Australian Government
Department of the Environment and Energy

Greenhouse and Energy Minimum Standards Regulator

Air Conditioner Regulation and the Zoned Energy Rating Label

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Agenda

- Brief overview of air conditioner regulation
- The new Zoned Energy Rating Label or ZERL, what has changed and why
- Changes for portable air conditioners
- Retailer responsibilities
  - In store
  - Online
- Registration and compliance
- Answers to questions you might be asked by customers
- Q&A
- Morning tea break
- Presentation about the Ozone Protection and Synthetic Greenhouse Gas Program

Introduction to energy efficiency regulation

- The Australian Government has set minimum energy efficiency standards since 2012.
- This is done through the *Greenhouse and Energy Minimum Standards Act 2012* (GEMS Act)
- 22 products are regulated under the GEMS Act, but only seven products require an Energy Rating Label when displayed in stores.
- Each ‘GEMS product’ has a separate legislative instrument (Determination) which sets out:
  - Energy efficiency requirements (often referred to minimum energy performance standards or MEPS)
  - Labelling requirements (displaying the Energy Rating Label or other labelling requirements)
  - Occasionally ‘other’ requirements (often related to product performance or high efficiency requirements)

Air conditioning regulation

- Regulated for energy efficiency since 2004, but have required an energy label since 1987.
- The Determination says what types of air conditioners must display an Energy Rating Label when the unit is on display in a store.
- Two recent new Determinations:
  - One for units up to 65kW, introducing the new ZERL
  - One for units over 65kW

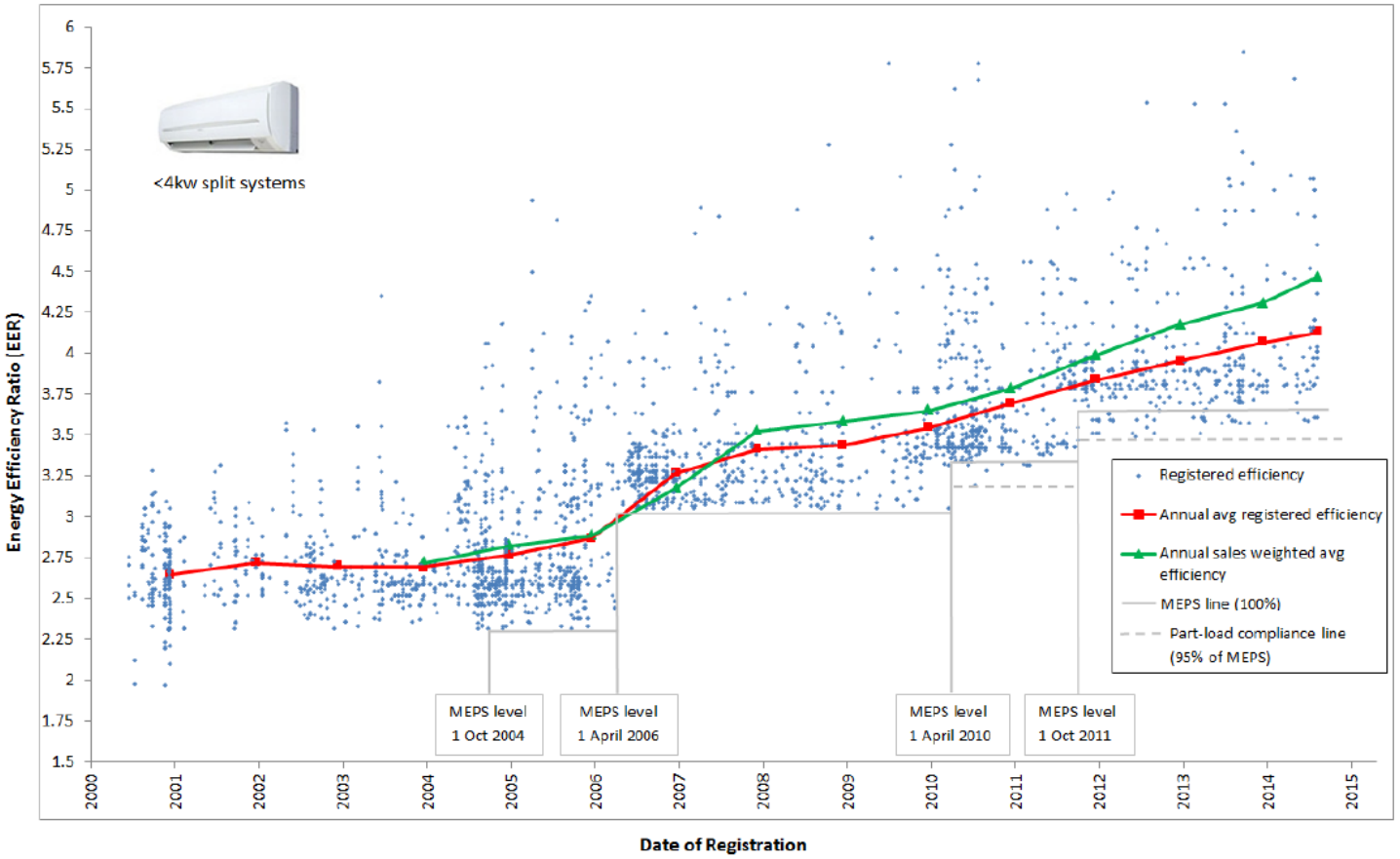
Timeline: what is happening when?

- Now: manufacturers or importers can either register their product to get the new label, or they can stick with the old label.
  - Result: two different labels in store for up to 5 years
- From 1 April 2020: all new models registered, and renewals of older registrations must use the new label.
  - Result: portables labelled for the first time
  - Result: more models with the new label in store.

Customers are buying more efficient products

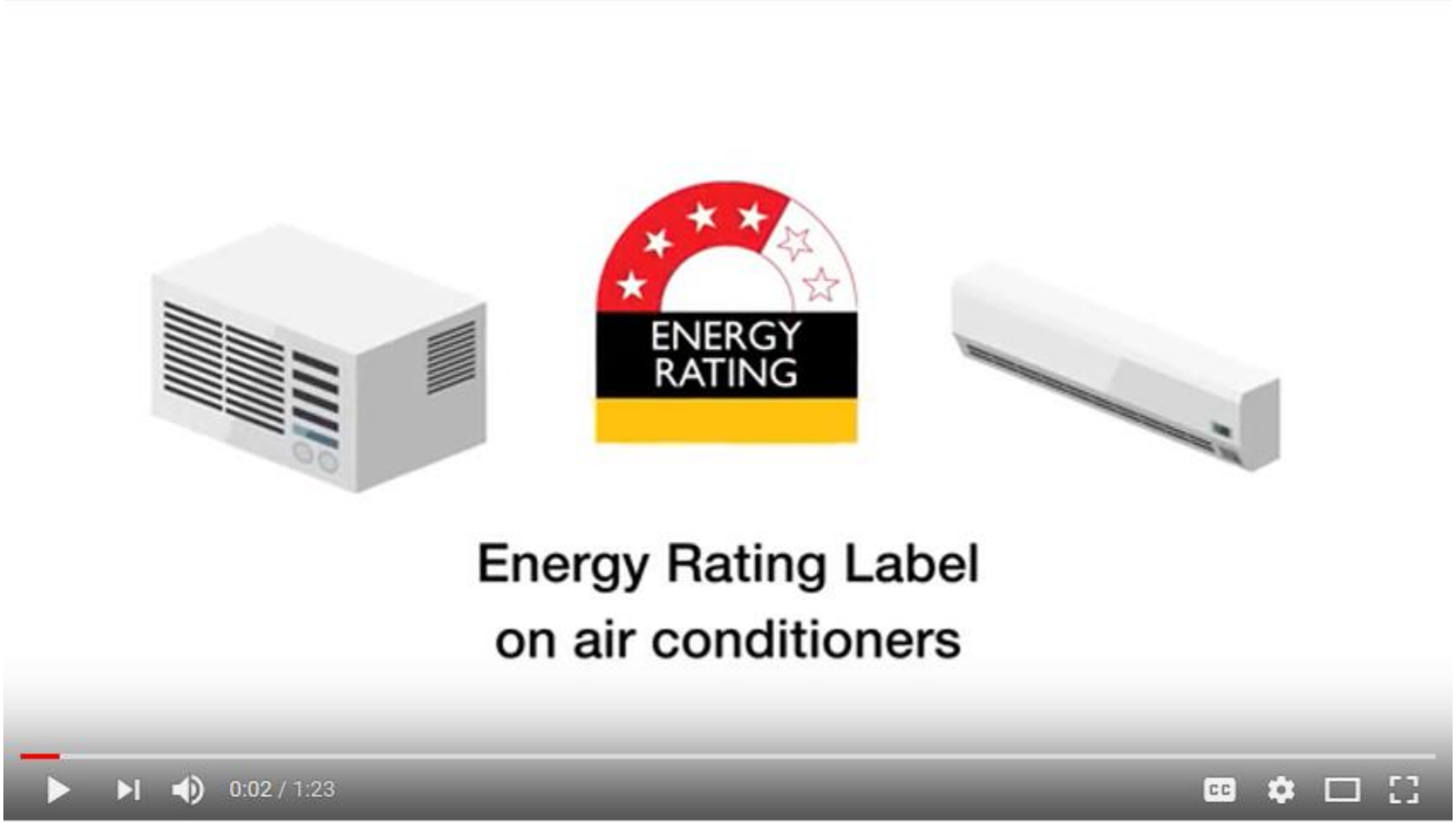
- Customers on average are choosing to purchase more efficient air conditioners.

Figure 2 Cooling energy efficiency ratings – Australian air conditioners less than 4 kW capacity, 2000 - 2014



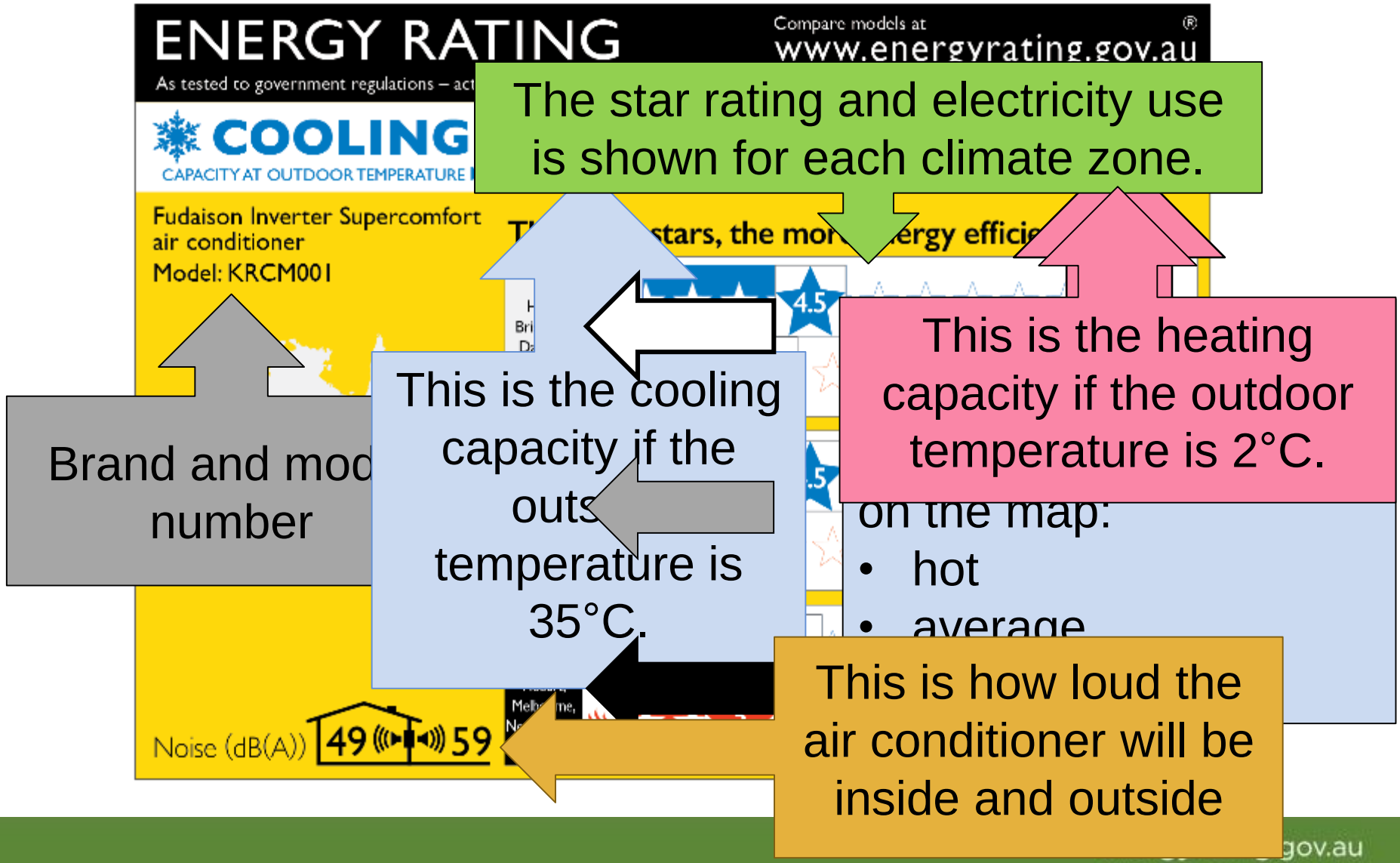
Source: Energy Rating database www.energyrating.gov.au at August 2014.

Video about the new label



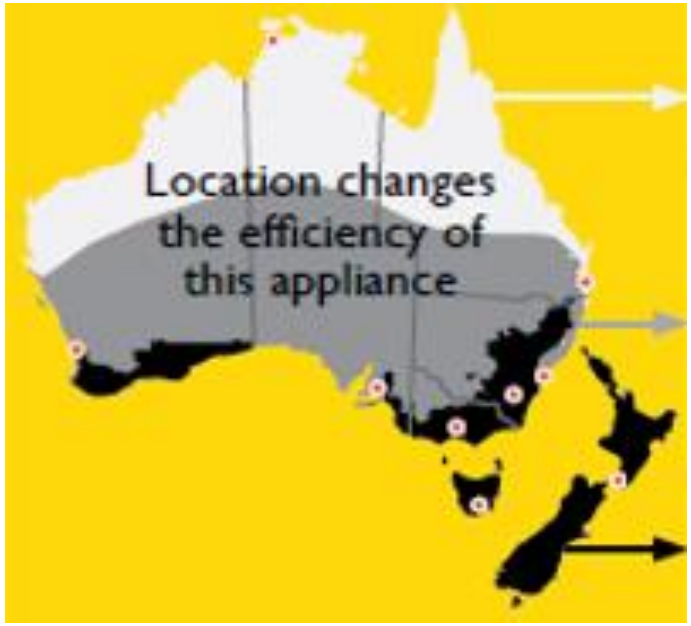
[Access on the Energy Rating YouTube channel]

Parts of the Zoned Energy Rating Label

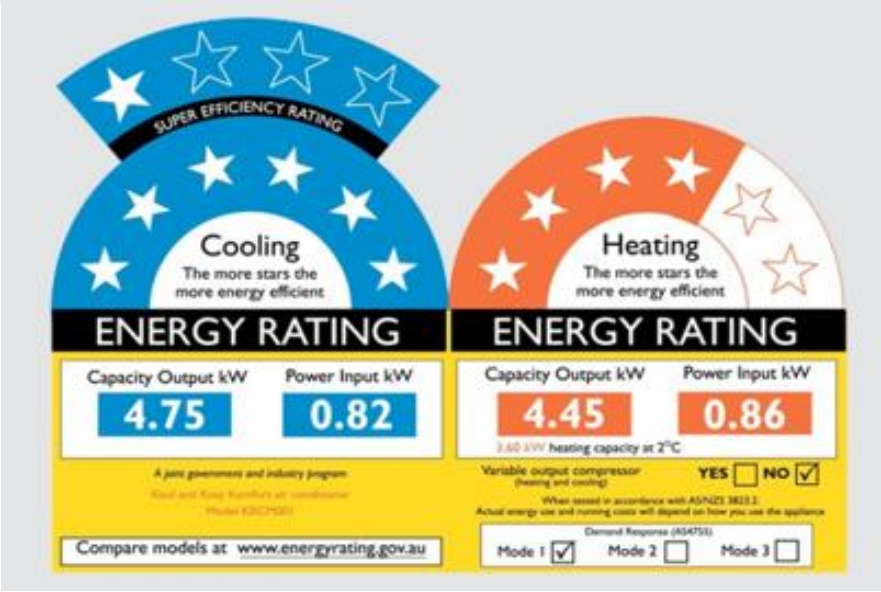


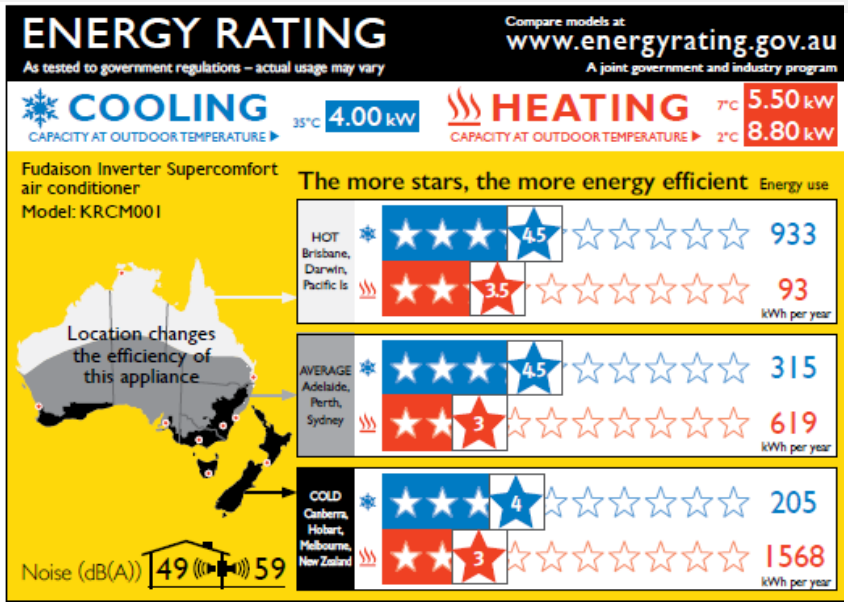
How does climate affect air conditioner performance and efficiency?

- Purchasing the right air conditioner for the right zone is important.
- It's not just about how hot it is! It is also about how cold it gets.
- In cold climates focus should be on the heating stars.
- In hot/humid climates customers should focus more on the cooling stars.



Old label vs. new label: What's changed and why?



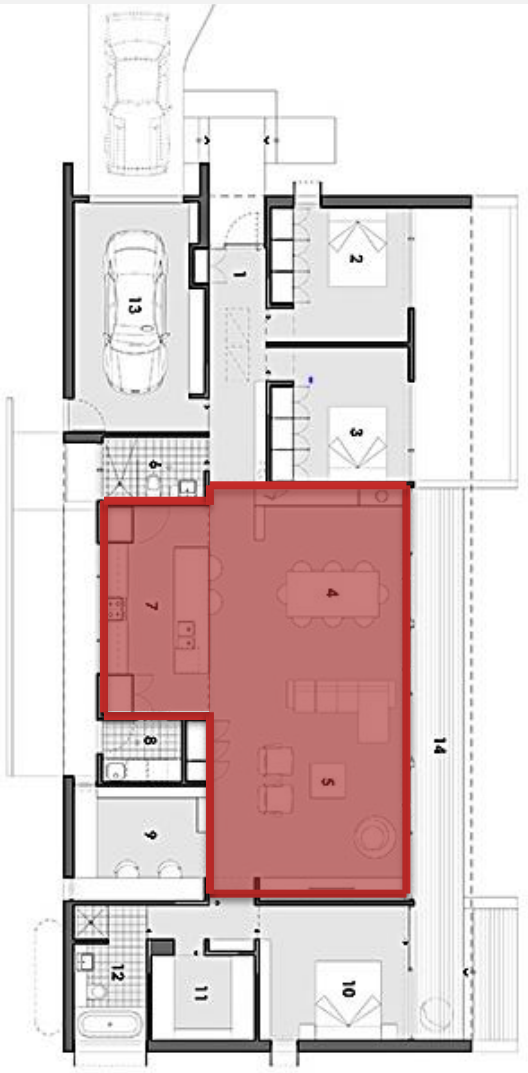


- **Old label:** Capacity and power in kW
- No clear indication of annual power use
- Implied same performance all across Australia and New Zealand

- **New label:** Capacity in kW, power use in kWh showing expected annual power use.
- Capacity at 2°C.
- Zoned rating showing different performance in different conditions
- Includes noise ratings

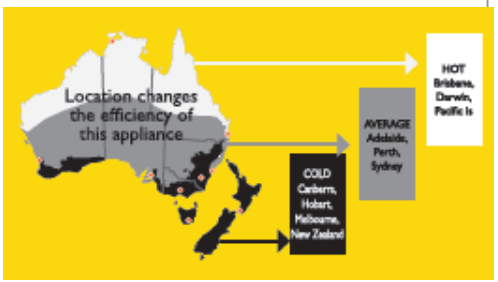
Air conditioner sizing

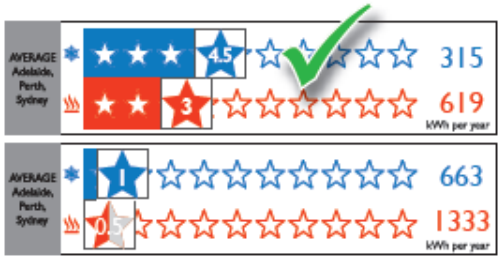
- The **MOST** important thing for a customer is to get the right size air conditioner for their space.
- Note: ‘size’ is the cooling/heating capacity, not the physical dimensions of the air conditioner.
  - Too small? Inefficient, air conditioner will be working harder for longer.
  - A little too big? This is ok, the unit will still work efficiently.
  - Way too big? Too expensive for what they need, becomes less efficient as it will cycle on and off too frequently
- For sizing: consider the area of the space to condition, external wall material, insulation, windows, shading and orientation.

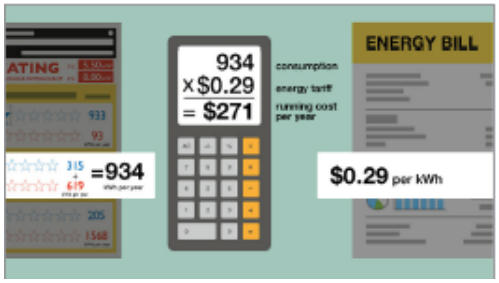


How to use the Zoned Energy Rating Label

- **Step 1:** Find out what size air conditioner you need for your space.
- **Step 2:** Figure out what zone you are in.
- **Step 3:** Compare star ratings on air conditioner performance in your zone.
- **Step 4:** Work out how much it costs to run per year.







Installation

Use a licensed installer

- Store retailers should ensure they advise customers to use a licensed technician to install and service their air conditioner. Installers must hold a refrigerant handling license, issued by the Australian Refrigeration Council. lookforthetick.com.au
- **Portable units** can be installed by customers but should still be serviced by someone with a refrigerant handling license.

Portable air conditioners

- From 1 April 2020 all **new** portable air conditioners:
  - must be registered
  - must display a ZERL prior to being sold.
- Existing stock in Australia prior to 1 April 2020:
  - may be sold until exhausted without registering or displaying a ZERL (some conditions apply).
- Portable evaporative coolers do not need to be registered.
- The star rating for all single-duct portable units is zero.
- **If you are unsure** about the registration and labelling requirements for any portable units that you sell, please check with your supplier. You can also contact energyrating@environment.gov.au

GEMS Compliance

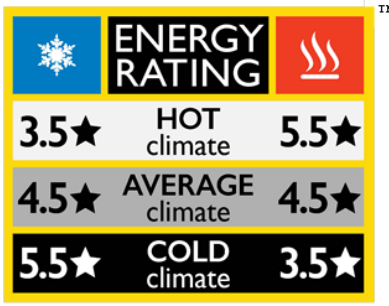
Background

- Air conditioners can only be supplied, offered for supply, or used for a commercial purpose, if:
  - the model is registered; and
  - the product meets GEMS level, labelling, and Other requirements; and
  - the supply, offer, or use complies with the legislation.
- Offence under the GEMS Act to supply or offer to supply air conditioners if they do not display the relevant energy rating label

GEMS Labelling Requirements

Displaying the ERL or ZERL

- GEMS labelling requirements are set out in the relevant determination.
- Each unit of a model supplied or offered for supply must have a label displayed in some form
- Clearly visible energy rating labels assist consumers to make informed decisions
- ZERL icon available for online or print use
  - however, no legal requirement to display
  - not used for physical products in store



GEMS Labelling Requirements

Displaying the ZERL in retail premises

- An example of compliant labelling:
  - one ZERL for each model offered for sale

GEMS Labelling Requirements

Display issues

- Some examples of non-compliant labelling:
  - three models offered for sale but only one ZERL
  - please don’t cover the ZERL with store labels

Supply via installers

How the ZERL can help

- Installers relied upon to assist consumers make the right choice.
- ZERL is a great tool to help installers make it easier for the consumer to understand.
- Location and climate relevant.
- Informed choices.

Things that you might need to know…

How long will there be two labels in stores?

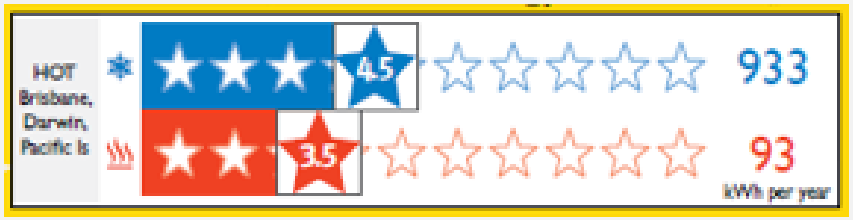
- Suppliers can register products to the old Determination up to 31 March 2020.
- Registrations are valid for five years.
- If registered to old Determination, can only use the old label (ERL).
- There is the potential to see the old label in store up until 2025.
- We expect that suppliers may move quickly to the new label (ZERL).

Things that you might need to know…

How do I work out the running cost of a product with the ZERL?

- Add heating and cooling annual electricity consumption for the relevant zone, then multiply that total by your electricity tariff.
- e.g. 933 + 93 = 1026 kWh per year
- 1026 kWh per year x $0.29 per kWh

  = $297 per year



More of what you might need to know…

How is the annual electricity consumption figure calculated?

- Three factors:
  - Annual **temperature** profile in each zone.
  - How people **use** their air conditioners at each temperature
  - **Electricity use** by air conditioners at each temperature
- These factors are then combined in an algorithm ending up with annual electricity consumption in each zone.

More of what you might need to know…

Why are there two heating capacities on the ZERL?

- The performance of some units is impacted by cold temperatures or frost. The new determination requires testing at 2°C, in addition to the standard rating point of 7°C.
- The 2°C heating capacity on the ZERL is useful for customers in cold climates because it is a useful indication of how a unit will perform at lower temperatures, and is a good measure to compare between units.

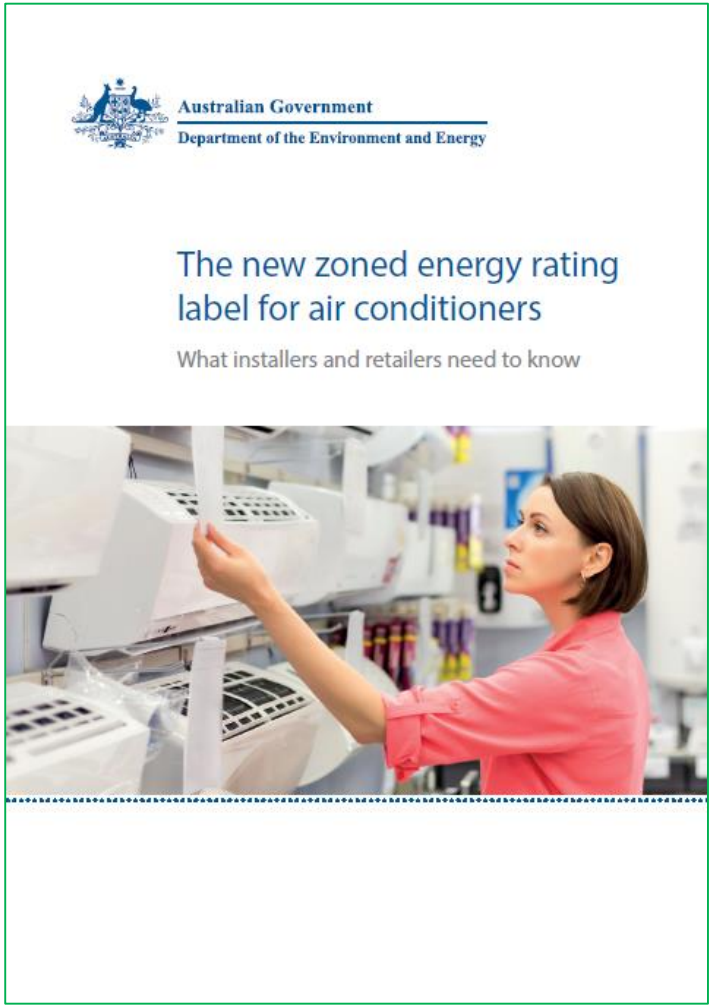
Even more of what you might need to know…

Why do single-duct portable units have a zero star rating?

- Single duct portable air conditioners will blow cold air out of the front of the unit. But…
- Single duct portables have no net-cooling effect on a room.
  - Creates negative air pressure
  - Draws in outside air from gaps, under doorways etc. to balance.
- The stars on the ZERL are an indication of how well an air conditioner cools (or heats) a room.
- Because the unit does not actually cool down the room, the unit does not achieve any stars.

Communications materials to train your staff and inform your customers

- We have developed a range of communications materials to help including:
  - Information booklet
  - Factsheet on how to read and use the ZERL
- With further information available on the energyrating.gov.au website
- For enquiries contact: energyrating@environment.gov.au
- Please fill out the survey form to request copies of these materials
- If you have any suggestions on other materials you need, let us know!



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For more information visit energyrating.gov.au
For enquiries email energyrating@environment.gov.au
For more information about installation requirements visit: lookforthetick.com.au

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