



9 July 2010

Dear Lighting Supplier

**Research study – potential for establishing a New Zealand ENERGY STAR® specification for solid state luminaires and integral LED lamps**

ENERGY STAR is an international endorsement mark that the Energy Efficiency and Conservation Authority (EECA) successfully promotes across a number of product categories in New Zealand.

The US ENERGY STAR programme has recently introduced specifications in the Solid State Lighting area. This gives EECA the opportunity to look at adapting these and introducing a NZ-specific ENERGY STAR LED specification.

EECA wishes to promote this new energy efficient lighting technology and support those suppliers importing products that meet high levels of quality and performance. The industry is also looking for an independent accreditation. Doing so would give NZ consumers an indication of which products will provide them with good performance and are of high quality.

We have engaged Gordon Vickers as the consultant to carry out this work. He will be gathering and analysing information to help guide the decision-making process around the development of this specification.

**Opportunity for input**

As part of this feasibility study, we are undertaking a preliminary market survey, and would appreciate your input. If your company is interested in participating, please supply answers to the questions below. More detailed background information is provided in the attached appendices.

1. What kind of LED products do you currently supply, if any?
2. Can your company obtain LED products that comply with the US ENERGY STAR specification(s)? (See Appendices one & two.) If so, what are these products?
3. Can your company obtain LED products that comply with other specifications or standards? (See Appendix three.)
4. Do you have any feedback or suggestions in regard to the introduction of ENERGY STAR for these products?



5. If your company currently has or can source products that comply with the ENERGY STAR specification(s), would you be interested in becoming an ENERGY STAR partner and using the brand to identify and promote your products?
6. Are there any major barriers that you can identify with being involved with ENERGY STAR and/or promoting qualified products?

Please email your response to Gordon Vickers at [gordon.vickers@enerGV.net.nz](mailto:gordon.vickers@enerGV.net.nz) by 30 July 2010.

### **Confidentiality**

EECA and our consultant will ensure that all supplier information and data obtained is treated in confidence and will not divulge that information to any third party without prior written consent.

Note that any information held by EECA is official information in terms of the Official Information Act 1982; and under that Act, such information may be released to the public upon request unless there is good reason, in terms of that Act, to withhold the information.

Thank you in advance for participating in this study.

Sincerely,

A handwritten signature in black ink, appearing to read "Simon O'Brien".

Simon O'Brien  
ENERGY STAR Programme Manager



## **Appendix One: ENERGY STAR Specification for Solid-State Luminaires**

EECA's proposal is to use the US ENERGY STAR Program Requirements for Solid-state Lighting Luminaires Eligibility Criteria – Version 1.1 with a small number of modifications to adapt it to the New Zealand market. Here is a link to the specification:

[http://www.energystar.gov/ia/partners/product\\_specs/program\\_reqs/SSL\\_prog\\_req\\_V1.1.pdf](http://www.energystar.gov/ia/partners/product_specs/program_reqs/SSL_prog_req_V1.1.pdf)

Currently there are about 160 products from 20 suppliers listed on the Energy Star web site.

[http://www.energystar.gov/index.cfm?fuseaction=ssl.display\\_products\\_res\\_html](http://www.energystar.gov/index.cfm?fuseaction=ssl.display_products_res_html)

One parameter which may need to be addressed is the requirement that the LED operating frequency be > 120Hz. This requirement is designed to avoid low frequency flicker in the light output. The requirement was lowered in the US during their consultation process at the request of manufacturers so that light sources run directly on the 60 Hz US supply frequency would be acceptable. This issue only affects lower cost luminaires and it is not known if any such products would be introduced in to the New Zealand market. Should such products be considered, it is possible that ENERGY STAR would approve a reduction in this requirement to 100Hz for New Zealand product. This is not a problem in New Zealand, or indeed the rest of the world apart from the US and Canada, as most artificial light flickers at this frequency in these places.

The current and the proposed new luminaire specifications discussed below do not seem to specify any particular supply voltage.

### **Future developments in this area**

EECA will also be following the progress of the draft specification ENERGY STAR Program Requirements for Solid-state Lighting Luminaires Proposed Category A Additions – Outdoor Area and Parking garage (Luminaires) with a view to adopting it in New Zealand. See:

[http://www.drintl.com/htmlmail/ESOutdoorDraft2\\_01Jul09.pdf](http://www.drintl.com/htmlmail/ESOutdoorDraft2_01Jul09.pdf)

Note that work is currently under way in the US to combine all luminaire specifications so that different light sources and the way they are used in luminaires are assessed independently of the lamp technology used.

Here is a link to this work on the ENERGY STAR website:

[http://www.energystar.gov/index.cfm?c=new\\_specs.luminaires](http://www.energystar.gov/index.cfm?c=new_specs.luminaires)



## **Appendix Two: ENERGY STAR specification for Integral LEDs**

The specification for integral lamps was finalised in March this year and becomes effective from 31 August this year. Here is a link to the specification:

[http://www.energystar.gov/ia/partners/manuf\\_res/downloads/IntegralLampsFINAL.pdf](http://www.energystar.gov/ia/partners/manuf_res/downloads/IntegralLampsFINAL.pdf)

Considerations relating to the NZ market:

- The LED operating frequency for integral lamps must be above 150Hz. This will rule out ac operation.
- Allowable lamp bases must be to ANSI C82.77-2002 LM-79-08. This standard is unlikely to recognise the bayonet cap used in New Zealand. EECA would ask the US ENERGY STAR programme to approve the addition of bayonet caps as an alternative to Edison Screw types.
- North American products are usually designed for operation on 120V 60Hz supplies. However many electronic products such as LED luminaires are provided with a power supply that can also operate on a 230V 50Hz supply. Consequently it is likely that some of these products would be suitable for the New Zealand market without modification being required.
- The integral lamp specification does allow lamps to be suitable for 120V or 240V operation.



## Appendix Three - Other International Standards

EECA realises that suppliers will have access to products that are certified to other standards.

It is possible that EECA will consider using one of these standards to establish the ENERGY STAR criterion if it is easier to obtain product to this standard in New Zealand. However this would only be possible for products complying with a standard describing the performance of the whole product, not items such as test methods, lamp base type and so on. Following is a list of such standards that we are aware of for your reference. This list is not exhaustive.

- IEC-PAS 62612 Ed 1 Self-Ballasted LED lamps for General Lighting Services – Performance requirements (i.e. Integral LEDs) Draft 1.0 Committee 34A
- JIS C 8155 LED module for general lighting service - (Japan)
- JIS C 8157 LED module for general lighting service - Performance requirements (Japan)
- Energy Saving Trust V1.0 (LED lamps and modules) (UK)
- Energy Saving Trust V1.0 (LED luminaires) (UK)
- European EUP proposal (LED lamps and luminaires) (Europe)
- China Street Lighting LEDs
- Chinese standard GB/T 24823-2009 LEDs for General Lighting – performance



## **Appendix Four – ENERGY STAR® background**

New Zealand is a partner to the international ENERGY STAR programme.

The US Environmental Protection Agency (EPA) launched ENERGY STAR in 1992, with the aim of promoting energy efficient products to reduce greenhouse gas emissions.

Today, ENERGY STAR has grown to cover an extensive range of over 50 product categories in the US and around the world.

Since 2005 ENERGY STAR has been promoted in New Zealand by EECA.

ENERGY STAR is New Zealand's only independent mark of energy efficiency. The mark is awarded to the most energy efficient products on the market. Over the last five years, consumer awareness of the mark has grown to over 70%.

ENERGY STAR is a key part of EECA's successful products programme. The products programme focuses on providing consumer choice among the most efficient products and eliminating the worst energy performers through regulation. ENERGY STAR provides an incentive for manufacturers to improve the energy efficiency of their products.

Currently in New Zealand, the growing list of ENERGY STAR product categories includes:

- Whiteware
- Heat pumps
- Home electronic products
- Office and imaging equipment
- Lighting
- Solar water heating