

The Danish Energy Saving Label – consumer friendly energy labelling for energy efficient products

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Abstract

Energy labelling on the Danish market had become confusing for consumers who had to get used to a variety of energy labelling schemes.

The EU energy labelling scheme was the most widely used with recommendations covering A-labelled products. However, with the introduction of A+ and A++ categories for domestic refrigeration appliances and AAA categories for the most energy efficient washing machines, there was an increasing need for a less complicated system for the identification of energy efficient products on the market.

This paper describes the consumer-oriented character of the Danish Energy Saving Label, which guarantees consumers that specific products bearing the label are energy efficient. The analysis focuses on three aspects of the Energy Saving Label: implementation, launch and credibility: 1) Development of the Energy Saving Label in partnership with producers 2) Campaign launch with media specific advertisements to increase the awareness by consumers of the Energy Saving Label. 3) Regular random testing of products bearing the Energy Saving Label.

The results showed that the awareness by Danish consumers of the Energy Saving Label has risen from 60% in 2006 to 80% by the summer of 2008. Moreover, there has been a good deal of interest expressed by trade organisations in working to have additional product groups covered by the scheme. Frequent random testing has also added to the credibility of the Danish Energy Saving Label.

Introduction

The Danish Electricity Saving Trust aims to reduce energy consumption in Denmark where household electricity consumption accounts for around 9.7 TWh/year or 28.6% (Dansk Elforsyning Statistik, 2008) of total consumption, so there is considerable potential for savings in households. Consumption has remained stable over the past decade, despite a considerable growth in the number of electrical appliances in the home.

The savings potential is theoretically 21%, or 1.9 TWh/year. However, consumers have only limited awareness of their own electricity consumption. Also, the choice of electrical equipment is enormous, which makes it hard to identify the energy efficient types. Electricity consumption is seldom an important consideration for consumers when buying a new appliance.

The Danish market has a variety of energy labelling schemes aimed at steering consumers in the direction of the most energy efficient products. These schemes include both the EU energy labelling scheme and the American Energy Star (Europa, 2007; Energy Star, 2009). The EU labelling scheme ranks products against a predetermined, open-ended efficiency scale based on energy consumption (kWh) per year. The labels range from A to G, with A being the most energy efficient. However, as the market has evolved, and because most refrigerators qualify for the A rating, the label scheme has been expanded to A+ and A++. The A+ and A++ ratings cover not only energy efficiency, but also performance such as noise and cooling characteristics.

However, it could be argued that EU labelling schemes are ambiguous because different product categories are not labelled in the same way. Also, the use of A+ and A++ on refrigerators has resulted in a situation where producers of washing machines, which are more energy efficient than the A rating, are

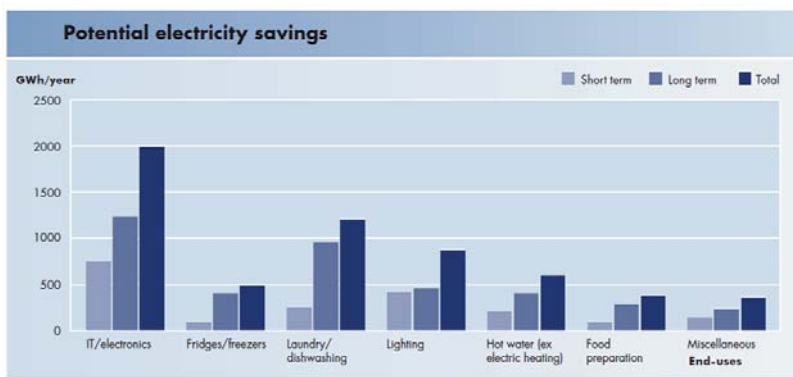


Figure 1. Electricity savings potential in Danish households. This figure shows the potential in the short and long term and the total potential.

now using the A+ rating, even though this rating only applies to refrigerators.

Furthermore, recent ANEC research shows that many appliances only correspond to their declared values because of the unacceptably high measurement tolerances permitted by European standards. According to the research, 15% of A-rated washing machines and dishwashers tested were incorrectly labelled due to their high energy consumption. A further 64% of the appliances had a measured energy consumption which was higher than permitted for class A. However, as a result of the tolerance of 15%, they were still considered correctly labelled (Viegand & Maagøe, 2007). This damages the credibility of the EU labelling scheme together with the increasing tendency of energy efficient appliances to have 'hidden' negative performance that consumers may only discover during use. For instance, an energy efficient dishwasher may have a 3 hour wash cycle. A product which is energy efficient, but performs poorly is of little value to consumers.

The Trust's view was that when consumers have trouble identifying energy efficient products in stores, persuading them to buy these products will also be difficult.

The Danish market was confronted by a situation in which, while the focus on energy savings was growing, labelling schemes had become increasingly incomprehensible. This created a need for easily recognisable identification of the most energy efficient products on the market. Accordingly the Trust decided to create one unambiguous label to cover all product categories, aiming to make it easy for consumers to identify energy efficient products.

In order for a new label to make an impact on the market it is necessary to create considerable awareness among the consumers as well as market players. This paper therefore focuses on how to ensure that consumers relate to a new label, and the approach used by the Trust to achieve this goal.

Developing the Energy Saving Label

The Energy Saving Label is based on the assumption that it must be simple, safe and cheap to purchase energy-efficient appliances and systems:

- Simple: Energy efficient products need to be easily accessible on the market, and consumers need to have access to

the relevant and comparative information for individual products

- Safe: Energy efficient products should live up to consumers' expectations on low electricity consumption and general quality standards in relation to functionality, durability, etc.
- Cheap: Energy efficient products should not be more expensive just because they use less electricity. Greater market share for energy efficient products will also lead to greater operational savings and more competition, which will push prices down further.

The aim of the Danish Electricity Saving Trust is for the label to cover ca 20% of the most energy efficient products within each product category. The Trust has created a product overview of recommended products for each product category, which is available on the Trust's website (See f. ex: The Danish Electricity saving Trust, 2008). This means that customers can always check which products are recommended by the Trust, and which are the most energy efficient.

When first launched, the Energy Saving Label was used on A-rated bulbs only, but increasing interest has resulted in the label being introduced for new product categories every year. Today, in addition to the A-rated bulbs, the label is used on:

- Circulator pumps
- Energy saving equipment
- IT equipment
- Fridges and freezers
- Power supplies
- Wireless devices
- Tumble dryers
- Washing machines
- Air-to-air heat pumps.

In 2009 the Energy Saving Label will be launched on 6 new product categories. The Trust's ambition is to use the Energy Saving Label on most electrical appliances, so that Danish consumers can make electricity savings by choosing products carrying the label.

REQUIREMENTS TAILORED TO CURRENT AND FUTURE LABELLING SCHEMES

To be able to define the 20% most energy efficient products, the Trust has established a number of criteria for energy efficiency. These criteria are included in the requirements that a product must meet in order to display the Energy Saving Label.

As far as possible, these requirements have been, or will be established on the basis of existing international energy labelling schemes and based on objective specifications. It is important that international requirements for energy efficient appliances exist and can be implemented nationally. If existing requirements are not stringent enough for each individual market, it is a relatively straightforward task to expand these requirements in order to adapt them to the specific market.

The first step in the process of establishing requirements for a product category is to investigate whether an energy labelling scheme exists already for the product category in question. For recommended A-rated energy saving bulbs, the Trust uses the EU energy labelling scheme and the EU's Quality Charter for Compact Fluorescent Lamps (European Commission, 2005). The Energy Star programme is used for IT-equipment.

In the absence of international requirements, the Trust will develop a new set of requirements, preferably in partnership with the relevant trade organisation. One example of this is set top boxes (or digital decoders as they are called in Denmark) for which the Trust has set up its own objective requirements in partnership with the relevant trade organisation and experts on power consumption in this field.

All requirements will be tightened up in the event that a product category expands to such an extent that over 20% of all products fulfil the requirements. Current requirements for washing machines are met or exceeded by ca 45% of products on the market, which is why the Trust is revising the requirements to cover the targeted 20% of the most energy efficient washing machines.

Requirements based on existing international energy labelling schemes will be updated whenever the international requirements are changed. Remaining constantly informed about future revisions to the requirements is therefore important. Currently, the EU is revising the Eco-design programme as well as the EU energy labelling scheme, which may require the Trust to update requirements on product categories affected by the revisions.

Requirements developed uniquely by the Trust will be reviewed in the event that an international Energy labelling programme introduces requirements for the specific product category. However, this does not necessarily mean that the Trust's requirements will be updated, as they might already be more stringent than the international requirements and if ca 20% of the products on the market meet the Trust's requirements, they will not be updated.

In the event that products no longer conform to the new requirements, the products in question will be deleted from the relevant product overviews on the Trust's website following 6 months notice of alterations to the requirements served on producers and retailers. Once this period of notice has expired, the Energy Saving Label may no longer be used on the products by producers and retailers.

The requirements for recommending the products are available on the Trust's (The Danish Electricity Saving Trust, 2008/2).

The commercial and industrial sector's response to the Energy Saving Label has been very mixed. Some players are extremely sceptical of the Trust's involvement in the market, but others see it as an advantage that a non-commercial player is providing information to consumers and endorses particular products.

The Trust's strategy involves improving contacts with the commercial and industrial sector concerning its planned initiatives and the possibilities for partnership projects, with the aim of encouraging a general exchange of information and ideas between the parties in connection with specific campaign initiatives.

AGREEMENTS GOVERNING THE USE OF THE ENERGY SAVING LABEL

Any usage of the Energy Saving Label for marketing of recommended products is subject to a Product and User agreement with the Trust. Under these agreements, the user must satisfy the requirements applying to the use of the label.

Several players can conclude an agreement to use the Energy Saving Label:

- Producers/supplier which produce/import/supply products recommended by the Trust
- Distributors: Stores, wholesale societies and retail chain stores distributing the recommended products
- Others: Trade organisations, wholesalers, electricity supply companies etc.

Apart from Product and User agreements there are a number of special agreements:

- A vendor can enter into an agreement on a range of products, e.g. recommended A-rated bulbs. Under this agreement, the vendor agrees to stock at least 4 recommended A-rated bulbs, 2 bullet-shaped and 2 traditional-shaped bulbs in their range of A-rated bulbs.
- A 'Recommended Retailer' agrees to stock only recommended A-rated bulbs in their range of A-rated bulbs.

Once a user has concluded one of these special agreements, both the Trust and the user publicise the signing of the agreement through press releases or by posting the information on the Trust's website. In some cases the Agreement is announced on web banners or by similar means to draw particular attention to an agreement.

A producer of recommended products will sign a producer's declaration, which gives vendors and other users of the label permission to use the Energy Saving Label on the producer's recommended products. At the same time, producers undertake to make products available free of charge for random testing by the Trust.

Launching the Energy Saving Label

To ensure that the new Energy Saving Label made an impact on the market, the Trust needed to attract considerable attention to the label in order to make consumers aware of its existence.



Figure 2. Danish and English Energy Saving Label ('EL' means electricity in Danish)



Figure 3–5. Strips from the “Far out in the forest” TV commercial

Consumers had to know that the label would be their guide to finding energy efficient products. The Trust focused on recognition using campaigns with the emphasis on informing the target group about the function of the label.

DANISH CONSUMER CAMPAIGN: “LANGT UDE I SKOVEN” (FAR OUT IN THE FOREST)

The Danish Electricity Saving Trust chose a goal-oriented campaign including TV and radio spots, the Web and printed media. The marketing needed to influence consumers’ purchasing behaviour so that they would look for the Electricity Saving Label when buying a new electrical appliance in the future.

The campaign highlighted the fact that energy consumption is not simply a question of an individual consumer’s finances, but also about the impact on the environment. With its motto “Think long term”, the Trust wishes to show that consumers should take the long view on electricity consumption, both in financial and climate terms. In this way the campaign stresses both rational reasons and more emotional concerns about the climate. The campaign positions the Energy Saving Label as a label which makes it easy to act and think long term.

It is important for the Trust that a campaign differentiates itself in the media so that its message is not lost in the crowd. In this respect, the “Far out in the forest” campaign builds on an old Danish nursery rhyme, playing on the Danish words of the song to produce a double meaning, namely: that something far out is also unwise.

Taking this idea as its starting point, the campaign uses a language that communicates the complex message as a simple yet familiar tale. Assisted by some of Denmark’s best-known entertainers from the world of music, this children’s song has been given a modern twist with new rhymes aimed at Danes’ concern for the environment. The TV spot features short cartoons which communicate the message in a simple, humorous and easily understood way.

Consumers can go to a web application designed as a forest on the Trust’s website, where they can explore an expanded “Far out in the forest” universe complete with trees, animals and birdsong (Elsparfonden, 2008). The forest appeals to people of

all ages who purchase electrical appliances. The forest inspires those exploring it to get involved in solving problems relating to electricity consumption and climate change so as to encourage them to make an active effort.

Campaign outcome

In terms of awareness the campaign is well placed in research which shows that consumers intend to look actively for the Energy Saving Label before buying (Børsen, 2008). Nonetheless, the Trust is aware that it needs to preserve consumer awareness so that consumers also remember to buy products with the Energy Saving Label in future. With this in mind, the Trust will carry on marketing the Energy Saving Label extensively in 2009 in a continuation of the now well-known “Far out in the forest” campaign universe.

Marketing and product control

The most important factor for expanding the use of the Energy Saving Label is credibility. The credibility of the label will benefit producers, distributors and consumers.

- For consumers, energy efficient products are typically slightly more expensive than other products, but they are cheaper in the long run because they save electricity.
- For producers and distributors, the Energy Saving Label offers the benefit that consumers will look for the more expensive products.

However, if the label loses its credibility the justification for using it ceases to exist at all levels. Testing is thus an important part of the ongoing efforts to maintain a strong marketing position.

ADMINISTRATION, MONITORING AND MANAGEMENT

When the Trust launched the Danish Energy Saving Label it was clear that the work of developing and maintaining the Label not only covered many different aspects, but also involved a level of input that could not be met by the Trust’s internal

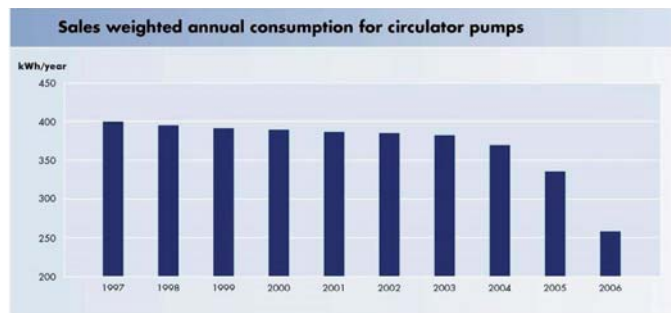


Figure 6. The sales weighted energy consumption for circulator pumps in the period 1998-2007.

resources. Consequently, the Trust decided to outsource the running of the Danish label.

In the light of the above considerations, a secretariat was established in 2007. The secretariat is responsible for the day-to-day administration, monitoring and management of the Energy Saving Label. Some of this work involves setting up agreements, and approving all instances of the label in the users' marketing material. The Secretariat also arranges for random testing as described below to ensure that the label is used correctly on products recommended by the Trust and listed on the product overviews.

The Secretariat also works to influence both the supply side as well as consumers. Consumers are the ones who choose products, but producers and the retail trade determine possible choices, and set prices.

Establishing new requirements and staying updated on international requirements is also a part of the Secretariat's function (The Danish Electricity Saving Trust, 2009).

CONTROL OF ALL MARKETING MATERIALS

To maintain and extend the high credibility of the Energy Saving Label, clear guidelines regulating its use have been developed. These guidelines need to make it obvious to consumers which products are covered by the Label, which can of course only be used on products meeting the requirements set by the Trust. Accordingly, every user of the label must submit all marketing materials mentioning the label for approval by the Energy Saving Label Secretariat before they are printed or otherwise made public.

PRODUCTS SUBJECT TO RANDOM TESTING

Each year the Danish Electricity Saving Trust carries out random tests to ensure that the Energy Saving Label is used exclusively on products recommended by the Trust. These tests comprise different products in different product categories.

Product experts from each field sample the products to be tested. Under a Producer's Declaration, each producer is obliged to make products available free of charge for testing by the Trust, but in practice the Trust gets the products from a distributor so that the producer cannot influence which products are selected.

The test is performed by impartial, recognised and accredited analytical laboratories within this field. The Trust defrays all costs involved in the test itself, but under the Producer's Declaration, if a product fails the test, the producer can be ordered to pay the costs involved.

Procedures have been prepared for random testing to ensure that the overall method is the same each time, and that the quality of random testing is maintained.

Conclusion and perspectives

By launching of the Energy Saving Label, the Danish Electricity Saving Trust has sought to raise awareness of the label among the Danish population to 35% in 2008. Already in 2006, awareness had reached 60%, increasing to 80% in 2008. This has far exceeded expectations and has also led to an increasing interest for using the Energy Saving Label on electrical appliances.

The Trust's ultimate criterion of success is that consumers are actually saving electricity. The 'Far out in the forest' campaign has managed to raise consumer awareness but as yet it is too early to say with absolute certainty that this will lead to actual reductions in the amount of electricity used by Danish households. Nonetheless, in order to verify that the work to promote the Energy Saving Label and energy efficient products is having the required effect, producers of recommended products who have signed a producer's declaration have agreed to report their product sales figures. Thus, it will be possible to measure if the market is influenced in the direction of more energy efficient products and solutions.

PERSPECTIVES

There have, however, been some notable successes, namely that significant difference in sales has been measured for A-rated pumps, which use only 1/6 of the power compared with D-rated pumps, which dominated the market up to 2004.

The Trust launched their campaign on A-rated pumps in 2006. By the middle of 2008, the market share for A-rated pumps had climbed to around 50%. This should be compared with the fact that A-rated pumps only have a 7% share of the market in Europe. Denmark is therefore considerably ahead of other European countries and according to the pump sector the campaign activities have influenced the spread of A-pumps in other countries. This year, Grundfos has announced that following the excellent results achieved to date by the campaign, the firm will only market A-rated variable-speed circulator pumps in Denmark and the rest of Europe.

The outcome is that A-rated pumps will completely dominate the Danish market, and will also make headway in the rest of Europe.

Although the launch and further development of the Trust's Energy Saving Label is based on the assumption that it must be simple, safe and cheap to purchase energy efficient appliances

and systems, the Trust is only too aware of the many, sometimes conflicting, influences and interests in play within the energy labelling field.

The Trust also appreciates that it has been documented that there is a gap between consumer awareness in relation to energy saving and actual energy savings. Although it is encouraging that 80% of Danes surveyed are aware of the label, the Trust is under no illusions that translating this awareness into quantifiable savings involves numerous players and interests.

Setting requirements which are achievable by the majority of producers (e.g. the situation that applies to A-rated fridges) is one thing, sustaining the interest once the requirements have been tightened up is an altogether different proposition. In particular, this requires that producers and consumers continue to see the advantages of products which are differentiated by virtue of their greater level of energy efficiency.

However, by expanding the scheme to cover additional products the Trust is attempting to lay the foundations for an open-ended energy-rating label which can be dynamically adapted and developed as circumstances and products change.

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