwashers | Standby for dryers |
| External power supplies | Linear fluorescent lamps |
| Extra low voltage halogen transformers | Televisions |
| Set top boxes | Personal computers |
| Commercial building tower air conditioners (chillers) | |
| Compact fluorescent lamps | |
| Beverage vending machines | |
| Chilled and/or boiling water dispensers | |
| Ice makers | |
| | |

# ENFORCEMENT

In 2005, the Equipment Energy Efficiency programme continued to use a variety of compliance strategies to maintain the integrity of the programme that included:

- Checktest regime to ensure that the labelling and MEPS scheme maintain high levels of credibility both with consumers and manufacturers. This programme aimed to test products that were suspected of being non-compliant - this is why the failure rates were so high;
- Use of laboratories as part of checktesting to screen, test and develop standards to ensure that suppliers comply with regulations;
- Issuing of infringement notices by state regulators.

## CHECKTEST PROGRAMME

Since 1991, the Equipment Energy Efficiency programme has conducted "checktesting" of products which ensures that the labelling and MEPS scheme maintains high levels of credibility both with consumers and manufacturers.

In 2005, Energy Safe Victoria (regulator) and Energy Efficient Strategies (technical consultant) managed the checktest programme which included laboratory validity testing, round robin testing, equipment check testing and standards development for a range of product types.

Screen tests (Stage 1 checktest) were conducted on units identified as at risk of failing MEPS or labelling standards by compliance inspections, competitors or market intelligence. **Table 6** summarises the tests undertaken.

In all 25 failures, the suppliers claimed performance was not supported by testing conducted at NATA accredited laboratories. All cases of screen test failure are referred to the regulatory authority in the jurisdiction where the product was registered. The regulatory authority may take a range of actions including amendment of the registration, ordering additional testing (known as Stage 2 checktesting) or deregistering the product. Regulatory actions completed in 2005 against products that failed a checktest in or prior to 2005 are detailed in **Table 7.**

TABLE 6: CHECKTESTS UNDERTAKEN IN 2005

| Appliance type | Number tested | Number that failed the screen test | Number deregistered as at 2/2/2006 | Number with outcome pending |
|---|---|---|---|---|
| Air conditioner | 12 | 10 | 5 | 5 |
| Clothes Washer | 2 | 2 | 2 | 1 |
| Dishwasher | 9 | 3 | 1 | 2* |
| Electric Motors | 6 | 1 | 0 | 1 |
| Refrigerated Display Cabinets | 7 | 4 | 1 | 3 |
| Refrigerators/Freezers | 4 | 4 | 1 | 0 |
| **Total** | **40** | **24** | **10** | **12** |

** Note that one of the dishwashers that failed the screen test was found not to have been ever registered with a regulator, so de-registration in this case was not an option.*

TABLE 7: REGULATORY OUTCOMES FINALISED IN 2005

| Product type | Brand | Model | Deregistration details |
|---|---|---|---|
| Air conditioners | ATD | S09HS-1 | De-registered 14/02/2005 |
| | AUX | KFR-32GW/H | De-registered 27/05/2005 |
| | AUX | KFR-53GW/M | De-registered 24/11/2005 |
| | Fujitsu | ART60RUAK/AOT60RPAGT | De-registered 12/09/2005 |
| | Genaire Airking | KFR25GW | De-registered 24/11/2005 |
| | LG | LB-E6081HL | De-registered 16/04/2005 |
| | LG | LSZ-182M-4 | De-registered 11/10/2005 |
| | LG | LST-244H-2 | De-registered 11/10/2005 |
| | LG | LBNL6081BL/LBUL6080BL | De-registered 11/10/2005 |
| | Sanyo | SPW-DC601GH5/8TU | De-registered 11/08/2005 |
| | YORK | MHH09P17/MOH09P15A | De-registered 30/09/2005 |
| Clothes Dryers | HAIER | GDZ5-1 | De-registered 27/05/2005 |
| Dishwashers | Bosch | SGV69A1 | De-registered 23/09/2005 |
| Electric Motors | Moto Technik | CDF22/B3/2 | De-registered 30/05/2005 |
| Refrigerated Display Cabinets | Vestfrost | IKG203 | De-registered 18/08/2005 |
| | Quirks | SC1000LP | De-registered 06/12/2005 |
| | Quirks | SC 60 | De-registered 06/12/2005 |
| Water Heaters | BEASLEY | 12S-250 | De-registered 14/02/2005 |

## SUPPORT FOR LABORATORIES

In 2005, the checktest programme used seven laboratories with National Association of Testing Authorities (NATA) accreditation to screen test and develop standards to ensure that suppliers comply with the regulations and to set new MEPS levels. NATA laboratories are used exclusively for standards development and compliance programmes in Australia. NATA accreditation does not imply that the laboratory is accredited for the full range of possible tests covered by the standard, and some of these laboratories have imminent NATA accreditation for testing additional categories of equipment.

A list of laboratories and their accreditation status for each of the main product types is provided on http://www.energyrating.gov.au/supplementary.html

NATA accreditation provides formal recognition of laboratory competence and independence in terms of personnel, their qualification and experience, equipment calibration, soundness of testing procedures and suitability of testing facilities. Accreditation is important as the checktest programme relies on a high degree of laboratory integrity to be credible to industry and consumers and, where necessary, for court actions.

## PURCHASE OF TEST REPORTS

In 2005, the Equipment Energy Efficiency programme purchased thirteen test reports from the Australian Consumers Association's NATA accredited test research laboratory. The purchase of NATA test reports for failed units is a cost effective way to increase the number of appliances covered by the programme.

## INFRINGEMENT NOTICES

In 2005, State regulators have been either piloting infringement notice powers in their jurisdictions, or have already issued notices to electrical store retailers. Retailers can receive more than one infringement notice.

### Victoria

In Victoria, a fine of 50 penalty units or $524 may be made for each breach of section 68 of the Electricity Safety Act 1998 on prosecution in the Magistrates Court. Under Part 11A of the Electricity Safety Act 1998, Energy Safe Victoria may serve infringement notices for failure to comply with the Act. In 2005, one Infringement Notice was issued to an electrical retailer in Victoria

### South Australia

South Australian legislation has now been changed to permit infringement notices for minor breaches of the Electrical Products Act. The infringement notice fee is $315, for each breach.

### Queensland

In Queensland the Electricity Act 1994 and Electricity Regulation 1994 allows for prosecution for failure to comply with requirements. This prosecution can be taken to court where the maximum penalty is up to $1500 per offence for an individual, or $7500 for a corporation. An alternative to taking proceeding to court is to issue an infringement notice up to $150 for an individual or $300 for a corporation for each offence.

## COMPLIANCE MONITORING AND INTERNET SALES

In addition to retail store compliance, regulators have followed-up supply of unregistered and unlabelled equipment on internet auction sites such as eBay and obtained registration of these products. Notices to comply are sent to advertisers. The Equipment Energy Efficiency Committee is working with eBay to ensure that advertisers can only offer new proclaimed products that are registered for energy labelling or MEPS in Australia.

# STANDARDS DEVELOPMENT

Minimum Energy Performance Standards are made mandatory in Australia by state government legislation and regulations which give force to the relevant Australian Standards. Australian Standards provide a "one-stop shop" for stakeholders of the Equipment Energy Efficiency programme to address testing and performance requirements, and also energy labelling and minimum energy performance requirements for products.

In 2005, industry worked collaboratively with Government to progress work on the following standards to be used for energy efficiency regulation in Australia:

## AIR CONDITIONERS

In December 2005 a revised edition of the air conditioner regulatory standard AS/NZS3823.2 was published. This standard includes the new accelerated MEPS timetable for implementation in April 2006 for some single phase products and new single phase MEPS levels for 2008. The standard also documents the new energy labelling algorithm which is planned for introduction in 2008. Amendments to Parts 1.1 and 1.2 that now include test methods for standby measurement and a new Part 1.3 (water sourced heat pumps) were also published in late 2005.

Australia is contributing to ongoing work on revisions to the ISO air conditioner standards.

## CLOTHES WASHERS

Revised editions of Part 1 and 2 standards for clothes washers (AS/NZS2040) were finalised and then published in December 2005. The new standards include standby measurement, rinse performance test methods and registration requirements for mandatory water labelling. All products on the market will be required to register to the new standards by 1 April 2007.

Ongoing work is being undertaken to make the IEC method suitable for adoption in Australia, hopefully in about 2010. As a first step, use of IEC loads are being investigated.

EEEC continues to coordinate ongoing testing requirements for clothes washers to determine the suitability of, and appropriate normalisation curves for each new batch made available for sale in Australia. These tests are commissioned through Test Research in Sydney and made available to the standards committee.

## DISHWASHERS

Revised editions of Part 1 and 2 standards for dishwashers (AS/NZS2007) were finalised and then published in December 2005. The new standards include standby measurement and registration requirements for mandatory water labelling. All products on the market will require registration to the new standards by 1 April 2007.

A test programme to assess the performance of "auto sensing" dishwashers was undertaken in 2005. A total of 8 units were assessed on various programmes (including auto sensing) to better inform regulatory authorities about the likely impacts associated with the increasing use of these auto programmes in dishwashers.

Investigations into the use of IEC detergent was also commenced in 2005.

## CLOTHES DRYERS

In late 2005 EL15/4 agreed to commence compiling data and commencing investigations into a revision of AS/NZS2442. A review of the energy labelling algorithm may also be conducted in 2006.

Work to make the IEC dryer standard more acceptable is also planned for 2006. As a first step, use of IEC loads are being investigated.

## REFRIGERATED DISPLAY CABINETS

In 2005, the refrigerator display cabinet standards development test programme that was commenced in 2003-04 was completed. This programme included refinements to the test method, comparative testing and assessment of the impact of differing door opening schedules, and air flow methods on the energy consumption. Minor amendments to the test standard AS1731 were progressed through 2005 with the aim of publication in 2006.

### BOILING AND CHILLED WATER DISPENSERS

In preparation for the regulation of these products, seven test dispensers donated by industry were extensively tested at Enertech Laboratories in Melbourne. The purpose of the programme was to inform the test standard formulation process and to help build confidence in the industry with the proposed test method. Development of a new test method has been commenced by a working group of EL20.

### REFRIGERATORS

Revision of the Part 1 test method was well advanced in 2005. While this does not involve any major technical changes, it does deal with a range of new configurations and technologies that are emerging onto the market.

A minor study examining the issues surrounding the testing of refrigerators fitted with electronic control systems was conducted for EEEC by Test Research Laboratories in Sydney. This was used to support work on standards development in the committee.

A discussion paper on a new energy labelling algorithm for introduction in 2007, and associated Energy Star criteria, went out for public comment and discussion in late 2005.

In 2005 ISO published a single test method for refrigerators and freezers (15502). Work on a more globally acceptable standard is scheduled to commence in 2006.

### FLUORESCENT LAMPS

A fluorescent lamp test programme started in April 2004 (focusing firstly on the initial lumens output test and CRI measurement) was completed in 2005. In the 2005 testing programme testing was extended to include measurement of maintained efficacy as well as tests on a range of lamps to determine their mercury content. Draft amendments to the regulatory standard, which incorporate revised colour rendering requirements and mercury content, were released in 2005 for public comment. Amendments to the regulatory standard to incorporate these changes are expected in 2006.

### THREE PHASE ELECTRIC MOTORS

New MEPS levels for three phase electric motors are due to commence in April 2006. To assist industry with the transition process several motors offered up by industry were tested at the independent NATA accredited test laboratory Caltest to determine their compliance with the new standard.

### EXTERNAL POWER SUPPLIES

Following development work conducted over the past few years the new standards which specify the test method and regulatory requirements for external power supplies, AS/NZS 4665, were published in early November 2005 (covering AS/NZS 4665.1:2005 Test method and energy performance mark, and AS/NZS 4665.2:2005 minimum energy performance standard requirements). Prescribed external power supplies will have to be registered as compliant with the new MEPS levels by 1 October 2007. The registration system is expected to be operational by April 2006.

### ELECTRIC WATER HEATERS

AS/NZS4692 – electric water heaters – new standards for a joint test method with New Zealand and a regulatory standard were published for the first time in September 2005. Revised MEPS levels for small mains pressure water heaters and new MEPS levels for heat exchange and vented storage water heaters were introduced in October 2005.

Amendments to AS1361 (heat exchange water heaters) and AS1056.1 (storage water heaters) were also introduced in 2005 to improve the test method accuracy.

### STANDBY

The final version of AS/NZS62301 - Measurement of standby power, was published in 2005. This standard replaces the interim standard published in 2003 and is based on IEC62301 published in 2005.

# COMMMUNICATIONS

## PROGRAMME PUBLICATIONS

In 2005, twenty-five publications were released including technical reports, regulatory impact statements, joint work plans and policies and minimum energy performance standard profiles. A full listing of the publications is at Appendix 9 and electronic copies (and those of previous years) are available for download at **http://www.energyrating.gov.au/library/index.html**

## ENERGY RATING WEBSITES

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

Website usage has increased dramatically in recent years as illustrated in the following tables. The website has two main sections: the first provides information and reports about government energy efficiency programmes and regulatory requirements; the second provides consumers with an interactive listing of all registered products (search).

WWW.ENERGYRATING.GOV.AU

| Item | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|
| Total Visits | | 80,000 | 192,000 | 570,000 |
| Website hits total (million) | 0.22 | 0.523 | 1.1 | 7.4 |

SEARCH.ENERGYRATING.GOV.AU

| Item | 2004 | 2005 |
|---|---|---|
| Total Visits | NA | 160,000 |
| Website hits total (million) | 3.4 | 3.3 |

## ENERGY ALLSTARS WEBSITE

WWW.ENERGYALLSTARS.GOV.AU

In 2005 there were about 14,500 hits on the Energy allstars rating website. The website was launched in 2005 and will serve as a new resource for all Australian Governments, large corporate purchasers and the public. The site lists only the most energy efficient appliances and equipment currently on the market and is designed to encourage suppliers to market efficient products. The Ministerial Council on Energy and the Australian Procurement and Construction Ministerial Council has endorsed the use of Energy Allstars to assist governments in determining whole-of-life costs when procuring relevant products.

For each product type, a set of performance criteria will be established each year for eligible models together with a process for listing efficient products. New product categories will be added progressively.

## ENERGY STAR WEBSITE

WWW.ENERGYSTAR.GOV.AU

The Energy Star website is the Australian portal for the international voluntary endorsement labelling programme operated by the US Environmental Protection Agency. Energy Star received about 70,000 hits in 2005. The Energy Star program recognises the most energy efficient office equipment and home entertainment products. Australia is an Energy Star Partner and participates in a range of activities within the programme. Energy Star rated products have low standby power consumption. In Australia and New Zealand the Energy Star is found on TVs, DVD players, audio products, computers, printers, and photocopiers.

## ANNUAL STAKEHOLDERS FORUM

The Equipment Energy Efficiency Committee held the 2005 Spring Forum at the Australian National University on 14-15 September. Industry and government perspectives were explored over the course of the event on minimum energy performance standards (MEPS), labelling programmes and on a range initiatives being explored by the Equipment Energy Efficiency programme. Key forum discussions also centred on:

- Industrial Energy Efficiency – Global practices, standards and policies;
- Products targeted for MEPS in 2005/06;
- Industry perspectives on Greenlight Australia;
- Climate control – HVAC and Energy Efficiency;
- Australian Household Electricity Load management platform;
- National residential hot water strategy;
- Trans Tasman MEPS programmes.

Over 200 participants attended the forum demonstrating the level of support and cooperation from industry in delivering increasing levels of energy efficiency across all areas of the Equipment Energy Efficiency programme.

The forum was also host to the Inaugural Energy Efficiency Star awards that saw the Equipment Energy Efficiency Committee acknowledge the significant contribution of three stakeholders who have helped to drive improvements in the energy efficiency of appliances and equipment sold in Australia and New Zealand:

- International Energy Star Award - Lighting Council Australia;
- Domestic Energy Star Award - Air Conditioning and Refrigeration Equipment Manufacturer's Association;
- Professional Energy Star Award - Dr George Wilkenfeld.

## ELECTRONIC NEWSLETTERS

Four issues of *Switched On*, the programme's electronic newsletter were released during the year. Topics focussed on product energy efficiency and items that keep stakeholders up-to-date on topical issues (back issues can be found on www.energyrating.gov.au under $E_3$)

# BUDGET

The Equipment Energy Efficiency Programme operates with contributions from all Australian jurisdictions and now 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 Equipment Energy Efficiency Committee received funding from the Ministerial Council on Energy in FY 2004-05 of $1.55 million and in FY 2005-06 of $1.533 million. The Equipment Energy Efficiency Committee - Gas also received funding in 2005/06 of $300,000 bringing total MCE funding for the period FY 2005-2006 to $1.833 million.


# APPENDICES

# APPENDIX 1

## MINISTERIAL COUNCIL ON ENERGY MEMBERS

### AS AT 1 MARCH 2006

**Chairman, Ministerial Council on Energy**
The Hon Ian Macfarlane MP
Minister for Industry, Tourism and Resources
Commonwealth

The Hon John Mickel MP
Minister for Energy
Queensland

The Hon Joe Tripodi MP
Minister for Energy
New South Wales

The Hon Theo Theophanous MP
Minister for Energy Industries and Resources
Victoria

The Hon Francis M Logan MLA
Minister for Energy, Science and Innovation
Western Australia

The Hon Patrick Conlon MP
Minister for Energy
South Australia

The Hon Kon Vatskalis MLA
Minister for Mines and Energy
Northern Territory

The Hon Jon Stanhope MLA
Chief Minister
ACT Government
Australian Capital Territory

The Hon Bryan Green MHA
Minister for Infrastructure, Energy and Resources
Tasmania

#### OBSERVERS

The Hon David Parker
Minister of Energy
NEW ZEALAND

The Hon Sir Moi Avei KBE MP
Deputy Prime Minister and Minister for Petroleum and Energy
PAPUA NEW GUINEA

# APPENDIX 2

## EQUIPMENT ENERGY EFFICIENCY COMMITTEE MEMBER ORGANISATIONS

The Commonwealth, New Zealand and each state and territory are represented on the Equipment Energy Efficiency 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:

- Australian Greenhouse Office, Department of the Environment and Heritage
- Department of Industry, Tourism and Resources
- NSW Department of Energy, Utilities and Sustainability,
- Energy Safe Victoria
- Sustainability Victoria
- Queensland Department of Energy
- Electrical Safety Office, Queensland Department of Industrial Relations
- Western Australian Department of Consumer and Employment Protection
- Western Australian Sustainable Energy Development Office
- South Australian Office of the Technical Regulator
- Tasmanian Office of Energy Planning and Conservation, Department of Infrastructure, Energy and Resources
- ACT Office of Sustainability, 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 Greenhouse Office** is part of the Australian Government Department of the Environment and Heritage. The Australian Greenhouse Office is responsible for monitoring the National Greenhouse Strategy in cooperation with states and territories with input of local government, industry and the community. An AGO Officer is the chair and others provide support for its activities.

**The Department of Industry, Tourism and Resources** (ITR) develops and implements a range of industry policies and programs and delivers services to support competitive and sustainable business. Once of the key responsibilities includes the development of policy relating to Australia's national energy market and security of energy supply. As part of its work in this area ITR works with all governments and agencies in the development and implementation of the National Framework for Energy Efficiency (NFEE). ITR provides the Secretariat for the Ministerial Council on Energy which is chaired by the Australian Government's Minister for Industry, Tourism and Resources.

### New South Wales

The **New South Wales Department of Energy Utilities and Sustainability** provides leadership in energy and water sustainability for NSW. The Department is the agency responsible for regulating appliance and equipment energy efficiency in NSW. They also serve as the New South Wales *Technical Regulator* responsible for electrical safety and equipment efficiency

### Victoria

**Energy Safe Victoria** is the Victorian *Technical Regulator* responsible for electrical safety and equipment efficiency. Its mission is to ensure the safety of electricity supply and use throughout the state and its corporate vision is to demonstrate national leadership in electrical safety matters and to improve the superior electrical safety record in Victoria. The strategic focus of the office is to ensure a high level of compliance is sustained by industry with equipment efficiency labelling and associated regulations.

**Sustainability Victoria** was formed on October 1 2005 when Sustainable Energy Authority Victoria and Eco Recycle Victoria joined forces. Sustainability Victoria will act as a catalyst for change by: providing a vehicle to support the tangible delivery of the Victorian Government's Framework for Environmental Sustainability; focusing on changing behaviour by providing advice and assistance to inform decision-making by individuals, businesses, governments and communities to act in a more environmentally sustainable way; and facilitating innovation through supporting the development and application of technologies and processes that will produce change that may not otherwise garner support.

### Queensland

Queensland's **Department of Energy** develops policies and regulation that encourage new investment in the State and ensure continued delivery of reliable and competitively priced energy. Through the Department, the Queensland Government seeks to continually improve services to energy consumers and encourage the growth of the gas sector and new renewable energy technologies. The Department also plays a key role in promoting innovative energy technologies, sustainable energy development, and increased energy efficiency.

The **Electrical Safety Office, Department of Industrial Relations** is the *Queensland Technical Regulator* responsible for electrical safety and appliance and equipment energy efficiency. The Office ensures compliance with electrical safety and efficiency regulations throughout Queensland.

### Western Australia

**Western Australian Department of Consumer and Employment Protections** purpose is to create an employment and trading environment that protects workers and consumers. DOCEP's key strategies to achieve this are to provide information so that consumers and traders, employers and employees can exercise their rights and meet their obligations; To review laws regulating the employment and trading marketplace; To monitor and enforce compliance with laws governing consumer protection, labour relations, energy safety, resource safety and occupational health and safety, and; To deliver consumer and employment protection outcomes that meet government, stakeholder and community expectations.

**The Western Australian Sustainable Energy Development Office** promotes more efficient energy use and increased use of renewable energy to help reduce greenhouse gas emissions and increase jobs in related industries.

### South Australia

The **South Australian Office of the Technical Regulator** seeks to coordinate development and implementation of policies and regulatory responsibilities for the safe, efficient and responsible provision and use of energy for the benefit of the South Australian community.

### 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. OEPC provides policy advice on energy related matters including energy efficiency.

### Australian Capital Territory

The **ACT Office of Sustainability**, within the Chief Minister's Department, was established in January 2003 to develop, facilitate and coordinate the implementation of policies and procedures related to sustainability, energy and greenhouse policy including energy efficiency issues. The ACT Planning and Land Authority is the ACT Technical Regulator responsible for electrical safety and equipment efficiency.

### Northern Territory

The **Department of Planning and Infrastructure** was created in July 2005 from the former Department of Infrastructure, Planning and Environment.
*The environment component has now transferred to the newly formed Department of Natural Resources, Environment and The Arts.*

The Department enables state 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 the delivering New Zealand's National 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 (MfE)** 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 EEEC 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 national appliance and equipment energy efficiency initiatives;
- to coordinate the national development and implementation of energy efficiency programmes of a non-regulatory nature and enhance existing regulator programmes. 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 programmes;
- to review existing appliance energy consumption and improve standards and test procedures;
- to monitor programme 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 programmes.

This charter recognises the maturity of the programme and the need for a "holistic" approach to government policies for greenhouse gas abatement in the appliance and equipment field. The focus of the programme continues to be the delivery of nationally consistent regulation.

The implementation of most voluntary programmes remains an individual jurisdictional responsibility although voluntary programmes that assist the regulatory programme to maximise benefits are being added to EEEC's work plans.

# APPENDIX 4

## NATIONAL FRAMEWORK FOR ENERGY EFFICIENCY (NFEE) Stage One Implementation Plan December 2004 Equipment Energy Efficiency Package

### 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 Equipment Energy Efficiency programme, increasing the stringency of existing minimum energy performance standards (MEPS) requirements through a process of regular review, and increasing the intensity of the programme in key areas so that a range of programme tools are used to maximise the energy saving outcomes.

Specifically, under this package, the Ministerial Council on Energy has agreed that the existing Equipment Energy Efficiency programme will be:

- broadened in scope to include MEPS and labelling for gas products; and
- 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 Equipment Energy Efficiency programme 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 programme 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 Equipment Energy Efficiency programme could deliver even larger savings and yet remain highly cost-effective:

- Independent experts estimate that the current programme 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 Equipment Energy Efficiency programme'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 Equipment Energy Efficiency programme'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 Equipment Energy Efficiency programme 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 Equipment Energy Efficiency programme is an existing nationally coordinated programme to improve the energy efficiency of, and reduce greenhouse 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 programme in 2002 after initially operating a voluntary labelling scheme.

Since 2000, key factors which have underpinned the Equipment Energy Efficiency programme 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; and
- a requirement under the Trans-Tasman Mutual Recognition Agreement (TTMRA) for Australia to coordinate its programme with New Zealand.

In its early stages, the Equipment Energy Efficiency programme 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.

It is estimated that mandatory MEPS and labelling measures in place as part of the existing Equipment Energy Efficiency programme cover products responsible for about 41% of residential energy use, 37% of commercial energy use and 21% of manufacturing energy use.

## KEY ELEMENTS

The expanded Equipment Energy Efficiency programme to be implemented under this package involves the continuation and expansion of the successful elements of the existing programme as well as the addition of new elements as shown at **Table 8**.

The Equipment Energy Efficiency programme's guiding principles will also be updated to facilitate the introduction of more stringent MEPS levels and make the programme 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 DSM 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 Equipment Energy Efficiency programme's forward work plan with New Zealand through a policy framework approved by the Ministerial Council on Energy.

TABLE 8: KEY ELEMENTS OF THE STAGE ONE IMPLEMENTATION PLAN

| EXISTING ACTIVITY | NEW/EXPANDED ACTIVITY |
|---|---|
| **Expanded Electrical Appliance and Equipment Programme** | |
| > Maintenance of existing programme – MEPS, labelling (mandatory and voluntary)<br>> 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<br>> Develop new/upgraded MEPS and labelling proposals for residential and commercial products |
| **Gas Appliance and Equipment Programme** | |
| > Complete 10-year strategic plan and three-year work plan for Gas Appliance and Equipment Programme | > 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<br>> Complete High Efficiency Product database | > Link to the National Resource Labelling strategy<br>> Develop national promotional campaign targeting retail stores |
| **Monitoring and evaluation** | |
| > Continue tracking efficiency of whitegoods sold and consumer attitudes<br>> Continue compliance surveys | > Expand tracking to cover gas products<br>> 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; and
- 10-year product strategies, including the National Standby Strategy, Greenlight Australia and a range of others.

The standard Equipment Energy Efficiency programme 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 programme for electrical and gas products, and any other product-types regulated, will continue to be implemented through the existing Equipment Energy Efficiency programme 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.

# APPENDIX 5

## EQUIPMENT ENERGY EFFICIENCY WORKPLAN 2005/06

| TYPE OF POLICY TOOL | DETAIL |
|---|---|
| 2005-06 | |
| **Regulatory** | > Implement the second round of MEPS for:<br>> Electric motors<br>> Small electric storage water heaters<br>> Single phase air conditioners |
| | > Implement the first round of MEPS for:<br>> Electric vented storage and electric heat exchange water heaters<br>> 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:<br>> *Greenlight Australia*<br>> *Switch on Gas* |
| | > Develop 10-year strategies for:<br>> Hot water systems<br>> Building HVAC<br>> DSM in the home<br>> Electric motor systems in the industrial sector, including<br>> Fans and pumps<br>> Industrial measurement and data collection<br>> Swimming pool equipment<br>> Commercial catering equipment* |
| | > Review fluorescent lamp (linear) high efficiency level |
| | > Complete air conditioning programme |
| | > Complete commercial refrigeration programme |
| | > Investigate second-hand products |

# APPENDIX 6

## LIST OF COMMON PRODUCTS WITH NEW ZEALAND (COVERED BY 2010)
## Equipment Energy Efficiency programme

| | | | 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 | ✓ | HE | ✓ | ✓ |
| | 11 | Set-top boxes | ✓ | HE | ✓ | ✓ |
| | 12<br>13<br>14<br>15 | Other home entertainment<br>- DVDs<br>- Home theatre<br>- New technologies | ✓ | HE | ✓ | ✓ |
| | **Heating and cooling** | | | | | |
| | 16 | Air conditioners (single phase) | ✓ | ML | ✓ | ✓ |
| | 17 | Heat pumps (single phase)<br>- Heating mode of household ACs | | | ✓ | ✓ |
| | 18 | Dehumidifiers | | | ✓ | ✓ |
| | 19 | Ceiling fans | | | ✓ | ✓ |
| | 20 | Electric Storage water heaters | ✓ | | ✓ | ✓ |
| | 21 | Electric space heaters | | | ✓ | ✓ |
| | **Other products** | | | | | |
| | 22 | Swimming pool equipment | ✓ | | | ✓ |
| | 23 | Breadmakers | | | ✓ | ✓ |
| | 24 | Coffee machines | | | ✓ | ✓ |
| | 25 | Smoke alarms | | | ✓ | ✓ |
| | 26 | Motion detectors | | | ✓ | ✓ |
| | 27 | Rollerdoors | | | ✓ | ✓ |
| | 28 | Security systems | | | ✓ | ✓ |

| | | MEASURE | | | |
|---|---|---|---|---|---|
| LOCATION | PRODUCT | MEPS | LABELLING | STANDBY | ENERGY ALLSTARS |
| OFFICE | **Heating and cooling** | | | | |
| | Air conditioners (packaged – 3 phase) | ✓ | HE | ✓ | ✓ |
| | Heat pumps (3 phase)<br>Heating mode of business AC | | | ✓ | ✓ |
| | 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 | | ✓ |
| | 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 | | |
| | Vending machines | | HE | | |

| | | MEASURE | | | |
|---|---|---|---|---|---|
| LOCATION | PRODUCT | MEPS | LABELLING | STANDBY | ENERGY ALLSTARS |
| FACTORY | **INDUSTRIAL** | | | | |
| | Electricity distribution transformers | ✓ | LE/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, ML – mandatory label, HE – high efficiency voluntary label, LE – low efficiency label mandatory label*

# APPENDIX 7

## EQUIPMENT ENERGY EFFICIENCY COMMITTEE-GAS
## Member Organisations

Australian Greenhouse Office, Department of the Environment and Heritage
Department of Industry, Tourism and Resources
NSW Department of Energy, Utilities and Sustainability
Energy Safe Victoria
Sustainability Victoria
Electrical Safety Office, Queensland Department of Industrial Relations
Queensland Department of 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
Tasmanian Office of Energy Planning and Conservation, Department of Infrastructure, Energy and Resources
ACT Office of Sustainability
Northern Territory Department of Planning and Infrastructure
New Zealand Energy Efficiency and Conservation Authority
New Zealand Ministry of Environment

# APPENDIX 8

## TESAW STAR RATED APPLIANCES IN 2005
## Equipment Energy Efficiency programme

TESAW WINNERS AS AT JAN 2006

| Air conditioner | Brand | Model | Type | Cool kW | Cool Stars | Heat kW | Heat Stars |
|---|---|---|---|---|---|---|---|
| | ACTRON AIR | SRA17 | Reverse Cycle | 16.23 | 4 | 17.28 | 5 |
| | ACTRON AIR | SRA17C/SRA17E | Reverse Cycle | 16.80 | 4 | 17.89 | 5 |
| | AIRWELL | WMZL7STA / GCZL7ST | Cooling Only | 2.05 | 4 | | |
| | AIRWELL | XLLDCI9RCA / GCLDCI9RC | Reverse Cycle | 2.50 | 6 | 3.50 | 6 |
| | AIRWELL | XLLDCI9RCB/ GCLDCI9RC | Reverse Cycle | 2.50 | 6 | 3.50 | 6 |
| | AIRWELL | WMZLDCI9RC / GCZLDCI9RC | Reverse Cycle | 2.50 | 5 | 2.80 | 4 |
| | AIRWELL | WMZL9STA / GCZL9ST | Cooling Only | 2.64 | 4 | | |
| | AIRWELL | EDS30H / EWS30H | Reverse Cycle | 2.70 | 4 | 3.40 | 5 |
| | AIRWELL | XLL9RCA / GCL9RC | Reverse Cycle | 2.80 | 5 | 2.95 | 4.5 |
| | AIRWELL | XLL9STA / GCL9ST | Cooling Only | 2.80 | 5 | | |
| | AIRWELL | WMZLDCI12RC / GCZLDCI12RC | Reverse Cycle | 3.5 | 5 | 3.60 | 4 |
| | AIRWELL | KLDCI12RCA / GCLDCI12RC | Reverse Cycle | 3.60 | 6 | 4.60 | 5 |
| | AIRWELL | XLLDCI12RCA / GCLDCI12RC | Reverse Cycle | 3.60 | 6 | 4.50 | 5.5 |
| | AIRWELL | XLLDCI12RCB/ GCLDCI12RC | Reverse Cycle | 3.60 | 6 | 4.50 | 5.5 |
| | AIRWELL | XLL12RCA / GCL12RC | Reverse Cycle | 3.65 | 4.5 | 4.00 | 4.5 |
| | AIRWELL | XLL12STA / GCL12ST | Cooling Only | 3.65 | 4.5 | | |
| | AIRWELL | KL12RCA / GCL12RC | Reverse Cycle | 3.80 | 4.5 | 3.90 | 4.5 |
| | AIRWELL | EDS40H / EWS40H | Reverse Cycle | 3.85 | 5 | 4.80 | 6 |
| | AIRWELL | KL16RCA / GCL16RC | Reverse Cycle | 4.60 | 4.5 | 4.70 | 5 |
| | AIRWELL | KL18RCA / GCL18RC | Reverse Cycle | 5.50 | 4 | 5.90 | 4 |
| | AIRWELL | KLDCI18RCA / GCLDCI18RC | Reverse Cycle | 5.00 | 5 | 6.40 | 5 |
| | AIRWELL | WMZLDCI17RC / GCZLDCI17RC | Reverse Cycle | 5.00 | 4.5 | 5.30 | 4 |
| | AIRWELL | XLL18STA / GCL18ST | Cooling Only | 5.35 | 4 | | |
| | AIRWELL | SXLDCI18RCA / GCLDCI18RC | Reverse Cycle | 5.0 | 4 | 5.8 | 4 |
| | AIRWELL | XLLDCI18RC / GCLDCI18RC | Reverse Cycle | 5.0 | 5 | 6.0 | 4.5 |
| | AIRWELL | XLL18RCA / GCL18RCA | Reverse Cycle | 5.35 | 4.5 | 5.55 | 4 |
| | AIRWELL | XLL18STA / GCL18STA | Cooling Only | 5.35 | 4.5 | | |
| | AIRWELL | EDS60H / EWS60H | Reverse Cycle | 5.40 | 5 | 6.50 | 4.5 |
| | AIRWELL | SXL18RC / GCL18RCA | Reverse Cycle | 5.5 | 4 | 5.75 | 4 |
| | AIRWELL | KL18RCA / GCL18RCA | Reverse Cycle | 5.50 | 4.5 | 5.75 | 5 |
| | DAIKIN | FTKS25D / RKS25D | Cooling Only | 2.50 | 6 | | |
| | DAIKIN | FTXG25C / RXG25C | Reverse Cycle | 2.50 | 6 | 3.40 | 6 |
| | DAIKIN | FTXS25B / RXS25B | Reverse Cycle | 2.50 | 6 | 3.40 | 5. |

| Air conditioner | Brand | Model | Type | Cool kW | Cool Stars | Heat kW | Heat Stars |
|---|---|---|---|---|---|---|---|
| | DAIKIN | FTXS25D / RXS25D | Reverse Cycle | 2.50 | 6 | 3.40 | 5.5 |
| | DAIKIN | FTKD25D / RKD25D | Cooling Only | 2.50 | 5.5 | | |
| | DAIKIN | FTXD25D / RXD25D | Reverse Cycle | 2.50 | 5.5 | 3.40 | 4.5 |
| | DAIKIN | FTXD60B / RXD60B | Reverse Cycle | 6.20 | 4 | 7.20 | 4.5 |
| | DAIKIN | FVXS35B / RXS35B | Reverse Cycle | 3.50 | 4 | 4.50 | 5 |
| | DAIKIN | FTXG35C / RXG35C | Reverse Cycle | 3.50 | 5 | 4.20 | 5.5 |
| | DAIKIN | FTXS35B / RXS35B | Reverse Cycle | 3.50 | 4 | 4.20 | 4.5 |
| | DAIKIN | FVXS35B / RXS35B | Reverse Cycle | 3.50 | 4 | 4.50 | 5 |
| | DAIKIN | FTXD35D / RXD35D | Reverse Cycle | 3.50 | 4.5 | 4.20 | 4 |
| | DAIKIN | FTKD35D / RKD35D | Cooling Only | 3.50 | 4.5 | | |
| | DAIKIN | FTXS35D / RXS35D | Reverse Cycle | 3.50 | 4.5 | 4.20 | 4.5 |
| | DAIKIN | FTKS35D / RKS35D | Cooling Only | 3.50 | 4.5 | | |
| | DAIKIN | FLK50A / RKD50B | Cooling Only | 4.70 | 5 | | |
| | DAIKIN | FLX50A / RXD50B | Reverse Cycle | 4.70 | 5 | 6.10 | 4.5 |
| | DAIKIN | FTKS50B / RKS50B | Cooling Only | 5.00 | 4 | | |
| | DAIKIN | FTKS50B / RKS50B | Cooling Only | 5.00 | 4 | | |
| | DAIKIN | FTXS50B / RXS50B | Reverse Cycle | 5.00 | 4 | 5.80 | 4.5 |
| | DAIKIN | ATXD50C | Reverse Cycle | 5.20 | 5 | 6.50 | 5 |
| | DAIKIN | FTKD50B / RKD50B | Cooling Only | 5.20 | 5 | | |
| | DAIKIN | FTXD50B / RXD50B | Reverse Cycle | 5.2 | 5 | 6.50 | 5 |
| | DAIKIN | FTXD50B / RXD50B | Reverse Cycle | 5.2 | 5 | 6.50 | 5 |
| | DAIKIN | FT50C***/ R50C*** | Cooling Only | 5.30 | 5 | | |
| | DAIKIN | ATXD60C | Reverse Cycle | 6.20 | 4 | 7.20 | 4.5 |
| | DAIKIN | FTKD60B / RKD60B | Cooling Only | 6.20 | 4 | | |
| | DAIKIN | FTXD60B / RXD60B | Reverse Cycle | 6.20 | 4 | 7.20 | 4.5 |
| | ELECTROLUX-KELVINATOR | ESE09CRA | Cooling Only | 2.80 | 4.5 | | |
| | ELECTROLUX-KELVINATOR | ESE12CRA | Cooling Only | 3.20 | 4 | | |
| | ELECTROLUX-KELVINATOR | ESU12HRCA | Reverse Cycle | 3.30 | 4 | 3.80 | 4 |
| | FUJITSU | AST9LSBCW | Reverse Cycle | 2.60 | 6 | 3.60 | 6 |
| | FUJITSU | AST12LSBCW | Reverse Cycle | 3.50 | 6 | 4.80 | 6 |
| | FUJITSU | AST14USACW/AOT14USAC | Reverse Cycle | 4.30 | 4 | 4.80 | 5.5 |
| | FUJITSU | ABT18LBAJ | Reverse Cycle | 5.20 | 4.5 | 6.20 | 4 |
| | FUJITSU | AUT30LUAS | Reverse Cycle | 8.50 | 4 | 10.00 | 5 |

| Air conditioner | Brand | Model | Type | Cool kW | Cool Stars | Heat kW | Heat Stars |
|---|---|---|---|---|---|---|---|
| | FUJITSU | ART45LUAK | Reverse Cycle | 12.50 | 4 | 14.00 | 5.5 |
| | FUJITSU | ART45LUAK | Reverse Cycle | 12.50 | 4 | 14.00 | 5.5 |
| | HAIER | Indoor: AS182AVERA; Outdoor: AU182AFERA | Reverse Cycle | 5.1 | 4 | 6.0 | 4.5 |
| | LG | LSR092V-4H | Reverse Cycle | 2.64 | 5.5 | 3.30 | 4 |
| | LG | LSZ092VM-4 | Reverse Cycle | 2.64 | 5 | 3.17 | 4 |
| | LG | LSZ092VM-5 | Reverse Cycle | 2.64 | 6 | 3.17 | 4 |
| | LG | LSZ092M-4 | Reverse Cycle | 2.80 | 4 | 2.90 | 4 |
| | LG | LSZ092M-5 | Reverse Cycle | 2.80 | 4 | 2.90 | 4 |
| | LG | S12AHN | Reverse Cycle | 3.52 | 6 | 4.04 | 4.5 |
| | LG | LWM155RH-5 | Reverse Cycle | 4.20 | 4 | 4.00 | 4 |
| | LG | LWM155RC-5 | Cooling Only | 4.30 | 4 | | |
| | LG | LWM185RH-5 | Reverse Cycle | 4.50 | 4 | 4.20 | 4 |
| | LG | LWM185RC-5 | Cooling Only | 4.70 | 4.5 | | |
| | LG | S18AHN | Reverse Cycle | 5.28 | 5.5 | 6.07 | 4 |
| | MIDEA | MSC-09HRDN1 | Reverse Cycle | 2.60 | 5 | 2.60 | 4 |
| | MIDEA | MSC-09HRN1 | Reverse Cycle | 2.65 | 5 | 2.90 | 4.5 |
| | MIDEA | MSE-09CR | Cooling Only | 2.74 | 4.5 | | |
| | MIDEA | MSC-12HRN1 | Reverse Cycle | 3.30 | 4.5 | 3.50 | 4.5 |
| | MIDEA | MSC-12HRDN1 | Reverse Cycle | 3.35 | 5 | 4.00 | 4.5 |
| | MITSUBISHI ELECTRIC | MSZ-FA25VA / MUZ-FA25VA | Reverse Cycle | 2.50 | 6 | 3.20 | 6 |
| | MITSUBISHI ELECTRIC | MSZ-FA35VA / MUZ-FA35VA | Reverse Cycle | 3.50 | 6 | 4.0 | 6 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK25ZDA-S | Reverse Cycle | 2.50 | 6 | 3.40 | 5 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK25ZDXA-S | Reverse Cycle | 2.50 | 6 | 3.00 | 6 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK28HCA-S | Reverse Cycle | 2.55 | 4.5 | 2.80 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK35ZDXA-S | Reverse Cycle | 3.50 | 6 | 4.20 | 6 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK35ZDA-S | Reverse Cycle | 3.50 | 5 | 4.50 | 4.5 |

| Air conditioner | Brand | Model | Type | Cool kW | Cool Stars | Heat kW | Heat Stars |
|---|---|---|---|---|---|---|---|
| | MITSUBISHI HEAVY INDUSTRIES | SRK40HCA-S | Reverse Cycle | 3.60 | 4.5 | 4.00 | 4 |
| | MITSUBISHI HEAVY INDUSTRIES | FDENVA151HEN | Reverse Cycle | 3.80 | 4.5 | 4.50 | 4.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDTVA151HEN | Reverse Cycle | 4.00 | 5 | 4.50 | 5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDTCVA151HEN | Reverse Cycle | 4.0 | 5.5 | 4.5 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDTVA201HEN | Reverse Cycle | 5.00 | 5.5 | 5.40 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDENVA201HEN | Reverse Cycle | 5.00 | 5 | 5.40 | 5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDTCVA201HEN | Reverse Cycle | 5.0 | 4.5 | 5.4 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDURVA201HEN | Reverse Cycle | 5.00 | 4 | 5.4 | 4.5 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK56HEA-S | Reverse Cycle | 5.10 | 4 | 5.85 | 4.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDTVA251HEN | Reverse Cycle | 5.60 | 5.5 | 6.70 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDURVA251HEN | Reverse Cycle | 5.60 | 4 | 6.4 | 5.5 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK63ZEA-S | Reverse Cycle | 6.30 | 5 | 7.10 | 5 |
| | MITSUBISHI HEAVY INDUSTRIES | SRK71ZEA-S | Reverse Cycle | 7.10 | 4.5 | 8.00 | 4.5 |
| | MITSUBISHI HEAVY INDUSTRIES | FDENA401HEN | Reverse Cycle | 10.00 | 4 | 11.20 | 4.5 |
| | PANASONIC | - | Reverse Cycle | 4.15 | 4.5 | 5.17 | 4 |
| | PANASONIC | - | Reverse Cycle | 5.80 | 4 | 6.80 | 4 |
| | SAMSUNG | AS09BPAN/AS09BPAX | Reverse Cycle | 2.50 | 6 | 3.50 | 5 |
| | SAMSUNG | SH09BPH | Reverse Cycle | 2.80 | 4.5 | 3.30 | 4 |
| | SAMSUNG | SH12BPH | Reverse Cycle | 3.50 | 5 | 4.00 | 4.5 |
| | SAMSUNG | AS12BPAN/AS12BPAX | Reverse Cycle | 3.50 | 5 | 4.00 | 4 |

| **Air conditioner** | **Brand** | **Model** | **Type** | **Cool kW** | **Cool Stars** | **Heat kW** | **Heat Stars** |
|---|---|---|---|---|---|---|---|
| | SANYO | SAP-KCRV93GJ | Cooling Only | 2.65 | 5.5 | | |
| | SANYO | SAP-KCRV93GJH | Reverse Cycle | 2.65 | 5.5 | 3.60 | 4.5 |
| | SANYO | SAP-KCRV123GJ | Cooling Only | 3.50 | 4.5 | | |
| | SANYO | SAP-KCRV123GJH | Reverse Cycle | 3.50 | 4.5 | 4.20 | 4.5 |
| | TOSHIBA | RAS-10NKP-AS/RAS-10NA-AS | Cooling Only | 2.73 | 4.5 | | |
| | TOSHIBA | RAS-10NKHP-AS/RAS-10NAH-AS | Reverse Cycle | 2.73 | 4.5 | 2.96 | 4.5 |
| | TOSHIBA | RAS-13NKHP-AS/RAS-13NAH-AS | Reverse Cycle | 3.82 | 4.5 | 4.40 | 4.5 |
| | TOSHIBA | RAS-13NKP-AS/RAS-13NA-AS | Cooling Only | 3.95 | 4.5 | | |
| | TOSHIBA | RAV-SM562KRT-E/RAV-SP562AT-E | Reverse Cycle | 5.0 | 5 | 5.60 | 4.5 |
| | YORK | MVHC09DSGJAA | Reverse Cycle | 2.60 | 5 | 2.60 | 4 |
| | YORK | MAHC09FSGJAA | Reverse Cycle | 2.65 | 5 | 2.90 | 4.5 |
| | YORK | MAHC12FSGJAA | Reverse Cycle | 3.30 | 4.5 | 3.50 | 4.5 |
| | YORK | MVHC12DSGJAA | Reverse Cycle | 3.35 | 5 | 4.00 | 4.5 |
| **Clothes dryer** | **Brand** | **Model** | | **Load Kg** | **Star** | | |
| | KLEENMAID | KED500 | | 6.5 | 3 | | |
| | MIELE | WT945 (combination washer/ dryer) | | 2.5 | 4.5 | | |
| **Clothes washer** | **Brand** | **Model** | | **Load Kg** | **Star** | | |
| | AEG | W1450 | | 6 | 4.5 | | |
| | ASKO | W6441 | | 6 | 4.5 | | |
| | ASKO | W6761 | | 6 | 4.5 | | |
| | LG | WD-1025FB | | 7.5 | 4.5 | | |
| | LG | WD-1470FD | | 7 | 4.5 | | |
| | MIELE | W 310 | | 5.5 | 4.5 | | |
| | MIELE | W487 | | 5.5 | 4.5 | | |
| | MIELE | W1926 | | 6 | 4.5 | | |
| | MIELE | W1986 | | 6.5 | 4.5 | | |
| | OMEGA | PROCW1 | | 5.5 | 4.5 | | |
| | SAMSUNG | P1203J | | 6 | 4.5 | | |
| | SAMSUNG | P1003J | | 6 | 4.5 | | |
| | KLEENMAID | KFL1600 | | 6.5 | 5 | | |
| | KLEENMAID | KFL850 | | 6.5 | 4.5 | | |
| | LG | WD-1481RD | | 8 | 4.5 | | |
| | LG | WD-1485RD | | 8 | 4.5 | | |

| **Clothes washer** | **Brand** | **Model** | | **Load Kg** | **Star** |
|---|---|---|---|---|---|
| | MIELE | W502 | | 5.5 | 4.5 |
| | SAMSUNG | P1003J | | 6 | 4.5 |
| **Dishwasher** | **Brand** | **Model** | | **Places** | **Star** |
| | ASKO | D3250 | | 14 | 4 |
| | ASKO | D3350, D3530, D3630 | | 14 | 4 |
| | ASKO | D3330 | | 14 | 4 |
| | ASKO | DW 20.2 | | 14 | 4 |
| | ASKO | DW20.3 | | 14 | 4 |
| | DE DIETRICH | DVI460XZ1 | | 13 | 4 |
| | DISHLEX | DX | | 12 | 3.5 |
| | DISHLEX | DX | | 12 | 3.5 |
| | ELECTROLUX | EX | | 12 | 3.5 |
| | ELECTROLUX | EX302WB | | 12 | 3.5 |
| | ELECTROLUX | EX500/600 | | 12 | 3.5 |
| | ELECTROLUX | EX500/600 | | 12 | 3.5 |
| | KLEENMAID | DW25* & DW26* | | 13 | 4 |
| | LG | LD-4050W | | 14 | 3.5 |
| | LG | LD-14AT2 | | 14 | 3.5 |
| | LG | LD-14AT3 | | 14 | 3.5 |
| | LG | LD-14AW2 | | 14 | 3.5 |
| | LG | LD-14AW3 | | 14 | 3.5 |
| | LG | LD-4053W | | 14 | 3.5 |
| | LG | LD-4080W/LD-4080T | | 14 | 3.5 |
| | LG | LD-4120M | | 14 | 3.5 |
| | LG | OPAL LD-4163T, OPAL LD-4163M, OPAL LD-4152M | | 14 | 3.5 |
| | MIELE | G896 SCi PLUS-3 | | 14 | 3.5 |
| | MIELE | G898 SCi PLUS-3 | | 14 | 3.5 |
| | OMEGA | DW2003-1 | | 14 | 3.5 |
| | SMEG | SA614 | | 14 | 3.5 |
| | SMEG | SA614-1 | | 14 | 3.5 |
| | SMEG | SA626 | | 14 | 3.5 |
| | SMEG | ST693-1 | | 14 | 3.5 |

| **Electric water heater** | **Brand** | **Model** | | **Litres** | **Heat Loss kWh/day** |
|---|---|---|---|---|---|
| | AQUAMAX | E50S | | 50 | 1.5 |
| | AQUAMAX | E80S, 1.8kW, 2.4kW, 3.6kW | | 80 | 1.2 |
| | AQUAMAX | E125S, 2.4kW/ 3.6kW/ 4.8kW | | 125 | 1.5 |
| | AQUAMAX | E160S, 2.4kW/ 3.6kW/ 4.8kW | | 160 | 1.7 |
| | AQUAMAX | E160T, 2.4kW/ 3.6kW/ 4.8kW | | 160 | 1.7 |
| | AQUAMAX | E160 | | 160 | 1.8 |
| | AQUAMAX | E250 | | 250 | 2.2 |
| | AQUAMAX | E315 | | 315 | 2.6 |
| **Refrigerator** | **Brand** | **Model** | **Group** | **Volume** | **Stars** |
| | BAUMATIC | BAR57401 | 5T | 574 | 4.5 |
| | LIEBHERR | KIPve2840 | 1 | 267 | 6 |
| | LIEBHERR | BNes2966 | 5B | 296 | 4 |
| | LIEBHERR | KP4260 | 1 | 405 | 6 |
| | LIEBHERR | Kes 4260 | 1 | 407 | 6 |
| | SAMSUNG | SR-21NME | 5T | 210 | 4 |
| | SAMSUNG | SR210NME | 5T | 210 | 4 |
| | SAMSUNG | SR228NME | 5T | 228 | 4 |
| | SAMSUNG | SR-24NME | 5T | 228 | 4 |
| | WHIRLPOOL | 6WBM12MV | 2 | 118 | 3 |
| | WHIRLPOOL | 6WMV35** | 5T | 350 | 4.5 |
| **Freezer** | **Brand** | **Model** | **Group** | **Volume** | **Stars** |
| | LIEBHERR | GIP1923 | 6U | 179 | 5 |
| | LIEBHERR | GNP3356 | 7 | 357 | 5 |
| | LG | GC-154GQW | 6U | 110 | 5 |
| | LG | GC-154SQA | 6U | 110 | 5 |
| | LG | GC-154SQW | 6U | 110 | 5 |
| | LIEBHERR | GNP3376 | 7 | 357 | 5 |
| | MIELE | F456i-2 | 6U | 183 | 5.5 |

# APPENDIX 9

## PUBLICATIONS RELEASED DURING 2005
## Equipment Energy Efficiency programme

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

| Number or Date of Publication | Title |
|---|---|
| 2005-01 | NAEEEP - Joint work plan and policies for the triennium 05/06- 07/08 |
| 2005-02 | Greenlight Australia - Work Plan for the Triennium 2005/06 to 2007/08 |
| 2005-03 | Comparison of International MEPS: Room Air conditioners |
| 2005-04 | Regulatory Impact Statement - Proposal to Increase MEPS for Room Air conditioners |
| 2005-05 | When You Keep Measuring It, You Know Even More About It! NAEEEP: Projected Impacts 2005-2020 Summary |
| 2005-06 | Achievements 2004 |
| 2005-07/08 | Energy Rating Labelling Programme Audit (Whitegoods and Air conditioners) |
| 2005-09 | Status of Air Conditioners in Australia |
| 2005-10 | Switch on Gas - Work Plan 2005/06 - 2007/08 |
| 2005-11 | MEPS Profile - Beverage Vending Machines |
| 2005-12 | MEPS Profile - Compact Fluorescent Lamps |
| 2005-13 | MEPS Profile - Halogen Lighting Transformers |
| 2005-14 | Appliance Standby Power Consumption - Store Survey 2004/2005 - Interim Report |
| 2005-15 | Appliance Standby Power Consumption - Store Survey 2004/2005 - Final Report |
| 2005-16 | Proposal to increase MEPS for Room Air Conditioners and harmonise MEPS for single and three-phase units |
| 2005-17 | Energy Allstars Product Database - Proposed Use in Government Procurement |
| 2005-18 | MEPS Profile - Design Energy Limits for Main Road Lighting |
| 2005-19 | Guide to Preparing Regulatory Impact Statements for the Appliance and Equipment Energy Efficiency Programme (NAEEEP) |
| 2005-20 | Climate Control - Heating, Ventilation, Air conditioning and Efficiency |
| 2005-21 | Towards a National Hot Water Strategy |
| 2005-22 | Standby Energy Consumption - Australian Local Government Buildings (Report 2005/22) |
| MEPS | Letter from the NAEEEC Chair - Notice of increased MEPS for single phase air conditioners from 1 April 2006 |
| Tech Report | Air Conditioner Algorithm Working Group Discussion Paper |
| Tech Report | Method for the Determination of Rinse Performance in Clothes Washers |
| Tech Report | Electrical Peak Load Analysis Victoria 1999 - 2003 |
| Policy Paper | Government Position on the Inclusion of Standby into the Energy Labels for Clothes Washers, Clothes Dryers & Dishwashers |