

# External Power Supplies

## How to meet energy efficiency regulation requirements

External power supplies, (power adaptors), sold or hired in New Zealand must, by law – even if they come packaged with a product – comply with [minimum energy performance standards \(MEPS\)](#) requirements. This document outlines the requirements and how to meet them if you import or manufacture external power supplies in New Zealand.

### Why have MEPS for external power supplies?

There are millions of external power supplies connected to the power network so minimum energy performance standards (MEPS) prevents poorly performing products from entering our market and brings significant savings to consumers and considerably reduces greenhouse gas emissions over the life of those products that comply.

### Which external power supplies are included?

MEPS covers: Mains powered; dc and ac adaptors/power-packs, with a single output of up to 250 W or VA, used to power or re-charge separate low voltage electronic products, like laptops cellphones, etc. They are often sold packaged with the product it will be used with - for example, a laptop computer normally comes with a power adaptor.

### What do I need to do to comply with the law?

**Importers and manufacturers of external power supplies, are required to:**

- [Step-1](#) Ensure each external power supply model has been tested to **AS/NZS 4665.1** and ensure each external power supply model meets or exceeds the minimum energy performance levels specified in **AS/NZS 4665.2**.
- [Step-2](#) Energy Rating Labelling: **N/A**
- [Step-3](#) Register each external power supply model through the energy rating website.
- [Step-4](#) Provide EECA with product sales, import and export data each year.

**Retailers are required to** check their products are registered on the [energy rating website](#).

**See the questions and answers below for more information**

## Which external power supplies are excluded?

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MEPS does **not** apply;

- to DC to DC converters, or
- to external power supplies with simultaneous multiple output voltages, or
- if it is physically attached to the batteries or battery pack independent of the product, or
- if it is designed to charge more than one type of battery, or
- to a transformer or converter for an extra low voltage lamp, or
- to electronic control-gear for an LED module,
- to medical equipment, provided it is listed in the Australian Register of Therapeutic Goods.

## Which standards apply?

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**AS/NZS 4665.2:2005:** Performance of external power supplies—Minimum energy performance standard (MEPS) requirements.

**AS/NZS 4665.1:2005:** Performance of external power supplies—Test method and energy performance mark.

Standards are available for purchase from [www.standards.co.nz](http://www.standards.co.nz) and for inspection at [EECA's head office](#).

## How are energy levels calculated for external power supplies?

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An external power supply must achieve a performance mark of least III to be able to be sold in New Zealand (products with a performance mark of I and II cannot be sold here).

To achieve a performance mark of at least III, an external power supply must meet the following criteria when tested at 230Va.c. 50 Hz.

### Minimum efficiency for performance mark III

Nameplate power output ( $P_{no}$ ) Watts	Average efficiency
0 to 1	$\geq 0.49 \times P_{no}$
> 1 to 49	$\geq 0.09 \times L_n(P_{no}) + 0.49$ to a maximum of 0.840
> 49 to 250	$\geq 0.84$

$P_{no}$  is the nameplate output power of the unit under test.

$L_n$  refers to the natural logarithm (base e). The algebraic order of operations requires that the natural logarithm calculation be performed first.

### Maximum no-power load for performance mark III

Nameplate power output ( $P_{no}$ ) Watts	AC - DC Watts	AC-AC
0 to <10	$\leq 0.5$	N/A
10 to 250	$\leq 0.75$	N/A

For more information on the energy performance requirements, and performance marking for high efficiency products (IV and V), see the Standard AS/NZS 4665.2.

## **How do I register an external power supply on the energy rating website?**

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If the external power supply you are about to register is already registered you are not required to register it. To check, search for the model at:

[reg.energyrating.gov.au/comparator/product\\_types](http://reg.energyrating.gov.au/comparator/product_types).

If it is not already registered download our quick start guide at:

[www.eeca.govt.nz/resource/online-product-registration-guide](http://www.eeca.govt.nz/resource/online-product-registration-guide).

If you haven't used the [energyrating.gov.au](http://energyrating.gov.au) website before, follow these instructions:

**Step 1** Open the registration page: [reg.energyrating.gov.au/accounts/register](http://reg.energyrating.gov.au/accounts/register).

**Step 2** Create an account and log in.

**Step 3** Create an applicant, add contact people etc. as required.

**Step 4** Create a new product registration (you will need a test report).

**Step 5** Select 'External Power Supply (PS)'.

**Step 6** Follow the steps until all fields are complete.

**Step 7** Once submitted you will be e-mailed a Registration ID. Record this as you will need it to provide sales data each year.

Note: A range of external power supply models, manufactured in multiple configurations or styles, may be registered as a product "family" if the family definition (below) is met.

## **What is a family of models?**

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A range of non user selectable single voltage output models based on common technically equivalent components (typically switch-mode), but each model may have a different output voltage. They may be sold under different brand names and/or model numbers. Each member of the family is included on a single test report and has the same energy performance mark but may have a different output voltage.

## **Are products with more than one output voltage covered?**

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If your product has more than one output voltage, and the output voltage is **not** user selectable through an external selector switch, the product does not meet the definition of an external power supply. For example, if the output voltage changes depending on the attached end product, not through adjustment of a selector switch, the product does not meet the definition of an external power supply and cannot be registered. An external power supply with one extra low voltage output that is either at a fixed voltage **or** a user selectable voltage through a selector switch is covered by the Standard.

## **What information do I need to provide to EECA each year and how do I do it?**

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Importers and manufacturers are required, by law, to provide statistical information on sales, import and export data annually to EECA.

Data needs to be submitted every year by 1 August, for the period 1 April to 31 March. For example, data from 1 April 2013 to 31 March 2014 must be received by 1 August 2014. The information is submitted through the EECA website where you need to:

**Step 1** Set up a user account at [www.eeca.govt.nz/webform/request-user-account](http://www.eeca.govt.nz/webform/request-user-account).

**Step 2** Once approved, log in at [www.eeca.govt.nz/user/register/supplier/login](http://www.eeca.govt.nz/user/register/supplier/login).

**Step 3** When logged in follow the links and instructions for the EECA sales data return tool.

**Step 4** Enter your product data - you will need your Registration ID number - the following information is required for each registered model:

- Sales in New Zealand between 1 April and 31 March.
- Imports into New Zealand between 1 April and 31 March.
- Exports from New Zealand between 1 April and 31 March.

## **Where do I get additional information?**

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More information about regulated products and how to meet your legal obligations can be found at [www.eeca.govt.nz/product-standards](http://www.eeca.govt.nz/product-standards).

See the [running costs calculator](#) to find out how choosing a higher star rating can reduce the running costs of products.

There is also information on the energy rating website at [www.energyrating.gov.au](http://www.energyrating.gov.au).

If you have any questions, please email us at [compliance@eeca.govt.nz](mailto:compliance@eeca.govt.nz), or phone EECA on **0800 358 676**.