



Toolkit:

Insights into energy labels

Lighting, Appliances and Equipment: 7

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 #energyefficientworld

- When people buy appliances they buy an energy service in two parts
 - They can see the appliance, and its cost
 - They cannot see the energy consumed, or its running costs
- The label helps consumers understand which products have the lowest total cost during the purchase process
- Energy label is attached to an appliance when it is displayed for sale: tells people about energy use before they buy
- Comparative labels may be voluntary, but mandatory is more common.
- Comparative labels usually communicates in two ways:
 - quick visual rating and
 - Some data e.g. actual kilowatt-hours (kWh), Running costs, capacity/size

Common Comparative Labels

Vietnam

Thailand

South Korea

Indonesia

Malaysia

Singapore

Dial



Belarus

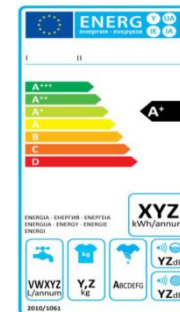
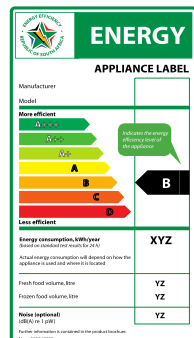
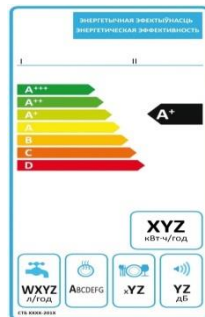
South Africa

Brazil

China

EU

Bar

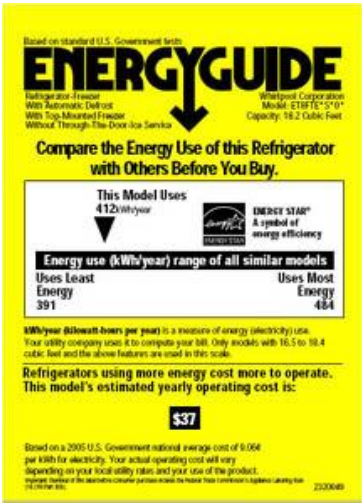


Continuous

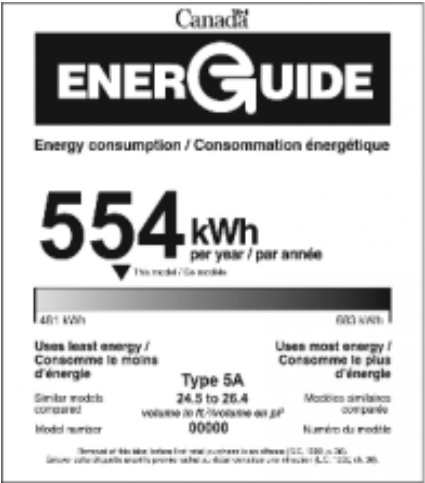
US



Philippines



Canada



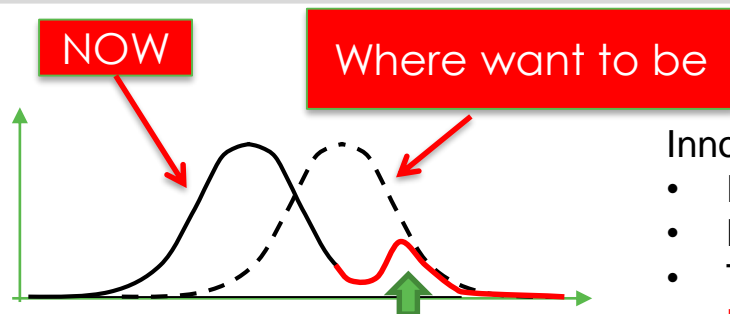
- Identify the most energy efficient models, i.e. not all products labelled
- Generally endorsement labelling schemes show little product specific information for each model
- Endorsement labels may be mandatory or voluntary, but voluntary is more common
- Can be updated more rapidly than a comparative energy label
- Usually paid for by manufacturers, third party tested
- Often linked to other policies

Endorsement labels - examples



Market Transformation: impact of different policies

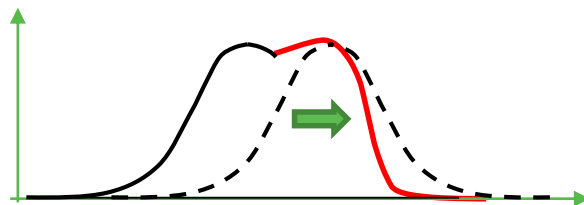
Leading Edge:
establishing new
technologies in the
market



Innovation

- R&D*
- Demonstration
- Technology transfer
- **Endorsement labels**

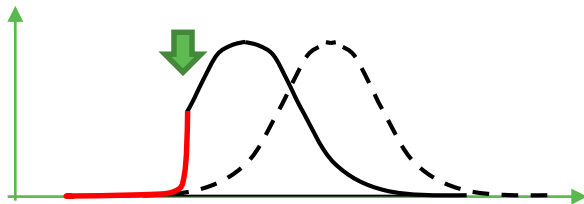
Mid Market:
spreading good
practice



Reduce barriers

- Access to information / finance
- **Comparative labels**

Laggards:
discouraging
bad practice



Remove worst

- Performance standards

Market
mechanisms
increase
incentives
for higher
energy
efficiency
across the
whole
distribution

* Research and Development

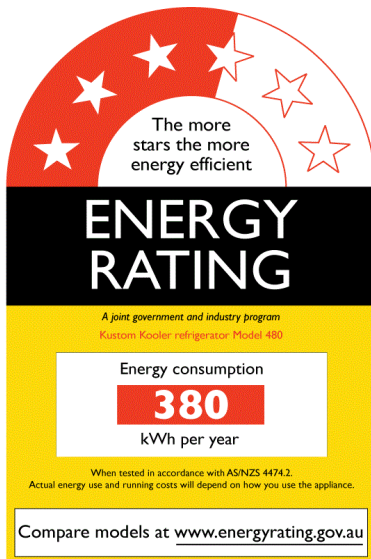
- The most effective labels are visually intuitive
 - Need to be clear, easy to understand and communicated.
- Do not put too much information on the label – ‘over crowding’ will likely lessen consumer response and impact
- But different labels work in different ways to reflect cultures & different perceptions
 - Letters vs number vs symbols
 - Language, script, left to right ranking
 - Positional indicator – how does this model rank on absolute scale and in relation to other models?
 - Is high number or low number better?
- Need to select one label format and stick to it.
 - Takes years for buyers to become familiar with labels.

- MEPS and labelling often work closely together
 - Lowest rank of comparative label begin at MEPS level
 - Endorsement labels align with higher ranks
- Information on labels should also appears on electronic formats such as websites where consumers may purchase products online.
- Ongoing evaluation of energy labels (and their S&L programme) to measure how well it is working and if it can be improved.

- Divide into three groups
- Each group to discuss and report back about the effectiveness (pros and cons) of one comparative label



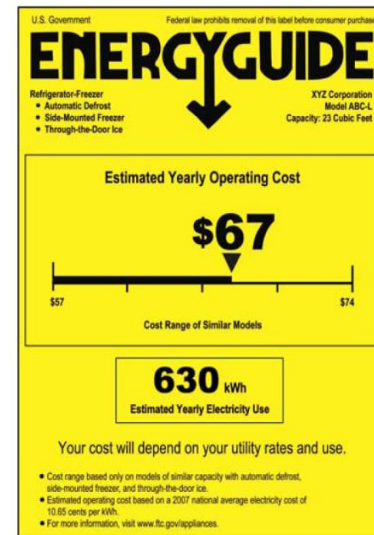
1. Dial Australia



2. Bar EU



3. Continuous US



A newspaper article has questioned the validity of comparative energy labels on refrigerators, saying that the label does not reflect real usage.

Apparently they measured several refrigerators in homes and found that they did not perform as claimed on the label.

How would you respond?

What information is included on the label,
how is it sourced?

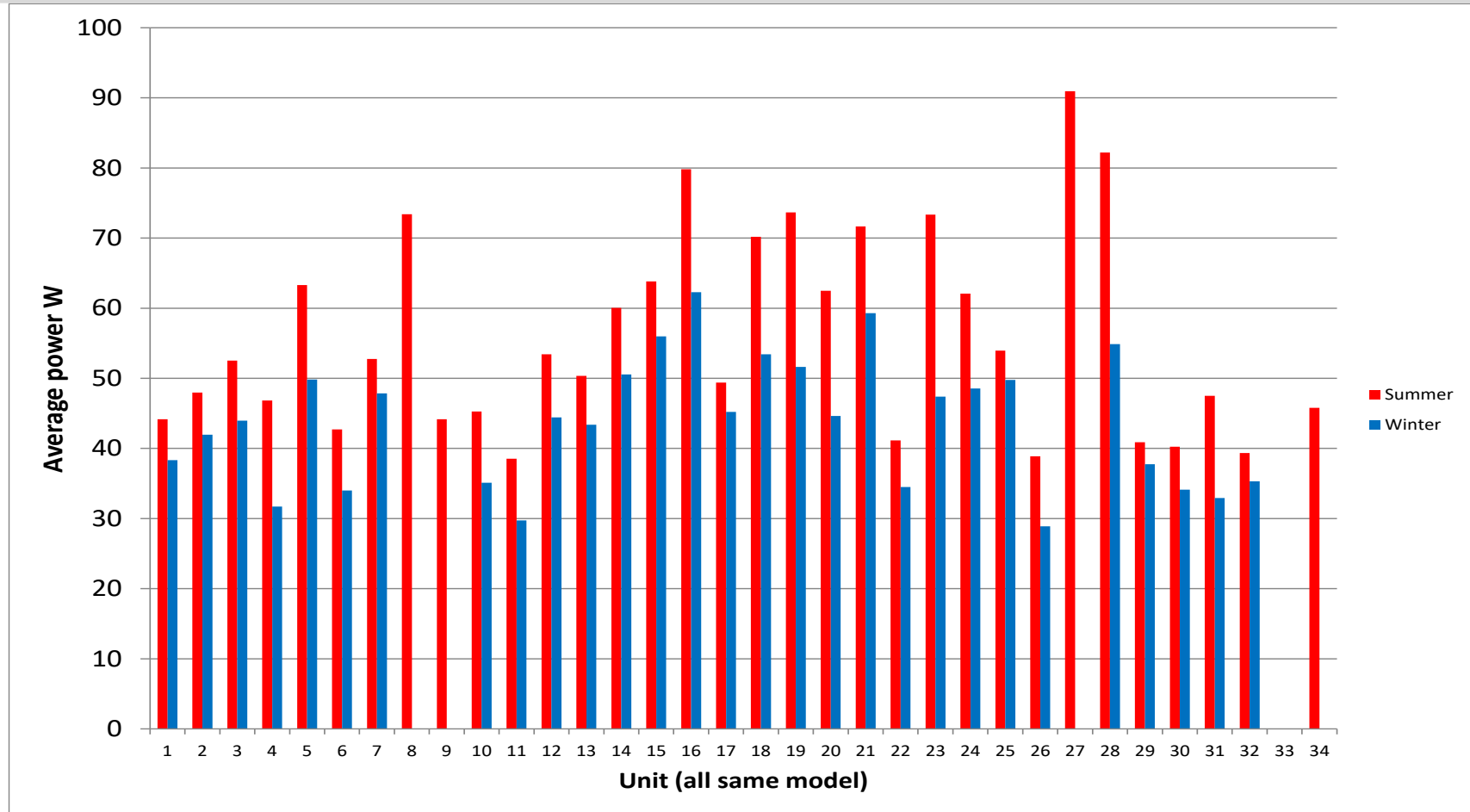
What do we think might be the explanation?



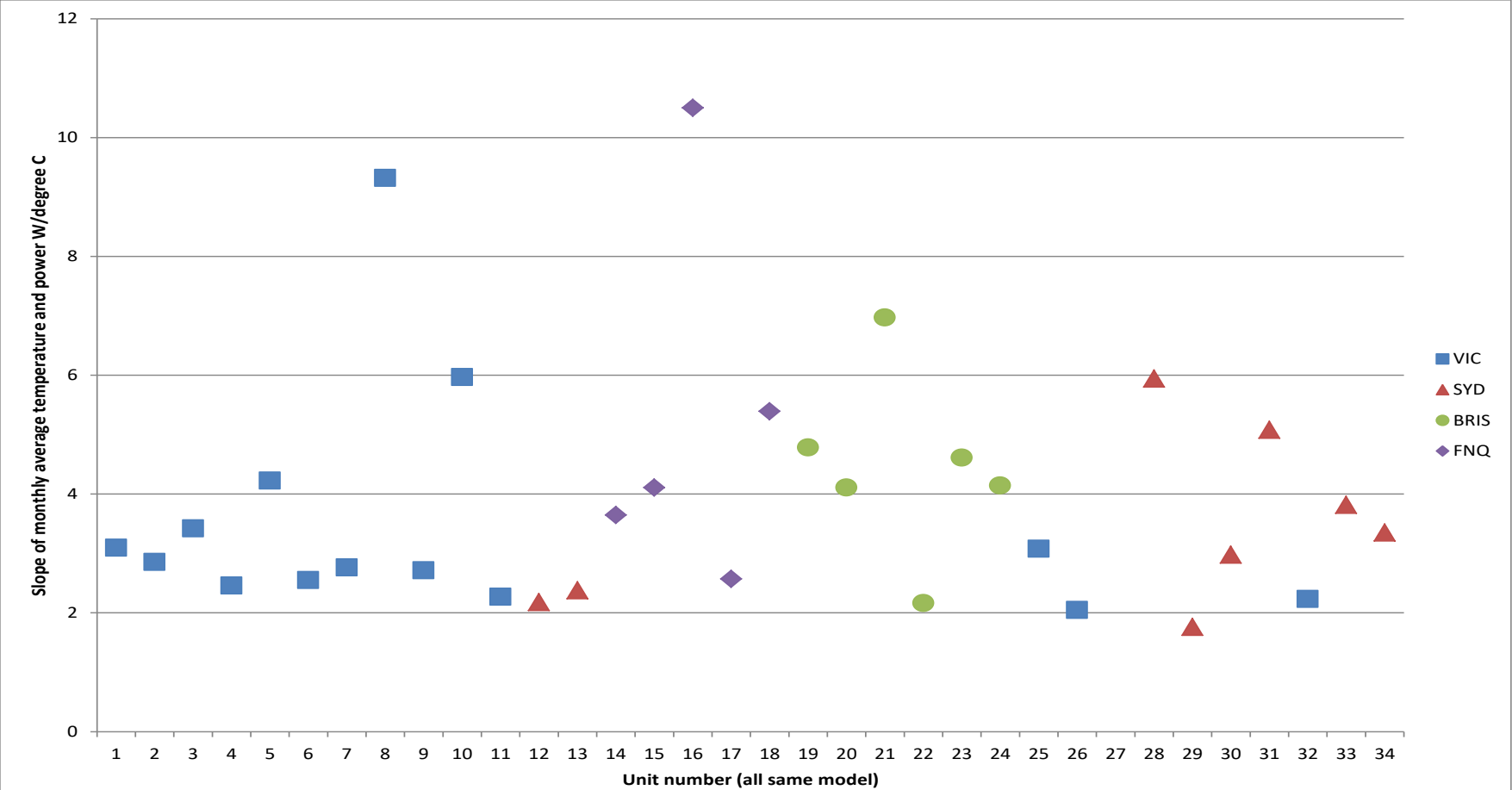
- Results on label based on 'standard' laboratory test
 - E.g. International, regional or local technical standard
 - Plus any guidelines for conducting test
- Laboratory test gives energy performance under strict conditions
- Average usage patterns, energy costs, calculated to give other indicators
- You **would not** expect each refrigerator to provide the exactly same performance in the home as in the laboratory

- Why may real use of a refrigerator vary from the test results?
- Possible variations
 - Climate – ambient conditions
 - Door opening frequency
 - Loading - foodstuff

Summer and winter same model: impact of ambient temperature



Same model, different households: impact of users



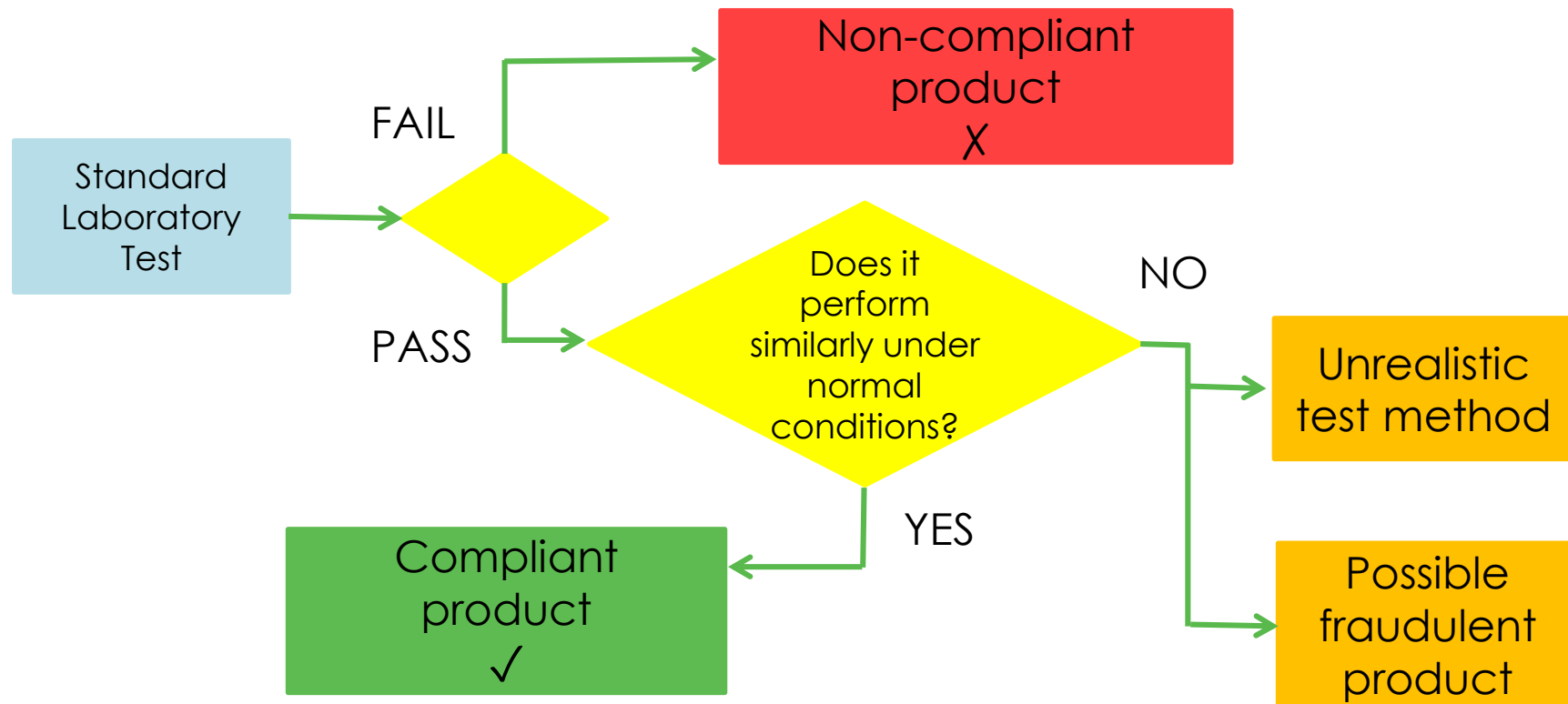
- So:
 - You **would not** expect each refrigerator to provide the exactly same performance in the home as in the laboratory
- But problems arise if they are too different (not sufficiently representative):
 - Consumer complaints
 - Unrealistic savings estimates & cost-benefit
 - Poor signal to product designers
 - **Products sense that they are under test**

What are fraudulent products?



- Products designed to perform differently under test to outside the laboratory.
- Include mechanisms to sense and circumvent the test procedures.
- Sometimes referred to as 'defeat' devices.
- Not strictly an issue of 'non-compliance', since they meet requirements under test conditions
- Products performing significantly worse outside the lab. leads to an adverse impact on energy consumption, consumer benefit, the environment and competition.

Test procedures: Representative, fraudulent



- Performing differently under test from general use is not conclusive evidence of a fraudulent product
- Why? Because the test procedure may not be reflective of 'normal' circumstances
- The better tests try to mimic either a range or an average set of conditions reflective of the 'real world'
- However, a single test cannot replicate the many differing ambient and usage conditions found
- So some divergence is inevitable
- Detailed observation of product behaviour under different conditions may be required for conclusive proof



Site Visit:

Household and Electrical Appliance Store

Lighting, Appliances and Equipment:

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Things to think about when visiting stores



- Do all appliances in the stores have a label?
- Can you explain why some have a label and why some have not?
- For those types of appliances that did have labels, do all appliances display the label?
- What different types of labels can you spot?
- Are all labels clearly visible? If not, why not?
- Is there any connection between the price of products and their grade? Do higher rated products cost more?
- How do you think you could improve the effectiveness of product labelling in stores?
- Note down any questions you have as you walk around so we can discuss later.

Thailand

https://www.youtube.com/watch?v=INWxQ_6P4lw

<https://www.youtube.com/watch?v=lwsnqT68B0o>

Australia

<https://www.youtube.com/watch?v=G5KPNYcHCNg>



www.iea.org

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