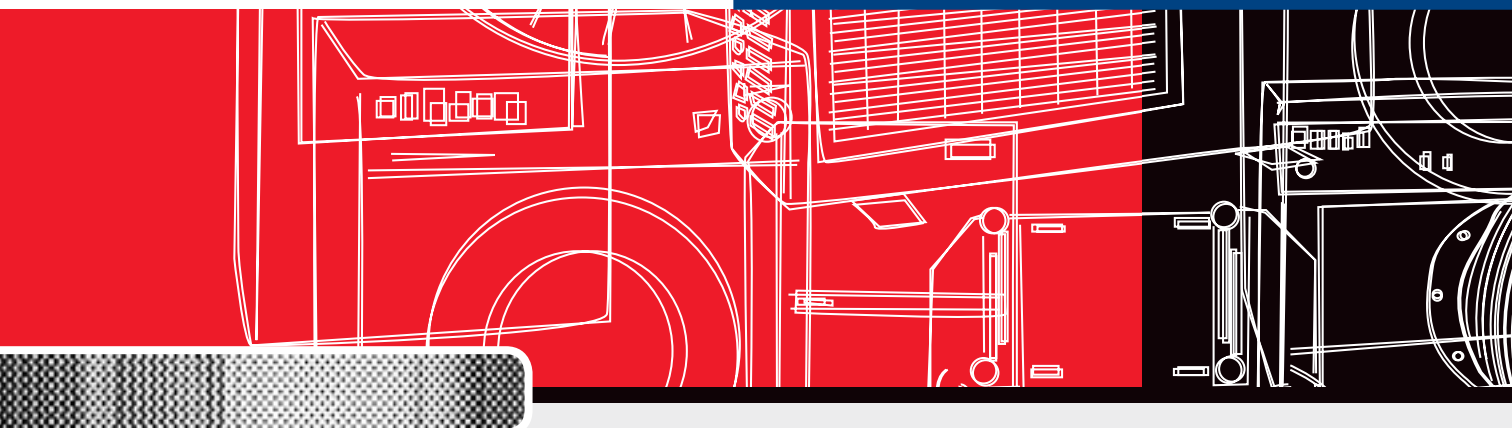


*NATIONAL APPLIANCE AND EQUIPMENT
ENERGY EFFICIENCY PROGRAM*

ACHIEVEMENTS 2004



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

April 2005

ACHIEVEMENTS 2004

Achievements 2004 is the annual report of the National Appliance and Equipment Energy Efficiency Program. It reports on the progress made in the calendar year 2004 against the goals set for the program by the Ministerial Council on Energy. More information about the program, which commenced nationally in Australia in 1992, can be found at www.energyrating.gov.au

This is the fifth annual report on the program since it was substantially upgraded in 1998.



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Achievements are available at www.energyrating.gov.au

April 2005

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and Environment

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BACKGROUND

THE NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY PROGRAM

The National Appliance and Equipment Energy Efficiency Program (NAEEEP) is a collection of coordinated end-use energy efficiency programs that deliver economic and environmental benefits to the community. It focuses on programs that require a nationally consistent framework to improve energy efficiency and reduce greenhouse emissions from household appliances and equipment, and commercial and industrial equipment.

The main tools used to achieve these outcomes are mandatory minimum energy performance standards, energy efficiency labelling enforced by law and voluntary measures including endorsement labelling, training and support to promote the best available products.

THE NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY COMMITTEE

The National Appliance and Equipment Energy Efficiency Committee (NAEEEC), which oversees the implementation of the NAEEEP, consists of officials from Commonwealth, State and Territory government agencies as well as representatives of the New Zealand government. The committee reports to other government committees and is ultimately responsible to the Ministerial Council on Energy comprising ministers responsible for energy from all jurisdictions.

The NAEEEC charter provides the terms of reference for the committee and is available at www.energyrating.gov.au under "NAEEEC". The member organisations of the committee are listed at the front of this report.

COST EFFECTIVE ABATEMENT

Australian governments have agreed that the energy efficiency of appliances and equipment must improve at rates well beyond what the market has traditionally delivered. NAEEEP, a market intervention program consisting of a combination of minimum energy performance standards (MEPS) and mandatory energy efficiency (star rating) labelling, has proved extremely cost-effective in reducing energy demand and greenhouse gas emissions produced by consumer appliances and commercial and industrial equipment.

Just how effective this approach has been can be seen from a comparison of recent studies estimating the impact of the program. In 2000, independent technical experts estimated that the cumulative greenhouse abatement to be achieved by NAEEEP over the next 15 years would be about 82 million tonnes of carbon dioxide equivalent (mtCO₂e) below business-as-usual. In 2002, the same experts projected that the expanded program would deliver greenhouse abatement of 134 mtCO₂e below business-as-usual. According to the most recent estimates (January 2005), NAEEEP is projected to save almost 204 mtCO₂e below business-as-usual between 2005 and 2020.

Not only is the level of greenhouse gas emissions being saved by NAEEEP significant, the fact that these savings are being achieved at a net present value of minus \$23/tonne of CO₂e, is equally impressive. In other words, over time consumers actually save money by buying the more efficient products mandated under the program. 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 program will save consumers about \$4.8 billion by 2020 as a result of reduced energy costs in using these products.

The fact that NAEEEP benefits the community both environmentally and economically and has been recognised by the Ministerial Council on Energy.

A CHANGING WORLD

In December 2004, the Ministerial Council on Energy agreed to implement stage one of the National Framework on Energy Efficiency (NFEE). An expanded NAEEEP is an important component of the National Framework which aims to address the challenges relating to energy efficiency and unlock the significant potential economic, social and environmental benefits of increased investment in this area.

One of the key initiatives of both NFEE and NAEEEP is government investment in developing and implementing long-term strategies for various sectors. These strategies have been welcomed by industry as they clearly indicate the government's forward regulatory agenda, increase market certainty and assist industry in its business planning processes. The 10-year standby power strategy, Money isn't all you're saving, has been joined by two new long-term strategies published in December 2004:

- *Greenlight Australia*, and
- *Switch on Gas*.

Together these strategies are expected to save the economy more than half a billion dollars and seven million tonnes of greenhouse emissions in 2015.

PROGRAM BREAK-DOWN

The expanded work program NAEEEP approved by Ministerial Committee on Energy covers the household, commercial and industrial sectors. The new work program for 2005/06 to 2007/08 is projected to impact across a range of end-use product groups:

- household appliances (25% of projected savings)
- standby power (24%)
- lighting (12%)
- electricity distribution transformers (10%)
- air conditioners (9%)
- commercial refrigeration (8%)
- water heaters (7%), and
- electric motors (5%).

NAEEEC MEMBERS ARE ALSO STAKEHOLDERS IN THE PROGRAM

Each year, NAEEEEC acknowledges the crucial contribution of stakeholders in helping to drive improvements in the energy efficiency of appliances and equipment sold in Australia and New Zealand. While it is not possible to recognise all those who participate in and assist the program, NAEEEEC identifies those whose special role or service has been instrumental in achieving energy efficiency improvements and greenhouse abatement. Past individuals singled out for special mention have included industry leaders, Standards Australia staff, technical experts from testing facilities and energy efficiency consultants.

This year NAEEEEC would like to recognise the contribution of several retiring members of the committee:

- Dr Tony Marker has chaired NAEEEEC since its expansion in 1998 and has been the catalyst for extending the program beyond an appliance labelling scheme. He has been the public face of the program for almost seven years, championing end-use energy efficiency issues.
- Alan Faulks, Ian George and Brian King from the Queensland, Western Australian and South Australian regulatory agencies have given even longer service in this field, participating on Standards Australia committees and advising the Ministerial Council on Energy on all aspects of the committee's work.

NAEEEC will continue the work that these government officials started in the 1990s, under the expanded mandate of the Ministerial Council on Energy. The new and remaining members of NAEEEEC would like to express their appreciation for the contribution made by these and numerous other colleagues who have served on the committee.



MAJOR ACHIEVEMENTS

The year was consumed by refreshing and expanding the Ministerial Council on Energy mandate for the program while also delivering on agreed product regulation.

Since the 1998 National Greenhouse Strategy, the Ministerial Council on Energy and other councils that preceded it have called for an expanded program. This year marks the culmination of this vision, with the Ministerial Council on Energy taking key policy decisions as part of the National Framework on Energy that will allow for expansion of the program in all areas including the:

- range of products to be regulated
- types of products (for example, the program will be expanded to include gas appliances for the first time), and
- range of policy tools (for example, long-term strategic plans).

JOINT WORK PLAN FOR AUSTRALIA AND NEW ZEALAND

One reason NAEEEP is so successful is that stakeholders are notified of products that are likely to be regulated under the program long before they are actually regulated. NAEEEEC signals its forward agenda by releasing regular three-year rolling work plans that identify the products that are being targeted under the program. The past two published programs, 1999–01 and 2002–04, carried the first announcements of many of the products regulated today.

In 2004, Australian and New Zealand officials agreed to a common list of products to be targeted under a joint trans-Tasman program. This outcome marks a watershed in the expansion of Australia's program.

The list of products expected to be included under the program by 2010 appears in Appendix 1. It provides stakeholders with advance notice of products that are likely to be regulated and included on Energy Allstars, the national database highlighting the most energy efficient products, over the next five years. NAEEEEC's work plan for 2005–06 to 2007–08 provides details of the joint work plan expected

to be released at the NAEEEEC Autumn Forum in 2005. This three-year work plan has moved to cover financial years to better reflect funding cycles and priorities.

The agreement to completely harmonise regulatory plans in both Australia and New Zealand has a number of benefits for all stakeholders. Suppliers will have to meet the same regulatory standards in both countries allowing economies of scale in local production and easier compliance requirements. Consumers will not be confused by differing regulatory and labelling arrangements, and energy efficiency regulators can concentrate on delivering common regulatory proposals rather than being distracted by justifying differing standards for products sold in both countries. The agreement to a common end-use energy efficiency work program is in line with the closer economic relations doctrine adopted by both countries.

The New Zealand Government has signalled it will consider sharing costs with the Australian program in future. For the last two financial years, the New Zealand Energy Efficiency and Conservation Authority has contributed to verification testing costs to both expand and share results from the work of Australian jurisdictions.



LAUNCH OF GAS AND LIGHTING STRATEGIES

New measures to improve the energy efficiency of lighting and gas products were announced by the Ministerial Council on Energy in December 2004 and are expected to save Australians well over half a billion dollars a year within a decade. These measures are part of two new long-term strategies, *Greenlight Australia* and *Switch on Gas*, and will also significantly reduce greenhouse gas emissions.

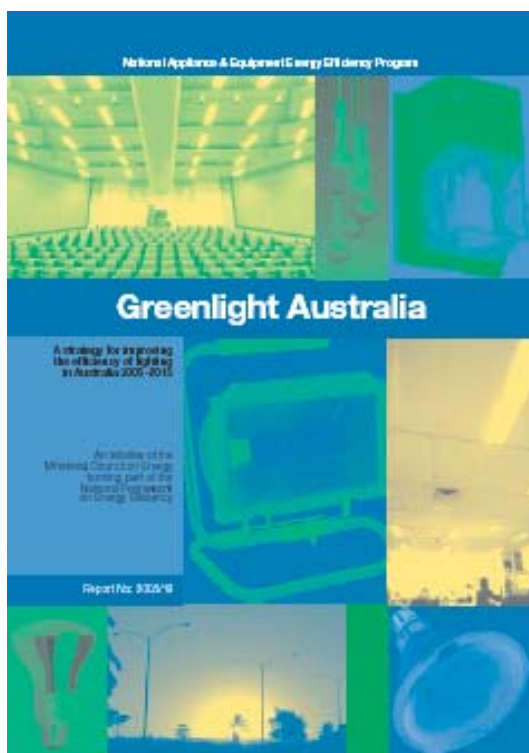
Lighting costs the Australian community well over \$2 billion in electricity each year, and natural gas currently supplies about 30% of total household energy.

Increasing the energy efficiency of lighting by 20% and gas products by more than 5% will save households and businesses about \$600 million a year in energy costs by 2015. It will also help meet growing community demand for world-class, energy efficient products.

Lighting generates about 25 million tonnes of greenhouse gas emissions each year and is responsible for about one-third of the greenhouse emissions from the commercial sector. Improving the energy efficiency of lighting makes good economic and environmental sense.

Together, *Greenlight Australia* and *Switch on Gas* will abate about seven million tonnes of greenhouse gas emissions each year by 2015, an important contribution to the national efforts to respond to climate change.

The strategies aim to improve the uptake of energy efficiency opportunities. They have the support of both government and industry in Australia, and New Zealand is also considering adopting them. The strategies are the result of extensive consultations in both Australia and New Zealand. Copies are available at www.energyrating.gov.au



IMPLEMENTING THE STANDBY POWER STRATEGY – A YEAR OF CONSOLIDATION

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 figures on the following page show results from in-store surveys carried out by NAEEEEC since 2001. Figure 1 shows the distribution of passive standby mode, for all products, while figure 2 shows the distribution of off mode for all products. The trends are heading in the right direction, however there is still much work to be done.

In November 2002, the Ministerial Council on Energy released Australia's Standby Strategy 2002–2012 – *Money Isn't All You're Saving*. During 2004, the key activities undertaken to implement this strategy were:

- Maintaining strong engagement with other economies, particularly the US, Europe and Korea. Australia recognises that international cooperation is paramount to the success of standby power reduction.
- Another 16 product-specific plans to address excessive standby power were published and distributed to stakeholders for

comment – see appendix 2.

- Stakeholders called for the regulation of standby power for all home entertainment equipment. Work has since commenced on implementing MEPS for digital set-top boxes and external power supplies (from 2006), with other products to begin from 2007.
- Work commenced on delivering www.energyallstars.gov.au, the high efficiency database where standby power performance will be an important criteria for qualifying products, in particular, office equipment. The Ministerial Council on Energy requested the development of the database as the basis of a government energy efficiency purchasing policy, and the site is available now.
- The first study into the standby power of commercial premises was undertaken and results will be available in mid 2005.
- The 2004 standby power in-store survey was undertaken to track trends in the consumption of a range of product types. Nearly 650 appliances were tested, bringing the total to more than 2,500 appliances during the past four years.

With all proposed product profiles published now, the program focus in 2005 moves to enhanced measurements and monitoring, to track the impact of the strategy and identify products which may require mandatory action.



Figure 1: Distribution of passive standby mode power – all products

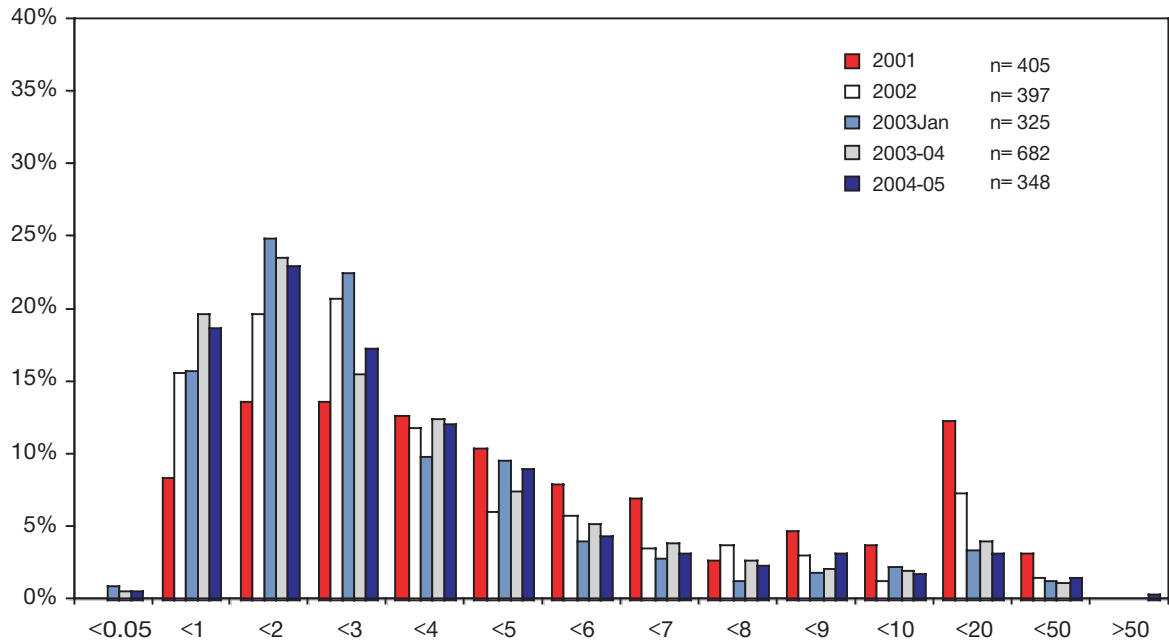
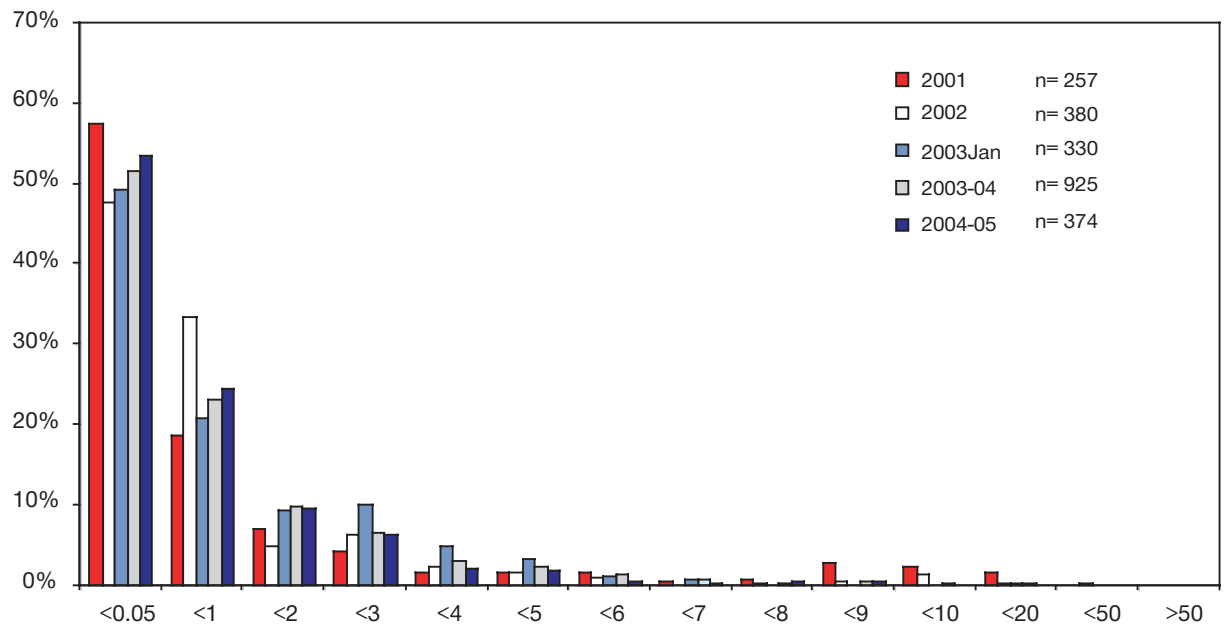


Figure 2: Distribution of off mode – all products



PRODUCTS REGULATED IN OR BEFORE 2004

During 2004, mandatory minimum energy performance requirements commenced for four new types of products, to track the impact of the strategy and to identify products which may require mandatory action. The full list of products subject to the mandatory requirements at the end of 2004 is provided in the following table.

Product	MEPS Phase I commenced	MEPS Phase II to commence	Mandatory labelling commenced
Household			
Refrigerators	1999	Jan 2005	1992
Freezers	1999	Jan 2005	1992
Clothes washers			1992
Clothes dryers			1992
Dishwashers			1992
Single-phase air conditioners (residential)	2004		1992
Electric water heaters	1999	Oct 2005	
Commercial and industrial			
Three-phase electric motors	2001	2006	
Three-phase (packaged) air conditioners	2001	2007	
Ballasts for linear fluorescent lamps	2003		
Linear fluorescent lamps	2004		
Commercial refrigeration	2004		
Distribution Transformers	2004		

During 2004, the Ministerial Council on Energy agreed to recommendations to increase the stringency of regulations for the following products:

- domestic refrigerators and freezers (January 2005)
- small electric storage water heaters (October 2005)
- three-phase electric motors (2006), and
- single and three phase air conditioners (2006 and 2007).





PRODUCTS PROPOSED IN 2004

NAEEEC originally announced its intention to regulate vented and heat exchange electric water heaters in 2001. Following substantial work on the test method, the regulatory impact process was conducted in 2004 and the final MEPS levels will commence for these products in October 2005.

In October 2004, NAEEEC announced the start of regulatory processes for the following products for MEPS to be introduced by 2010:

Products proposed in 2004 for MEPS by 2010

Product	Sector(s)	Measure(s) MEPS / labelling / high efficiency
Home entertainment		
Televisions	R	M & HE
Set top boxes	R	M & HE
DVDs	R	M & HE
Other home entertainment (eg home theatre)	R	M & HE
IT and office equipment		
Computers (including laptops) and monitors	C, R	M & HE
External power supplies	C, R	M & HE
Internal power supplies	C, R	M & HE
Water dispensers (boiling and chilled)	C, R	M & HE
Heating and cooling		
Reverse cycle heat pumps	R, C	M & ML
Dehumidifiers	R, C	M & HE
Commercial chiller towers	C	M & HE
Close control AC (for computer rooms)	C	M & HE
Other products		
Ice makers	C	M & HE
Swimming pool equipment	R	M & HE

Major sectors: R – residential, C – commercial, I – industrial

Measures: M – MEPS – minimum energy performance standards, ML – mandatory label, VL – voluntary label

INTERNATIONAL ACTIVITIES

The program has long held links with other national and regional activities, which have focused on Australian regulators applying the knowledge and learning from overseas experiences to our own program.

In 2004, the balance of that exchange is turning and other nations are now interested in the Australian program:

- Australian technical experts are working in India on refrigerator standards at the request of the International Energy Agency.
- Australian industry showcased its fluorescent lamp ballast standard to technical experts from South East Asia and China.
- Australian consultants worked with USA and Chinese experts on an international test measurement standard for external power supplies.
- Australian consultants established a test standard for home entertainment (TVs and set top boxes) with European Union experts.
- Australian experts have driven the International Electrotechnology Commission testing standard for standby power.
- Australia participated on a wide range of IEC and ISO committees.

NAEEEC is working to formalise arrangements with a number of programs around the world to share development costs and improve compliance.



CONTINUING ACTIVITIES

ONLINE DATABASE UPGRADED FOR REGISTRATION

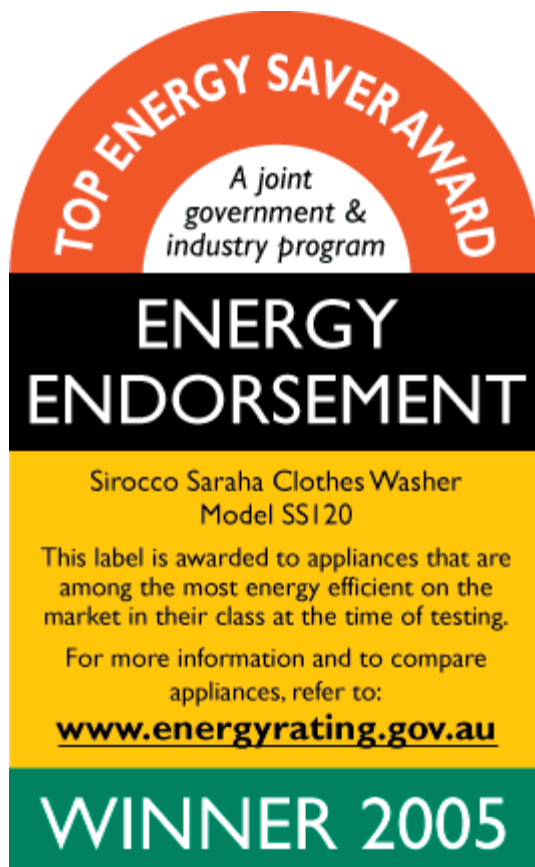
Through secure access to a website, product suppliers are able to complete electronic application forms for prescribed appliances and equipment and lodge them with one of the four registering state regulators or with the New Zealand regulator. This feature improves administrative processing times for government and saves industry time and money.

The system automatically checks the data as it is entered and prompts the need for changes. It helps industry by providing access to historical records that can be copied as a new registration

and modified as needed, and allows progress of the application to be monitored.

It started in 2002 but was substantially upgraded in 2003 to make it more user friendly. Almost nine out of ten registrations are now lodged electronically.

The *Appliance online* newsletter is for users of the system and is available on the Energy Rating website. Upgraded user manuals for the system are also regularly posted on www.energyrating.gov.au



TESAW FOR 2005

The Top Energy Saver Award Winner (TESAW) is a government award that recognises the most efficient products on the market. It applies to both electric and gas products that carry a star rating energy label and is designed to help consumers quickly identify the most efficient products on the market.

The initiative began in late 2003 and 2004 was the first full year of operation. Each year, government reviews the energy efficiency of all products on the market and in consultation with industry, sets minimum energy efficiency criteria (usually a minimum star rating) for TESAW for the coming year. From the start of the award period in November, manufacturers of existing or new products that meet the criteria can apply. Once an award is granted, the manufacturer may promote the TESAW label on the winning product and in promotional material. The products are also listed on the Energy Rating website.

Criteria for 2005 TESAW awards were announced in October 2004. For the first time, the initiative includes electric storage water heaters with low heat loss.

A list of TESAW star rated appliances at February 2005 is included in appendix 5. More information is also available at www.energyrating.gov.au under "energy programs".

ENERGY ALLSTARS



One of the most exciting initiatives for 2004 was the development of Energy Allstars database (www.energyallstars.gov.au) – 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 website was trialled in late 2004 and will be launched in 2005.

The Ministerial Council on Energy has endorsed the idea that all future government procurement should use the website to identify and source product needs.

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.

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 way and will embrace the Standards Australia processes in setting and publishing the technical requirements. 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 state and territory legislation operates and is administered by state and territory regulatory agencies
- standard procedures, rules and processes that are intended to underpin state and territory legislation
- responsibilities of relevant state and territory regulatory agencies, and
- responsibilities of industry.

The guidelines have operated since 1 April 2000, and to ensure they are relevant, were reviewed during 2004. This latest version appears at www.energyrating.gov.au under "NAEEEC".

REGULATORY IMPACT ASSESSMENTS

MEPS have a dramatic impact on the energy efficiency of household appliances and industrial and commercial equipment. These improvements are the cornerstone of the program and represent government intervention in the market to drive efficiency improvements faster than if the marketplace was left to its own devices.

NAEEEC is required to meet the requirements for national regulation making by complying with regulatory processes in both Australia and New Zealand. To keep up with the pace and quantum of these improvements, NAEEEP regularly releases detailed plans about its targeted products.

During 2004, regulatory impact statements were released for public comment on proposals to introduce MEPS for commercial refrigeration and miscellaneous electric storage water heaters (vented and heat exchange types). A number of other products also had their regulatory impact processes finalised in 2004. Details are reported below.



COMMERCIAL REFRIGERATION

RELEASE DATE:

The RIS was released in February 2004.

OUTLINE:

Australian Government agencies proposed to introduce mandatory MEPS for commercial refrigeration in October 2004. This forms part of the Governments's strategy for reducing greenhouse gas emissions and follows the successful implementation of regulatory efficiency standards for other products. Analysis of the commercial refrigeration market and discussions with Australian industry suggest that voluntary mechanisms would not provide the necessary conditions for investment in energy efficiency. By applying to all products sold in Australia, MEPS maintains a level playing field for all product suppliers, and provides the necessary security for the development of more efficient refrigerated cabinets. The MEPS levels are based on the levels set out in Australian Standard 1731.14—2003 *Refrigerated Display Cabinets Part 14: Minimum Energy Performance Standard requirements*.

BENEFITS AND COSTS:

- NAEEEP estimates the cost effectiveness of its activities is minus \$28/tonne CO₂e (in other words a gain of \$28 per tonne CO₂e) (NAEEEP 2003).
- It is estimated that mandatory MEPS will result in total cumulative greenhouse gas abatement of between 1.5 and 2.4 mtCO₂e abatement from 2005 to 2020 inclusive.
- Experience has shown the substantial benefits that minimum energy performance standards bring by eliminating the worst performing products from the market.

EFFECTIVE DATE:

MEPS for Commercial Refrigeration became effective as of 1 October 2004.

SMALL MAINS PRESSURE ELECTRIC STORAGE WATER HEATERS

RELEASE DATE:

The first RIS was released in June 2001 but this was rejected by MCE. A revised RIS was released in August 2003.

OUTLINE:

It was found that increasing the stringency of the 1999 MEPS levels by mandatory means is the only option likely to be effective on its own in achieving objectives stated for the regulation: reductions in greenhouse gas emissions and reduced life cycle costs to users. The proposal was to increase the stringency of the existing MEPS levels for small electric water heaters (delivery less than 80 litres). This would be put into effect by revising the maximum standing heat loss values in Clause 2.4 of Australian Standard AS 1056.1-1991 *Storage water heaters Part 1: General Requirements*. This is the same mechanism as was used to implement the 1999 water heater MEPS levels. Existing State and Territory energy labelling and MEPS regulations enforce compliance with this clause.

BENEFITS AND COSTS:

- The major economic benefit of more stringent MEPS is the value of the electricity saved.
- The major economic cost is the increase in the average cost of water heaters, and the possible costs of accommodating larger water heaters.
- A reduction in electricity consumption would also produce environmental benefits in the form of lower greenhouse gas emissions.
- The economic costs and benefits are likely to be passed on to the household and business users of electric storage water heaters, but there will also be impacts on the manufacturers, importers and exporters of water heaters.

EFFECTIVE DATE:

The MEPS for small mains pressure electric storage water heaters will come into effect as of 1 October 2005.

MISCELLANEOUS ELECTRIC STORAGE WATER HEATERS

RELEASE DATE:

The RIS was released in June 2004.

OUTLINE:

The proposal would bring the MEPS arrangements for miscellaneous water heaters into line with the arrangements currently applying to the rest of the market for electric water heaters, comprising mains pressure units. The various types of electric heater would be treated uniformly thereafter, there being no significant technical differences in respect of heat losses and measures to reduce them.

The proposed measures will replace the current recommended or voluntary MEPS with mandatory MEPS, and reduce the maximum permitted heat loss by 30%. This will require the replacement of models that account for at least 90% of existing sales. Some manufactures have already introduced more efficient models that comply with the proposed standard or will do so after further relatively minor adjustment.

BENEFITS AND COSTS:

- The aggregate benefits and costs are \$19.4 million and \$9.3 million, yielding a net present value of \$10.1 million.
- A reduction in electricity consumption would also produce environmental benefits in the form of lower greenhouse gas emissions.
- The economic costs and benefits are likely to be passed on to the household and business users of electric storage water heaters, but there will also be impacts on the manufacturers, importers and exporters of water heaters.

EFFECTIVE DATE:

The MEPS for miscellaneous electric storage water heaters are to come into effect as of 1 October 2005.

LINEAR FLUORESCENT LAMPS

RELEASE DATE:

The RIS was released in December 2003

OUTLINE:

Australian Government agencies proposed to introduce mandatory MEPS for linear fluorescent lamps. Due to the fact that the efficacy of halophosphate lamps is largely unchangeable, mandatory MEPS for linear fluorescent lamps would result in the phasing out of halophosphate lamps in favour of triphosphor. T12 halophosphate and T8 halophosphate lamps would be prohibited, leaving only T5 triphosphor lamps. The proposed Australian regulation would cover products from a length of 550mm to 1500mm inclusive. The joint Australian and New Zealand Standard proposed to specify both initial and maintained minimum average lamp efficacy figures. The maintained efficacy is defined at lamp life of 5000 hrs. The initial efficacy level will be used for testing purposes. Check tests will not be based on maintained efficacy levels, as it is considered impractical to test lamps for 5000+ hours prior to taking enforcement action.

BENEFITS AND COSTS:

- it is estimated that mandatory MEPS will result in cumulative greenhouse gas abatement of between 0.5 and 3.1 million tonnes CO₂e over the period 2005– 2020.
- users with longer lamp operating hours (business users) will derive greater benefits from a particular MEP level.

EFFECTIVE DATE:

The MEPS for linear fluorescent lamps came into effect as of 1 October 2004.

ELECTRIC MOTORS

RELEASE DATE:

The RIS was released in December 2003.

OUTLINE:

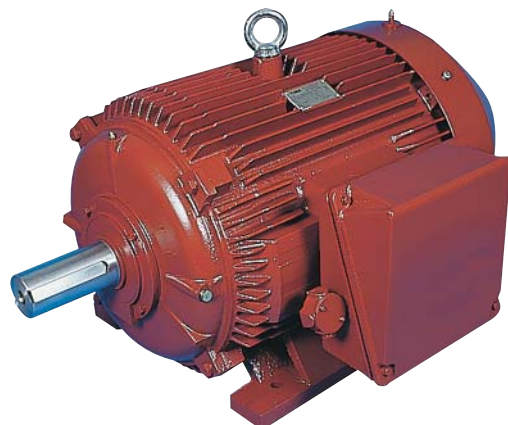
This is a regulatory impact statement for proposed changes to minimum energy performance standards (MEPS) for motors falling within the scope of the joint Australian New Zealand Standard AS/NZS 1359.5. These are three-phase induction motors with output ratings from 0.73 kW up to but not including 185 kWh. They are used in a wide range of applications, including airconditioning and ventilation systems, pumps, mechanical drives and compressors. The proposed measures will require about 70% of existing models to be withdrawn from the market. Motor losses will need to be reduced by 10-20% for most motors that are borderline compliant with the existing 2001 MEPS, with larger reductions for some smaller motors.

BENEFITS AND COSTS:

- It is expected that the proposed MEPS will deliver substantial economic benefits over the life of the regulation, which is taken to be the 6-year period after implementation.
- The net benefits and the benefit/cost ratio are assessed at \$120M and 2.5 respectively.
- The total savings of electricity and greenhouse gas are about 8,900 GWh and 7.7 MTCO₂-e respectively.

EFFECTIVE DATE:

The MEPS for electric motors will be effective as of April 2006.



ENFORCEMENT

The theme of improving the monitoring, compliance and enforcement of the program is a constant message. It was reiterated to stakeholders in the presentation *Australian regulators approach to enforcing MEPS* at the Asia Pacific Economic Cooperation (APEC) *Air conditioning and energy performance – the next five years* conference held in June 2004. The conference was convened by the Australian Greenhouse Office with support and funding from APEC for testing methods, and key Australian stakeholder organisations for performance standards and peak load issues.

At the March 2004 NAEEEEC Forum, a presentation entitled *Enforcement activities in Victoria* was made to almost 100 participants representing industry, regulators, Commonwealth and state and territory government agencies, testing authorities, academia and consultants.

NAEEEC understands the investment energy efficiency regulation imposes on stakeholders. It will continue to vigorously pursue compliance using a variety of strategies.

CHECKTEST PROGRAM

In December 2004 the Ministerial Council on Energy agreed that NAEEEP be:

- expanded via 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, and
- broadened in scope to include mandatory MEPS and labelling for gas products.

Key outcomes from this decision are that more than 20 new electrical and several gas products will be regulated for MEPS or labelling, with additional products the subject of proposals. This will make NAEEEP one of the most comprehensive programs in the world and will require a corresponding increase in the scope of its Checktest program.

The Office of the Chief Electrical Inspector (regulator) and Energy Efficient Strategies (technical

consultant) continued to manage the 2004 Checktest program which included laboratory validity testing, round robin testing, equipment check testing and standards development for water heaters, commercial refrigerators, lighting ballasts, single phase and three phase air conditioners, clothes washers and dryers.

SUPPORT FOR LABORATORIES

To have a robust compliance program and to help develop new standards, there must be confidence that laboratory test methods are repeatable, reproducible and cost effective. Everyone affected by the standards needs to be equally confident that they can be achieved. Both government and industry rely on the technical expertise of leading laboratory personnel when formulating or modifying standards and need certainty that laboratories have the necessary capacity to meet their legal obligations.

In 2004, the Checktest program 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 programs 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.

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

There has been some concern that a NATA accredited laboratory for testing electric motors in Australia is owned by a major supplier, however another laboratory in South Australia has been contracted and has undertaken to gain NATA accreditation by 30 April this year. Other laboratories in New South Wales and Victoria are also being assessed for NATA accreditation and

a new laboratory in Victoria is now testing electric water heaters.

COST RECOVERY

In October 2004, a proposal for a memorandum of understanding for energy efficiency standards was made between the Australian government (represented by the Australian Greenhouse Office on behalf of NAEEEEC) and trade associations to reimburse costs for checktested products at NATA laboratories. The allocation in 2004 was \$500,000 and much of this will be recoverable under the arrangement allowing more equipment and appliances to be tested.

PURCHASE OF TEST REPORTS

For 2004, NAEEEP purchased seven test reports from the Australian Consumers Associations' NATA accredited test research laboratory. NAEEEP purchases NATA test reports of failed units which is a cost effective way to increase the number of appliances covered by the program.

FUNDING FROM NEW ZEALAND

The 2004 Checktest program was further expanded with funding from New Zealand. An agreement has been reached for 20% of the total agreed Australasian budget to be provided by the Energy Efficiency and Conservation Authority (EECA). EECA will manage New Zealand's contribution either through direct expenditure in relation to the agreed program or through contributions to the trust fund.

INFRINGEMENT NOTICES

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, each of which represents a fine of \$500. In 2004, one major Victorian retailer was issued with an infringement notice.

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. NAEEEEC is working with eBay to ensure that advertisers can only offer new proclaimed products that are registered for energy labelling or MEPS in Australia.

In conjunction with the Australian Institute of Refrigeration, Air Conditioning and Heating, the Victorian regulator wrote to all exhibitors at the 2004 Air Conditioning, Refrigeration and Building Services exhibition in Melbourne to advise of the regulatory requirements and conducted compliance audits of 14 suppliers. An audit of 10 suppliers at the 2004 RACV Home Show was also conducted.

CHECKTEST OUTCOMES – 2004

During 2004, screen tests (stage 1 checktest) were conducted on units identified as at risk of failing MEPS or labelling standards by compliant, competitors or market intelligence. The following table summarises the tests undertaken:

Checktests undertaken in 2004

Appliance type	Number tested	Number that failed the screen test	Number deregistered	Number with outcome pending
Air conditioners	21 *	18	6	12
Ballasts	5	2 **	0	2
Clothes dryers	2	1	0	1
Clothes washers	7	1	1	0
Refrigerators / freezers	11	4	4	0
Electric motors	6	1	0	1
Electric water heater	6	1	0	1
Total	58	28	11	17

* In addition to the 21 physical tests undertaken, an additional three registrations that relied upon simulation test results were reviewed and found to have incorrect input data in the simulation program. These products were subsequently re registered with revised efficiency claims.

** Subject to verification.

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In all 28 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 action taken against products that failed a checktest in 2004 is detailed in the following table.

Regulatory outcomes 2004

Product type	Brand	Model	Deregistration details
Air conditioner	Fujitsu	AST24RBA-W / AOT24RNEL	Deregistered 13/8/04
	ACSON	WM10FR/LC10BR	Deregistered 13/12/04
	HYUNDAI	HSH-0901BA	Deregistered 01/10/04
	HYUNDAI	HSH2402BA	Deregistered 01/10/04
	WINIA	WS026HA1	Deregistered 01/10/04
	Sanyo	SPW-DC601GH5/8TU	Deregistered 24/12/04
	AIRA	CP*36/DXC 14-28 ¹	Registration amended
	AIRA	CP*36/DXC 8-52 ¹	Registration amended
	AIRA	CP*36/DXC 8-60 ¹	Registration amended
	Cooline	DQT-42	Unregistered product infringement notice issued
	LG	LST182H-2	Registration withdrawn January 2005
Clothes washer	OMEGA	OA1449	Deregistered 28/7/04
Refrigerator	NEC	FR-480	Deregistered 31/12/04
	ATD	KF 260-1	Deregistered 20/10/04
	LEMAIR	RD-320FF	Deregistered 10/12/04
	AVITA	C62182	Deregistered 3/12/04

1. Failed an audit of the simulation results used for registration purposes

STANDARDS DEVELOPMENT

CLOTHES WASHERS

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

In 2004, Standards Australia continued to develop a reliable test method for measuring rinse performance so existing voluntary and proposed future mandatory water efficiency rating schemes can be based on accurate and reproducible test results.

Stages 2 and 3 of the rinse performance program were undertaken in 2004 to:

- refine the test method
- test repeatability and reproducibility through a round robin test, and
- determine an appropriate minimum rinse performance level for regulatory application.

FLUORESCENT LAMPS

AS/NZS 4782 Part 2 was published in April 2004 and specified MEPS for linear fluorescent lamps. MEPS for fluorescent lamps were introduced in October 2004. NAEEEC helped the standards committee conduct some development testing and to trial the test method, confirm the proposed performance standards, refine the test procedure and build capacity and competency within the testing facilities.

A test program started in April 2004 focusing on the initial lumens output test and CRI measurement. Major industry stakeholders were invited to submit lamps for testing and in some cases multiple samples were supplied to gauge production variability. Light Lab Australia and Orlab at the University of NSW conducted a series of tests (including comparative tests on CRI measurement) during the second half of the year and found all lamps were compliant with the new regulations. Further testing (including maintained efficacy tests) is scheduled for 2005.

DISTRIBUTION TRANSFORMERS

AS2374.1.2-2003, which contains MEPS levels for transformers that came into force in October 2004, was published by Standards Australia in March 2003. A trial program was undertaken at TCA laboratories to check the test method and help build confidence for the industry. All five units tested met the MEPS levels and a very close correlation between the tested efficiency and that claimed by the supplier was established. A summary of the results is at www.energyrating.gov.au/pubs/factsheet2-trans.pdf

COMMERCIAL REFRIGERATORS

MEPS for commercial refrigeration units started in October 2004. Standards Australia has been redeveloping AS1731 for testing commercial refrigerators for some years to closely follow the European prEN 441 standard.



image courtesy of MECHLAB

During 2004, a second round of testing of self-contained commercial refrigeration cabinets was undertaken at Mechlab and SGS Australia, including one round robin unit. These tests incorporated revised test methods based on recommendations derived from the 2003 standards development program. The Commercial Refrigeration steering committee and Standards Australia subsequently agreed to make a series of modifications to the test standard.

COMMUNICATIONS

WEBSITES

ENERGY RATING

In 2002 there were about 220,000 hits on the Energy Rating website. By 2003, the number increased to 523,000 representing 80,000 visits by individual users. In 2004 this grew to 1.1 million hits from 192,000 visits. The Australian Greenhouse Office responded to nearly 676 email enquiries on behalf of NAEEEEC.



ENERGY STAR

The Energy Star website www.energystar.gov.au is the Australian portal for the international voluntary endorsement labelling program operated by

the US Environmental Protection Agency. Energy Star received about 18,000 visitors in 2004 who accessed nearly 70,000 files.

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 program. Energy Star rated products have a low standby power consumption. In Australia and New Zealand the Energy Star label is found on:

- TVs
- DVD players
- audio products
- computers
- printers, and
- photocopiers.

ENERGY ALLSTARS

In late 2004, the new Energy Allstars program and its website www.energyallstars.gov.au was launched (see Energy Allstars above).

ANNUAL STAKEHOLDERS' FORUM

NAEEEC held its seventh annual stakeholder forum in Sydney in March last year. The forum provides an opportunity to release plans for the next year and inform stakeholders of achievements and developments. It also provides an opportunity for stakeholders to comment on the program and for government officials to listen to ideas and concerns from the public and interested parties.

Almost 100 participants attended the forum from industry, regulators, Commonwealth and state and territory government agencies, testing authorities, academia and consultants. The format included a plenary session followed by five workshops to promote discussion and provide opportunities for participants to express their views. The final session captured and reviewed the outcomes of the day. For more information visit www.energyrating.gov.au under "NAEEEC".

SWITCHED ON AND APPLIANCES ONLINE ELECTRONIC NEWSLETTERS

Two issues of *Switched On*, the program's electronic newsletter, were released during the year. Topics focused on product energy efficiency and items that keep stakeholders up-to-date on topical issues (visit www.energyrating.gov.au under "NAEEEC").

Appliances Online is a recent electronic newsletter initiative designed to keep users of the online registration facility up-to-date with the latest developments. Three issues were released in 2004. As well as being a source of the latest information in this area, it provides more technical advice to the more than 90% of applicants for energy labelling or MEPS who now use the online system.

New subscribers are welcome and can register at energy.rating@deh.gov.au

PUBLICATIONS RELEASED DURING 2004

Copies of the following publications are available from the NAEEEEC electronic library at www.energyrating.gov.au

No. or date of publication	Title
2004-01	Regulatory impact statement – MEPS and alternative strategies for commercial refrigeration
2004-02	<i>Achievements 2003</i>
2004-03	Regulatory impact statement – MEPS for miscellaneous electric water heaters
2004-04	<i>Energy labelling and standards programs throughout the world</i>
2004-05	Energy label transition – the Australian experience
2004-06	MEPS profile – computers and computer monitors
2004-07	MEPS profile – external power supplies
2004-08	MEPS profile – set top boxes
2004-09	No action proposal – oil fired boilers
2004-10	MEPS profile – ice makers and ice storage bins
2004-11	MEPS profile – televisions
2004-12	MEPS profile – swimming pool and spa equipment
2004-13	No action proposal – wine storage cabinets
2004-14	MEPS profile – close control air conditioners
2004-15	MEPS profile – chillers
2004-16	MEPS profile – boiling and chilled water dispensers
2004-17	MEPS profile – heat pumps
Sept 2004	<i>Greenlight Australia</i> – discussion paper for improving the efficiency of lighting in Australia 2005-2015
2004-18	<i>Greenlight Australia</i> – a strategy for improving the efficiency of lighting in Australia 2005-2015
2004-19	<i>Switch On Gas</i> - Australia's strategy to improve the energy efficiency of gas appliances and equipment 2005-2015
2004-20	Comparison of Australian and US cost-benefit approaches to MEPS
2004-21	Appliance standby power consumption - store survey 2004
2004-22	A national demand management strategy for small air conditioners
SB2004-01	Standby product profile – integrated stereos
SB2004-02	Standby product profile – home theatres systems
SB2004-03	Standby product profile – free-to-air digital set top boxes
SB2004-04	Standby product profile – instantaneous gas water heaters
SB2004-05	Standby product profile – smoke alarms
SB2004-06	Standby product profile – air conditioners
SB2004-07	Standby product profile – breadmakers
SB2004-08	Standby product profile – espresso coffee machines
SB2004-09	Standby product profile – gas cookers and gas ovens
SB2004-10	Standby product profile – modems
SB2004-11	Standby product profile – motion sensors and sensor lights
SB2004-12	Standby product profile – computer speakers
SB2004-13	Standby product profile – rangehoods
SB2004-14	Standby product profile – remote garage door openers
SB2004-15	Standby product profile – burglar alarms
SB2004-16	Standby product profile – plug in electric space heaters
SB2004-17	Standby product profile – gas space heaters

BUDGET

NAEEEP operates with contributions from all Australian jurisdictions. Under the agreed funding formula, the Commonwealth provides 50% of the funding while states and territories provide the other 50%. In addition to agency staff resources, NAEDEC received funding from the Ministerial Council on Energy in 2003–04 of \$1.45 million and in 2004–05 of \$1.55 million. New Zealand also contributed \$100,000 toward verification testing costs, increasing that budget item by 20%.



APPENDIX 1

LIST OF COMMON PRODUCTS WITH NZ

TABLE A1.1 PRODUCTS EXPECTED TO BE COVERED BY NAEERP IN 2010

	Product	Measure			
		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 Other home entertainment	✓	HE	✓	✓
	13 · DVDs				
	14 · Home theatre				
	15 · New technologies				
	Heating and cooling				
	16 Air conditioners (single phase)	✓	ML	✓	✓
	17 Heat pumps (single phase)			✓	✓
	· 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 Bread makers			✓	✓
	24 Coffee machines			✓	✓
	25 Smoke alarms			✓	✓
	26 Motion detectors			✓	✓
	27 Rollerdoors			✓	✓
	28 Security systems			✓	✓

Location	N0.	Product	Measure				
			MEPS	Labelling	Standby	Energy Allstars	
Office	Heating and cooling						
	29	Air conditioners (packaged - 3 phase)	✓	HE	✓	✓	
	30	Heat pumps (3 phase) · heating mode of business AC			✓	✓	
	31	Close control AC (for computer rooms)	✓			✓	
	32	Chiller towers for commercial AC				✓	
	IT and office equipment						
	33	Computers (including laptops) and monitors	✓	HE	✓	✓	
	34	External power supplies (EPS)	✓	HE	✓	✓	
	35	Internal power supplies (IPS)	✓	HE	✓	✓	
	36	Printers			✓	✓	
	37	PC speakers			✓	✓	
	38	Modems			✓	✓	
	39	Photocopiers			✓	✓	
	40	Scanners and multi-function devices (MFDs)			✓	✓	
	Lighting						
	41	Fluorescent ballasts (linear)	✓	ML		✓	
	42	Fluorescent lamps (linear)	✓	HE		✓	
	43	Fluorescent lamps (CFLs)	✓	HE		✓	
	44	Halogen lamps (including reflector lamps)	✓	HE		✓	
	45	Halogen transformers	✓	HE		✓	
	46	Luminaires	✓	HE		✓	
	47	High intensity discharge lamps (HID)	✓	HE		✓	
	48	High intensity discharge ballasts	✓	HE		✓	
	49	Photoelectric cells	✓	HE		✓	
	50	Emergency and exit lighting	✓	HE	✓	✓	
	Other products						
	51	Chilled and boiling water dispensers		HE	✓	✓	
	52	Vending machines		HE		✓	
Factory	Industrial						
	53	Electricity distribution transformers	✓	LE/HE		✓	
	54	Electric motors (3 phase)	✓	HE		✓	
	55	Industrial fans	✓			✓	
	56	Industrial pumps	✓			✓	
	Commercial refrigeration						
	57	Refrigerated display cabinets	✓	HE		✓	
	58	Ice makers		HE		✓	
	59	Ice storage bins		HE		✓	
	Other products						
	60	Large electric storage water heaters	✓	HE		✓	
	61	Miscellaneous electric water heaters	✓	HE		✓	
	Street	Lighting					
		62	Public amenity lighting (street lighting)	✓	HE		✓
63		Traffic signals (LED)	✓	HE		✓	

Key: MEPS – minimum energy performance standards, ML – mandatory label, HE – high efficiency voluntary label, LE – low efficiency label mandatory label

TABLE A1.2 SUMMARY OF NAEERP ELECTRICAL PRODUCTS IN 2010 (BY MEASURE)

MEPS	Mandatory labelling	High efficiency voluntary labelling	Low efficiency mandatory labelling	Standby	Energy Allstars database
32	7	27	1	33	63

Note: Excludes gas

**TABLE A1.3 PRODUCTS EXPECTED TO BE COVERED BY NAEERP IN 2010
(PROJECT MANAGED BY NEW ZEALAND)**

Type/sector	Number	Product	Measure			
			MEPS	Labelling	Standby	Energy Allstars
Home / residential	1	AC heat pumps	✓	✓	✓	✓
	2	AC dehumidifiers	✓	✓	✓	✓
	3	Solid fuel space heaters	✓	✓		
	4	Solar water heaters	storage tank	whole system		
	5	Two-stroke engines		✓		✓
	6	Incandescent lamps (GLS)	✓	✓		✓
Industry and agriculture	7	Motor rewinds (service)	quality controls			
	8	Dairy water heaters	✓	✓		
Non-energy using products	9	Building insulation		✓		
	10	Windows		✓		
	11	Water heater cylinder wraps		✓		

TABLE A1.4 PRODUCTS EXPECTED TO BE COVERED BY GAEERP IN 2010

Type	Product	Measure			
		MEPS	Labelling	Standby	Energy Allstars
Gas	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 and kilns)	✓	ML	✓

APPENDIX 2

NATIONAL STANDBY STRATEGY 2002-2012

The Ministerial Council on Energy's national standby strategy, *Money isn't all you're saving*, is the culmination of extensive stakeholder consultation that includes open forums and face-to-face discussions. The strategy's key plank is identifying possible problem products and developing and releasing standby product profiles. The profiles provide background information, proposed measures government will employ and a date for review.

During 2004, a number of standby profiles were released at several events including the stakeholder forum in March, an APEC air conditioner conference in June and a standby forum in October. The table below outlines profiles released and the proposed targets.

After extensive stakeholder consultation it was been decided to remove set top boxes and home entertainment equipment (such as stereos and home theatre systems) from the standby process and investigate MEPS options for these products.

Standby power strategy product profiles status – February 2005

Whitegoods/ appliances/ other	Interim target			Final target – 2012		
	Off	Passive standby	Year	Off	Passive standby	Status
Microwave ovens	NA	4 W	2007	NA	1 W	Final
Smoke alarms	NA	0.4 W**	2007	NA	0.2 W**	Final
Air conditioners	1 W	2 W	2007	0.3 W	1 W*	Final
Clothes dryers	1 W	4 W*	2007	0.3 W	1 W*	Pending
Clothes washers	1 W	4 W*	2007	0.3 W	1 W*	Pending
Dishwashers	1 W	4 W*	2007	0.3 W	1 W*	Pending
Water heater – inst. gas	NA	3 W	2007	NA	1 W	Pending
Bread makers	NA	3 W**	2008	NA	1 W**	Pending
Coffee machines	1 W	NA	2008	0.5 W	NA	Pending
Cooktops	0.5 W	NA	2008	0.3 W	NA	Pending
Motion detectors	NA	0.75 W	2008	NA	0.25 W	Pending
Ovens	0.5 W	NA	2008	0.3 W	NA	Pending
Rangehoods	0.5 W	NA	2008	0.3 W	NA	Pending
Rollerdoors	NA	3 W	2008	NA	1 W	Pending
Security systems	NA	4 W	2008	NA	1.8 W	Pending
Gas space heater	1 W	3 W	2008	0.3 W	1 W	Pending
Electric space heater	nhm*** - < 1 W		2008	nhm*** < 0.3 W		Pending

* End of program mode

** Active standby mode

*** Non-heating modes

IT/office equipment	Interim target			Final target – 2012		Status	
	Off	Passive standby	Year	Off	Passive standby		
Printers	66% comply with 2003 Energy Star levels, or 25% comply with 2006 criteria			100% compliance with 2006 Energy Star levels		Final	
Photocopiers	75% comply with 2003 Energy Star levels, or 25% comply with 2006 criteria					Final	
Scanners and MFDs	75% comply with 2003 Energy Star levels, or MFDs only or 25% comply with 2006 criteria					Final	
PC speakers	1 W	1.5 W	2008	0.5 W	0.75 W	Pending	
Modems	On mode - < 2.8 W or < 6.6 W*			2008	0.5 W	0.75 W	Pending

* depends on modem type – see profile

Home entertainment	
DVD player/recorder	These products are now scheduled for regulation of maximum standby power. Work is currently underway to determine appropriate levels.
VCRs	
Portable stereos	
Integrated stereos	
Home theatre	
Set-top box – free to air	
Personal video recorder	

Each product profile was open to comment for a period of three months.

The bulk of the standby profiles foreshadowed in the strategy have now been released. While some profiles are still to be released in 2005, the program focus will now shift to monitoring and evaluating products covered by the profiles. Many of these will be assessed in 2006 and NAEEEEC will then report on progress towards voluntary targets for each of the product types and brands within each category, and make decisions about what actions, if any, will be implemented towards stage 2.

The strategy, all profiles, presentations and associated publications can be found on the Energy Rating website at www.energyrating.gov.au under “Energy Programs/Standby Power”.

APPENDIX 3

GREENLIGHT AUSTRALIA, NATIONAL LIGHTING STRATEGY 2005-2015

In December 2004 the Ministerial Council on Energy released *Greenlight Australia*, a long-term strategy to improve the energy efficiency of lighting products. *Greenlight Australia* is expected to save Australians well over half a billion dollars a year within a decade and significantly reduce greenhouse gas emissions.

The strategy is part of the National Framework for Energy Efficiency, which aims to improve the uptake of energy efficiency opportunities. It is the result of consultations in both Australia and New Zealand.

Lighting costs the Australian community well over \$2 billion in electricity each year. Increasing the energy efficiency of lighting by 20% will save households and businesses more than \$500 million a year in electricity costs by 2015.

Lighting also generates about 25 million tonnes of greenhouse gas emissions each year and is responsible for about one-third of the greenhouse emissions from the commercial sector. *Greenlight Australia* will abate almost seven million tonnes of greenhouse gas emissions each year by 2015, and make an important contribution to our national efforts to respond to climate change.

Greenlight Australia is a dynamic strategy that will be implemented through a series of three-year rolling plans. The first of these work plans covers 2005–06 to 2007–08 and will include the following projects:

Copies of the strategy are available at www.energyrating.gov.au

Project	Commence Project Development		
	2005/6	2006/7	2007/8
Existing MEPS Projects			
Linear fluorescent lamps (phase 1)			
Linear fluorescent ballasts (phase 1)*			
New MEPS Projects			
Halogen transformers*	X		
New buildings (building code of Australia)	X		
CFLs*	X		
Public amenity lighting	X		
Luminaires*		X	
Halogen lamp (including reflector lamps)		X	
HPS lamps			X
HID ballasts			X
New Non-MEPS Projects			
High efficiency product database	X		
Education and training for specifiers	X	X	X

* These MEPS projects include some form of comparative or endorsement labelling

APPENDIX 4

SWITCH ON GAS NATIONAL GAS STRATEGY 2005-2015

Recognising that significant benefits can be achieved through improvements in energy efficiency, the Ministerial Council on Energy endorsed the *Switch on Gas* 10-year strategy and agreed to its implementation in December 2004.

Natural gas currently supplies about 30% of total household energy in Australia. *Switch on Gas* has the potential to reduce Australian consumers' expenditure on natural gas by up to \$115 million a year and consumption by more than 5% against business-as-usual, with an annual greenhouse gas saving of approximately 600kt.

Gas appliances are currently labelled and MEPS levels set under an industry-run scheme administered by the Australian Gas Association. The gas scheme suffers from a number of significant limitations compared to the electrical appliance scheme:

- while labelling is mandatory, point-of-sale display of labels is not enforced, and
- changes in test methods and labelling apply only when new products are certified.

***Switch on Gas* will improve the energy efficiency of gas products through a nationally consistent energy efficiency regulatory regime and a series of three-year work plans commencing in 2005–06. Its focus will be to improve the efficiency standards of gas products by applying performance standards to facilitate trade and reduce business costs, match developments overseas and improve verification of performance and labelling of targeted products. For more information visit www.energyrating.gov.au**

2005		
Task	Milestones	Target
Establish the Gas Appliance and Equipment Energy Efficiency Program (GAEEEP)	GAEEEP work plan finalised	Feb 05
	Establish administrative and legislative framework	Dec 05
MEPS and labelling - residential/commercial	New domestic water heater MEPS and labelling proposal developed	Sept 05
	Product profile for commercial heaters and water heaters completed	Dec 05
Identify and pursue opportunities for increasing industrial sector coverage		July 05
	Decision on additional industrial products to be targeted	Dec 05
Information and awareness	Gas products on national high efficiency database	Jan 05
	National promotional campaign targeting retail stores developed	Dec 05
Monitoring and evaluation	Develop methodology for tracking sales weighted efficiency and consumer attitudes	Dec 05


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2006		
Task	Milestones	Target
MEPS and labelling	RIS process for domestic water heater MEPS and labelling proposal completed, implementation date agreed	Mar 06
		Jul 06
	Product profile for industrial gas boilers completed	Jul 06
	Review of commercial heater and water heater test method and standard completed	Dec 06
MEPS and labelling		Dec 06
Information and awareness		-
		Jun – Sept 06
Monitoring and evaluation	Targeted checktesting program commenced	
	Retail compliance survey undertaken	
	Track sales weighted efficiency and consumer attitudes	Ongoing




















2007		
Task	Milestones	Target
MEPS and labelling		Jan 07–July 07
Information and awareness	Gas product listings on national Energy Rating website maintained	Ongoing
	Gas products included in national promotional campaign targeting retail stores	Ongoing
Monitoring and evaluation		Ongoing





































APPENDIX 5

TESAW WINNERS 2005 (AT 8 FEBRUARY 2005)

Clothes dryers - TESAW			
Brand	Model	Load (kg)	Star rating
MIELE	WT945	2.5	

Clothes washers - TESAW			
Brand	Model	Load (kg)	Star rating
MIELE	MIELE W 310	5.5	
LG	Fantasy WD-1481RD	8	
ASKO	W6441	6	
OMEGA	PROCW1	5.5	
SAMSUNG	P1203J	6	
MIELE	W1986	6.5	
SAMSUNG	P1003J	6	
LG	WD-1025FB	7.5	
ASKO	W6761	6	
AEG	W1450	6	
MIELE	W487	5.5	
LG	WD-1470FD	7	

Dishwashers - TESAW			
Brand	Model	Place settings	Star rating
ASKO	D3350, D3530, D3630 (D3350, D3530, D3630)	14	
ASKO	D3330	14	
ASKO	D3121 D3121 D3330 (D3330)	14	
LG	LD-14AT3	14	
LG	LD-4053W	14	
LG	LD-14AW3 (LD-14AT3, LD-4053W)	14	
LG	LD-4050W	14	
LG	LD-14AW2 (LD-4050W, LD-14AT2)	14	
LG	LD-14AT2 (LD-4050W, LD-14AW2)	14	
LG	LD-4080W/LD-4080T	14	
LG	LD-4120M	14	
SMEG	SA614-1 / PL614-1 / ST663-1 (PL614-1, ST663-1)	14	
SMEG	SA614/PL614 (PL614)	14	
ELECTROLUX	302 & 403 (EX302SB, EX403WB, EX403SB, EX403IWB)	12	
DISHLEX	DX302 & DX403 (DX302WB, DX302SB, DX403WB, DX403IWB, DX403SB)	12	
MIELE	G898 SCi PLUS-3 (G896 SCi PLUS-3)	14	
MIELE	G896 SCi PLUS-3 (G898 SCi PLUS-3)	14	
ELECTROLUX	Electrolux 502 and 600 (EX600ISB, EX502ISB)	12	
OMEGA	DW2003-1 / PI2003-1 (PI2003-1)	14	
SMEG	SA626 / SA663-1 / PL663-1 / PL623-1 / SA623-1 / SA628-1 (SA663-1 PL663-1, PL623-1, SA623-1, SA628-1)	14	

Air conditioners - TESAW					
Brand	Model	Cooling		Heating	
		Output (kW)	Star rating	Output (kW)	Star rating
FUJITSU	AST9LSBCW AST9LSBCW / AOT9LFBC	2.60		3.60	
FUJITSU	AST12LSBCW AST12LSBCW / AOT12LFBC	3.50		4.80	
SANYO	SAP-KRV93GJ/SAP-CRV93GJ	2.65			
SANYO	SAP-KRV93GJH/SAP-CRV93GJH	2.65		3.60	
LG	LSZ092VM-4	2.64		3.17	
DAIKIN	FTXD50B*** / RXD50B***	5.20		6.50	
DAIKIN	FTKD50B*** / RKD50B***	5.20			
DAIKIN	FTXG35CVMA*** / RXG35CVMA	3.50		4.20	
AIRWELL	EDS / EWS WATER SOURCE HEAT PUMP EDS60H / EWS60H	5.40		6.50	
DAIKIN	FLX50A*** / RXD50B***	4.70		6.10	
DAIKIN	FLK50A*** / RKD50B***	4.70			
SANYO	SAP-KRV123GJH/SAP-CRV123GJH	3.50		4.20	
SANYO	SAP-KRV123GJ/SAP-CRV123GJ	3.50			
FUJITSU	ABT18LBAJ ABT18LBAJ / AOT18LMAKL	5.20		6.20	
DAIKIN	FVXS35B*** / RXS35B***	3.50		4.50	
DAIKIN	FTKS50B*** / RKS50B***	5.00			
DAIKIN	FTXD60B*** / RXD60B***	6.20		7.20	
DAIKIN	FTKD60B*** / RKD60B***	6.20			
ACTRON AIR	SRA17C/SRA17E	16.80		17.89	
LG	LSZ092M-4	2.80		2.90	
FUJITSU	ART45LUAK ART45LUAK / AOT45LJAYL	12.50		14.00	

NAEEEC MEMBER ORGANISATIONS

The Commonwealth, New Zealand, and each state and territory are represented on NAEEEC and participate in its deliberations. Representatives are officials within government departments, agencies and statutory authorities or people appointed to represent those 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.

The Australian Greenhouse Office (AGO) is part of the Australian Government Department of the Environment and Heritage. The AGO is responsible for monitoring the National Greenhouse Strategy in cooperation with states and territories and with the input of local government, industry and the community. An AGO officer is the chair of NAEEEC and others provide support for its activities.

The NSW Department of Energy, Utilities and Sustainability provides policy advice to the NSW Government and operates a regulatory framework aimed at facilitating environmentally responsible appliance and equipment energy use.

The Office of the Chief Electrical Inspector 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 office's strategic focus is to ensure a high level of compliance is sustained by industry with equipment efficiency labelling and associated regulations.

The Sustainable Energy Authority was established in 2000 by the Victorian Government to provide a focus for sustainable energy in Victoria. The authority's objective is to accelerate progress towards a sustainable energy future by bringing together the best available knowledge and expertise to stimulate innovation and provide Victorians with greater choice in how they can take action to significantly improve energy sustainability.

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.

The Environmental Protection Agency, through its Sustainable Industries Division, is Queensland's lead agency in the promotion of energy efficiency, renewable power, and other initiatives that reduce greenhouse gas emissions throughout the state. Its key aim is to achieve increased investment in sustainable energy systems, technology and practice.

Energy Safety WA seeks to promote conditions that enable the Western Australian community's energy needs to be met safely, efficiently and economically.

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.

The 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.

The Tasmanian Government's interest is managed by the Department of Infrastructure, Energy and Resources' Office of Energy Planning and Conservation (OPEC). OPEC provides policy advice on energy related matters including energy efficiency.

Electricity Standards and Safety, Department of Infrastructure, Energy and Resources, is the technical regulator responsible for electrical safety throughout Tasmania. Regulatory responsibilities include electrical licensing, appliance approval and equipment energy efficiency.

The ACT Office of Sustainability was established in January 2002 to develop, facilitate and coordinate the implementation of policies and procedures related to sustainability. From the end of 2004, the Office has expanded to take on responsibility for 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.

The Department of Employment, Education and Training is responsible for administering regulations in the Northern Territory on various aspects of safety, performance and licensing for goods and services including electrical appliances.

The Energy Efficiency and Conservation Authority (EECA) is the principal body responsible for 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 for Environment (MfE) is the lead department in New Zealand advising the Minister of Energy on the development of government policy 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.

