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Re: Victorian Energy Upgrades – Commercial Lighting Issues Paper 2017

Dear Emma

The Energy Efficiency Council (EEC) thanks you for the opportunity to comment on the *Commercial Lighting Issues Paper 2017*.

Following discussion with staff in the Department of Environment, Land, Water and Planning (DELWP) I understand that this consultation paper is solely seeking information for modeling on the current and future potential for various forms of commercial lighting to deliver energy savings in Victoria. I also understand and expect that, should DELWP consider applying a discount factor to some forms of commercial lighting, DELWP will conduct additional consultation on this issue.

Our submission highlights a number of key points, before responding to the specific questions that are set out in the Issues Paper.

Background

The EEC strongly supports the Victorian Energy Upgrades (VEU) program. Energy efficiency obligation programs have a clear purpose in correcting distortions in the energy market and have become well-established policy tools. There are now over 40 schemes operating around the world and we expect more in coming years.

While the overarching framework for effective schemes is now well-established, the details are critical for effective operation of the scheme. Schemes need to be monitored and must adapt as technologies and opportunities change. We welcome the Government increasing staffing for the program over the past two years to ensure that this occurs.

The Impacts of Activity Dominance in the VEU

The VEU has been characterised by periods of dominance by particular low-cost activities. These are, in order: Schedule 16 lamp replacements; standby power controllers; Schedule 21 lamp replacements; and now Schedule 34 commercial lighting replacements. This dominance by specific low-cost activities lowers the certificate price to a point that makes many other activities non-economic, which in turn drives many Accredited Providers (APs) to further focus on the dominant activities.

This pattern has both positive and negative impacts on the operation of the scheme. The positive impact of single-activity dominance is that it significantly lowers the cost of the VEU, both directly by driving the lowest-cost activities and indirectly by encouraging large-scale delivery of that activity by both individual APs and the industry as a whole. Large-

scale delivery can further lower the cost of an activity and speed up market transformation; for example, the rapid roll out of LED replacements for halogen lights transformed supply-chains for down-lights in Australia.

Single activity dominance may also lower the cost of scheme administration, by allowing the Essential Services Commission (ESC) to specialise for a period of time in the registration and compliance checking of that activity.

However, single-activity dominance also increases some costs. Firstly, boom-bust cycles create costs for APs that have to rapidly adjust their business model. Secondly, while boom-bust cycles deliver the lowest cost of abatement in a period of time, they may increase some costs over a longer-time frame, as sites would require multiple visits to install multiple technologies. Boom-bust cycles may also suppress the evolution of an energy service market that affordably delivers multiple activities during a site visit.

The evidence is unclear about the ideal number of activities that should be installed at one time. The literature around weatherisation programs in the United States suggests that the most cost-effective building upgrades were delivered by energy service providers that specialised in delivering a small handful of activities (e.g. draught-proofing, insulation and boiler upgrades) rather than comprehensive retrofits.

However, the results of those US programs need to be applied carefully to the VEU – many of those programs operated in climates with harsh winters and their aim was often to deliver acceptable housing to low-income families, which would encourage a mix of cold-weather thermal comfort activities.

Furthermore, if the market-transformation impacts of single-activity dominance are taken into account, the benefits of single-activity roll-outs may be significantly higher.

In summary, single-activity dominance can have many benefits. However, governments must ensure that the dominant activities are dominant because they are a genuine low-cost opportunity. If an activity is dominating VEU because the Government has over-estimated the amount of additional abatement that it is delivering, then the roll-out of that activity is undermining the effectiveness of the scheme and preventing the delivery of genuinely additional activities. This is particularly critical for ‘free’ items, as customers will have limited incentive to assess the quality and overall cost-benefit of a technology if they don’t have to outlay any capital for an upgrade.

Therefore, the EEC makes three recommendations at this time in relation to the VEU being dominated by single activities:

1. The Victorian Government must regularly review activities to ensure that they are delivering additional abatement.
2. The Victorian Government should review the case for co-contributions from energy users for commercial activities in conjunction with EEC members; and
3. DELWP should commission or contribute to an independent national study on the ideal operation of energy efficiency obligations, which looks at issues such single-measure dominance and the extent to which schemes should explicitly focus on market transformation.

Responses to Specific Questions

Question 1: How does the mix of lighting types, as presented in Figure 1, compare to your experiences in the business and non-residential sector?

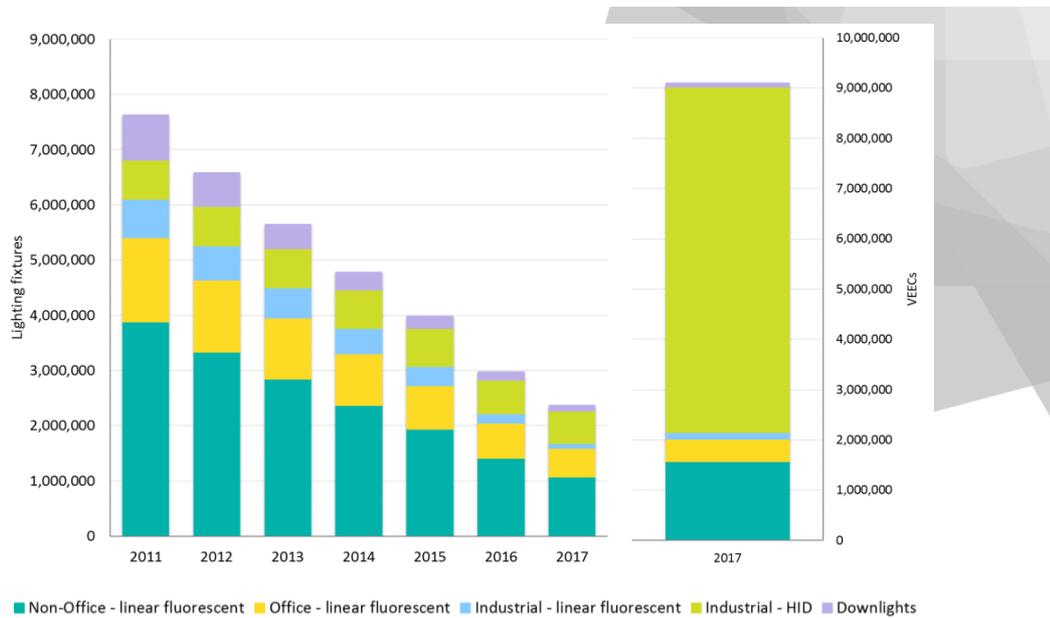


Figure 1. Pool of opportunity for building-based lighting upgrades (Schedule 34) in the business and non-residential sector in terms of lighting fixtures from 2011 to 2017, and VEECs from the 2017 pool. The pool of opportunity considers business-as-usual turnover of lighting equipment and Victorian Energy Upgrades activities. Linear fluorescent lighting has been segregated into non-office (retail, education and health), office and industrial sectors. High intensity discharge (HID) category includes high pressure sodium, mercury vapour and metal halide lamps.

Note: Data from VEEC registrations at 19 April 2017. Lighting fixtures modelling by Beletich Associates.

The EEC does not have a comment on the overall accuracy of Figure 1. However, we agree that industrial lighting represents only a fraction of the pool of opportunity for lighting upgrades, and industrial lighting upgrades are currently dominating VEU activities. This is partly driven by the number of certificates that VEU allocates to energy savings from industrial lighting upgrades, and partly driven by the following reasons:

- Upgrading the lighting at industrial sites delivers significant reduction in energy use. This is due to the large number of luminaires per site and the significant reduction in energy use per luminaire when an inefficient luminaire is replaced with a high efficiency model.
- On some (but not all) industrial sites the retrofitting process for upgrading lighting can be simpler, and therefore cheaper, than retrofitting other types of building.
- The cost of high-efficiency high bay luminaires has declined significantly in the past two years.

This means that there are sound reasons for the energy efficiency industry to focus on retrofitting high-bay lighting. However, the Government will need to regularly review whether the number of certificates that industrial lighting upgrades generate is set at an appropriate level.

It's likely that the market for industrial lighting will soon be transformed to the point that building standards should be updated to mandate high efficiency LEDs in all new industrial buildings and minimum energy efficiency standards could be considered for industrial high bays. However, in the absence of the VEU the replacement rate for industrial lights is likely to revert to its low historical rate, which means that incentives will likely be required for some time to drive rapid upgrades to existing industrial sites.

Question 2. How do the combinations of baseline and upgrade lamp powers depicted in Figure 2 compare to your experiences in lighting upgrades?

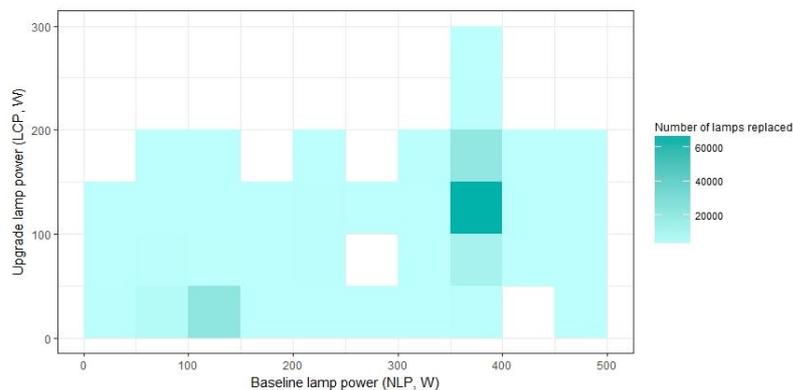


Figure 2. One-for-one highbay and floodlight (high pressure sodium, mercury vapour and metal halide) lamp replacements undertaken during 2016. The most common combination occurred where baseline lamps had a nominal lamp power (NLP) of 350-400W and upgrade equipment had a lamp circuit power (LCP) of 100-150W. This accounted for 66,718 of the 133,617 one-for-one highbay and floodlight lamp replacements in 2016.

Note: Lighting upgrade data based on activities with a 2016 activity date and a status of registered or pending validation as at 7 July 2017. 132,702 of the 133,617 one-for-one replacements fell within the depicted range.

This chart accords with some EEC members' experience.

Question 3. Have you experienced any difficulties upgrading, or seeking to upgrade, particular types of lighting equipment?

No comment

Question 4. What effect does a low VEEC trading price have on your participation in Victorian Energy Upgrades? Have you had any experience with unmet demand for eligible activities?

Low VEEC prices can have multiple impacts, including:

- Reducing the incentive for all activities, driving APs to focus on dominant activities.
- Driving APs to search for lower cost products. Unless there are adequate safeguards in place (such as co-contributions) this can compromise quality.
- Reducing the viability of APs and employment in the sector. Some degree of competitive pressure is important to drive up the quality and affordability of energy efficiency services, but a substantial and sustained drop in VEEC prices could affect the viability of quality APs and impede the long-term development of the energy efficiency industry.

Question 5. Tell us about your experience and challenges encountered when participating, or seeking to participate, in Victorian Energy Upgrades.

EEC members have noted that, while the ESC has made significant efforts to engage proactively with the industry, turnaround times for product registrations remain high and phone-calls to the ESC are often not returned.

In addition, the EEC believes that the ESC needs to allocate more time to developing a robust prosecution process to dissuade any potential instances of intentional and egregious non-compliance, which could undermine the VEU.

The EEC has the greatest respect for many staff at the ESC, and we believe that this is simply the result of the ESC having too high a workload and insufficient resources. The EEC strongly recommends that the Victorian Government engage with other state governments and outsource some of the common administrative tasks (e.g. product registrations) that an organisation that can act nationally. This would reduce costs for both governments and APs and allow the ESC to focus its efforts on more critical issues.

The EEC also notes that energy users currently have limited incentive to check the quality of free equipment. While the ESC has an accreditation process, this would be strengthened if energy users had a stronger incentive to assess the features of equipment. Therefore, as noted above, the EEC recommends that the Government review options to address this issue, including a potential requirement for a co-contribution for equipment.

Summary

The EEC thanks DELWP for its ongoing work to improve the operation of the VEU scheme, and looks forward to continuing to engage on this issue. If you have any questions please contact me on rob.murray-leach@eec.org.au.

Yours sincerely



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