



**Submission by**

**Alternative Technology Association**

**on**

**Phase-Out of Inefficient Incandescent Lamps and Standards for  
Compact Fluorescent Lamps**

**31<sup>st</sup> January 2008**

**By email to:** [energyrating@environment.gov.au](mailto:energyrating@environment.gov.au)

**For further information or enquiries contact:**

Brad Shone  
Energy Policy Officer  
ATA – Alternative Technology Association  
(03) 9631 5406  
E-mail: [Brad.Shone@ata.org.au](mailto:Brad.Shone@ata.org.au)

## ATA's submission to the *Phase-Out of Inefficient Incandescent Lamps and Standards for Compact Fluorescent Lamps* Final Technical Report

The Alternative Technology Association (ATA) welcomes the opportunity to provide comment on the *Phase-Out of Inefficient Incandescent Lamps and Standards for Compact Fluorescent Lamps* Final Technical Report, as prepared by Beletich Associates, and the proposed Minimum Energy Performance Standard (MEPS) for incandescent and compact fluorescent lamps (CFL).

ATA is a not-for-profit organisation established in 1980 to empower our community to develop and share sustainable solutions for the way we live and to promote the uptake of sustainable technologies in order to protect our environment. The organisation provides service to over 4000 members, who are actively promoting sustainability in their own homes by using good building design and implementing water conservation and renewable energy technologies. ATA advocates in both the government and industry arena for ease of access and continual improvement of these technologies, as well as the production and promotion of information and products needed to change the way we live.

ATA would like to offer our broad support for the proposal to introduce minimum performance standards for lighting in Australia. The consumption of electricity for domestic lighting is responsible for around 12% of a typical home's greenhouse gas emissions, and hence is a significant contributor to Australia's greenhouse gas emission. Given the readily available, economical and significant savings which are available from the adoption on efficient lighting options, the introduction of stringent MEPS for lighting would seem like a logical first step, and we support the investigation of this option.

### General Comments

Whilst ATA welcomes moves to create standards for lighting and a move away from incandescent lighting options, there are a number of aspects of the Final Technical Report that are concerning. Firstly, and most significantly, there seems to be a considerable disconnect between the intention of the proposal as it was announced (or at least what could be considered to be a reasonable interpretation of the intention), and the proposal as outlined in the Final Technical Report (the Report).

In announcing the proposal in a Media Release on the 20<sup>th</sup> of February 2007, the then-Minister for the Environment and Water Resources, Malcolm Turnbull, said the following:

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

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

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

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

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

*Working with its state and territory counterparts, the Australian Government will gradually phase out all inefficient light bulbs and is aiming for full enforcement of new lighting standards legislation by 2009 to 2010.*

The Hon Malcolm Turnbull MP  
MEDIA RELEASE (T11/07)  
20 February 2007

We strongly believe that any reasonable interpretation of this announcement would lead to the conclusion that, where possible and in most instances, incandescent lighting would be banned in favour of compact fluorescent lamps and other significantly more efficient options. However, under the proposal contained within the Report, whilst some of the worst-performing incandescent lights will be banned, a significant number of inefficient incandescent lighting options will still be permitted, even where considerably more efficient CFL options are available.

Further, page 9 of the Report states the objectives of the intervention to include 'to remove inefficient lamps from the marketplace where efficient replacement alternatives exist'. However, the proposed MEPS curve shown in Figure 4 on page 10 (reproduced below) still allows for a number of incandescent lights for which significantly more efficient options are presently available. Significantly, this includes many ELV halogen globes where more efficient globes, such as IRC (Infra-Red Reflective Coating) halogen and mains voltage CFL alternatives exist.

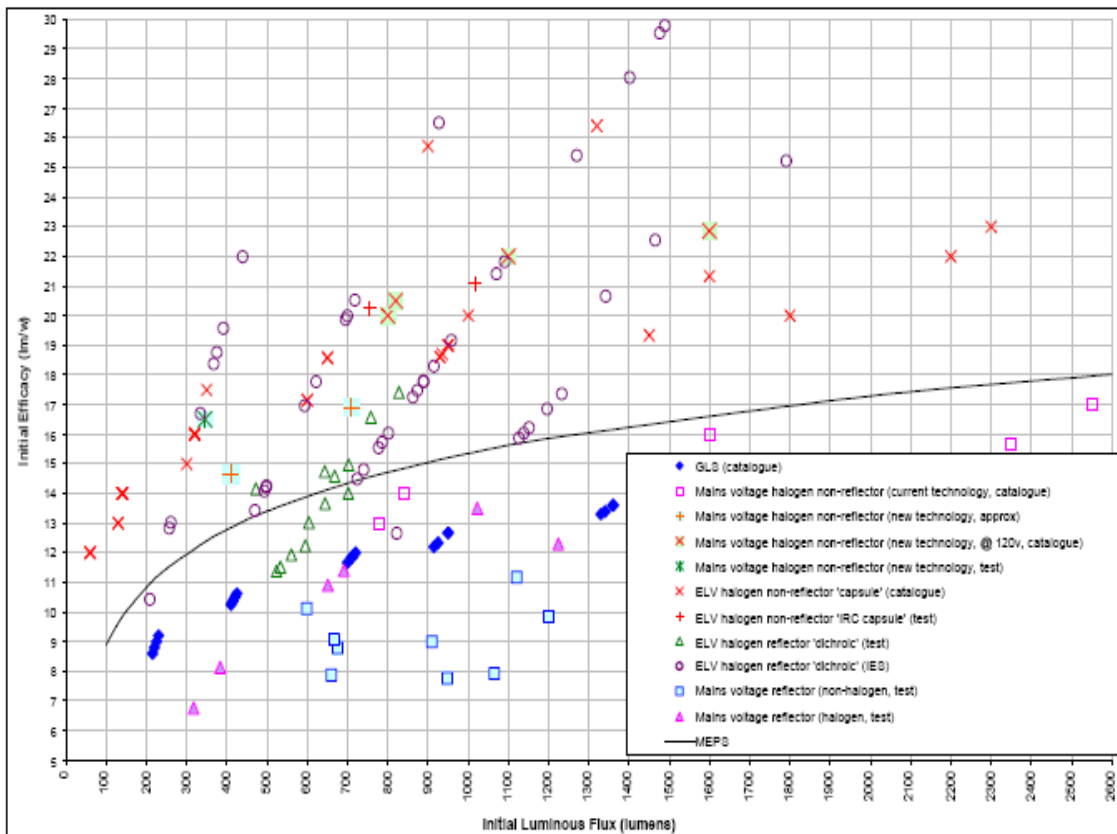


Figure 4 – MEPS level for incandescent lamps

Further, on page 5 of the Report it is acknowledged that "the efficacies for extra low voltage lamps do not include transformer/converter losses", and on page 8 that that significantly more ELV halogen downlights are being installed in homes as alternatives to GLS incandescent lamps. As a result of these two factors the adoption of ELV halogen lamps as an alternative to GLS lamps actually leads to increased electricity consumption and resultant greenhouse emissions. Failure to introduce measures which will permit only the most efficient lighting alternatives to be installed may well see an increased uptake of ELV halogen lighting and thus worse environmental outcomes – contrary to the intention of the proposal.

Additionally, limiting the MEPS curve to an **initial efficacy  $\geq 2.8 \times \ln(\text{initial lumens}) - 4.0$** , as proposed and resulting in a MEPS efficacy of between 13 and 17 lumens per watt will not deliver the greenhouse

benefits claimed by the minister in announcing the proposal. Whilst emissions savings in the order of 800,000 tonnes per annum may be achievable, the longer-term target of 4 million tonnes per annum by 2015 will not be achieved without a significant increase in this MEPS standard. Even with a delayed increase in the MEPS to 20 lumens per watt by 2013, thus it is difficult to see how anything approaching 4 million tonnes of savings will be achieved. Given advances in lighting technology, we believe that a higher target should be set initially, increasing to an even more ambitious target in 2013 and beyond.

## Omissions and Errors

The Report displays a number of omissions and errors in analysis. For example, possibly the most glaring omission is the provision of graphs of the performance of a range of lighting options (Figure 1 & 4) which fails to represent CFL alternatives. Whilst it is true that CFLs would not have fitted on the graph as displayed due to scale limitations (they, quite simply, would have been 'off the scale'), this is all the more reason to include them – to show the significant relative advantage of these lamps relative to other options. Failure to do so gives a false impression of the relative advantages and disadvantages of the lighting types shown.

The Report also fails to provide any alternative to the option presented, or a cost-benefit analysis of this and other alternatives, and as such provides a poor basis to determine the best way to proceed with the introduction of performance standards. Indeed, page 10 states that 'A minimum lamp efficacy target has been agreed with Lighting Council Australia', an overt recognition that very little consultation has been undertaken in determining the level set for the MEPS. It is disappointing, to say the least, that such limited consultation was undertaken in this instance, and that only the views of industry were sought in determining the proposed MEPS. Such narrow consultation and the subsequent settling on a single target with no cost-benefit analysis or real justification is disappointing, leaving both the task of providing feedback difficult and the trust in being listened to faint.

A further omission is evident in *3.3 Dimming and 2-Wire Control Equipment* on page 9, which claims that 'many CFLs will not operate reliably on circuits that incorporate a dimmer switch or other control device', implying that alternatives do not exist. Whilst many over-the-counter readily available CFLs may not be suitable for that purpose, specialist shops already supply dimmable CFLs which, while expensive at present due to them being especially imported, would soon come down in price with the increased demand and subsequent supply.

## Recommendations

ATA supports the intention of the proposal, to remove inefficient incandescent and compact fluorescent lamps from the marketplace, and welcomes the introduction of MEPS which will do some way towards doing this. We strongly support the introduction of appropriate labelling for lamp packaging, and would welcome additional community education on lighting to dispel many of the long-held myths (IE: low voltage = energy efficient). We also support the call for additional standards for CFLs.

However we feel that the performance level set and the narrow consultation undertaken in reaching these levels have resulted in a less-than-optimal minimum performance standard and reduced public confidence in both process and outcome.

ATA strongly recommends that:

- The current proposal for a MEPS standard for lighting proceeded as planned, however with an increase in the threshold by at least 5 lumens per watt. That is, the initial MEPS curve should be increased to:

$$\text{Initial efficacy} \geq 2.8 \times \ln(\text{initial lumens}) + 1.0$$

In addition, there should be a commitment increase in the standard to an average of 30 lumens per watt (or + 11.0) in the near future as more efficient incandescent globes become available.

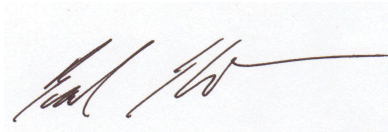
- A mandatory energy labelling system is introduced to differentiate products both on a star rating efficiency system (based on lumens/watt) and clear labelling displaying the output lumens of each lamp.
- Mandatory energy rating labelling be followed up with a public education campaign to inform people on the importance of asking for lumens rather than watts, and helping to develop widespread understanding of any introduced star rating scheme for efficiency.
- Standards are introduced, as proposed, for CFLs including minimum efficacy, lumen maintenance, power factor, switching withstand and lifetime, and maximum mercury content and premature lamp failure rate.
- A national fluorescent (CFL and linear tube) recycling scheme is introduced to minimise the risk of mercury from disposed lamps entering the environment. Such a scheme should also be accompanied by a public education campaign on the importance of the correct disposal of fluorescent lamps and lighting.

ATA believes that any lighting MEPS scheme needs to incorporate the above range of factors in order to deliver the maximum possible benefit and achieve the goals set out in the Minister's initial announcement. It is essential that any measures introduced are done so in light of driving best practice in lighting in order to maximise electricity and greenhouse gas emission savings, reduce costs to consumers and achieve the best possible overall outcome for both the environment and the society as a whole.

### Further Contact

We would welcome the opportunity to discuss any aspect of this submission further. Please direct any questions or further correspondence to Brad Shone, Energy Policy Manager, on 9631 5406 or [Brad.Shone@ata.org.au](mailto:Brad.Shone@ata.org.au)

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Brad Shone', is written over a light blue rectangular background.

Brad Shone  
Energy Policy Manager  
ATA