

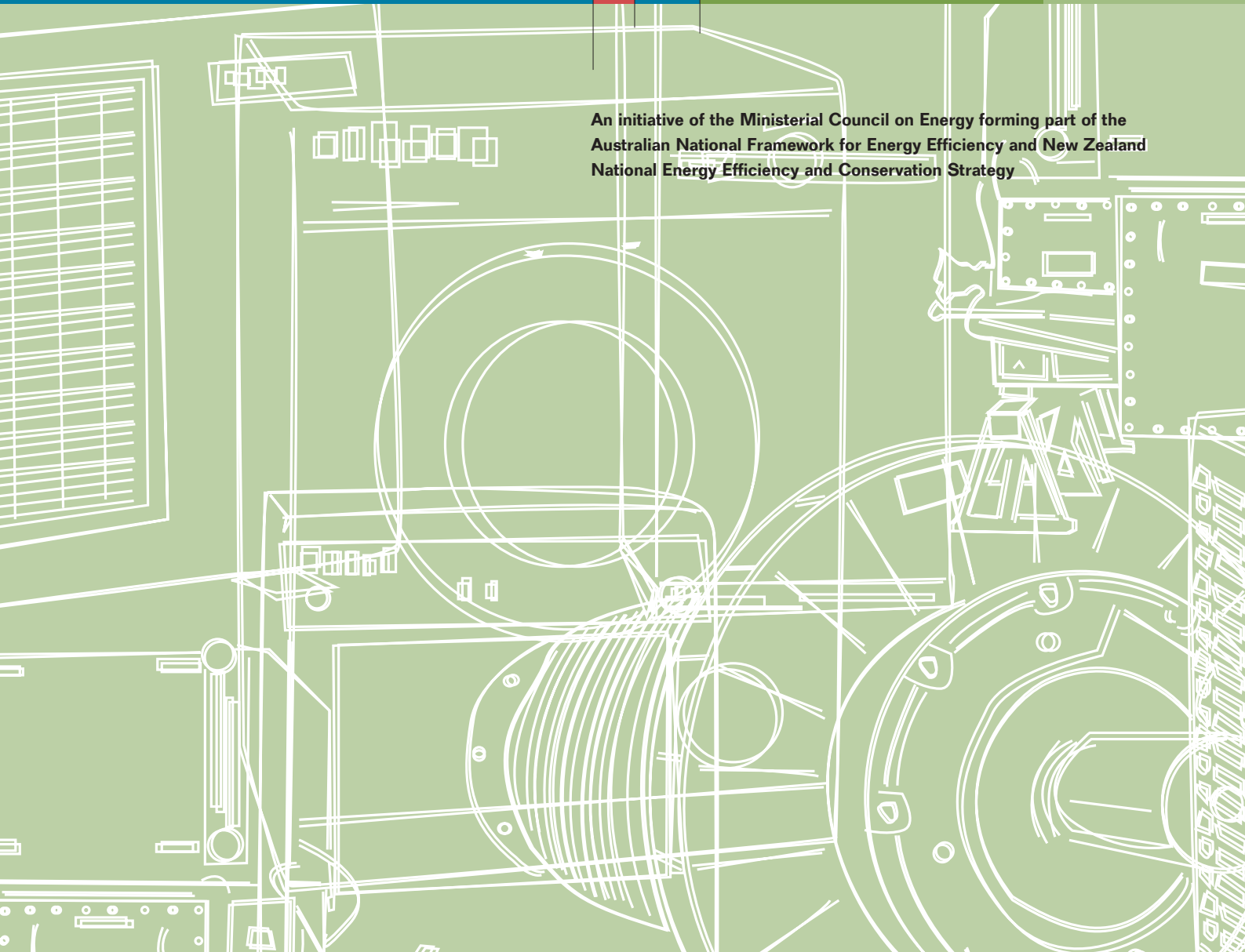
NATIONAL APPLIANCE AND EQUIPMENT ENERGY EFFICIENCY PROGRAM

Joint work plan and policies for the triennium 2005-06 to 2007-08



**April
2005**

**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**



Abbreviations

AGO	Australian Greenhouse Office
CFL	Compact fluorescent lamp
CO ₂ e	Carbon dioxide equivalent units
CoAG	Council of Australian Governments
GAEEEC	Gas Appliance and Equipment Energy Efficiency Committee
GAEEEP	Gas Appliance and Equipment Energy Efficiency Program
GLS	General lighting service lamp
HID	High intensity discharge (lamp or ballast)
kW/h	kilowatts per hour
kWh per year	kilowatt hours per year
MEPS	Minimum Energy Performance Standards
MJ	Megajoules (ie million joules)
Mt	Megatonne (ie million tonnes)
NAEEEC	National Appliance and Equipment Energy Efficiency Committee
NAEEEP	National Appliance and Equipment Energy Efficiency Program
NFEE	National Framework on Energy Efficiency
RIS	Regulatory Impact Statement
TWh	Terawatt hours (1TWh = 10 ⁹ kWh)



Australian Government

**Department of the Environment and Heritage
Australian Greenhouse Office**

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The NAEEEP work plan and policies for 2005-06 to 2007-08 are available at www.energyrating.gov.au

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Foreword

Energy consumed in the use of equipment and appliances is a major source of energy demand and greenhouse emissions from the residential, commercial and industrial sectors. Codes and standards programs are among the most widely used measures to reduce energy use and abate greenhouse emissions in the world.

Australian industry is a partner in this program because it stimulates the development of world-class products as well as helping to create fairer competition in marketing products. Consumers benefit as more energy-efficient products become available and they are given the label information needed to make better informed purchasing choices.

The National Appliance and Equipment Energy Efficiency Program began more than a decade ago with agreement to label several whitegood appliances. Since that time, the program has become a foundation element within the National Framework for Energy Efficiency (NFEET).

In 2000, it was expected that this program would generate greenhouse gas savings of 84 million tonnes in Australia, over the next 15 years. In 2003, the expanded program was projected to save 134 million tonnes below business-as-usual over 15 years. Now the expectation is that the program will abate almost 204 million tonnes below business-as-usual between 2005 and 2020.

The Ministerial Council on Energy remains committed to supporting this appliance and equipment strategy as an integral part of the NFEET. All jurisdictions have endorsed the list of targeted products and projects. The work plan incorporates gas products for the first time, sets out a common list of electrical and gas products to be addressed by Australia and New Zealand, and identifies the direction of the program over the next three years.

The program now extends into all sectors, and will yield an economic benefit to Australia of \$4.8 billion by 2020, plus a benefit of \$0.7 billion for the New Zealand economy. This demonstrates benefits that are not only good for the economy and the environment but also for all Australian households. All of which will be achieved through a close and productive working relationship between government agencies and industry.

On behalf of the Ministerial Council on Energy, I am pleased to release this three-year work plan, and look forward to the positive expectations becoming reality.



The Hon Ian Macfarlane MP
Minister for Industry, Tourism and Resources (Australian Government)
Chair
Ministerial Council on Energy



Statement from the Chair of NAEEEC

This is an exciting time for energy efficiency. The Australian government's energy white paper, *Securing Australia's Energy Future*, devoted a chapter to energy efficiency and its potential to underpin prosperity, security and sustainability. The Ministerial Council on Energy has embraced the National Framework for Energy Efficiency (NFEE) and recently endorsed Implementations Plans for Stage One. A Productivity Commission Inquiry into the potential paths to greater energy efficiency is also well underway. New Zealand's *National Energy Efficiency and Conservation Strategy* has the target to improve energy efficiency by 20% over the 10-year period 2002 to 2012.

This third triennial plan for the National Appliance and Equipment Energy Efficiency Program (NAEEEP) and first plan for a joint Australian and New Zealand Work Program, goes well beyond consolidating the gains made through the earlier plans. We are entering one of the most exciting periods in the history of the program as government agencies respond to calls from stakeholders to expand and extend the program beyond what might be described as business-as-usual.

This joint Work Plan between Australia and New Zealand recognises the need for the maturing Australasian standards and labelling programs to move beyond simple product-by-product initiatives towards recognising the interrelationship of products within a sector. This theme of expand and extend is captured in this plan in several ways:

- **Expanding coverage from electricity to gas.** In 2005, NAEEEP will be joined by the new program element, the Gas Appliance and Equipment Energy Efficiency Program (GAEEEP). GAEEEP will follow the NAEEEP model but target gas appliances and equipment.
- **Expanding the number of products covered by our current mix of policy tools.** The use of various forms of labelling (mandatory and voluntary), in tandem with regulatory tools such as minimum energy performance standards (MEPS) to maximise potential abatement, will be used on a wide range of residential, commercial and industrial products. For example, when you go shopping in future, you will be able to see endorsement labels displayed on many more products, from traditional whitegoods such as fridges and freezers, to the latest home entertainment appliances including TVs and DVDs as well as office equipment.
- **Extending the use of long-term product or sectoral strategies.** The National Standby Power Strategy 2002-12 has been joined by two new long-term strategies, *Greenlight Australia* and *Switch on Gas*, endorsed by the MCE. More are in the pipeline because long-term strategies raise stakeholder and industry awareness about energy efficiency. These plans improve market certainty, allowing industry to factor government efficiency targets in business planning cycles.
- **Developing new policy tools.** The use of mandatory "negative" labels will be explored for consumer appliances following their use for inefficient

water products. Using this new tool in conjunction with best-in-class labels for appliances will allow both industry and consumers to recognise poor performing products and reward the most efficient products.

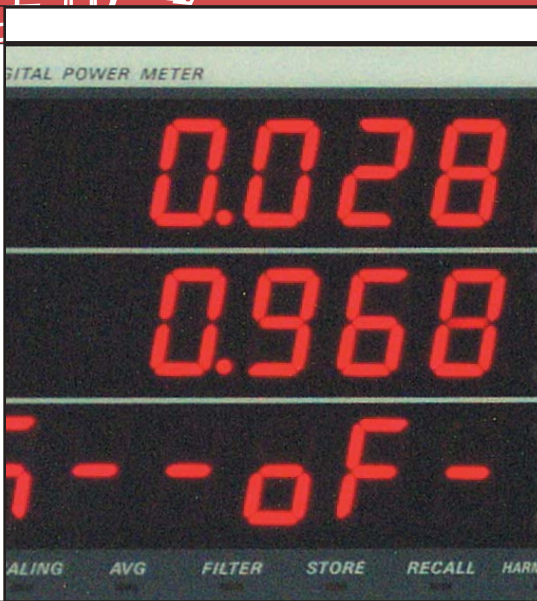
- **Promoting the best available products.** Possibly the most exciting initiative is the new database of high efficiency products on www.energyallstars.gov.au Government procurement will use the database to identify and source future needs.

The initiatives outlined in this plan are underpinned by the desire of all jurisdictions to maintain consistent regulatory arrangements and provide a strong foundation for meeting both countries' national energy efficiency and greenhouse abatement goals.

I am pleased that New Zealand and Australia have agreed a joint work plan, and our efforts will go a long way towards meeting these energy efficiency goals as well as providing least cost greenhouse abatement.

Shane Holt
Chair
National Appliance and Equipment Energy Efficiency Committee





Operating Context for NAEEEC

The Ministerial Council on Energy (MCE) has a goal of improving Australia's energy efficiency performance that is reflected in the NFEE. NAEEEP is the principal means by which this objective is pursued for appliances and equipment. The National Appliance and Equipment Energy Efficiency Committee (NAEEEC) is accountable to the MCE.

- MCE is made up of the energy ministers from all jurisdictions, with New Zealand having observer status.
- NAEEEC comprises officials from the Commonwealth, State and Territory and New Zealand government agencies, responsible for implementing product energy efficiency initiatives in these jurisdictions.

The current members of MCE and organisations participating in NAEEEC are listed on the inside back cover of this plan.

NAEEEC Charter

The NAEEEC charter has existed unchanged for many years. NAEEC is authorised to undertake the following functions:

- To provide assistance to all states and territories and New Zealand considering technical, legal, and administrative aspects of national appliance and equipment energy efficiency initiatives.
- To coordinate the trans-Tasman development and implementation of voluntary energy efficiency programs and enhance existing regulatory programs. This may include voluntary endorsement labelling initiatives, market transformation projects, industry training, web-based information and selection tools and other related programs. Details can be found in Appendices 2 and 3.
- To coordinate national marketing and communication projects to support new and enhance existing energy efficiency programs.
- To review existing appliance energy consumption information and to improve Australian standards and testing protocols.
- To provide a forum for exchanging information on enforcement and compliance issues.
- To coordinate broad consultative processes with industry and other interested parties developing and implementing energy labelling and associated programs.
- To administer an effective, coordinated testing regime verifying the energy efficiency claims of suppliers.
- To monitor and report program performance and achievements.

NAEEEC's new operating instructions from the NFEE Stage 1 Implementation Plan for the equipment and appliances package are contained in Appendix 4.

History of NAEEEP

NAEEEP and its predecessors have operated for more than a decade. The program was originally created as part of a national greenhouse response strategy in 1992.

The initial program was based on mandatory energy labelling for six types of domestic appliances in most Australian states. Within 10 years governments had agreed to introduce minimum energy performance standards (MEPS) and maintained mandatory labelling for 11 product types. MEPS regulation effectively removes from the market products that do not meet these minimum energy performance levels. Table 1 lists the products that are currently covered by NAEEEP:

TABLE 1: PRODUCTS IN THE PROGRAM (AT 1 JANUARY 2005)

No.	Product	Sector(s)	Measure(s) MEPS or labelling	Test method	Regulatory standard
Whitegoods					
1	Clothes washers	R	ML	AS/NZS2040.1	AS/NZS2040.2
2	Clothes dryers	R	ML	AS/NZS2442.1	AS/NZS2442.2
3	Dishwashers	R	ML	AS/NZS2007.1	AS/NZS2007.2
4	Refrigerators	R,C	M&ML	AS/NZS4474.1	AS/NZS4474.2
5	Freezers	R	M&ML	AS/NZS4474.1	AS/NZS4474.2
Heating and Cooling					
6	Air conditioners • Single phase • Three phase	R,C	M&ML M&VL	AS/NZS3823.1.1 (Non-ducted) AS/NZS3823.1.2 (Ducted) AS/NZS3823.3 (Simulation)	AS/NZS3823.2
7	Electric water heaters	R,C	M	AS1056.1 NZ4602 NZ4606	AS1056.1 Amendment 3 NZ4602 NZ4606
8	Electric motors • Three phase	I	M&VL	AS1359.101 AS1359.102.1 (Method B) AS/NZS1359.102.3 (Method A)	AS/NZS1359.5
Lighting					
9	Linear fluorescent ballasts	C, I	M&VL	AS/NZS 4783.1	AS/NZS4783.2 NZHB4783.2
10	Linear fluorescent lamps	C, I	M&VL	AS/NZS 4782.1 (IEC60081)	AS/NZS 4782.2 NZHB4782.2
Commercial and industrial					
11	Distribution transformers	I	M&VL	AS 2374.1 AS 2735	AS2374.1.2
12	Commercial refrigeration	C	M&VL	AS 1731–2003 Parts 1 to 13	AS 1731.14

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

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

Codes: AS/NZ – Australian/New Zealand standard, NZHB – New Zealand handbook

NOTES:

- This work plan includes products subject to additional analysis to determine if new MEPS at an increased stringency level should be commenced within the period.
- In earlier work plans, NAEEEC initiated regulatory process for a range of other products. These processes will conclude during this work program.
- Further information on the most recent versions of applicable standards can be found at www.energyrating.gov.au under "product standard updates".

Table 2 list the products that were proposed in 2004 for MEPS commencing before 2010:

TABLE 2: PRODUCTS PROPOSED IN 2004 (FOR MEPS COMMENCING 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
AC dehumidifiers	R, C	M & HE
AC chiller towers	C	M & HE
Close control AC (for computer rooms)	C	M & HE
Other products		
Ice makers	C	M & HE
Swimming pool systems	R	M & HE

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

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

NAEEEP from 2005

Australia's National Framework for Energy Efficiency (NFE) aims to unlock the significant economic potential associated with the increased implementation of energy efficiency technologies and processes in Australia. NAEEEP will play an important role in realising these potential economic and greenhouse savings.

NAEEEC has a responsibility to advise MCE on any type of electrical equipment or appliance that should be regulated, subject to a regulatory impact statement (RIS). The RIS process includes provision for an economic cost-benefit study and public consultation. Table 3 lists the new products that will be targeted by NAEEEP during this work plan:

TABLE 3: NEW PRODUCTS TARGETED UNDER NAEEEC WORK PLAN, 2005-06 TO 2007-08

Product	Sector(s)
Heating and cooling	
Evaporative water coolers	R
Ceiling fans	R,C,I
Industrial and commercial	
Industrial fans	I
Industrial pumps	I
Vending machines	R,C
Lighting	
Fluorescent lamps (CFLs)	R,C
Public amenity lighting (eg street lighting)	P
Halogen lamps (including reflector lamps)	C
Halogen transformers (low voltage)	C
Luminaires	C
High intensity discharge lamps (HID)	C
High intensity discharge ballasts	C
Gas	
Gas water heaters	R
Gas space heaters	R
Commercial gas water heaters	C
Commercial gas space heaters	C
Gas stoves	R
Gas cooktops	R
Gas industrial equipment (eg boilers and kilns)	I

Note: NAEEEP will include additional products identified in forthcoming strategies targeting other sectors (see table 4 below)

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

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

More detail on how the regulatory scheme operates can be found at www.energyrating.gov.au. NAEEEC uses this website to promote the program.

NAEEEC Agenda

The agenda for NAEEEC from 2005-06 to 2007-08 is more than just consolidating the gains made under earlier plans. By continuing the successful approaches used in the past, the joint work plan will expand and extend the program beyond business-as-usual. But MCE wants the program to move even further.

A key theme is to move from simple product-by-product initiatives towards recognition of the inter-relationship of products within systems. While established tools such as mandatory labelling and MEPS will continue to be employed for specific products, the broader context of the strategies may involve a more systemic approach: mixing current policy tools with newly developed tools to achieve the optimised outcome within that sector. In particular, the work plan includes a number of longer-term 10-year product strategies that explain the broader vision driving the program and provides industry with sufficient time to gear up in anticipation of changing standards.

All products expected to be covered by NAEEEP are outlined in Appendix 1.

New Strategies

A key feature of this joint work plan is the greater use of longer-term strategies that more clearly articulate government policies and provide a map for reducing energy use in specific sectors. NAEEEC has found its three-year rolling planning process to be a useful guide for government and stakeholders in identifying forthcoming projects. Stakeholders called for this to be taken even further, with NAEEEC developing longer-term plans for both Australia and New Zealand to highlight key directions and anticipate international change and technology leaps.

NAEEEC already has experience in developing long-term strategic plans. In 2002, the first strategy, *Money isn't all you're saving*, was developed and released. It is a 10-year plan to reduce excessive standby power. The

strategy came into effect in 2003 and provides a benchmark for industry. It includes a target to reduce standby power consumption for all products to 1 watt by 2012. The standby strategy now also includes specific plans for almost 30 products. It is backed by a monitoring regime.

In 2004, the MCE endorsed the next two 10 strategies for NAEEEP, *Greenlight Australia* and *Switch on Gas*, over the period 2005-15:

- *Greenlight Australia* addresses all aspects of lighting energy efficiency in the residential, commercial and industrial sectors. It contains an industry target to reduce energy consumption, specific actions for problem products (including MEPS and labelling for various lamps, ballasts and luminaires), education and training, a database promoting highly efficient lighting products and more.
- *Switch on Gas* sets the strategic direction for GAEEEP, a major new element of NAEEEP. The strategy commits:
 - governments to incorporating gas end-use product efficiency into a similar regulatory environment that already exists for electrical products, and
 - industry to providing world-class products within a legislative scheme.

Individual three-year work plans will be released in 2005 for both product groups.

This work plan builds on this initiative with the development of six further 10-year strategies that deal with cross-sectorial issues within the next triennium as set out in Table 4.

Copies of each of the plans released in 2004 can be obtained at www.energyrating.gov.au.

TABLE 4: NAEEEC – FORTHCOMING 10-YEAR STRATEGIES

Strategy	Sector(s)	Release date
Hot water systems	R,C,I	2005/6
Demand side management in the home	R	2006/7
Electric motor systems in the industrial sector, including: · Fans and pumps · Industrial measurement and data collection	C,I	2006/7
Building heating, ventilation and air conditioning	C,I	2007/8
Swimming pool equipment	R,C	2005/6
Commercial catering equipment*	C	2006/7

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

*Strategy being project managed by Sustainable Energy Authority Victoria

MCE and NAEEEC welcome comments from stakeholders in developing these strategies.



Energy Allstars

Another exciting initiative is the *Energy Allstars* database (www.energyallstars.gov.au) - a new resource that has been developed for all Australian governments. The website will also be available for large corporate purchasers and the public. It will list only the most energy efficient appliances and equipment and encourage suppliers to market efficient products. The trial website commenced in late 2004 and the aim is to have new product categories added progressively over the life of this joint work plan. The website will be launched in late 2005.

For each product type, a set of performance criteria will be established for eligible models each year together with a process for listing efficient products. MCE has endorsed the idea that all future government procurement should use the website as the basis of energy efficient product purchasing guidelines that give preference to the listed products.

Review

In addition to these strategies, the joint management plan includes reviews of its programs, which are affected by the activities of other government agencies, to ensure cooperation between the programs. Reviews to be conducted in 2007 will focus on gaps and duplication of programs under the working titles of “energy efficiency in the home” and “energy efficiency in the office”.

The programs consumer email enquiry account energy.rating@deh.gov.au receives many frequently asked questions about the program. Some of these are detailed in Appendix 5.

NAEEEC Work plan

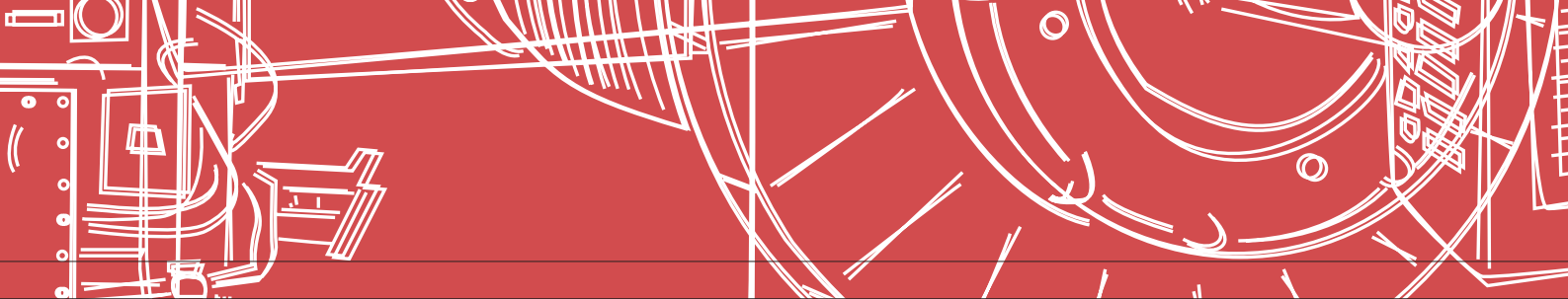
PROPOSED NAECEC WORK PLAN 2005-06

Type of policy tool	Details
2005-06	
Regulatory	<ul style="list-style-type: none"> • Implement the second round of MEPS for: <ul style="list-style-type: none"> - Electric motors - Small electric storage water heaters - Single phase air conditioners • Implement the first round of MEPS for: <ul style="list-style-type: none"> - Electric vented storage and electric heat exchange water heaters - Heat pumps air conditioners - Chillers for commercial building air conditioners - Dehumidifiers - Close control air conditioners - Televisions - External power supplies • 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	<p>Long-term strategies:</p> <ul style="list-style-type: none"> • Monitor and maintain the national standby strategy, <i>Money isn't all you're saving</i> • Develop and implement the first three year work plans for: <ul style="list-style-type: none"> - <i>Greenlight Australia</i>, and - <i>Switch on Gas</i> • Develop 10-year strategies for: <ul style="list-style-type: none"> - Hot water systems - Building HVAC - DSM in the home - Electric motor systems in the industrial sector, including <ul style="list-style-type: none"> - fans and pumps - Industrial measurement and data collection - Swimming pool equipment - Commercial catering equipment* <hr/> <ul style="list-style-type: none"> • Review fluorescent lamp (linear) high efficiency level • Complete air conditioning program • Complete commercial refrigeration program • Launch <i>Energy Allstars</i> high efficiency product database • Investigate second-hand products

* Strategy being project managed by Sustainable Energy Authority Victoria

PROPOSED NAEEEC WORK PLAN 2006-07

Type of policy tool	Details
2006-07	
Regulatory	<ul style="list-style-type: none"> • Implement the first round of MEPS for: <ul style="list-style-type: none"> - Computers (including laptops) and monitors - Internal power supplies - Vending machines - Ice makers and storage bins - Boiling and chilled water dispensers - CFLs - Halogen transformers (low voltage) - Public amenity lighting (street lighting) - Electric ovens and stoves - Swimming pool systems (labelling and MEPS options) • Review MEPS and standards for products already regulated • Review MEPS/labelling options for products previously targeted but not regulated • Investigate policy options, including MEPS or labelling for new products • Review of label algorithm for air conditioners
Voluntary	<ul style="list-style-type: none"> • Propose product plan for office equipment • Review progress for products covered by standby strategy



PROPOSED NAEDEC WORK PLAN 2007-08

Type of policy tool	Details
2007-08	
Regulatory	<ul style="list-style-type: none">• Implementation of third round of MEPS for single phase air conditioners• Implementation of second round of MEPS for three phase air conditioners• Implementation of first round of MEPS for:<ul style="list-style-type: none">- Ceiling fans- Industrial fans- Industrial pumps- Halogen lamps (including reflector lamps)- Luminaires- High pressure sodium lamps- High intensity discharge ballasts• Review MEPS and standards for products already regulated• Review MEPS/labelling options for products previously targeted but not regulated• Investigate policy options, including MEPS or labelling for new products
Voluntary	<ul style="list-style-type: none">• Propose product plan for home appliances• Review progress of products covered by standby strategy



APPENDIX 1

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 MFDs			✓	✓
Office	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	✓	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

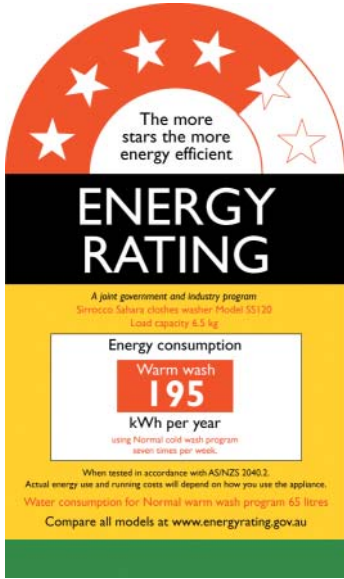
Type	Number	Product	Measure			
			MEPS	Labelling	Standby	Energy Allstars
Gas	Gas appliances					
	1	Gas water heaters	✓	ML	✓	✓
	2	Gas space heaters	✓	ML	✓	✓
	3	Commercial gas water heaters	✓	ML	✓	✓
	4	Commercial gas space heaters	✓	ML	✓	✓
	5	Gas stoves	✓		✓	✓
	6	Gas cooktops	✓		✓	✓
7	Gas industrial equipment (eg boilers and kilns)	✓	ML		✓	

APPENDIX 2 NAEEEEC Measures

Regulatory

Minimum energy performance standards (MEPS) and mandatory labelling

Minimum energy performance standards (MEPS) are the regulated minimum energy efficiency levels that products must achieve to be able to be sold on the Australian or New Zealand markets whether manufactured locally or imported from overseas. Australia and New Zealand have adopted a best practice standards and labelling program and match the best MEPS and mandatory labelling levels of our trading partners.



The more stars the more energy efficient

ENERGY RATING

A joint government and industry program
Sirocco Salora clothes washer Model SS120
Load capacity 6.5 kg

Energy consumption

Warm wash
195
kWh per year
using Normal cold wash program
seven times per week.

When tested in accordance with AS/NZS 2040.2.
Actual energy use and running costs will depend on how you use the appliance.
Water consumption for Normal warm wash program 65 litres
Compare all models at www.energyrating.gov.au

Electricity - energy rating label

The energy rating label allows consumers to make a quick comparison of different models' energy efficiency. The more stars on the label, the more energy efficient the appliance. The label also provides an estimated annual energy consumption of the appliance, for example 195 kWh a year (kilowatt hours a year). Air conditioners show power consumption as kW/h (kilowatts an hour).

The energy rating label can be found on the following electrical appliances:

- refrigerators and freezers
- clothes washers
- clothes dryers
- dishwashers, and
- air conditioners.

Voluntary

TOP ENERGY SAVER AWARD Winner (TESAW)



TESAW label

(Australian energy efficiency award for products sold domestically)

TESAW is an endorsement label for high efficiency products. Among all energy rated appliances, it recognises the most energy efficient products on the market. It applies to both electric and gas appliances that carry an energy rating label.

If an appliance has a TESAW label, consumers can be sure it is one of the most energy efficient in its class.

The label can be found on:

- refrigerators and freezers
- clothes washers
- clothes dryers
- dishwashers
- air conditioners
- gas water heaters
- gas space heaters
- gas ducted heaters, and
- electric storage water heaters.

ENERGY STAR



Energy Star label

(Energy efficient label for internationally traded products)

The international Energy Star ® voluntary labelling program recognises the most energy efficient office equipment and home entertainment products. Energy Star ® rated products have a low standby power consumption (the power that many products consume when switched off at the appliance but still plugged into a power point). In Australia and New Zealand the Energy Star ® label is found on:

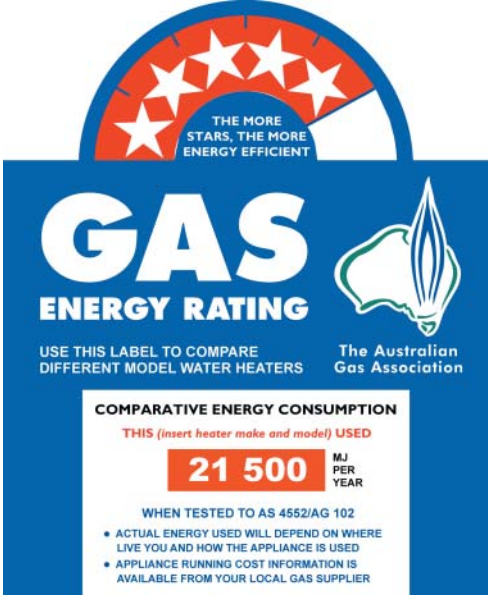
- TVs
- DVD players
- audio products
- computers
- printers, and
- photocopiers.

APPENDIX 3 Related Programs

During the three-year life of this work plan, the National Appliance and Equipment Energy Efficiency Program (NAEEEP) will be joined by two new programs covering gas and water appliances. These consumer-focused programs will use similar policy tools to NAEEEP's electrical products scheme and model their labels on the highly recognised, mandatory electrical appliance energy rating label.

Gas appliances

In December 2004, the MCE approved the introduction of the Gas Appliance and Equipment Energy Efficiency Program (GAEEEP). GAEEEP will follow the NAEEEP model and expand coverage from electrical products to gas appliances.



Gas - energy rating label


The gas energy rating label allows quick comparisons of energy efficiency when comparing appliances of the same type. The more stars, the more energy efficient the appliance. The label also provides an estimated annual energy consumption of the appliances, for example 21,500 MJ a year (megajoules a year). Gas ducted heaters show energy consumption as MJ per cubic meter of house heated a year.

The gas energy rating label can be found on:

- water heaters
- space (room) heaters, and
- ducted heaters.

Water appliances

In October 2004, environment ministers agreed to introduce a national water efficiency regulation scheme that will require water efficiency labels on all shower heads, washing machines, toilets and dishwashers. Taps, urinals and flow regulators are to be covered on a voluntary basis. A national water efficiency regulator will be appointed to oversee registration, compliance and enforcement of the scheme. A mandatory water label will be used on appliances from late 2005.



The image shows a water rating label for a washing machine. At the top, there is a semi-circular graphic with five blue stars. Below the stars, the text reads "The more stars the more water efficient". The main title of the label is "WATER RATING" in large, bold, black letters. Below this, it says "A joint government and industry program" and "Simoco Sahara clothes washers Model SS120 Load capacity 6 kg". The central part of the label features a box labeled "Water Consumption" with the number "55" inside, indicating "Litres per wash using Normal program". At the bottom, it states "When tested in accordance with Standard AS/NZS 6400" and "For more information and to compare appliances, refer to: www.waterrating.gov.au".

Water rating label

The mandatory water label allows consumers to make a quick comparison of different models' water efficiency. The more stars on the label, the more water efficient the appliance or product. The label also provides an estimated water consumption figure per wash, for example, 55 litres per wash.

Australian and New Zealand governments have an historic opportunity to develop a consistent resource label approach and to use the model of this joint work plan to accelerate implementation.

APPENDIX 4 National Framework for Energy Efficiency (NFEF)

Stage One Implementation Plan

Appliance and Equipment Energy Efficiency Package

DESCRIPTION

Objectives

The Appliance and Equipment Energy Efficiency package aims to drive on-going 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 National Appliance and Equipment Energy Efficiency Program (NAEEEP), increasing the stringency of existing minimum energy performance standards (MEPS) requirements through a process of regular review, and increasing the intensity of the program in key areas so that a range of program tools are used to maximise the energy saving outcomes.

Specifically, under this package, the MCE agreed that the existing NAEEEP 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.

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

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

- Independent experts estimate that the current program has an average benefit-cost ratio of 2.4 to 1, and is achieving greenhouse gas abatement at a cost of

minus \$30/tonne, indicating potential for further expansion.

- NAEEEP'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.
- NAEEEP'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, NAEEEP 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

NAEEEP is an existing nationally coordinated program 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 program in 2002 after initially operating a voluntary labelling scheme.

Since 2000, key factors which have underpinned the NAEEEP 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 program with New Zealand.

In its early stages, NAEEEP 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 NAEEEP 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 NAEEEP to be implemented under this package involves the continuation and expansion of the successful elements of the existing program as well as the addition of new elements.

NAEEEP's guiding principles will also be updated to facilitate the introduction of more stringent

TABLE A4.1: KEY ELEMENTS

Existing activity	New/expanded activity
Expanded Electrical Appliance and Equipment Program	
Maintenance of existing program – MEPS, labelling (mandatory and voluntary)	Complete regulation process for MEPS and labelling proposals released in 2004
Implementation of new or upgraded MEPS and labelling regulations agreed to by the MCE in 2004	Develop new/upgraded MEPS and labelling proposals for residential and commercial products
Gas Appliance and Equipment Program (GAEEEP)	
Complete 10-year strategic plan and three-year work plan for GAEEEP	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	Link to the National Resource Labelling strategy
Complete High Efficiency Product database	Develop national promotional campaign targeting retail stores
Monitoring and evaluation	
Continue tracking efficiency of whitegoods sold and consumer attitudes	Expand tracking to cover gas products
Continue compliance surveys	Projected estimates of 2005–07 work plan

MEPS levels and make the program responsive to other key policy drivers:

- Mandate to regulate any energy-consuming product, subject to a positive cost-benefit study, and stakeholder and community consultation. The benefits of reduced peak demand and reduced water consumption will also be taken into consideration in the regulation 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, or
 - 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 NAEEEP's forward work plan with New Zealand through a policy framework approved by the MCE.

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:

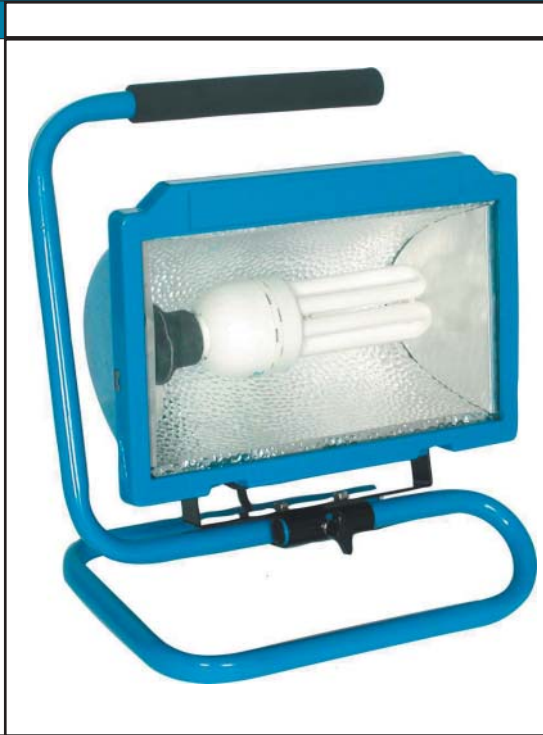
- detailed three-year work plans for electrical and gas appliances and equipment covering 2005-07, and
- 10-year product strategies, including the *National Standby Strategy, Greenlight Australia* and a range of others.

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

Delivery mechanism

The program for electrical and gas products, and any other product-types regulated, will continue to be implemented through the existing NAEEEP 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.



- A targeted check-testing program, and checks of retailers to enforce compliance, backed-up by a nationally consistent penalty process.

The package will also include the adoption of 10-year product strategies for key technologies as a new policy tool to increase the intensity of the program. These will be multi-sector, multi-fuel strategies to act as a catalyst for change and to identify opportunities for regulatory action, training, best practice and information programs. Industry prefers the certainty that such long-term strategies provide as it can plan for the strategic investments required to meet changes to regulations.

Governance

The electrical program will be overseen by the existing NAEEEEC, and the gas program will be overseen by GAEEEC comprising representatives from Australian, state, territory and New Zealand government energy agencies and gas technical regulators. Joint meetings of these committees will be held to discuss common issues. These committees will report to the MCE through the Energy Efficiency Working Group.

Stakeholders

Key stakeholders to be included in the consultation process are:

- suppliers, manufacturers, distributors and retailers of products targeted for regulation and their relevant industry associations
- designers, specifiers and installers of products targeted for regulation
- Australian and New Zealand government agencies with an interest in regulated products, and
- purchasers of products targeted for regulation, largely through consumer associations and other public interest groups.

APPENDIX 5 Frequently Asked Questions

Is NAEEEP targeting the right products?

The National Appliance and Equipment Energy Efficiency Committee (NAEEEC) advises the Ministerial Council on Energy (MCE) on proposals to regulate any energy-using product. This advice is structured according to three requirements, namely to:

1. Satisfy the Council of Australian Governments guideline for national regulation-making.
2. Complete the regulatory impact statement process (demonstrating the proposal is in the public interest).
3. Demonstrate adequate stakeholder support for the proposed regulation.

NAEEEC has chosen to implement this task by examining the case for regulating in Australia and New Zealand those products already regulated by a major trading partner. The rationale for this decision is reported below. NAEEEC however will examine the case for regulating products not currently regulated overseas should it appear the above pre-conditions could be met.

As NAEEEC can target any product, it has adopted some simple criteria to help prioritise analysis:

- What is the product energy use in absolute and comparative terms?
- What is the possible improvement offered by available technology?
- Can NAEEEC use the existing regulatory or quasi-regulatory analysis undertaken by trading partners to fast track the regulation of new products in Australasia?

The results help determine the priority afforded each potential target for inclusion in the regulatory program.

Is NAEEEC setting stringency levels high enough?

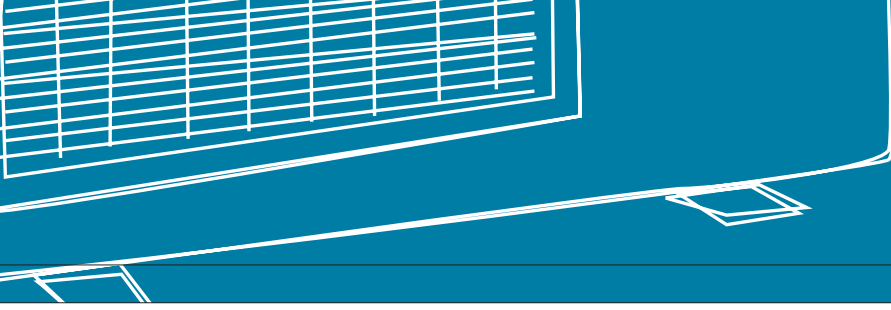
NAEEEC adopts a pragmatic approach to recommending stringency levels for proposed MEPS to MCE within the following operational bounds:

1. For products never before regulated, either:
 - a. MEPS equivalent to the most stringent imposed by a major trading partner for that product, or
 - b. MEPS at a negotiated level, somewhat less stringent taking into account the need for a transition from a non-regulated to regulated environment, with a view to moving to a more stringent level at a later date.
2. For products regulated before, either:
 - a. MEPS equivalent to the most stringent imposed by a major trading partner for that product, or
 - b. MEPS at a negotiated level, somewhat more stringent taking into account the outcomes of economic studies demonstrating the Australasian benefit in such regulation.

The actual approach adopted is a case by case decision often bound together with industry undertakings about how soon the regulation can commence.

How can Australia and New Zealand claim that this program will lead the world by 2010?

NAEEEC currently manages a regulatory program of a dozen products. By the conclusion of this three-year plan, NAEEEP could include as many as 40 products and could by 2010 have more products under regulation than any other nation.



Why match world's best practice, why not exceed it?

Australia and New Zealand responsible for less than 1% of the world appliance and equipment manufacture, this approach minimises the research and development costs imposed on Australasian industry while ensuring debates do not become bogged down in discussion about whether such technology exists. If the product is already regulated overseas, the question becomes not "if" but "when" the product will be regulated in Australia and New Zealand. NAEDEC however will examine the case for regulating products not regulated overseas should it appear the economic analyses show our community will benefit.



Ministerial Council on Energy-Members

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

The Hon Frank Sartor MP
Minister for Energy and Utilities
New South Wales

The Hon Theo Theophanous MP
Minister for Energy Industries
Victoria

The Hon John Mickel MP
Minister for Energy
Queensland

The Hon Alan Carpenter MLA
Minister for Energy
Western Australia

The Hon Patrick Conlon MP
Minister for Energy
South Australia

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

Mr Jon Stanhope MLA
Chief Minister
Australian Capital Territory

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

For the purpose of trans-Tasman issues, New Zealand has full voting rights:

The Hon Trevor Mallard
Minister of Energy
New Zealand

National Appliance and Equipment Energy Efficiency Committee - Member Organisations

Australian Greenhouse Office,
Department of the Environment and Heritage

NSW Department of Energy,
Utilities and Sustainability

Office of the Chief Electrical Inspector Victoria

Sustainable Energy Authority 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

South Australian Office of the Technical Regulator

Tasmanian Office of Energy

ACT Office of Sustainability,
Chief Minister's Department

Northern Territory Department of Infrastructure,
Planning and Environment

New Zealand Energy Efficiency and Conservation Authority

New Zealand Ministry for Environment

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