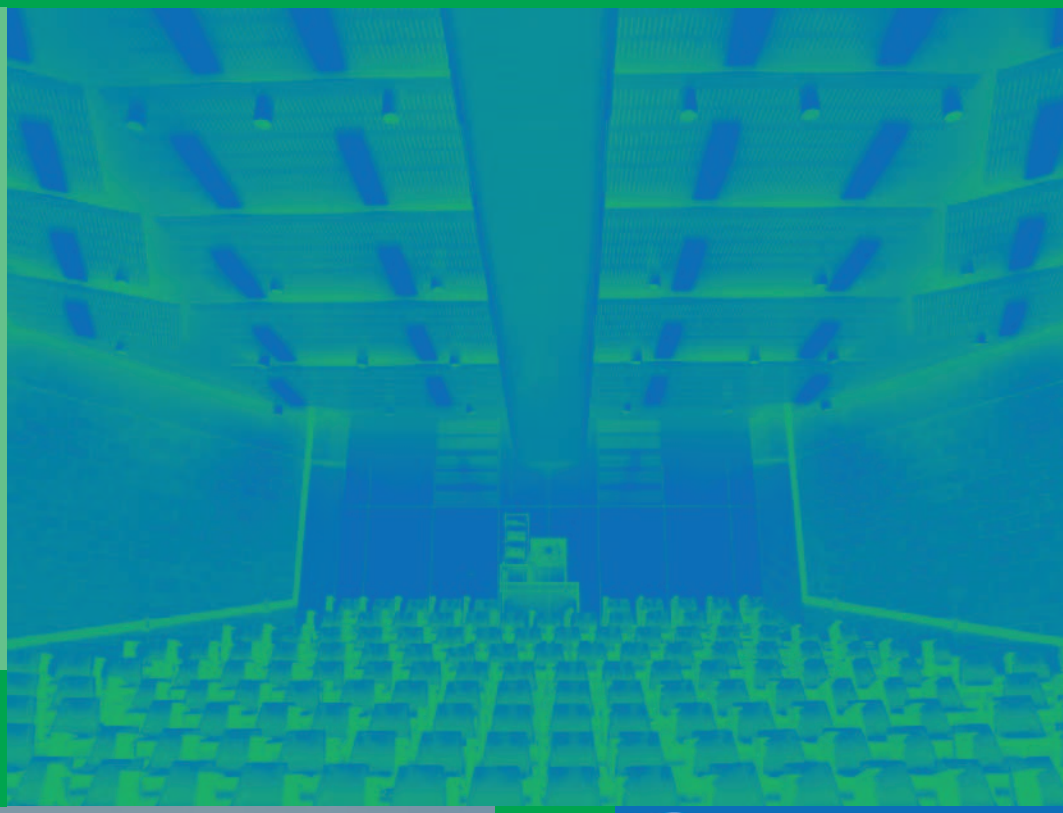
National Appliance & Equipment Energy Efficiency Program

Greenlight Australia

Work Plan for the Triennium 2005/06 to 2007/08



An initiative of the Ministerial Council on Energy forming part of the National Framework on Energy Efficiency

April 2005
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For Public Comment

Australian Government

Department of the Environment and Heritage
Australian Greenhouse Office

Dear stakeholder

The Australian and New Zealand Appliance and Equipment Energy Efficiency Program has released the inaugural work plan for *Greenlight Australia*, the long term strategy to improve the energy efficiency of lighting products. This document is the first in a series of rolling plans. It reports on products targeted for potential regulation in both countries for the three year period, 2005/06 to 2007/08.

On 27 April 2005, the content of the *Greenlight Australia* work plan will be workshopped by consultants at a forum in Melbourne to explain the future priorities of the program.

The National Appliance and Equipment Energy Efficiency Committee (NAEEEC), the committee comprising representatives of government agencies in both Australia and New Zealand responsible for developing and implementing the work plan, would appreciate comments on the work plan from stakeholders.

Stakeholders have a period of several months to consider the work plan prior to regulators completing their planning processes. Any comments received before 30 June 2005 will be taken into consideration by NAEEEC prior to finalising this plan.

Please forward written comments to energyefficiency@deh.gov.au or contact the Secretary of NAEEEC, Sylvia Shepherd on (02) 6274 1674.

I look forward to working with you in implementing *Greenlight Australia*.

Shane Holt
Chair
National Appliance and Equipment
Energy Efficiency Committee
21 April 2005

Australian Government

Department of the Environment and Heritage
Australian Greenhouse Office

The Greenlight Australia Work plan for 2005/06 to 2007/08 is available online at www.energyrating.gov.au

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Abbreviations

CFL	Compact fluorescent lamp
HID	High intensity discharge
HPS	High pressure sodium
LCA	Lighting Council Australia
MEPS	Minimum energy performance standards
MH	Metal halide
MV	Mercury vapour
NAEEEC	National Appliance and Equipment Energy Efficiency Committee
NAEEEP	National Appliance and Equipment Energy Efficiency Program
NATA	National Association of Testing Authorities

1. Introduction

Greenlight Australia is the agreed Government strategy to improve the efficiency of lighting products and reduce greenhouse gas emissions from lighting over the period 2005-2015. It was developed in consultation with the Australian and New Zealand lighting industry and is supported by Lighting Council Australia.

The strategy and the preceding discussion paper (available at energyrating.gov.au) outline the background to the lighting efficiency projects proposed for the period 2005-2015. The table below lists the projects to be developed over the next three years.

Greenlight Australia is a dynamic strategy that has a ten year time horizon. It is being implemented through a series of rolling workplans to enable the strategy to reflect changing market conditions, opportunities and project priorities. This workplan is the first in a series and covers the period 2005/06 to 2007/08. Its purpose is to describe the tasks required to implement the initial projects identified in the Greenlight Australia Strategy.

Table 1: Greenlight Australia Projects 2005/06 to 2007/08

Project	Commence Project Development		
	2005/06	2006/07	2007/08
Energy Allstars product database	X		
Building Code of Australia	X		
Education and training for specifiers	X		
MEPS for extra low voltage halogen transformers	X		
MEPS for compact fluorescent lamps	X		
Public amenity lighting	X		
Enforcement protocol	X		
MEPS for halogen and reflector lamps		X	
MEPS for luminaires		X	
MEPS for high intensity discharge lamps			X
MEPS for high intensity discharge ballasts			X

2. 2005/06 Projects

The projects that will commence development in 2005/06 have been selected based on their effectiveness in reducing energy consumption, their current state of development and the potential to match international measures. Projects have also been selected where it is possible to take advantage of strategic opportunities such as upcoming reviews of Australian Standards or Building Codes.

Several of the proposed projects involve the introduction of new regulatory standards, requiring considerable liaison with the relevant Standards Australia committees. Lighting Council Australia, Standards Australia and other industry partners will be actively involved in developing these projects.

2.1 Energy Allstars

The Energy Allstars database (www.energyallstars.gov.au) is a new resource that is being developed by Australian Governments. It lists only the most energy efficient appliances and equipment and encourages purchasers and specifiers to select these models. The website will be officially launched in mid 2005 and will have new product categories added progressively over the next few years.

For each product category, a set of performance criteria will be established for eligible models, together with an online product registration form. Lighting Council Australia will actively assist in identifying appropriate lighting products to be listed on the website, as well as their performance criteria.

2.2 Building Code of Australia

The Building Code of Australia is in the process of adopting a range of energy efficiency measures, including several measures targetting lighting systems in multi-unit residential and commercial buildings. There is a strategic opportunity for NAEEEC to support these current initiatives, which are summarised in the table below.

NAEEEC recognises the importance of the work being undertaken by the Australian Building Codes Board in this area. In 2005 NAEEEC will commence a dialogue and work closely with the Board to address lighting in new buildings. NAEEEC will report regularly on the progress of this process. NAEEEC will also consider benchmarking the actual performance of lighting systems installed in new buildings.

Table 2: Building Code of Australia Project

Building Type	Summary of Existing and Proposed Deemed-to-Satisfy Lighting Provisions*	Status
Houses		No current plans.
Multi-unit residential dwellings and accommodation	o Minimum efficacy for bathroom lighting. o Maximum lamp power density for common areas and accommodation rooms. o Concessions for intelligent lighting controls.	For adoption May 05.
Commercial buildings	o Maximum illumination power density for interior spaces. o Concessions for intelligent lighting controls. o Mandatory time switch or occupancy sensor for large spaces. o Minimum efficacy and sensing requirements for exterior lighting.	Currently in draft form for adoption May 06.

** Note that the above table is a brief summary of the main provisions. Detailed provisions are outlined in the Building Code and in the Regulation Documents produced by the Australian Building Codes Board (abcb.gov.au).*

2. 2005/06 Projects (cont)

2.3 Education and Training for Specifiers

In order to realise the potential of efficient lighting in Australia, parties that specify new lighting installations need to clearly understand the benefits and principles of efficient lighting design and in turn choose appropriate technologies. Education and training for these parties has been included in Greenlight Australia because of the influence this group has in specifying which lighting products to invest in and how they are incorporated into building design. During 2005/06, NAEEEC will investigate an effective education and training project. This will include scoping the appropriate targets, relevant messages, potential partners and delivery mechanisms.

2.4 MEPS for Extra Low Voltage Halogen Transformers

NAEEEC is proposing to introduce MEPS for transformers used with extra low voltage tungsten halogen lamps, which will be a world first for Australia. Other countries with high rates of growth of these products have shown considerable interest in this initiative and NAEEEC will encourage these countries to harmonise with Australia.

There is no existing standard for testing the energy performance of extra low voltage halogen transformers. The test method for these transformers will be based on the test standard for external power supplies developed through an international collaboration between the United States, China, Europe and Australia (currently in draft form as DR 04528 and DR 04529). This method will be modified to suit extra low voltage halogen transformers, and can be adopted as a new standard or as an additional part to an existing standard.

Australia is already committed to presenting the external power supply test standard to the IEC as the basis for an international standard, and it is intended that the halogen transformer standard would be included in this IEC process, given industry support.

The tasks and proposed timeline for the introduction of MEPs for halogen transformers are summarised in the table below.

Table 3: ELV Halogen Transformer MEPS Project

Task	Target Completion Date	Notes
NAEEEC product profile	April 05	To be released at NAEEEC forum.
Industry Consultation	2nd qtr 05	Industry encouraged to provide written feedback.
Right Light 6 conference, Shanghai	May 05	Present Australia's proposals to international stakeholders and encourage other countries to harmonise.
Draft standards	2nd & 3rd qtr 05	Modify external power supplies test method to suit extra low voltage halogen transformers
Consideration by relevant Standards Australia Committee (EL-041-08)	3rd & 4th qtr 05	Standards Australia committee to consider first draft of Regulatory Standard, and subsequently to consider revisions.
Release of Standard for public comment	4th qtr 05 - 1st qtr 06	
Final Standard published	1st qtr 06	
Regulatory impact statement	2nd qtr 06	A further opportunity for industry and interested parties to comment on the proposals
Ministerial approval	1st qtr 07	
States & Territories introduce legislation to enforce Standard	2nd qtr 07	Each State and Territory calls up the Australian Standard, to ensure national consistency
First review period	2010	Current regulations to be reviewed, and the next round of MEPS and high efficiency levels to be finalised.

2. 2005/06 Projects (cont)

2.5 MEPS for Compact Fluorescent Lamps

The demand for compact fluorescent lamps (CFLs) in Australia is growing rapidly and the range of available products is expanding. In this context, consumers should be able to easily identify and purchase quality CFLs that meet their requirements. NAEEEC intends to introduce MEPS for CFLs, together with an endorsement label for complying high performance products.

MEPS and endorsement labels for CFLs exist in many other countries and there is considerable interest in the harmonisation of CFL standards between China, USA, Europe, Brazil and other countries. Australian CFL test standards AS 60969 and AS 60901 already exist, and are technically equivalent to the standards used in Europe and China (IEC 60969 and IEC 60901). It is intended that Australian MEPS and High Efficiency levels will match the equivalent existing Chinese standards for self-ballasted CFLs.

Subject to the agreement of Standards Australia, a further part will be added to each Australian Standard, detailing a mandatory minimum energy performance level and a more stringent voluntary high efficiency level (suitable for an endorsement label and Energy Allstars registration).

The tasks and proposed timeline for the introduction of these measures are presented in the following table, although it should be noted that Australia is collaborating with a number of other countries to introduce this project.

Table 4: CFL MEPS Project

Task	Target Completion Date	Notes
NAEEEC product profile	April 05	To be released at NAEEEC forum.
Industry Consultation	2nd qtr 05	Industry encouraged to provide written feedback.
Right Light 6 conference, Shanghai	May 05	Australia is hosting a special workshop at the conference to present proposals for the international harmonisation of CFL standards.
Draft Part 2 of Standards	2nd to 4th qtr 05	Standards AS60969 and AS60901.
Final Standard published	1st qtr 06	
Regulatory impact statement	2nd qtr 06	A further opportunity for industry and interested parties to comment on the proposals
Ministerial approval	1st qtr 07	
States & Territories introduce legislation to enforce Standard	2nd qtr 07	Each State and Territory calls up the Australian Standard, to ensure national consistency
First review period	2010	Current regulations to be reviewed, and the next round of MEPS and high efficiency levels to be finalised.

2. 2005/06 Projects (cont)

2.6 Public Amenity Lighting

There is considerable scope to eliminate inefficient lighting practices from public amenity lighting, particularly from category V (main road) lighting, which represents around two-thirds of the total energy consumption of road lighting. The primary purpose of category P (minor road) lighting is to serve pedestrians. The lack of a well-developed, universally-accepted and efficient lighting solution for category P roads results in a number of unique and complex challenges for energy efficiency. NAEEEC's initial goal is to develop measures aimed primarily at removing inefficient practices from category V lighting, then to examine measures aimed at category P lighting as efficient technologies mature in this area.

NAEEEC will assist in the development of a holistic energy performance standard for category V lighting, taking into account the lamp, ballast, luminaire, control system and overall design of each installation. This is expected to take the form of a 'design energy limit' for new category V lighting installations, expressed in watts per linear metre. The methodology and standard should be developed with a view to expansion to incorporate category P lighting. The tasks and proposed timeline for the introduction of this measure are outlined in the following table.

2.7 Enforcement Protocol

NAEEEC will work with Lighting Council Australia and other industry bodies in developing and implementing an appropriate enforcement protocol for lighting products subject to MEPS, including testing, reporting and education in relation to product compliance. A steering committee will be established to set priorities, oversee the enforcement protocol and manage the project budget. The committee will work with the National Association of Testing Authorities (NATA) to accredit test methods and laboratories.

Table 5: Public Amenity Lighting Project

Task	Target Completion Date	Notes
Technical report to NAEEEC	3rd qtr 05	To cover technical opportunities and means of implementation and enforcement
NAEEEC product profile	4th qtr 05	Report released at NAEEEC Spring Forum, October 05
Industry consultation	4th qtr 05	
Draft standards	4th qtr 05- 3rd qtr 06	Draft an additional part to AS 1158
Consultations with Standards Australia	2nd & 3rd qtr 06	Standards Australia to consider first draft of standard, and subsequently to consider revisions
Release of Standard for public comment	4th qtr 06	
Final Standard published	4th qtr 06	

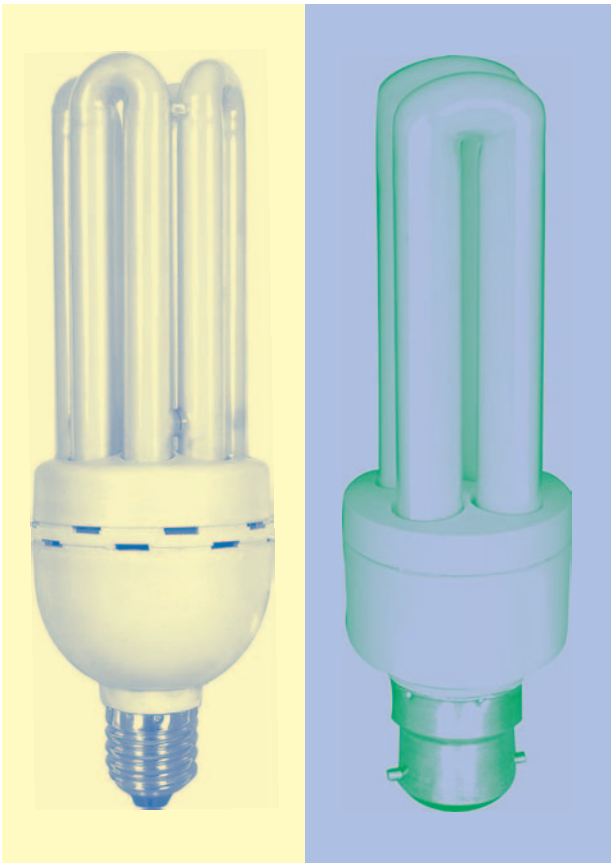
3. 2006/07 and 2007/08 Projects

The proposed 2006/07 and 2007/08 MEPS projects generally involve similar development activities to the MEPS projects outlined in section 2. As these projects are currently not at a highly developed stage, only the dates for finalisation of the relevant NAEEEC technical reports have been given. If recommended for adoption, MEPs would become implemented 2-3 years after completion of each technical report.

3.1 MEPS for Halogen and Reflector Lamps (2006/07)

The market for halogen lamps is growing rapidly, with sales exceeding one million lamps per month. It is considered desirable to regulate the efficacy of these lamps, as a significant proportion currently sold are reportedly poor performing models. The proposed Greenlight Australia MEPS project for halogen lamps could be expanded to cover all reflector lamps, effectively eliminating non-halogen reflector lamps and poor-performing halogen lamps in favour of efficient halogen models.

Development work for this MEPS project will commence in 2006/07. Some product testing is likely to be required as lumen output data for reflector lamps is not readily available. A NAEEEC technical report for halogen and reflector lamps will be finalised in the second half of 2006.



3.2 MEPS for Luminaires (2006/07)

MEPS for residential luminaires is not feasible, due to the complex nature of this market and the perceived difficulty in achieving energy savings from such an initiative. MEPS for luminaires in the commercial and industrial sectors may be feasible as there is wide variation in the performance of these products.

A performance measure has already been developed by Lighting Council Australia for linear fluorescent luminaries and this could be extended to cover CFL and HID luminaires. Building on the work previously carried out by Lighting Council Australia, a NAEEEC technical report will be finalised in the second half of 2006 for luminaires.

3. 2006/07 and 2007/08 Projects (cont)

3.3 MEPS for High Intensity Discharge Lamps (2007/08)

With respect to the high intensity discharge (HID) family of lamps, there appears to be little variation in the efficacy of mercury vapour (MV) lamps, and wide variation in the efficacy of high pressure sodium (HPS) and metal halide lamps. MEPS could potentially be implemented to eliminate the worst performing HPS and metal halide lamps.

MEPS levels could be aligned with existing Chinese and Californian requirements, however development of any MEPS scheme for these lamps should take into account the holistic public amenity lighting scheme proposed in section 2.6. Development work for this project would commence in 2007/08, and a NAEEEC technical report will be finalised in the second half of 2007.

3.4 MEPS for High Intensity Discharge Ballasts (2007/08)

There is a wide variation in the efficiency of ballasts used for high intensity discharge (HID) lighting. MEPS for high intensity discharge (HID) ballasts would draw from recommended performance levels prescribed in Australian Standards, as well as from other international standards including the existing Chinese standards for HID ballasts.

The MEPS scheme would potentially cover indoor as well as outdoor HID lighting and would take into account the holistic public amenity lighting scheme proposed in section 2.6. Development work for this project will commence in 2007/08 and a NAEEEC technical report will be finalised in the second half of 2007.

Ministerial Council on Energy

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
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Chief Minister
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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

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,
Department of Industrial Relations
Queensland Department of Energy

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ACT Office of Sustainability,
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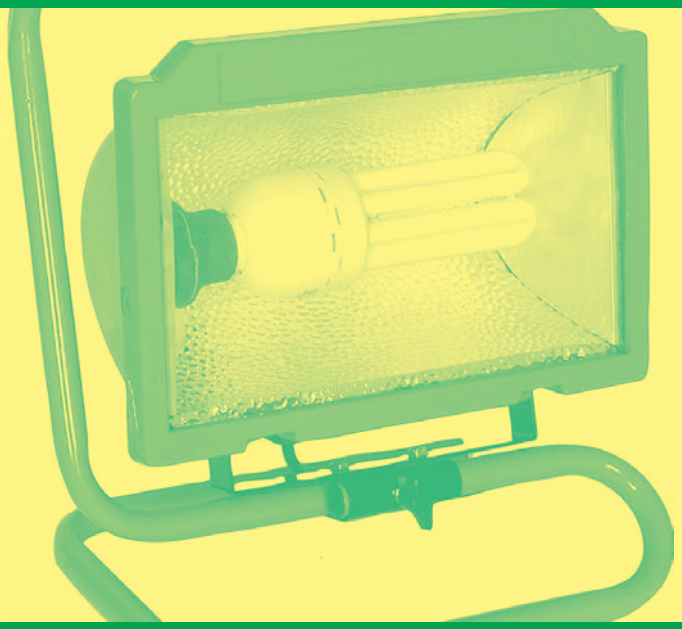


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