Appliance Energy Labels from Around the World

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Abstract

This paper examines the broad aims and objectives of energy labelling programs in the context of energy policy. It also looks at the need for an energy label to take into account local cultural and socio-economic considerations if its implementation is to be successful. The main label types, their information content and their communication strategies are considered. The paper then reviews some of the major energy labelling programs around the world which are currently in operation and includes examples of appliance energy labels. Some proposed labelling schemes are also noted. This paper does not discuss minimum efficiency standards for appliances, even though these are often closely related to energy labelling programs in terms of administration and implementation.

How do Consumers Use Energy Labels?

When considering the format and potential impact on consumer behaviour of information programs such as energy labelling, it is important to appreciate how information is used. One of the key assumptions about information acquisition by consumers is that additional information will only be sought when the perceived benefits of this information outweigh the costs (and effort) required to collect it.

The two main mechanisms used for acquiring new information are passive information acquisition (interrupts: incidental or accidental information collection, and low involvement learning: most commonly advertisements) and active information acquisition, where a consumer seeks out particular information on products. Before consumers can actively seek information on a product, they need to be aware of the product's existence - this is almost always acquired through passive information acquisition. Product attributes that are highly variable across retailers and over time, such as price, are usually acquired through active search (Beales et al, 1981).

When searching for information regarding a particular topic, consumers can build on existing knowledge (internal search), or they can undertake a new external search. External sources used during the purchase of new appliances are typically direct inspection (retail visits - viewing products, viewing labels, discussions with sales staff), seller controlled sources (advertisements, product literature and promotional material), and third party information sources (consumer magazines, government product listings, word of mouth). From a consumer perspective, information that is already internalised is nearly always preferred over new external searches for information, as this requires minimal effort.

Some key consumer considerations in the development of information programs regarding energy consumption and related attributes are:

- consumers need a basic level of understanding before they can acquire new information on a particular issue (eg; if a consumer cannot understand the concept of energy efficiency, they are unlikely to absorb any information about energy efficiency which they may encounter passively);
- consumer perceptions regarding price and variations in the market are critical - if a consumer believes there is little variation in price or energy efficiency in the market place, they are unlikely to actively seek further information on these attributes before making a purchase decision (because there are no perceived benefits);
- if consumers retain a large store of internal information (ie; one that is readily accessible), they are unlikely to actively seek additional new external information when they are about to make an appliance purchase - this is a particular problem if the store of internal information is incorrect, biased or out of date;
- external information sources which maximise their impact on appliance purchases will be those that are easy to understand and readily available at the time of an appliance purchase.

Various authors have examined consumer behaviour during the purchase of durable goods such as appliances and have grouped consumers into types (Westbrook and Fornell, 1979). Some common types include:

- Objective shoppers - commonly make several store visits and rely heavily on objective (third party) information sources such as energy labels, appliances lists and consumer magazines. Tend to be the most well educated segment.
- Moderate shoppers - make few retail visits and moderate use of independent sources - typically older consumers and urgent replacement purchases.
- Store intensive shoppers - many store visits, with some reliance on advice from personal sources - typically younger consumers.
- Personal advice shoppers - few store visits, little consultation of objective information, heavy reliance on personal sources - often urgent replacement purchases. Tend to be the least well educated segment.

Obviously, the design of any energy labelling program would need to consider these main consumer segments and how to most effectively provide them with information that will assist in their purchase decision. The provision of energy labels on appliances in retail stores will have some impact for those groups that tend to make retail visits. However, in these cases, consumer comparisons are largely limited to the stock on display on the retail floor in stores which are visited: comparison of different products on display in different stores is dependent on the consumer's ability to remember the relevant information from previous visits.

Consolidated lists of appliances, complete with energy consumption and energy cost information, are a powerful independent source of information which can quickly provide consumers with the key information that they are seeking regarding energy consumption. Lists have the advantage that they can be broken up into suitable categories of appliances (eg frost free refrigerator/freezers of 400 to 500 litres) and within that category, models can be sorted by decreasing efficiency or increasing energy consumption. This tends to quickly draw consumer attention to the best energy performers in that market segment so that active consumers can seek the particular product of interest in a retail store. Lists also have the advantage that they can provide more detailed information on energy costs and other

performance attributes than is possible on an energy label. As all related models are grouped, comparison is relatively easy and fast.

For consolidated lists of appliances to be most effective, they should be available at the right time in the search process, which for some groups of shoppers will be well in advance of the final store visit. While they should be readily available at points of sale, other modes of distribution are also necessary to increase the probability that consumers will obtain and use the list when they are in the process of selecting an appliance. Needless to say, the lists must also be comprehensive, accurate and up to date. Consolidated lists of appliances with energy information are widely available in the USA, Europe and Australia. Energy labelling lists for appliances in Australia can now also be found on the Internet at http://netenergy.dpie.gov.au

Together, energy labels and consolidated lists of appliances can have a marked influence on three of the four identified consumer types - objective, moderate and store intense shoppers. Personal advice seekers are likely to remain fairly unaffected by any type of energy labelling program, but this is not of great concern as they constitute only a limited proportion of the market, and if labelling is generally effective, it is likely that their adviser will have been influenced by it in any case.

Why do Consumers Need to Know About Energy Consumption?

Some product attributes are readily observable on inspection by the consumer, or readily available in product literature, while other attributes are not at all obvious. For example, in the case of a refrigerator, the volume available for the storage of food is clearly visible to a consumer when the unit is inspected in a showroom. Product information also gives storage volumes and external dimensions (this information is essential for installation). Conversely, inspection of an appliance such as a refrigerator does not reveal its energy consumption, energy efficiency or standard of performance. In fact, the determination of these performance attributes requires careful testing and sophisticated equipment, which is not readily accessible to the consumer. Energy consumption is the key determinant of operating cost or most appliances and is therefore of primary concern to the consumer. For dishwashers and clothes washers, water and detergent costs are also significant operating costs (these often more than energy).

Information on non-observable attributes can only be obtained by consumers where the manufacturer chooses to provide such information or where there is a requirement for the information to be disclosed, such as through an energy labelling program. Where such non-observable attributes are declared (and therefore become visible to consumers) and where even a small market segment responds to these attributes (so called informed consumers), manufacturers tend to concentrate on improving the rating of those observable and visible attributes at the expense of other non-observable attributes.

Relationship Between Appliance Performance and Energy Consumption

The declaration of energy consumption values without reference to other performance attributes has the potential to seriously mislead consumers. Some performance attributes are

clear cut and easy to specify in conjunction with energy consumption information. For example with clothes dryers, standard test procedures specify an initial and final moisture content for a clothes load and this constitutes a definition of "wet and dry clothes" for the purposes of comparative energy consumption and efficiency. In the case of refrigerators, the definition of suitably cooled space for the storage of food is a complex one and is defined through a series of tests in the ISO refrigerator standards (operation temperature performance tests). However, for clothes washers and dishwashers, the issue of what constitutes clean clothes and dishes is a vexed one and to some extent subjective. What is acceptable in one country may not be acceptable in another.

There are two fundamental approaches to the issue of the interrelationship between performance and energy consumption. The approach adopted in Australia for the energy labelling program is that the standard test procedure specifies a minimum acceptable performance level for each of the key performance attributes. Thus for clothes washers and dishwashers, the standard specifies a minimum soil removal and washing index as a mandatory performance requirement. This minimum acceptable level has been developed on the basis of reasonable consumer expectations. Thus manufacturers are able to modify the performance of their appliances to meet the required minimum performance standards while achieving the minimum energy consumption possible. This creates a so called "level playing field" for performance when comparing energy consumption values on the energy label. Naturally, the relevant performance tests need to be highly reproducible and repeatable for this approach to be successful.

An alternative approach has been adopted in Europe as the basis for their energy labelling program. No minimum performance levels are prescribed in either the European standards or the European Commission Directives, but both the performance *and* the energy consumption are declared on the energy label and on the information fiche that accompanies the appliance. While this has the advantage of being less prescriptive (in terms of mandating a minimum performance levels), it has the disadvantage of possibly providing too much information for the consumer to compare (eg is a clothes washer with a D energy rating and an A wash score better or worse than a model with an B energy rating and a C wash score?). Although on a particular clothes washer there will be a trade off of wash performance versus energy (to some degree), analysis of the European database of clothes washer models and ratings has shown that it is most common for the wash performance and the energy performance to be the same rating (ie clothes washers with B rated energy most commonly have a B rating for wash performance as well). Those models that achieve higher washing and energy ratings are technically more advanced and are therefore likely to have a higher cost.

The USA has a slightly different approach again in that there are no minimum performance levels prescribed and no performance declarations necessary (in fact performance measurements are not required at all for most products that carry an energy label). However, the US test procedures are very prescriptive in terms of defining capacity and energy consumption and many argue that this effectively stifles much potential manufacturer innovation in terms of product design. The US test procedures also have problems with some of the more advanced products. For example, some dishwashers on the market now have fuzzy logic soil load sensors in the recirculating water systems to help determine when to stop the

washing operation. As the US test procedures specify washing with an unsoiled load during the measurement of energy consumption, these machines only operate with very short cycles and achieve unrealistically high energy ratings. Another example of the US energy labelling requirements being unable to cope with product innovation occurred when an off-shore manufacturer sought approval in the USA for a clothes washer energy label. Under the current requirements, the model would have to have been tested over 1,000 times to include all consumer programmable options!

Types of Energy Labels

Energy labels generally fall into two main types:

- ***comparison labels*** - where key information on energy consumption and/or performance is shown for comparative purposes. Additional measures of energy efficiency (eg a star or efficiency rating) may also be shown. This type of system works best when it is mandatory for all products to carry a label (so that poor performers can be identified and readily avoided by consumers). Examples of this type of label can be found on appliances in Australia, Europe, USA and Canada, as well as a number of Asian countries (eg Philippines, Hong Kong, Thailand and Korea). Comparison labels tend to be sponsored by governments, although there are exceptions.

- ***endorsement labels*** - help consumers distinguish between a range of similar products by providing a "seal of approval" for products which meet or exceed some established criteria. Supplier participation in these programs tends to be voluntary and endorsement labels tend not to disclose much information on energy or performance (although this is often available through lists of endorsed products). It is a system which operates on the principle - "we know what is good, trust us" and works best if only a limited proportion of the market carries an endorsement. Primary examples of endorsement labels are the US EPA Energy Star program (see Figure 9) for office equipment (but this is becoming so universal that it has lost the advantage of endorsing only the better products), Swiss Energy 2000 (E2000) program (office equipment and appliances) now used in several European countries, Power Smart in Canada, Green Seal in the US (environmental), Blue Angel in Germany (environmental). Minimum performance criteria may be based on a range of criteria and may include energy consumption and energy efficiency. They tend to be set such that only the top 10% to 40% of performers can achieve endorsement to produce maximum market impact. An exception here is the Energy Star program, which because of recent US government IT purchasing requirements, has now become a defacto industry standard (ie a form of MEPS). Endorsement labels can be sponsored by governments, but sponsorship by utilities, industry and environmental groups is also common.

Comparison labels operate best when they are mandatory. Experience has shown that where labelling is not mandatory or where mandatory provisions are not enforced, energy labels on appliances with lower ratings are actively removed by retailers to improve their chances of selling the product. Key program design issues to consider (after Harris et al, 1996) when designing energy labelling programs are:

- comparison or endorsement or both?
- format of label - accuracy versus complexity
- emphasise either energy consumption or cost indicators?
- how is appliance performance handled?
- what is the most trusted source of labels - authoritative
- need for verification
- updating of efficiency criteria to account for market changes
- energy only versus eco-labels (multi-criteria, cradle to grave analyses)
- marketing the label - buyer awareness & response
- retailer participation - sales training
- manufacturer versus buyer acceptance of energy labelling.

Key Data for Energy Labelling

The purpose of an energy label is to convey key information to a consumer to assist them in a purchase decision. It therefore stands to reason that there are likely to be key differences in the type of information that it is necessary to convey to the consumer, depending on their socio-economic, physical and cultural context. Differences in language and to a lesser extent, literacy, are also key factors that will influence the design and presentation of an energy label within a particular culture.

A key (but by no means obvious) difference between energy labelling programs is the assumptions that lie behind the calculation of the energy consumption and related performance data shown. Many energy labels have built into them assumptions about the frequency and duration of use for the calculation of energy consumption and related parameters. For example in the case of clothes washers, the data shown on some energy labels is based on an assumed number washing loads per year. Such estimates are usually based on surveys and data collected from the country or region where the energy label is to be used. In the case of Europe, the energy and water consumption is shown on a per wash basis leaving the consumer to calculate a typical annual energy consumption, should they wish to do so. This was presumably done as washing frequency varied considerably across the European Union.

It is argued by some analysts that the energy label will/should be of most economic value and most interest to customers who use their appliances most intensively, so it may be appropriate for values on the label to be calculated for a higher than average frequency of use - also, large "annual" figures for energy consumption and cost will have a greater influence on consumer decisions than small "daily" numbers. For example, 10 year running cost data (expected minimum appliance life) is shown on energy labelling brochures in Australia. This demonstrates the potential contradiction between energy labels as a consumer information program and as a policy measure for increasing energy efficiency.

The economics of energy efficiency is a key area of consumer interest with respect to energy labelling. Most consumers express interest in the cost of energy used to operate an appliance. However, conveying this information through an energy label has many problems including variations in energy tariffs within a country and in time. In addition, consumers can easily confuse cost information shown on energy labels as it is often unclear whether the figures relate

to the cost of energy *or* the savings (Patterson, 1991). Some consumers also mistakenly believe values on an energy label to be related to the appliance purchase price. These problems prompted the US to change from a label that primarily showed energy cost data (Figure 6) to one that shows energy with some costs (Figure 5).

The selected program or type of operation on the appliance for the purposes of energy labelling will also dramatically affect the data on the energy label. For example, in the case of clothes washers again, the "typical" program used in Europe for cotton garments in the 1980's was a 90°C wash. By the 1990's, 60°C was more common and this is the wash program now specified for the European energy label. The trend towards lower washing temperatures in Europe continues, and a program with a 40°C wash temperature is now quite commonly used. This mirrors documented trends towards lower wash temperatures in Australia over the past 15 years. In 1995 about 45% of wash loads were "warm" (nominally 40°C) while over 50% were "cold" (ie: no internal heating or external hot water - nominally 15°C to 20°C) (Harrington 1997, Harrington & Wilkenfeld 1997). This is a significant trend, as for a typical clothes washer around 80% of the total energy is water heating (or the energy embodied in external hot water drawn into the machine). As the Australian clothes washer standard, for the purposes of the energy label, specifies a warm wash, there is now a substantial discrepancy between the energy shown on the energy label and the actual in-use energy consumption in many households. Such trends, although gradual, make it quite a challenge to keep the information on an energy label up to date and accurate. Incidentally, the trend to cooler washing temperatures also undermines the case for minimum energy performance standards for clothes washers, since as wash temperatures fall, so do the real energy differences between models, and between vertical axis/impeller machines and drum machines.

The appliance most commonly labelled is the refrigerator, including refrigerator-freezers and separate freezers. In most cases the energy shown on a refrigerator is for continuous operation for 1 year, although many parts of Asia seem to prefer a monthly energy consumption figure (possibly due to monthly electricity billing cycles). While there is little scope for variations in discretionary use (these are limited to door openings and external food loads), the actual test procedure can have a substantial impact on the measured energy consumption. The two main test procedures used in the world today for the determination of energy consumption of refrigerators are ISO and the US AHAM (and a number of closely related procedures eg the one used in Australia and New Zealand is modelled on the AHAM test). The biggest single difference between these procedures is the ambient test temperature which is 25°C for ISO Temperate (most commonly used climate rating) and 32°C in AHAM (and ISO Tropical). While many analysts argue about which of these procedures is more relevant for their local climate and usage conditions (with respect to energy labelling), both procedures are deficient in that they do not provide sufficient data to enable a refrigerator's performance to be predicted across a range of external temperatures - climate is the single most important influence on a refrigerator's energy consumption.

The test procedures used to determine the energy consumption (and where relevant, the performance) of an appliance can also have a large influence on the measured energy consumption. Factors such as ambient temperatures (for refrigerators and air conditioners), minimum wash temperatures (dishwashers and clothes washers) and initial moisture content

(clothes dryers) are all critical. While some of these parameters are specified in international standards, these do not always suit regional or national requirements for energy and performance testing. Often a national standard will contain test conditions that are specific to and reflective of local climate and or consumer usage patterns.

One of the most obvious differences between energy labels results from differences in language. The European Commission has successfully managed to achieve a harmonised energy label across its 15 member states by using a model specific data strip that contains only non-language performance information. This is affixed to a language specific background which explains these performance measures. In fact the European appliance energy label is now being used in many parts of Eastern Europe, even though these countries are not yet members of the European Union. Labels that resemble the European energy label are being considered for use in places like Iran, although the differences in language and alphabet (eg direction of script) may complicate layout (see Figure 14).

If an energy label is to have a significant impact on the purchasing decision of consumers, it is important for it to be supported with an information program that reinforces the message that energy is an important characteristic to consider in the purchasing process. Information programs can take the form of brochures or lists, advertising campaigns, retailer support programs and various forms of direct marketing. Such information campaigns need to be tailored to reach consumers in the most appropriate form and at the most appropriate time. Receiving information after an appliance has been purchased or when a consumer is not considering the purchase of an appliance is of little value. Clearly, such an information campaign also needs to be designed to suit the literacy levels of consumers and information sources that they commonly used. Therefore the energy label and the information programs that support it are necessarily very culturally and language specific.

What are the Prospects for Harmonising Energy Labels?

Given the wide range of climatic and cultural influences and language specific needs across different regions, it would appear that the prospects for harmonised energy labelling programs around the world are poor. In fact, trying to harmonise the energy label itself is likely to lead to a reduction in the potency of the labelling message and may make it somewhat irrelevant to local conditions. So while the "harmonised" energy label for Europe is quite an achievement (in administrative terms at least), the label is quite complicated and lacks the consumer salience of some of the national labelling programs in other parts of the world.

What are the advantages of harmonising energy labels? If a single energy label could be used for all parts of the world, there would be some small advantage in terms of label printing costs, but given that these are a very minor component of total appliance production costs, the benefits are likely to be small. In any case, language differences will necessitate different language backgrounds in different regions. Even the harmonised European energy label requires up to 10 separate language backgrounds, (this could expand with the formal inclusion of various Eastern European countries into the program) so the benefits of a harmonised label is limited.

Given that language will necessitate fundamental differences in energy labels in different regions (even if climatic and cultural variations are ignored), the prospects for a harmonised label around the world appear poor. However, a major component of any energy labelling program is the testing required to determine the key performance data to be shown on the energy label (capacity, energy consumption, etc.). For most product types there are generally a range of national or regional test procedures that are sufficiently different so as to require retesting of products to meet the requirements of local energy labelling programs. Where a manufacturer wishes to import or export products to or from such regions there is a need to retest to meet local requirements - this is a significant cost and an impediment to free trade of products.

Therefore we find that there are distinct benefits, in terms of reduced testing costs for manufacturers and improved trade prospects, that could arise out of uniform and harmonised test procedures that are used to underpin national or regional energy labelling programs. However, such test procedures must be able to take into account all technologies on the world market and adequately deal with variations in local usage patterns and regional climatic variations. Hence a single test (or possibly a few minor variants of a single test) could be used as the basis for energy labelling programs around the world. In some cases this may require additional calculations or computer simulation to estimate the performance under specific local conditions, but this is a minor additional expense. Any test standard which cannot adequately characterise an appliance's performance under a range of typical conditions is not a suitable candidate for a harmonised test procedure. Ideally, such test procedures should be based on international standards. Unfortunately, there are few instances where international standards are able to account for regional and cultural differences in appliance use and most are therefore inadequate in their role as an international test procedure. It is imperative that all regions around the world actively participate in the international standards development process of IEC and ISO to ensure that regional needs are met and the positive benefits of energy labelling are maximised.

Overview of Energy Labels in Use Around the World

This section provides some limited information from energy labelling programs in operation in different parts of the world. It is not an exhaustive list, but provides examples from some of the larger and better known programs.

Australia

Implementing Agency: State Governments (electric), Australian Gas Assoc.
Program Type: comparative label, electric mandatory, gas voluntary
Appliances Labelled: refrigerators, freezers, dishwashers, clothes washers, clothes dryers, gas water heaters, gas space heaters.
Date Labelling Commenced: 1986 (electric) mid 1980's (gas)
Primary Colours: electric: yellow, red (dial), black and white (blue A/C cooling) gas: blue, red (dial), white and black
Rating System: energy (generally kWh/year), 1 to 6 stars (6 best)
Approximate Dimensions: 110mm high, 90mm wide - Figures 1 & 2

Europe

Implementing Agency: European Commission, Brussels
Program Type: comparative label, mandatory
Appliances Labelled: refrigerators, freezers, clothes washers, clothes dryers, washer-dryers, dishwashers (1998), lamps (1999).
Date Labelling Commenced: 1994 (progressive)
Primary Colours: white background, black writing, green-red rating scale
Rating System: energy (kWh/year or cycle), efficiency rating A to G (A best)
Approximate Dimensions: 250mm high, 110mm wide - Figures 3 & 4

USA

Implementing Agency: Federal Trade Commission (Department of Energy)
Program Type: comparative label, mandatory
Appliances Labelled: furnaces, refrigerators, freezers, water heaters (electric, gas, oil), clothes washers, dishwashers, room air conditioners, central air conditioners, heat pumps, boilers, pool heaters.
Date Labelling Commenced: 1979
Primary Colours: yellow background, white insert, black writing
Rating System: energy (kWh/year), lowest & highest energy for similar products
Approximate Dimensions: 190mm high, 135mm wide - Figures 5 & 6 (old)

Canada

Implementing Agency: Natural Resources Canada
Program Type: comparative label, mandatory
Appliances Labelled: clothes dryers, clothes washers, washer-dryers, dishwashers, electric ranges, freezers, refrigerators, room air conditioners.
Date Labelling Commenced: 1976
Primary Colours: white background, black writing
Rating System: energy (kWh/year), lowest & highest energy for similar products
Approximate Dimensions: 150mm high, 130mm wide - Figure 7

Korea

Implementing Agency: Ministry of Trade, Industry & Energy
Program Type: comparative label, mandatory
Appliances Labelled: freezers, refrigerators, room air conditioners, fluorescent lamps, fluorescent ballasts, incandescent lamps.
Date Labelling Commenced: 1992
Primary Colours: yellow & white background, red (dial), black writing
Rating System: energy (kWh/month), efficiency rating 5 to 1 (1 best)
Approximate Dimensions: 85mm high, 60mm wide - Figure 8

Thailand

Implementing Agency: Electricity Generating Authority of Thailand (EGAT)
Program Type: comparative label, voluntary
Appliances Labelled: refrigerators, room air conditioners, lamp ballasts.
Date Labelling Commenced: 1995
Primary Colours: yellow & green background, red & green dial, black writing
Rating System: RF kWh/year, AC power, efficiency rating 1 to 5 (5 best)
Approximate Dimensions: 130mm high, 100mm wide - Figure 10

Philippines

Implementing Agency: Department of Trade & Industry
Program Type: comparative label, mandatory
Appliances Labelled: room air conditioners, refrigerators, lamp ballasts
Date Labelling Commenced: 1993
Primary Colours: gold background, black writing
Rating System: power (Watts), EER (kJ/hour/Watt)
Approximate Dimensions: 140mm high, 100mm wide - Figure 11

Hong Kong

Implementing Agency: Electrical and Mechanical Services Department
Program Type: comparative label, voluntary
Appliances Labelled: refrigerators, room air conditioners, clothes washers, CFLs
Date Labelling Commenced: 1995
Primary Colours: blue, orange, yellow and white background, black writing
Rating System: energy (kWh/year), efficiency rating 5 to 1 (1 best)
Approximate Dimensions: 140mm high, 100mm wide - Figure 12

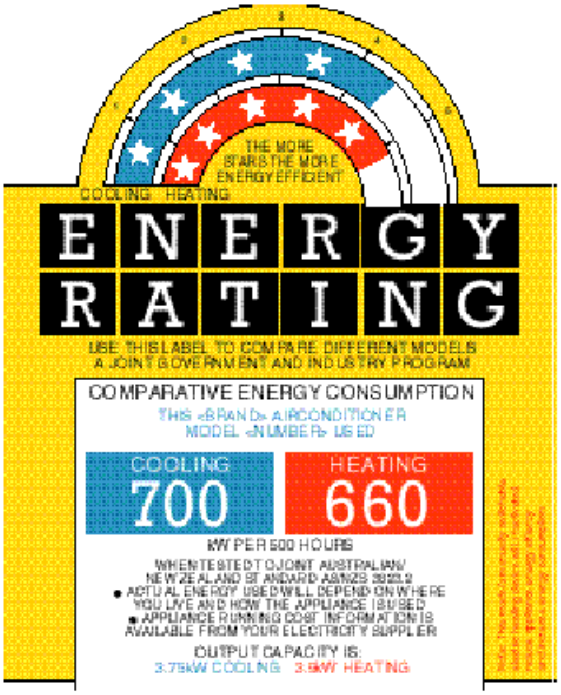

Figure 1: Air conditioner - Australia

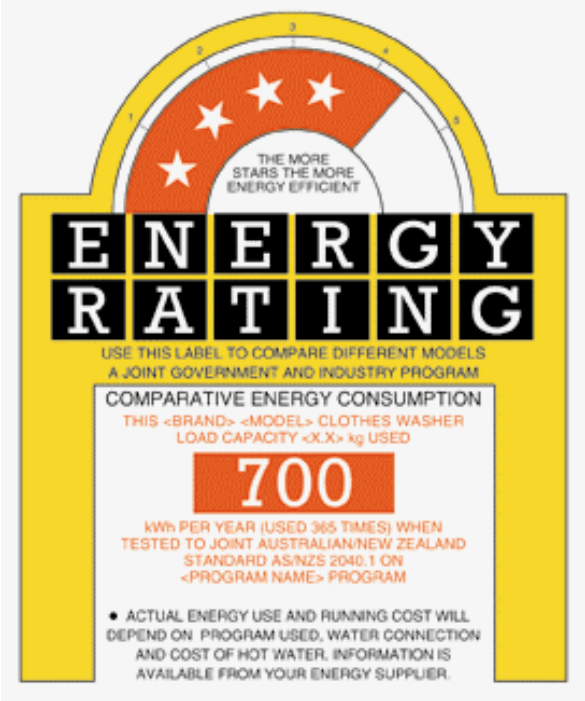

Figure 2: Clothes washer - Australia

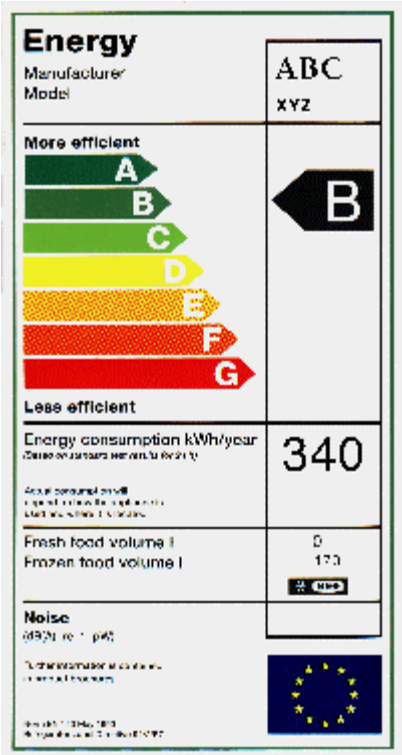

Figure 3: Europe - Refrigerator (English)

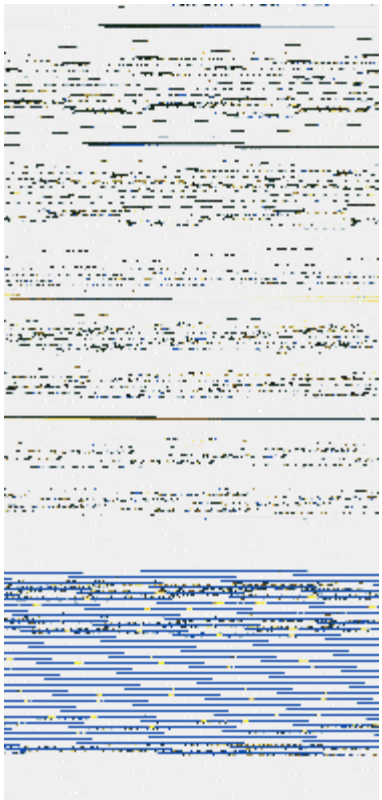

Figure 4: Europe -Clothes Washer (German)

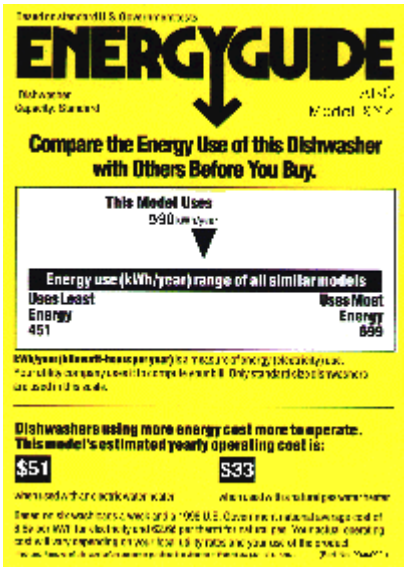

Figure 5: USA - Dishwasher (current)

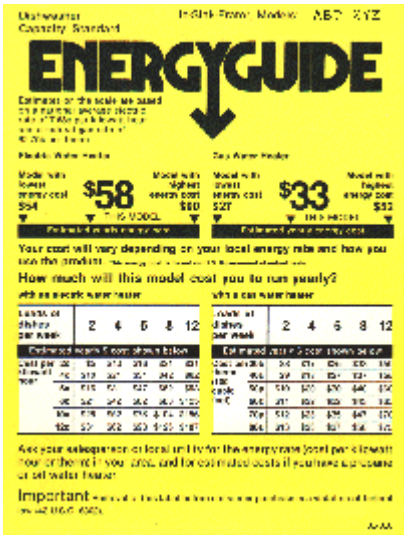

Figure 6: USA - Dishwasher (previous)

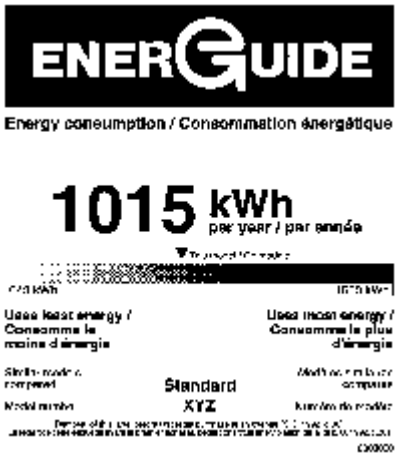

Figure 7: Canada - Dishwasher

Figure 8: South Korea - Refrigerator

Figure 9: US EPA Energy Star

Figure 10: Thailand - Air Conditioner

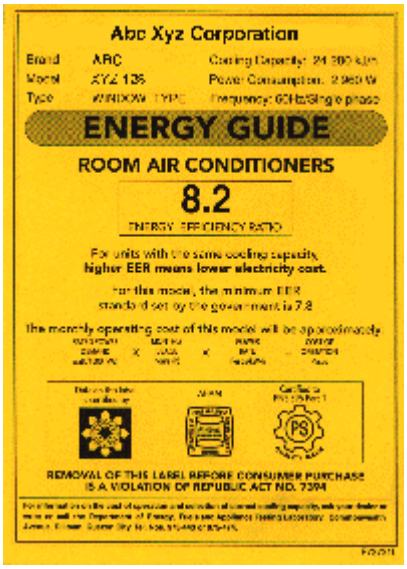

Figure 11: Philippines - Air conditioner

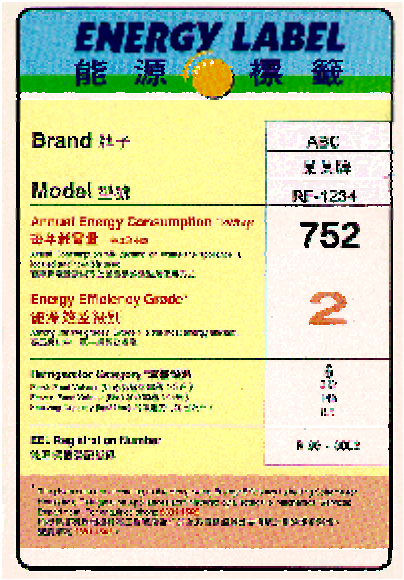

Figure 12: Hong Kong - Refrigerator

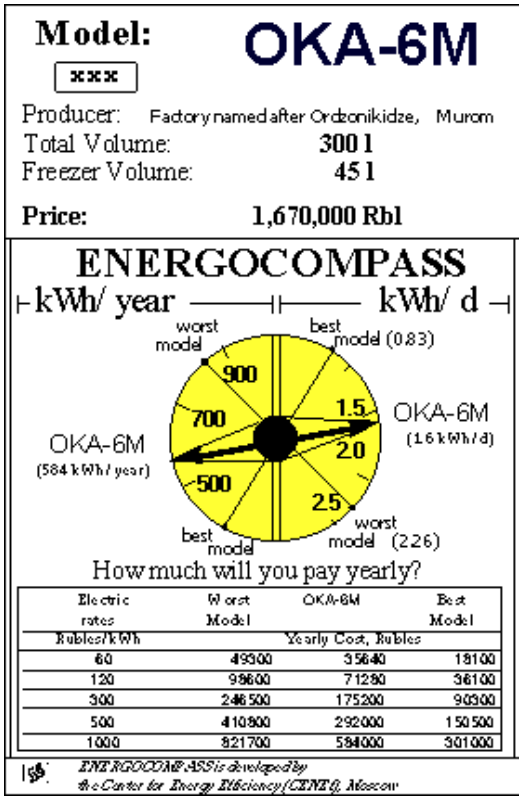

Figure 13: Russia - Proposed Refrigerator Energy Label (English version)

Figure 14: Iran - Refrigerator Energy Label (based on European)

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