



national  
electrical and  
communications  
association

# **Energy Efficient Lighting Consultation RIS Submission response**

Prepared by: Suresh Manickam

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#### **NATIONAL OFFICE**

Level 4,  
30 Atchison Street,  
St Leonards NSW 2065  
Locked Bag 1818,  
St Leonards NSW 1590

**T** +61 2 9439 8523  
**F** +61 2 9439 8525  
**E** [necanat@neca.asn.au](mailto:necanat@neca.asn.au)  
**W** [www.neca.asn.au](http://www.neca.asn.au)  
ABN 78 319 016 742

2 March 2017

The Hon Josh Frydenberg MP  
Minister for the Environment and Energy  
PO Box 6100  
Parliament House  
CANBERRA ACT 2600

Dear Minister Frydenberg,

**Re: response to the Energy Efficient Lighting Consultation Regulation Impact Statement**

Thank you for the opportunity to comment on the E3 – Equipment, Energy, Efficiency Lighting Consultation Regulation Impact Statement (RIS) that considers a range of proposals to improve the energy efficiency of commercial and residential lighting across Australia and New Zealand.

The National Electrical and Communications Association (NECA) is the peak industry body for Australia's electrical and communications contracting industry that employs more than 165,000 workers with an annual turnover in excess of \$23 billion. Presently celebrating 100 years of operation and member advocacy, our more than 4,800 members operate businesses across the Australian building, infrastructure and commercial construction sectors including the provision of these services to all areas of Local, State and Federal Government.

Additionally, through its Group Training and Registered Training Organisations, NECA maintains a significant presence within the industry training space, maintaining responsibility for the employment, learning and skilling of approximately 4,500 apprentices who will develop into future electricians and contractors.

NECA is well qualified to provide background and input into this RIS, given the significant role that our member electrical contractors play in the building and construction process with the installation of lighting and communications data.

The estimated value of Australian lighting market sales is said to be worth more than \$1.5 Billion annually with around 80 million lamps sold in Australia each year and an estimated 400 million lamps presently installed across the country<sup>1</sup>. Lighting is

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<sup>1</sup> [Lighting Council of Australia](#)

largely manufactured and imported from outside of Australia and is sold across a wide range of outlets including electrical retail suppliers, supermarkets and hardware stores, specialist lighting stores and online retailers and direct from the manufacturer or their supplier. The vast bulk of lighting sales are used for residential purposes. The average Australian household contains 40 fixed luminaires<sup>2</sup>.

NECA acknowledges the Federal Government's interest in this matter via the Department of Environment and Energy, arising from the investigative work undertaken by the Council of Australian Government (COAG) Energy Council to deliver savings for energy use, greenhouse emissions and costs for consumers and business. COAG's work has been conducted on the basis that lighting use makes up a significant proportion of the average household and commercial sectors energy consumption and that a large number of consumers and businesses continue to remain exposed to unnecessarily high energy costs through the purchase of lamps and luminaires that are not as efficient as they could be. This is despite the introduction of Minimum Energy Performance Standards (MEPS) for incandescent lamps in 2009 which resulted in a phase out of most incandescent lamps across Australia that led to a one third reduction in household energy use<sup>3</sup>. Additionally, double capped fluorescent lamps (or linear fluorescent lamps) and ballasts for fluorescent lamps have been subject to MEPS since 2004.

The Energy Efficient Lighting Consultation RIS outlines four proposals with six options, seeking to enhance and increase the speed of energy efficient lighting transition while making the recommendation to phase out the use of inefficient halogen lighting coupled with minimum energy performance standards for LED lighting and non-integrated commercial luminaires.

We welcome and support the intent of the Government's proposals that seek to address concerns or roadblocks that may hinder the uptake of energy efficient lighting and other LED technology across Australia. In June 2016, NECA expressed its support for the introduction of the E3 Prioritisation Plan<sup>4</sup>. This process has been developed and undertaken from the findings of the 2015 Greenhouse and Energy Minimum Standards (GEMS) Review, the COAG Energy Council and its National Energy Productivity Plan (NEPP) and with reference to emission targets and the reduction in energy costs for consumers and business.

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<sup>2</sup> 2010 Residential Lighting Report – [www.energyrating.gov.au/document/report-2010-residential-lighting](http://www.energyrating.gov.au/document/report-2010-residential-lighting)

<sup>3</sup> E3, *Residential Baseline Study: 2000-2030*, prepared by Energy Consult, 2015; *EECA End Use Database*

<sup>4</sup> <http://neca.asn.au/content/energy-efficient-lighting-focus>

## Background

In November 2016, NECA was approached by Karen Moloney, Director – Lighting and Communications team of the Department of Environment and Energy's Equipment Energy Efficiency (E3) Branch, alerting our organisation to the launch of the Energy Efficient Lighting Consultation RIS and inviting us seek to comment upon its recommendations and to seek our input and thoughts in two key areas relating to work undertaken by electrical contractors. These are:

- Hardwiring installation of LED luminaires; and
- Promotion of LED lamp and transformer compatibility tool.

### Hardwiring installation of LED luminaires

The hardwiring of LED (or Solid State Lighting, SSL) luminaire installations has been brought to the attention of the Department of Environment and Energy's E3 branch as a cost impediment to the transition and introduction of more energy efficient lighting.

Following the introduction and advancement of new LED Lighting technology, there has been an emergence in the market of integrated fixtures where the source of the LED light is not in the form of the lamp, but rather a fixed light source component within the luminaire which is common amongst products used for the residential sector. Therefore when an integrated LED luminaire is hard-wired and fails, a full replacement of the product is required, necessitating an additional cost to the householder or business for the replacement product with the callout and labour fee charged by a qualified electrician or electrical contractor.

With the average number of luminaires per Australian household equaling 40, the potential for the proliferation of additional integrated products and the cost to replace and cover the maintenance costs provides a disincentive for the take-up in new LED lighting technology.

In states such as Victoria, an LED luminaire with a plug in socket base is classified as fixed electrical equipment and therefore should only be replaced by a qualified electrician. However, a solution to this issue is the installation of a socket that allows for an LED luminaire to be supplied with a cable and plug that could be easily replaced by the homeowner or business when necessary. NECA has previously been contacted by E3 to ascertain our organisation's views upon a proposed change

to the wiring rules (AS/NZS 3000:2007) or the Luminaire rules (AS/NZS 60598.1:2013) that would allow for such a provision, via the Standards Australia EL-001 Committee. Support for this amendment was provided by the Lighting Council of Australia, however the committee did not agree to an amendment on the basis that it was not considered a safety concern.

The E3 branch of the Department have argued that whilst they are not seeking to question the jurisdictional requirement, they are requesting consideration for installation of a plug socket base for LED luminaires as the preferred solution to minimise ongoing household maintenance costs. Without this change, E3 and the Lighting Council of Australia remain concerned that this hardwiring practice will erode household and business savings delivered through the adoption of LED technology.

A further meeting of the Standards EL-001 (Wiring Rules) Committee is due to meet in mid-February to discuss a proposal that seeks to place a stronger definition upon installation wiring by excluding the use of short extension cords for the connection to a single appliance or luminaire from the definition of AS/NZS 3000:2007 Clause 3.9.7.4, provided the length of the cord doesn't exceed more than 2.5 metres in length and has a current-carrying capacity of not less than the current rating or setting of the circuit protective device or the actual load of the appliance or luminaire.

Such an amendment more clearly enables consumers to install lighting through the use of plug-in short extension cords through a ceiling space to connect lighting. Further amendments to Clause 1.4.7 for a fixed appliance could also be made to ensure that wiring for ceiling lights is considered installation wiring which therefore requires an electrical license to install.

### ***NECA response***

NECA notes the points raised by the E3 Department with regards to the practice of hardwiring LED luminaires and its potential to act as a disincentive for consumers to replace older and less efficient lighting product.

Whilst the phase out of incandescent lamps, coupled with the introduction of MEPs has led to the successful increase in the take up of energy efficient product and reductions in energy use, NECA agrees that more could be done to encourage energy efficient light purchases, particularly where MEPs have outlived their

usefulness in failing to remove outdated and lower quality lamps from the lighting market.

The risks of electricity to both people and property are well-known. Because of the inherent risks of electricity, all State and Territory Governments have legislation in place which regulates who can install, maintain and repair electrical installations and apparatus<sup>5</sup>. Our tentative support for some amendment to wiring rules through the EL-001 committee that would more easily enable consumers to replace failed lighting through the inclusion of a plug socket base for LED luminaires has been based upon the supporting views of lighting manufacturers represented by the Lighting Council of Australia and the extended average life span of LED luminaires not representing a large replacement cost burden on the homeowner that would defer or delay the take up of new and more efficient lighting technology.

Given the expert nature and representation provided on the Standards EL-001 (Wiring Rules) committee, NECA is happy to defer to this body for renewed advice that provides outcomes that defines work that should only be carried out by a qualified, licensed electrician or contractor and what can safely be installed by a consumer.

NECA supports proposals to amend Standard AS/NZS 3000:2007 that seeks to more easily define work that should necessarily be considered as installation wiring on safety grounds. Such proposals have been discussed at the EL-001 committee and are supported by Energy Safety WA.

At present, NECA is not aware of any industry led campaigns that seeks to address this particular issue across our sector. However, as the peak industry body for Australia's electrical contracting sector, we are more than happy to work with the Department and its E3 branch on strategies to engage the wider industry as well as reaching out to more than 4,800 NECA members across the country.

## **Resources for consumer LED transition**

E3 are developing a range of resources to assist electricians and electrical contractors to help consumers transition to LED lighting without the need to upgrade their existing lighting systems (via dimmers and extra low voltage transformers).

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<sup>5</sup> <http://neca.asn.au/qld/content/consumers-electrical-safety>

The development of a campaign that seeks to assist consumers to understand the differences between halogen and compact fluorescent lamps (CFLs) and LEDs and promote the “stronger value” of these products is critical. Whilst acknowledging the greater upfront cost of a CFL or LED light as opposed to a halogen, the campaign would seek to focus upon the quality, longer life and environmental benefits such as less waste and energy use.

On the assumption of support for a key recommendation to adopt the phase out of inefficient halogen lighting, the campaign would seek to inform the consumer and business about suitable replacement items that work with an existing dimmer, transformer or outdoor sensor and assistance to find help where necessary. An example of this campaign involves convincing consumers and electricians to choose compatible LED MR16 globes to replace a halogen lamp where an existing extra low voltage transformer is installed. E3 also intend to enhance the recently released Light Bulb Saver app and Light Bulb buying guide, should this key recommendation be adopted by the Federal Government.

The role of electricians and contractors will be important in a transition phase with messaging to focus on key changes and for what it means for lighting installation, a tool to highlight legacy product compatibility and common issues that may be resolved through troubleshooting options. It would also promote a feedback and escalation channel that caters for any unexpected issues that may arise and help to identify solutions to minimise the impacts for consumers and business.

E3 wishes to work with NECA to promote and communicate these resources to the wider industry and seeks our advice on technical aspects such as wiring and electrical safety rules.

### ***NECA response***

NECA supports industry campaigns that seek to promote and educate consumers about the stronger value, longevity and environmental benefits of energy efficient lighting.

In recent years we have worked with the Government to promote consumer and industry awareness campaigns such as *Does It Comply?*<sup>6</sup> to stamp out illegal and

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<sup>6</sup> [www.doesitcomply.com.au](http://www.doesitcomply.com.au)

non-compliant electrical products, the Australian Competition and Consumer Commission (ACCC) with regards to Infinity Cables<sup>7</sup> and the Electrical Innovative Delivery and Pathways Pilot Project to explore alternative training delivery methods for electrotechnology apprentices under the Government's Australian Apprenticeships program<sup>8</sup>.

We support an enhancement of the Department of Environment and Energy's existing resources to assist with transitional arrangements or processes where NECA members and the wider electrical contracting sector can assist to expedite the process for more energy efficient lighting.

## Proposed Policy Options

The Energy Efficient Lighting Consultation RIS considers a range of policy options. These are:

- A business as usual approach (BAU)
- **Option A** - The introduction of MEPs for LED lamps and integrated luminaires to address efficiency and quality concerns
- **Option B** – Enhances Option A by extending the introduction of MEPs to non-integrated commercial luminaires to deliver further energy savings but involves a higher cost for suppliers
- **Option C** – Extends Option B to introduce mandatory labelling on remaining incandescent, halogen, CFL and LED lamps and small LED luminaire packaging to provide further information to consumers.
- **Option D** – combines Option A and introduces mandatory labelling
- **Option E** – Adopts Option A and increases MEPs on incandescent and halogen lights with the intent to remove those inefficient products
- **Option F** – Supports Option B and increases MEPs on incandescent and halogen lights with the intent to remove those inefficient products

The RIS **recommends the adoption of Option F** across Australia. This option supports the introduction and implementation of MEPs for LED lamps and LED luminaires and traditional (non-integrated) commercial luminaires from January 2018. In addition from November 2018, MEPs would be increased on incandescent and halogen lights with the aim to remove the least energy efficient products from the market, as per the solution provided in Option E.

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<sup>7</sup> <http://neca.asn.au/content/infinity-cable-recall-information-contractors>

<sup>8</sup> <https://www.australianapprenticeships.gov.au/alt-del-pilots>



All six options were subject to a cost-benefit analysis, compared with a BAU approach. The recommended Option F delivers the greatest net benefit across the economy of \$2.81 Billion, saves approximately 25,000 giga-watt hours (GWh) and 16 million tonnes of greenhouse gas emissions (GHG) through to 2030.

Option F requires consumers to pay slightly more for light bulbs, however these additional costs would be offset by savings delivered through reductions in electricity use and replacement costs given enhanced efficiency. The recommendation also acknowledges the likelihood of a one off, upfront cost for households to resolve compatibility issues with older, existing lighting systems. The Department through E3 and the Lighting Council of Australia are working together on campaign strategies to reduce potential cost impacts.

The implementation of MEPs on LED lamps and luminaires and the increase of levels upon incandescent and halogen lamps helps to remove the sale of inefficient and inferior quality products which ultimately leads to stronger consumer confidence in LED lighting technology whilst delivering energy savings. For consumers, the purchase of LED lamps and small luminaires is not expected to increase whilst for lighting suppliers, the enhanced minimum standards provides a level playing field and a more simplified regulatory framework by removing inferior products that fail to meet efficiency and quality criteria.

In addition to existing regulations, suppliers will have to register LED lamps and luminaires under the GEMS Act/Energy Efficiency (Energy Using Products) Regulations in order to comply with MEPs before being able to sell products in Australia and be required to make one off changes to labelling processes to meet new packaging requirements. This may result in a small increase in the upfront cost of luminaires in the short term given implementation costs are borne by the supplier.

The RIS assumes that mandatory labelling of light bulb products delivers only a small benefit in the consumer take up of energy efficient lighting purchases, albeit with limited data and analysis. Options C and D which included the introduction of mandatory labelling were therefore not adopted as the preferred option.

### ***NECA response***

NECA supports the adoption of Option F as the preferred recommendation and direction for future Energy Efficient Lighting use across Australia.

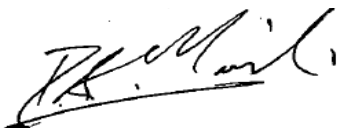
Our member consultations indicate that support for this option to increase the speed of energy efficiency lighting consumption will not present any significant difficulties or challenges for NECA members or the wider industry as a whole.

As the peak industry body for our sector, our organisation supports the direction of the Department of Environment and Energy's prioritisation plan and the recommendations of the RIS which adopt the most aggressive strategy to deliver energy savings, increases in lighting quality and performance standards and a simplification of regulatory requirements through the removal of inferior products. We understand that the enhancement of regulatory frameworks is strongly supported by the Lighting Council of Australia and a wide range of lighting suppliers.

NECA's consultations have lead us to believe that the impacts of small price increases for consumers, passed on by suppliers following the adoption of MEPs on LED lamps and luminaires and the effective removal of some incandescent and halogen lights is strongly outweighed by the greater economic benefits of reduced energy use, longer lasting lighting, lower energy costs and a long term reduction in replacement costs.

Minister, thank you again for the opportunity to comment on the Energy Efficient Lighting Consultation RIS. NECA looks forward to the successful adoption of these recommendations in the near future.

**Yours faithfully,**



**Suresh Manickam**  
**Chief Executive Officer**  
**National Electrical and Communications Association (NECA)**