



Victorian Energy Upgrades

Review of Victorian Energy Efficiency Target regulations

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For the attention of:

Victorian Energy Upgrades
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Victorian Energy Efficiency Target Regulations 2008 Review

Lighting Council Australia (LCA) welcomes the opportunity to provide feedback on the proposed changes to the Victorian Energy Efficiency Target Regulations 2018 and accompanying specifications.

LCA's feedback is based on consultation with the lighting luminaire and lamp supply industry through our member network. LCA Members supply around 80% of all lighting equipment in Australia in the residential, commercial, industrial and public lighting markets.

Responses to specific questions outlined on the Engage Victoria website

Question 1. Do you agree with moving the technical requirements from the Victorian Energy Efficiency Regulations 2008 to the Victorian Energy Upgrades Specifications 2018, and the process by which that document can be updated by the department?

Yes. Shifting the technical requirements from the Regulations to the Specifications will allow for more reactive and proactive changes to be made to the scheme by the department. The changing landscape of technologies is advancing too quickly to be properly accommodated by the previous model for updating the Regulations and Act. Additionally, proposed changes to the specifications should include a review of the analogous requirements in other energy incentive schemes (NSW ESS, SA REES etc.) to ensure harmonisation and minimise administrative burden for operators across jurisdictions.

Question 2: Do you agree with introducing flexibility into the proposed Regulations so that emerging technologies and products can be quickly integrated into the Victorian Energy Upgrades program?

Yes. As mentioned above, the Regulations should facilitate upgrades of equipment based on new technologies. Regulations that restrict upgrades to the use of types of products simply ensure a captive market that is not necessarily achieving the purpose of the Act.

Question 3: Do you agree with providing all activities in the proposed Regulations with a 'fresh start' in terms of the number of times an activity can occur at a premise?

No. This approach is much too simplistic and will simply facilitate the perverse outcomes of the scheme that have already occurred, occurring again. LCA has received voluminous complaints from consumers that equipment installed under the VEU scheme did not achieve its asserted lifetime, was not fit for purpose with respect to glare, illuminance or uniformity, and required a second upgrade at cost to the consumer.

Changes must be made to the scheme to engage consumers making active decisions in choosing the products installed, otherwise a simple “fresh start” approach will allow for unscrupulous operators to continue their dishonest practices.

A “fresh start” provision would bias upgrades beyond the business-as-usual case, which does not seem to be contemplated in the consultation material. The document titled “Proposed Activity Changes - Victorian Energy Efficiency Target Regulations” claims that this provision is needed to allow the upgrade of assets that have reached the end of their lifetime, however this is the exact description of a business-as-usual case upgrade.

Another common anecdote from consumers that were upgraded under Schedule 21 activities, is that the premature incentivised uptake of CFLs as a replacement for mains-voltage halogen lamps, meant that consumers were exposed to some products that had performance issues and may have not been to consumer preference. As a result, upgrades were reversed at cost to the consumer and the technology now has reputational issues due to forced early adoption. A fresh start would allow for Accredited Persons to “double-dip” on abated energy savings by upgrading reverted installations.

Question 4: Do you agree with the transitional arrangements included in Part 4 of the proposed Regulations?

No. LED technology over the last seven years has seen increases in efficacy between 50 – 70% and decreases in the price of products by 60%. The result of these changes since the beginning of the VEET scheme is that there are almost 5500 lighting products on the product register which has seen a relatively constant increase over the past few years.

In addition to lighting products being reassessed after initial transition, LCA suggests that any products registered more than three years ago should be removed. LED products are generally superseded in six months and as a result, a product that is three years old is already multiple generations old. Without a meaningful amendment process, there is no use in having older products on the register and hence should be removed.

Question 5: Do you agree with increasing shortfall penalty rate from \$46.72 to \$50?

No. The shortfall penalty does not need to be increased.

Increasing the shortfall penalty will simply serve to increase the costs of energy for consumers when energy suppliers are unable to surrender the required number of VEECs. An observation of the variation in VEEC prices since the beginning of the scheme does not indicate an overall upward trend, or an increase along with indexation and hence there should be no increase to the shortfall penalty. There is weak justification from the department that this penalty should increase as it is currently “sufficiently higher than the average VEEC”. As this target may be reviewed in setting targets for 2021, no change is needed now, as this will allow for the department to make any necessary changes in future if the program shows sufficient need.

Question 6: Do you agree with removing the requirement for certain products to be listed on the product register kept by the Essential Services Commission

Yes. Specifically for lighting, registration with the AEMO Unmetered Load Table indicates that a particular product will operate at a particular lamp or luminaire circuit power (LCP) and that the rigour associated with this measurement is adequate for this LCP value to be used for the purposes of trade. That is, street lighting equipment in Australia is installed as an unmetered load. Billing is arranged on the basis of the AEMO unmetered load table value and the total time of use.

The Essential Services Commission should additionally allow the AEMO unmetered load value to be used for the purposes of VEU registration. This would reduce duplication of LCP test requirements and reduce compliance costs. Reputable suppliers of lighting equipment will be better positioned to facilitate energy saving upgrades under the scheme as a result.

Question 18: Do you agree with removal of compact fluorescent lamps as eligible products for installation (current Schedule 21)?

Yes. Lighting Council advocates for the removal of Schedule 21 entirely from the regulations and specifications. The phase-out of halogen globes is set to occur under a Commonwealth Ministerial Determination through the GEMS Act in early 2020 and hence consumers will only have LED lamps as an option for replacements in general use. Simply, there is no need to incentivise these upgrades as they will occur without incentive due to consumers needing to replace failed traditional technology lamps (i.e. Incandescent, halogen, CFL) Incandescent and halogen lamps have life times around 2000 hours and so will need to be replaced regardless of the VEU Scheme within 2 years (for lamps used around 3 hours per day). Lamps that last longer than a couple of years are likely to be being used for only minutes per day (i.e. pantry lights) and would not be adding significantly to overall energy consumption.

Compact fluorescent lamps have experienced a declining market share in recent years. This, coupled with the ratification of the Minamata Convention in major manufacturing economies for fluorescent lighting products will see an increase in the costs of supplying compact fluorescent lamps. Suppliers expect that this will continue to the point where the technology is completely superseded by LED technology and hence removal from the scheme is a sound decision.

The timing of the removal should occur with the implementation of the new regulations and subsequent specifications, as these upgrades are occurring in low enough volumes that the notice will be sufficient for installers to transition to LED technology.

Question 20. Do you agree with the removal of T5 adaptors as eligible products for installation and decommissioning (current Schedule 34)?

Yes. LCA agrees that the asset lifetime for upgraded equipment is heavily impacted by control gear, ballasts and adaptors. As testing to determine the lifetime of this equipment is difficult and without standardisation, these products should be removed as an eligible product.

Immediate timing would not have perverse impacts on suppliers as LED tube lamps are often used in retrofits if an entire luminaire is not replaced.

Question 24. Do you agree with the changes to incandescent lighting (current Schedule 21, proposed Part 21), including requiring a 60-degree beam angle for downlights installed in residential premises?

No. There are situations in domestic lighting where narrow beam angles are required, such as the use of accent lighting or space lighting in high ceilings. Requiring all replacement downlights to have a beam angle of 60 degrees when previously the requirement was as little as 38 degrees will most likely lead to poor lighting outcomes for consumers where illuminance would be markedly different before and after upgrades.

A more sensible approach would be to require like-for-like upgrades. Installers can use the incumbent technology to determine a suitable upgrade product which will allow for flexibility and better lighting outcomes. Products on the register must still have a beam angle declared however this does not necessarily have to be as wide as 60 degrees. Additional requirements for installers undertaking Part 21 upgrades would be needed to facilitate this.

Question 25. Do you agree with the proposed splitting of non-residential lighting activities (current Schedule 34) into building based (proposed Part 34), non-building based (proposed Part 35) and public lighting (proposed Part 27)?

Yes. Splitting these activities will allow for more specific requirements for products, installation requirements and asset lifetime values. A further comment in regard to Part 27 - public lighting, the use of the AEMO NEM load table for LCP is a positive step in simplifying abatement calculations. Product registration requirements should allow for a single product to be used across multiple schedules/parts if applicable.

LCA believes that these activities still biases lighting upgrades above a business-as-usual case disproportionately beyond other activities and should be the subject of further review in order to introduce heavier discount factors for certificate creation. Changes in the lighting market over the last few years include:

- The Commonwealth Government Equipment Energy Efficiency (E3) program will implement a phase-out of halogen globes under the GEMS Act, aligned with the implementation of the European Union's Single Lightsource Regulations. This is likely to occur at the beginning of 2020.
- The Minamata Convention will cause a loss in availability of mercury vapour lamps, which would greatly increase the uptake of LED luminaires in street and industrial high-bay lighting as a result. Manufacturing economies will cease production from 2020 of these products and hence, no incentive is required to upgrade these products.

- Quantitative economic data on the benefits of human-centric lighting on work performance has been growing over the past five years. Research material on the effects of tuneable white light on the health of employees is building a compelling case for the implementation of these technologies. Lighting Council expects the business case for these technologies to be compelling enough to drive businesses to upgrade lighting at a higher rate than previously and as a result, require much less incentive.
- Consumer awareness of energy efficiency over the past 10 years has grown significantly, partly in response to the rising energy costs that consumers are being subjected to. Domestic, commercial and industrial building owners are under increasing pressure and financial incentive to increase the energy efficiency of leased buildings as a result.

26. Do you agree with the proposed changes to asset lifetimes, revised lamp circuit power categories, and new space types for non-residential lighting activities (current Schedule 34)?

No. LCA suggests that the stated asset lifetimes are too simplistic to reflect the nature of lighting upgrades in non-residential settings. The requirements of customers sourcing lighting equipment in regards to product lifetime vary widely with application. Roads Authorities and Local Councils will often require a 10-year warranty on products due to the cost of installation, maintenance and replacement if the unit prematurely fails. At the opposite end of the spectrum, retailers and hospitality can see upgrades happening in as little as three-year periods to maintain relevance to the latest lighting trends and attract customers based on the latest research into consumer behaviour.

The proposed asset lifetime values do not appreciate the numerous complications that can occur in upgrades where an entire luminaire is not replaced. An asset lifetime value of 5 years is too long because:

- Existing ballasts that are left in-situ in lamp replacements are often approaching the end of their useful life when installed, and hence if they are not properly by-passed will cause lamp failure soon after the replacement. This increases costs for customers, especially as the usual application for these luminaires is in areas that are difficult to access.
- Excess weight on the lampholder due to LED COB lamps weighing sufficiently more than HID lamps has caused incidences where the lampholder has fatigued to the point of failure and the lamp has fallen from the fitting. Apart from the obvious safety risks, the asset is unrecoverable and the upgrade would not last the assumed lifetime.
- Other mechanical failures can result in unrepairable failure of the luminaire. Chain fixtures and optics can fail, compromising the integrity of the light source and requiring replacement.

An asset lifetime of 10 years is also simply too much for new luminaires. While LED chip technology has an extensive capability of lasting well beyond 10 000 hours of operation, the electronic drivers that are used to supply power to the chip will often fail much earlier due to the degradation of the electronic components within. The extensive variety in design of these drivers has resulted in no

accepted standard for testing, however on the basis of reputable suppliers and in-house testing, it is much more reasonable to assume a product lifetime of 5 years.

General comments

Policymakers should also be aware of the unintended negative consequences of the Victorian Energy Upgrades in its current form:

- Government incentive schemes skew market operator behaviour. There is an incentive to cut corners on the quality of the lighting outcome and installation owners would likely achieve better lighting outcomes without the schemes. Importantly, we question whether the lighting outcome after upgrades is being sufficiently audited and checked against the requirements and we would encourage more monitoring, verification and enforcement in this area.
- Incentive schemes that heavily discount upgrade installations change behaviour on the demand side of the market. Installation owners have less incentive to question the quality of the products proposed by unscrupulous market participants. The scheme cannot stop the penetration of poor quality products with high early-failure rates and therefore is leading to poor outcomes for consumers.
- Incentive schemes create a market for fly-by-night operators who have no commitment to creating a long-term, sustainable business presence in the lighting market.
- Legitimate market participants—such as LCA Members—are negatively affected by the operations of market participants who are responding simply to a short-term distortion created by a government incentive scheme. Long-term market participants create jobs, meaningful and long-term economic activity, and provide a quality service to the public.
- The use of incentives under the Victorian Energy Upgrades scheme overstates the benefits to the scheme as the use of lower quality equipment undermines the environmental benefits intended. Benchmarking in the current RIS does not compare a no-policy case and the cost of the administration of the scheme in different scenarios is identical to the energy abatement saved. Furthermore, the energy prices in states where similar schemes operate is evidence that the scheme is unnecessarily increasing power bills for consumers. Victorian power is amongst the most expensive in the world, closely followed by New South Wales.
- The lighting market in Australia already faces a critical challenge through the presence of non-compliant products that present the community with very real risks of electrical shock, poor performance, and fire hazards. Legitimate market participants face increasingly high compliance costs; further driving the price wedge between legitimate participants committed to manufacturing, supplying and installing quality products and unscrupulous operators who have their goods and services appear ever-cheaper in comparison.
- Policymakers should be acutely aware of failed government schemes that bear some resemblance to the Victorian Energy Upgrades scheme. The Home Insulation Program (HIP) had the effect of heavily distorting an existing industry by creating incentives for unscrupulous operators. The Royal Commission into the Home Insulation Program found that there was a perceived break in the chain of accountability around responsibility.

Policymakers should be concerned not only with the number of upgrades or the volume and value of lighting installations, but also the quality and safety of those installations, as well as the long-run effects of short-term interventions. Under the Victorian Energy Upgrades scheme, many of the agent-principal problems of the building and construction industry are exacerbated, as those installing lighting equipment have incentives to cut costs while end-users are rarely able to intercede.

- Further to the above, a stakeholder at a DEWLP hosted-consultation requested a provision for the use of Photoluminescent Exit Signs (PLES) as an emerging technology. The use of PLES as a direct replacement for internally illuminated exit signs is fundamentally unsafe, as it is only required to have 1/250th of the light output according to the deemed-to-satisfy provisions in the Building Code. Additionally, the Code also requires the use of a dedicated light source and an emergency light in most applications of PLES, and hence the energy abatement achieved by replacing the signs is quickly used throughout the rest of the installation in order to achieve compliance. Two unintended consequences of introducing this technology to the scheme could occur; the incentivised installation of non-compliant emergency and exit lighting systems; and the false creation of VEECs for energy savings that do not materialise (i.e. due to the need to install a dedicated light source and emergency light at every point where an exit light is replaced).
- The key concern of LCA Members, continues to be rorting of the scheme and the creation of an unsustainable market for unscrupulous operators. As raised previously, LCA notes that an unintended consequence of the Victorian Energy Upgrades scheme in recent years has been the rise of the new market operators who are not interested in being long-term market participants supplying quality products to the community, rather focussing their efforts on taking advantage of government rebates to the fullest extent.
- LCA also urges policy makers to investigate the implementation of a meaningful amendment process for updating products where minor variations have occurred to increase efficacy as currently, these are treated as new products requiring additional administrative effort for both the supplier and scheme administrators.

Suggested scheme consolidation or use of a model scheme

The following Commonwealth, state and territory energy efficiency incentive schemes exist under separate legislation and regulations and include different product requirements, administrative requirements and registration requirements.

- Commonwealth Government Emissions Reduction Fund.
- NSW Government Energy Savings Scheme.
- South Australia Retailer Energy Efficiency Scheme
- ACT Energy Efficiency Incentive Scheme

In some cases, products that are registered under one scheme are allowed to be used under another scheme. In other cases, different product requirements and separate product registrations are required.

The schemes operate in fundamentally different ways with different responsibilities, product requirements, registration systems, incentive payment arrangements, lighting verification arrangements, record keeping arrangements and audit processes. These differences decrease the efficiency of the administrative arrangements and increase compliance costs for product and service suppliers.

Lighting Council Australia recommendations:

- The schemes should be consolidated under a single agreed model arrangement.
- As outlined above, the schemes should be reviewed to discount or remove entirely the financial incentives for lighting upgrades due to the quickly changing business-as-usual case.
- Any product registration requirements should be part of a larger single national compliance portal applicable to all lighting product regulations, standards and schemes.