



Lighting Council Australia Submission

in response to the

E3 Consultation Regulation Impact Statement - Lighting

March 2017

Lighting Council Australia
SUBMISSION IN RESPONSE TO
CONSULTATION REGULATION IMPACT STATEMENT - LIGHTING
March 2017

INTRODUCTION

- Lighting Council supports minimum energy performance standards (MEPS) as a vehicle for improving the energy efficiency of lighting equipment placed onto the Australian market, but only where this is the most appropriate and cost-effective means of addressing market failure.
- Lighting Council supports the proposed phase-out of incandescent and halogen lamps.
- Lighting Council is unable to support MEPS on integrated LED luminaires for the following reasons:
 - the overwhelming compliance burden associated with MEPS regulation on luminaires will not be commercially viable due to the large number of models in the market, the short product development periods (6-10 months) and the testing and administrative costs associated with MEPS compliance
 - significant efficacy improvements exhibited by LED technology over halogen lamps
 - insufficient evidence demonstrating there is an issue with the efficacy and performance of a significant portion of the integrated LED luminaire market
 - regardless of resourcing levels, current compliance processes and approaches (pre-market and/or post market approach) make it impractical to monitor, verify and enforce the vast numbers of LED luminaires that circulate through multiple channels in the Australian market.
- Lighting Council conditionally supports the introduction of MEPS on LED lamps. The conditions are:
 - sufficient time to implement (12 - 18 months)
 - development of appropriate family definitions
 - a reasonable number of test parameters that relate mainly to efficacy
 - reasonable registration fees.
- Lighting Council continues to support MEPS on other lighting products, particularly products aimed at the mass consumer product market.
- Lighting Council supports maintenance of current MEPS levels already in place on lighting products such as CFLs and lamp ballasts.
- Major gains in lighting energy efficiency will be achieved by phasing-out incandescent/halogen lamps, continuing to regulate CFLs and introducing MEPS on LED lamps.
- Lighting Council's response to the specific questions raised in Regulation Impact Statement forms Appendix A to this submission.

MINIMUM ENERGY PERFORMANCE STANDARDS (MEPS)

Since the 1990s Lighting Council Australia and its predecessor organisation have supported MEPS regulations on a range of incandescent, fluorescent and halogen technologies. Lighting Council has supported MEPS on incandescent lamps, fluorescent lamps and ballasts, compact fluorescent lamps and lighting transformers.

However, Lighting Council's ongoing support for MEPS regulation is contingent upon:

- (1) a reasonable compliance cost imposition on the industry, coupled with an expectation that monitoring, verification and enforcement will provide confidence that the great majority of non-conforming products will be removed from the market
- (2) the end justifying the means – that is, the improvement in energy efficiency and the regulation of suitable alternative product justifies the financial cost and diversion of industry resources when a technology is phased-out by way of a MEPS regime.

PHASING-OUT INCANDESCENT AND HALOGEN TECHNOLOGY

Lighting Council agrees there are significant energy savings to be made by phasing-out incandescent and halogen technology. Consumers will well understand the energy savings in replacing a 35W MR16 halogen 'downlight' lamp with a 7W LED lamp. In addition – and this is an important point – there now exists a large range of suitable LED replacement products in the Australian marketplace. This availability is a result of huge investments by the world's lighting manufacturers and the rapid and continuing development of solid state lighting technology.

MEPS FOR LED LUMINAIRES

Following extensive consultation with our members and careful consideration of information provided in the Regulation Impact Statement and subsequent lengthy discussions with the Department of the Environment and Energy, Lighting Council Australia has reached the conclusion that it cannot support MEPS for LED luminaires for the following reasons.

Prohibitive compliance costs

The number of LED products and LED suppliers is very large when compared to the number of traditional lamp suppliers and lamp models. Estimates of individual LED models marketed in Australia range between 150,000 and up to one million LED models on the market at any one time.

New LED chip modules are now re-developed on a six-monthly cycle with incremental increases in lumen output and/or decreases in power used. LED models now have a supplier market life of six to ten months.

The GEMS Act (2012) requires all regulated 'models' to be registered. 'Families' of models can be accommodated as a single registration. However, a major downside to family registrations is that if the GEMS regulator determines that

one model in a family registration is non-conforming, the registration is cancelled, thereby effectively removing all models in that family from the market. This situation creates a dilemma for LED luminaire suppliers as they would either be subjected to excessive compliance costs or an unacceptable risk of financial loss from removal of their product from the market.

MEPS applied to LED luminaires would require additional testing of each new family of products, additional administration costs due to the need to purchase additional standards, additional education of and communication with overseas manufacturers and suppliers, education of local compliance staff and either prohibitive registration costs (due to high numbers of product families requiring registration) or significant risk that large numbers of compliant products would be removed from the market if one non-conforming product is found in the market.

It is not possible for the very limited number of local test laboratories to keep up with additional demand if LED luminaire MEPS is introduced.

Insufficient evidence

The consultation RIS does not provide compelling evidence demonstrating that there is an issue with the efficacy and performance of a significant portion of the integrated LED luminaire market. The majority of the LED lamp data referenced is three years old and up to eight years old and is unlikely to represent the current state of the rapidly changing LED product landscape. The LED lamp data that is recent shows improvements in LED efficacy and colour rendering index performance. Perhaps more significant is that the recent results show marked reductions in the difference between claimed and actual performance and in many cases suppliers are now underclaiming.

No confidence that monitoring, verification and enforcement will remove most non-conforming product

Lighting Council estimates there are between 150,000 and one million LED models in the Australian market at any one time. LED chip and power supply (driver) technology is developing rapidly with product development and market lifetime periods now down to six to ten months.

The Consultation RIS estimates there are 255 suppliers selling LED lighting in Australia as at April 2016. The IBISWorld 2017 report¹ estimates 452 lighting equipment manufacturers and suppliers in the Australian market. There are now very few manufacturers and suppliers selling only traditional lighting equipment so we would expect the great majority of lighting equipment manufacturers identified by IBISWorld to be selling LED lighting equipment.

LED products are being sold in an expanding range of wholesale and retail outlets including hardware stores, supermarkets, general lighting retail,

¹ IBISWorld, Electric Lighting Equipment Manufacturing Industry Analysis and Industry Trends report, February 2017, <https://www.ibisworld.com.au/industry-trends/market-research-reports/manufacturing/machinery-equipment/electric-lighting-equipment-manufacturing.html>

specialist lighting stores, electrical wholesale warehouses, directly from lighting supplier warehouses, discount variety stores, markets, online only retailers and many of the traditional lighting outlets now have online stores.

The GEMS Regulator has conducted a limited amount of market surveillance and check test auditing of regulated traditional lighting products. However, our experience in dealing with these regulatory audits suggests that both the regulator and industry face another significant dilemma with any LED luminaire regulations. Either it would take vastly more compliance resources to adequately monitor, verify and enforce the LED luminaire market (to the point where such resourcing would be impractical to fund and maintain) or the regulations will be flouted and therefore ineffective.

Furthermore, the extended time frames currently required to maintain an enforceable process would allow LED suppliers to sell through any non-conforming stock and move on to their next product ranges.

Rapid development of solid state lighting has resulted in ready availability of suitable LED luminaires in the Australian marketplace

The LED luminaire market continues to develop rapidly with LED luminaires now available to fill the majority of applications from recessed downlight replacement luminaires to decorative LED luminaires, planar LED fittings for commercial use and floodlight LED fittings for industrial and public lighting use. The majority of LED products now on the Australian market fit within the categories of integrated LED luminaires.

Rapid developments have recently filled the majority of existing applications and any remaining applications will likely be filled soon.

Lighting Council members state that the efficacy and quality of integrated LED luminaires have improved rapidly over recent years. Lighting Council Australia's Solid State Lighting (SSL) Scheme was introduced in early 2010 to give consumers confidence in the quality of the LED products they purchase. Since its inception only a limited number of products have been registered due to the large number of LED products on the market, the high churn rate in LED products, the strength of the Lighting Council Australia brand and the ability of our members to use our logo alongside their own brands.

We note the general improvement in the efficacy and quality of LED products marketed in Australia over recent years and this is supported by evidence in the Consultation RIS showing improved LED product efficacy and supplier claims that are closer to and in many cases over-performing when compared to actual test results. Accordingly, Lighting Council Australia has decided to cease the operation of our SSL scheme on 30 June 2017. After this date, we will no longer accept applications for participation in this Scheme.

MEPS FOR LED LAMPS

Lighting Council conditionally supports the introduction of MEPS on LED lamps provided that sufficient time (12 months is suggested) is provided to implement new regulation, an appropriate LED lamp family definition can be agreed, the

test parameters are limited to those where test reports already commonly exist, registration fees are reasonable, a streamlined compliance approach is developed and either a streamlined registration process is implemented (allowing amendments to existing LED lamp registrations when products are upgraded with more efficient chips and drivers) or the fees and GEMS certification periods are proportionally reduced.

The number of LED lamps in the Australian market is significantly less than that of LED luminaires, but is likely to be higher than the number of halogen and incandescent lamps. Owing to a combination of factors including the ability to define the scope of LED lamp regulatory coverage, the prospect of reaching consensus with the regulator on a reasonable LED lamp family definition, the reduced size of such product families, the widespread availability of some LED lamp test report information and the possibility of reasonable overall compliance costs, Lighting Council considers that LED lamp regulation is viable.

Lighting Council's support for MEPS on LED lamps is contingent on:

- the ability of product suppliers to amend GEMS product registrations as LED lamp products are developed over time or on reduced GEMS certificate validity periods combined with reduced fees. The current registration period of five years will likely be far too long for most LED lamps and so costs will likely be excessive if new registrations are required when new LED chips and drivers are used within products.
- the development of a streamlined compliance approach that will be effective in removing most non-conforming LED lamps from the market.
- agreement on the regulatory test parameters.

MAINTENANCE OF CURRENT MEPS LEVELS ON LIGHTING PRODUCTS

Lighting Council is not aware of any further product development being conducted on traditional lighting equipment (i.e. incandescent and halogen lamps, double capped and compact fluorescent lamps). Our members have been withdrawing from various areas of lamp manufacturing over recent years; this is indicative of the rapid decline of these products in the developed world.

Any increase in MEPS for incandescent and halogen lamps will force these products off the market. MEPS regulations on double capped and fluorescent lamps and ballasts should not be altered to enable these products to remain on the market. These products are already efficient, will likely continue to decline in market share over coming years and will likely become less available globally as manufacturers continue to withdraw from markets. These products should be left on the market to smooth any transition for consumers and businesses wishing to purchase fluorescent lamps.

CONCLUSION

Lighting Council supports a phase out of incandescent and halogen lamps, a continuation of MEPS regulations applying to double capped/compact fluorescent lamps and the introduction of MEPS applying to LED lamps. The phase out of incandescent and halogen lamps will significantly reduce the energy used by lamps and lamp based luminaires in Australia. The introduction of MEPS for LED

lamps will provide consumers with a level of confidence regarding the replacement lamp products left on the market, provided that the regulator is able to undertake sufficient and timely monitoring, verification and enforcement activity.

We are unable to support MEPS on LED luminaires due to the forecast prohibitive compliance costs, the dilemma for suppliers surrounding family registrations, the lack of evidence indicating that a significant portion of the LED luminaire market is inefficient or poor performing, the high churn rate of large numbers of products, the diverse nature of the market and the dilemma associated with maintaining a compliant and fair market under such conditions.

Finally - and significantly - the rapid and continuing LED luminaire market developments have led to the widespread availability of suitable LED luminaires.

ABOUT LIGHTING COUNCIL AUSTRALIA

Lighting Council Australia is the peak body for Australia's lighting industry. Its members include manufacturers and suppliers of luminaires, lighting control devices, lamps, solid state lighting and associated technologies. Lighting Council's goal is to encourage the use of environmentally appropriate, energy efficient, quality lighting systems.

In response to the Consultation RIS Lighting Council conducted extensive consultations with our members.

Appendix A

Consultation RIS – Lighting questions (in bold italics) and Lighting Council responses (in plain text)

General Questions.

- 1 We (the government) estimate 10,200 lamp and LED luminaire product types would be covered by the proposed LED MEPS over a 10-year period. Do you agree with this product estimate noting the LED product scope, exemptions and proposed definition of family of models in Attachment H? If not please provide a revised estimate with supporting evidence.***

Lighting Council Australia disputes the government estimate of 10,200 lamp and LED luminaire product types covered by the proposed LED MEPS over a 10-year period.

We developed a family model that resulted in 18,000 product families and if wattage was limited this increased to around 24,000 product families that would be required to be registered on LED MEPS regulation implementation. All future registrations (over the next 10 years) requested would be additional to the original registrations. Lighting Council members advise us that LED product turnover/product changes occur every 6 to 10 months and this market characteristic will result in unmanageable numbers of product registrations over a 10-year period. unless a streamlined amendment process is allowed.

We have conducted a number of surveys of the LED product market with the following results:

- Lighting Council members estimate there are between 150,000 and 1,000,000 individual models of LED products on the Australian market at any one time. One large lighting supplier markets around 30,000 models (mostly LED) and another offers around 14,000 models (mostly LED). Rapid LED technology development continues unabated and is resulting in new LED chips, modules and drivers being offered to the market every 6 months. Such developments are resulting in the continual re-development and re-marketing of most LED products. LED products currently have a market life of six to ten months before being upgraded or removed from the market.
- Lighting Council conducted a survey of 10 lighting suppliers' online catalogues counting the number of product 'families' based on the way each supplier defines a 'family'. Most suppliers regard their product 'families' as belonging to the same range, having the same name branding (e.g. Zumtobel *Chalis* range), regardless of optical arrangements, power consumed, colour temperature (CCT), colour rendering index (CRI), chip module upgrade or the various drivers and controls used with those products. The survey was conducted among small and medium sized businesses only (due to the large catalogues of large businesses and survey time constraints). The data was aggregated and extrapolated to estimate the whole lighting market (using the government assessment of 250 lighting suppliers) at over 18,000 LED families on the market at any one time. This number would be significantly higher if estimated over 10 years although this is difficult to estimate as product families sometimes retain a marketing name and sometimes change names.
- Lighting Council conducted a third survey similar to the family survey above except it created a new family when the Watt rating of a product range changed and excluded all exterior products. 12 suppliers were surveyed (different to the above suppliers) resulting in an estimated 24,000 families on the market at any one time. Again, this number would be

significantly higher if estimated over 10 years and highly reliant on any arrangements to allow or limit registration amendments when LED chip modules and other product changes occur. .

The RIS estimates there are 255 lighting suppliers in Australia based on data extracted from the Electrical Regulatory Authorities Council National Database. Lighting Council regularly receives information from lighting suppliers who are unaware of the regulatory and standards requirements pertaining to the supply of lighting products in Australia and we suggest the number of suppliers is much higher and possibly in the order of around 400 suppliers.

Lighting suppliers may be required to register products that they market via their head office catalogues even if they do not import or sell any of those products. Such a situation will not be commercially viable and cause significant changes to the way LED products are currently marketed in Australia.

- 2 *We (the government) estimate 600 traditional commercial luminaires, supplied by 40 entities, would be covered by the proposed Commercial Luminaire MEPS. Do you agree with this supplier and product estimate, referencing the proposed definition of family of models in Attachment H? If not please provide a revised estimate with supporting evidence.***

Upon reflection Lighting Council Australia considers that the estimated number of commercial luminaire families (600) supplied by 40 traditional luminaire suppliers appears to be low. We suggest a detailed survey of the commercial products market is needed to accurately determine the number of products in this market.

Lighting Council does not support the introduction of MEPS on luminaires.

- 3 *We assume that the price of LED lamps and small LED luminaires won't increase, and there will only be a small short term price increase for larger LED luminaires, as a result of proposed changes to regulation. Do you agree with this assumption?***

- Lighting Council members highlight that the LED lamp and the lower value end of the LED luminaire market segments is highly competitive. Retail price points and market expectations for low value products will mean it will be difficult for suppliers to pass on the testing and administration costs associated with any new regulation.
- Regarding LED lamps, the test reports associated with these products should be mostly available (depending on the final test parameters agreed). Suppliers will be subjected to additional administration, registration, and compliance management costs and it is likely they will need to absorb these additional costs causing difficulties for some suppliers.
- Where suppliers are unable to pass on costs they may decide to ignore new regulations and become non-compliant if the risk or penalty for non-compliance is low.
- Compliant suppliers will expect the GEMS Regulator to conduct compliance activity including the low value end of the market and in a timely manner aligned with the market life of LED lamp products (6-10 months). A compliant market is required to provide a fair market for all competitors where all are subjected to the same costs.

- 4 *We assume that the price of traditional commercial luminaires won't change significantly from proposed changes to regulation. Do you agree with this assumption?***

Lighting Council does not support MEPS on luminaires.

5 What, if any, unintended outcomes might arise from implementing the policy options? Please explain and give examples if possible.

Depending on the final arrangements of any new MEPS regulations it is possible there will be unintended consequences.

Many lighting suppliers will have only supplied products that have not been subjected to minimum energy performance standards regulation. The additional administration, testing, registration and compliance audit costs associated with any new MEPS are likely to come as a shock to these suppliers. It is possible that many of these suppliers will not be aware of any new regulations or if aware will ignore new regulations until detected by the GEMS compliance team. A GEMS compliance strategy for LED product regulations is needed to identify, monitor, audit and enforce any new regulations on all LED suppliers in a timely manner.

Another unintended consequence is likely to be higher than expected compliance costs if new regulations require additional product testing and if registration requirements are onerous. Businesses will need to employ additional staff to only undertake GEMS related compliance activity.

The product supply chain will likely be slowed due to the additional red tape imposed by any unique requirements, additional product testing, the administration, education and communication activity right through the supply chain. Such added compliance requirements and costs may deter the market from updating product ranges as soon as new components are available and have the perverse outcome of holding back the efficacy and performance of LED products.

It is also likely that suppliers will limit the ranges of LED lamps brought into the Australian market due to the additional regulatory burden. This would negatively impact consumer choice from reputable and compliant suppliers.

Non-compliant suppliers will be relatively free to fill any gaps on an as needed (specification) and probably short term basis before moving to the next product. These suppliers will not be subjected to the same burden unless identified and audited by GEMS compliance staff.

Finally, if regulatory compliance processes continue to be slow, suppliers will exploit by drawing out the compliance process until they have sold stock of any identified products.

6 What might help you easily comply with the proposed regulations? Do you have any suggestions to simplify or streamline the registration process?

Lighting Council suggests the reduction in the number of proposed tests by focusing on energy efficiency and simple tests. Also allow the use of a wide family definition where models are captured. Also allow a reduced registration fee structure for short life cycle products.

Of the test parameters the most common denominator is the test using the CIE S 025 or LM-79 standards. Outside of this, the test requirements should be seriously re-considered for LED lamps as to whether they are really needed. The more test requirements and standards that are referenced, the more the cost burden and more cumbersome to administer from a supplier compliance and the GEMS regulator perspective. For products with short life cycles, one or two tests are the ideal scenario.

7 If approved, the regulation for LED and Commercial Luminaire MEPS is planned to commence in January 2018, with the determination and test standard to be published six months prior. (Mid 2017) Noting that existing stock will still be able to be sold after that date, do you consider that this timing is sufficient to allow time for industry to implement this change?

Lighting Council advises 6 months from issue of a Determination to enactment of the regulations is too short. Members have consistently expressed the need for at least 12 months from the issue of any Determination

This is to allow products to be evaluated against the final agreed document and test methods. All are presently drafts open to discussion and further adjustment. Once the Determination is issued suppliers will evaluate the impact on products and how to achieve compliance for ongoing product ranges. This is likely to include top up testing (expected for LED lamps), any redesign/retest necessary due to product failures that need to be addressed and then retested. This must all be undertaken before orders can be placed on factories that can also have 2-3-month lead time plus 1-2 months shipping. 12 months is considered the minimum feasible but will still be difficult for industry to achieve.

- 8 ***If approved, the regulation to increase MEPS, ie phase out most incandescent lamps, (part of option E and F), is planned to commence in November 2018, conditional on the introduction of LED MEPS (allowing time to address LED quality issues) and the replacement Incandescent MEPS determination being released six months prior, to allow time for industry to alter supply chains and minimise wastage of materials that are no longer needed. Noting that existing stock will still be able to be sold after that date, do you consider that this timing is sufficient to allow time for industry to implement this change?***

Lighting Council advise 1 November 2018 is considered adequate to start the phase out of incandescent/halogen lamps provided the Determination is issued at least 12 and preferably 18 months prior. We note the provision to allow existing stock is grandfathered and can continue to be sold.

Lighting Council Australia supports the introduction of incandescent/halogen lamp MEPS for New Zealand to align with Australian legislation.

- 9 ***If you consider that timing of proposed regulatory change is inadequate, can you give us details on alternative ways and means that you could comply with regulations.***

See response to question 7.

LED MEPS

- 10 ***Do you consider that the proposed MEPS efficacy level for 2018 is appropriate?***

Lamps – non directional, YES,

Lamps – directional, NO

If not please explain your rationale with suggested alternative. The proposed level is based on the 2016 IEA 4E SSL recommended level (present), noting that suppliers will be required to test at least 10 lamp products (or 4 small, 2 large luminaires)

Members advised the proposed 2016 efficacy levels for LED lamps (non directional and directional) should not be the same.

- The lamp efficacy, based on method specified in RIS on 10 test samples and for non-directional lamps at 65 lm/W is accepted.
- Applying the same 65 lm/W efficacy, to directional lamps does not account for the additional light loss factors associated with the necessary additional control to form a directional beam. The EU propose to allow a light loss factor of 0.8. The EU also proposes a methodology that accommodates CRI in the lamp efficacy. It is recommended this is considered by GEMS.
- It is interesting to note that efficacy levels for LEDs referenced by Energy Star (which are supposed to be the best performing products) indicate efficacy values should be in the order of 45 lm/W

A suggested proposal to simplify LED lamp requirements for small lamp is to apply both:

- Less than 10W = Exclude from MEPS

- Less than 100lm = Exclude from MEPS

11 Do you agree with the proposed mandatory minimum performance standards, outlined in Attachment H? If not, please advise of alternative approach with supporting rationale.

Lighting Council is aware there has been considerable work done to refine the appendix H since the publication of this table. We will also continue to work to refine the table and propose a reduction the numbers of test required.

The many parameters proposed for test will add significant cost that will be difficult to pass on due to commercial reality and expected high level of supplier/product non-compliance.

Both the number of test parameter and laboratory capability to complete these tests are an issue. There are many tests, and while these may be able to be broken down into between 2 and 7-8 groups, this coupled with the many products and few laboratories or in-house test facilities that can carry out this volume of testing, it will become a major hindrance to the implementation of MEPS. It was proposed that the all the tests be in one test report. This is near impossible due to laboratories usually specialise in some product aspects, for example, photometry and not flicker. Practically, to complete a full range of the proposed tests it is most likely that several samples will be made and distributed to a variety of laboratories. A logistical nightmare when different laboratory lead times and product failures are considered. A product could fail a test (ie efficacy) at a laboratory which would invalidate a different test underway at another specialist laboratory. Even if a company decided to establish in-house capability for these tests there are few experienced lighting laboratory people available and hiring or training that capability is a longer term exercise than the proposed 6 month LED MEPS introduction time frame. It is not considered practical to achieve the level of testing proposed in the available time frame. The proposed test list has been likened to a laboratory wish list verses a practical and achievable list especially for energy efficiency.

As MEPS is primarily an energy efficiency function the proposed tests should include the parameters captured in key test standards such as LM-79, CIE S 025 or EN 13032-4.

12 Do you agree with the proposed test methods, outlined in Attachment H? If not please advise of alternative approach with supporting rationale.

Agree where these align with IEC, CIE or other well established standards.

The IEEE 1789 test while considered the best available has not been widely proven and we understand work is underway to improve the method. For lamps it is recommended this test is not applied until further evaluation is undertaken.

13 Do you agree with the proposed staging of implementation by product category? If not, please advise of alternative approach with supporting rationale.

Lighting Council agree to MEPS on LED lamps only and sufficient time to implement (12 – 18 months between a Determination being published and the beginning of applied regulation.

14 Do you agree with the proposed definition of family of models outlined in Attachment H? If not, please advise of alternative approach with supporting rationale.

Lighting Council consider the family of models is key attribute to establish ease of product registration, compliance and costs. Considerably more work is required to establish and limit these. Lighting Council has been and will continue to work with GEMS to establish a practical registration process that can use the family of models concept along with developing “loop hole free” definitions to control compliance effort and associated costs.

15 Do you agree with the proposed mandatory marking requirements outlined in Attachment H? If not, please advise of alternative approach with supporting rationale.

Lighting Council advise mandatory marking is not supported. The RIS itself explains marking limitations and “little impact in transitioning consumers” Page 68. Also cost, Table 10 shows nominal 30% increase of business and model costs to provide marking that will have little significance. Members consider education and market information will have considerably more affect than product marking alone.

16 Please provide indicative costs to implement proposed marking requirements.

Lighting Council advise additional marking is not supported and is considered cost and time frame prohibitive to introduce.

17 Please provide indicative costs to implement proposed marking requirements in a standardised format (i.e. consistent mandatory labelling).

Lighting Council advise the proportional cost increases as shown in the RIS are accepted and additional labelling is not supported.

18 Do you support consistent mandatory labelling on LED packaging, to make it easier for consumers to compare key characteristics of LED products?

Lighting Council do not support a new energy labelling requirement. Minimum labelling requirements are already specified in the existing Australian Standards for lamps.

19 Please provide an estimate on the cost imposed on suppliers to undertake proposed LED testing.

Lighting Council has some member information on proposed costs. We would prefer to supply this information in a separate submission as this information is company confidential and not intended for public display

Commercial luminaire MEPS.

Note. There is a number sequence issue in the RIS document.

RIS 10. LCA 20 Do you identify any concerns with the proposed LOR test approach?

Lighting Council advises MEPS on LED luminaires is not appropriate.

RIS 11. LCA 21 Do you agree that the testing proposed would result in little to no additional testing for suppliers who are already conducting testing for linear lamp registrations?

Lighting Council agree.

RIS 12 LCA 22. Do you agree that non-integrated commercial luminaires will remain in the market in Australia and New Zealand as products are installed in some new or renovated commercial and industrial buildings over the next five years? Please provide estimates of the future market share of these products.

Lighting Council advises MEPS on legacy and LED luminaires is not appropriate.

RIS 13 LCA 23. Do you agree that MEPS on commercial luminaires is warranted if MEPS is introduced for LED luminaires, to prevent the regulatory imbalance described above? If not, please explain your rationale.

Lighting Council advises MEPS on LED luminaires is not appropriate.

RIS 14 LCA 24. Are there any gaps or issues with the proposed scope definition for commercial luminaires to be subject to MEPS?

Lighting Council does not agree with the proposal to regulate luminaires.

RIS 15 LCA 25. Do you consider that the proposed MEPS level appropriate to achieve energy savings at the cheap end of the commercial market?

Lighting Council advises MEPS on LED luminaires is not appropriate.

RIS 16, LCA 26. As a supplier, do you consider that MEPS on commercial luminaires would have a minor, moderate or major impact on your business? What, if any, concerns do you have with this option? Please provide estimates of any reduction in overall sales – where you are currently selling commercial luminaires that will be below the proposed MEPS.

Lighting Council advises MEPS on LED luminaires is not appropriate.

RIS 17 LCA 27. Are there any significant product categories that may be removed from the market as a result of the proposed commercial MEPS levels?

Lighting Council make no comment.

RIS 18 LCA 28. With the removal of the poorest performing luminaires, do you agree that there are adequate replacement products at a relatively similar price, resulting in a minor impact on the end user consumer?

Lighting Council advise, in most cases, replacement luminaires will be available and as the LED market develops any vacancy will be filled by newly developed LED luminaires.

RIS 19, LCA 29. Limited data is available to assess the impact of the proposed MEPS on price. Modelling assumed 0.5 per cent price increase with a 1 per cent increase in efficacy relationship. Is this assumption reasonable? If not, advise alternative with supporting rationale. We would welcome price data on commercial luminaires sold with associated efficacy to substantiate the modelling accuracy

Lighting Council has no response
Families and complexity of registration will impact costs to a major extent.

Mandatory labelling – all lighting technologies

RIS 29. (again) Please provide indicative costs to implement proposed label requirements.

Lighting Council does not support the labelling proposal

30 Do you consider in the absence of the further phase-out of incandescent and halogen lamps, that mandatory labelling across remaining incandescent, halogen, CFL, LED lamp and small LED luminaire products primarily used in the residential sector would assist consumers in selecting a light bulb to meet their needs?

Lighting Council supports the incandescent/halogen lamp phase out therefore question is redundant.

31 How long would industry require to implement proposed label requirements? Please provide rationale.

Lighting Council does not support the labelling proposal

32 Do you consider that an information label, similar to the US FTC, would be most suitable for the Australian market? If not, please provide alternative suggestion with supporting rationale.

Lighting Council does not support the labelling proposal

33 Do you consider that incandescent watt equivalency should be included as a mandatory attribute?

Lighting Council does not support the labelling proposal

Alternatively should this attribute be voluntary, allowing suppliers to transition away from this equivalency as consumers become more informed about lumens?

Lighting Council advise, voluntary is the preferred alternative.

34 Do you agree with our assertion that implementing labelling independently in New Zealand would be difficult?

Lighting Council agree, this would be difficult.

35 Do you consider that mandatory labelling will significantly increase the purchase of energy efficient light bulbs in Australia?

Lighting Council advise, NO.

Increase incandescent MEPS (Aust only) to remove the most inefficient lamps.

36 Can you advise of existing electronic transformers installed that are not compatible with any LED MR16 lamps on the market and if possible estimated number of installs.

Lighting Council have no comment

37 The Department requests further advice to confirm the assumption that sensors and timers sold post 2010 are generally three wire.

Lighting Council have no comment

38 Please advise if you consider if there are moisture ingress concerns with LED under certain conditions, including data/evidence to support your claims.

Lighting Council advise, if the enclosure in which the LED lamp or light source is housed has proper ingress protection and is compliant to relevant temperature limitations etc there should be no concerns.

39 Please advise of any conditions (heat/moisture/other) where LED would not be a suitable replacement with data to support claims.

Oven lamps, maybe microwaves, etc are applications where LED won't be suitable (possibly also pilot lamps for range hoods due to heat/moisture).

40 Is the exception for traffic lights necessary or are LED now considered superior under these conditions and thus the exception is no longer necessary?

Lighting Council propose remove this exemption.

41 Do you have any concerns with the proposed timetable to phase out halogen lamps?

Lighting Council advise the start date of November 2018 is conditionally accepted so long as the Determination is issued at least 12-18 months before phase out is due to start.

Are there any halogen type lamps on the market where there is no LED suitable replacement?

Lighting Council advise, there is a need to consider lamps used in extreme heat application, ie ovens, bathroom heaters.

Also G9, G4 LED lamps cannot physically achieve output higher than an equivalent ~25W at this stage. Even these are usually larger than equivalent halogen lamps and mostly not dimmable. Some of the B15d and E27 halogen tubular lamps >150W (see images below) would not have a comparable LED in terms of physical size to achieve required output.



- 42** ***Are there additional costs to industry or consumers that need to be considered with this option, not already specified in the Impacts section of this RIS?***

Lighting Council advises NO.

- 43** ***Do you consider that the estimated costs of this option are realistic? Please explain with supporting data, if possible.***

Lighting Council consider costs to implement for some lamp types, ie MR-16 are underestimated due to the need for suppliers to provide information and guidance to users, contractors, etc on compatibility of LED lamps against a largely unknown range of existing transformers and dimmers (including sensors, timers).

- 44** ***Please suggest options to assist households with incompatible legacy lighting systems to make the transition to LED lighting.***

Lighting Council agrees education and information will be critical. Emphasis on compatibility should be supply chain personnel and electrical contractors. As an industry, it affects not only the lamp supplier, but also, ie the dimmer and LED driver manufacturers. Most manufacturers will provide a list of tested and known compatible combinations in data sheets or on a website but these may not necessarily available at the point of sale.

Information and education campaign.

- 45** ***Do you think a broad education campaign would be beneficial to raise awareness of changes and assist in the transition?***

Lighting Council advises, YES, Mandatory. Absolutely needs to be driven by the government. It should be very clear that incandescent/halogen lamps are being phased out and new options for most part will be LED lamps or in some cases, complete replacement LED luminaires.

Need to consider this change is a bit like the switch from analogue to digital TV and its campaign.

Otherwise consumers will have no idea why they suddenly cannot buy the lamps they have been able to get for decades.

There are some situation where key examples such as the use of timers, occupancy sensors to control lighting, for example in fire stairs should be highlighted in simulation tools or education material as the energy savings via simple control systems can be more significant than the change of lamp technology alone.

46 *Would your organisation like to be involved in the development of the communication strategy and rollout?*

Lighting Council would like to be involved

47 *Do you have any feedback/suggestions on how communications could be best approached, drawing on any experience through the 'Change the Globe' campaign or New Zealand's Rightlight education campaign?*

Lighting Council advises the New Zealand EC/EECA Rightlight education and training campaign (2009-2011) was very useful. It encompassed residential, commercial, industrial and road lighting. It provided structured analysis with a clear and consistent message. This momentum has now been lost. GEMS could use the success of such a program with needed updates to deliver information on LED, lighting, smart controls and updated lighting design methods, as well as information on the like for like replacement, ie colour (CCT). For example halogen 2700K with LED 2700K and suitable replacement and comparison that promotes lumens rather than watts.

A campaign such as the digital TV switch would be beneficial especially to consumers who are likely to be taken unaware of the change that is proposed. Reach should be multimedia, ie possibly via TV, but certainly radio, internet, Choice consumer website, etc are all feasible.