

The European labelling scheme for cold appliances

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1 - SYNOPSIS

The first Community-wide evaluation of the Energy Label finds that consumers respond to the label but that more supportive action is required from enforcement agencies, manufacturers and retailers.

2 - ABSTRACT

This paper presents the results of the first Community-wide evaluation of the European energy labelling scheme completed in September 1998 as part of a legal requirement on the Commission to make an assessment of the scheme after three years of operation. The response of consumers, retailers, manufacturers, and Member States was investigated.

It was found that while consumers do respond to the label, this response is dependent on the extent to which the label is present in the shops and the extent to which consumers regard energy consumption as an important factor when choosing between different cold appliances.

Manufacturers interviewed claimed to be supportive of the scheme, but comparison of test data from consumer organisations and the declared data on the label showed substantial differences between the two.

Retailers interviewed showed significantly less interest in the energy labelling scheme and in some cases there was little expectation that the scheme will be enforced rigorously.

Member States, had mostly translated the legislation in domestic law, although over a time period of more than three years. Little had been done to enforce the label especially manufacturer compliance, and no prosecutions had been made relating to cold appliances.

The study resulted in several recommendations which are summarised at the end of the paper, and some of which have now been taken up by the Commission and Member States.

3 - INTRODUCTION

Council Directive 92/75/EEC of 22 September 1992 on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances required the European Commission to make an assessment of the implementation and results of the directive after three years of its operation. During 1997 and 1998, the Environmental Change Unit, University of Oxford, carried out an evaluation project in collaboration with nearly forty other organisations as part of the required assessment. This paper summarises the main findings as reported in *Cool Labels* (Winward et al. 1998) and at the Kyoto in the Kitchen Conference, University of Oxford, 10-11 September 1998.

Two aspects of the scheme were examined:

- Formal *compliance* with the labelling directives: the extent to which various actors – Member States, appliance manufacturers and retailers had discharged the duties placed upon them in the directives.

- The impact of the scheme: the *effect* of the labelling scheme on different actors, including the domestic consumers.

The cold appliances were the first group of appliances the labelling scheme was applied to. The evaluation project therefore focused on the operation of the scheme in relation to cold appliances. At the outset of the project, the implementing directive for cold appliances (92/2/EC) had required cold appliances to carry the label for just over two years from 1 January 1995.

The review was based on seven separate pieces of survey research:

- A survey of all fifteen Member State Governments and their agencies.
- An inspection about ten of shops in each of the fifteen Member States.
- Interviews with senior managers in seven European appliance manufacturers.
- Interviews with senior retail staff in eight Member States.
- In-the-home interviews with consumers who had purchased a cold appliance over the previous twelve month period, carried out in eleven Member States.
- In-the-street interviews with consumers who were currently in the process of shopping for a major appliance, carried out in five Member States.

In addition, a re-analysis was undertaken of data generated by an independent test house on the energy use of 232 cold appliances, to compare the findings with the performance claims made by the manufacturers of those appliances.

4 - MAIN FEATURES OF THE ENERGY LABELLING SCHEME

Directive 92/75/EEC of September 1992, which replaced the earlier framework directive, has the twin objectives of encouraging energy savings through greater consumer understanding and of ensuring that measures taken in this area by the Member States do not hinder trade.

The framework directive sets out the way the information on the label should be presented to the consumer in broad terms while specific implementing directives set out the required information for each group of appliances covered by the scheme in more detail. The framework directive also sets out which appliance groups are covered by the labelling scheme: cold and wet appliances, ovens, water heaters and hot-water storage, lighting sources and air-conditioning, although further types of domestic appliances may be added. Appliances offered for sale, hire or hire-purchase are covered, whether through conventional outlets or by mail-order, catalogue or other means, but second-hand appliances are excluded. Although the framework directive in principle applies to all fuels, this implementing directive is limited to mains-operated electric appliances.

The labelling scheme is based on an 'energy efficiency index' generated by comparing the appliance with the average European model when the bands were set at the end of 1993, using values that vary according to the category of appliance. This average is constant, and was set at the point dividing classes D and E, to allow for efficiency improvements over time. The class into which the individual appliance falls is determined by segmenting the energy efficiency index (Table 1). The energy efficiency index is derived from dividing annual energy consumption by the net volume of the appliance (adjusted to equalise for different temperature zones). It effectively reflects the consumption in kWh per litre of net volume. Thus it is possible to compare appliances, even though they are of varying sizes with different proportions of cool and frozen space. A minimum standard for cold appliances will come into effect in September 1999 removing D-Gs from the market and in the case of chest freezers, E-Gs. The label categories will have to be redrawn to re-establish the full A-G range and to reflect developments in the efficiency of cold appliances since 1993. This is not likely to happen before 2001.

Table 1 Energy efficiency index and energy efficiency classes for cold appliances

Energy efficiency index: I			Energy efficiency class
	I	< 55	A
55 ≤	I	< 75	B
75 ≤	I	< 90	C
90 ≤	I	< 100	D
100 ≤	I	< 110	E
110 ≤	I	< 125	F
125 ≤	I		G

Source: European Commission 1994

The Energy Label communicates the relative energy efficiency of models through colours, arrows and the alphabet (*Figure 1*). The A-G scale ranks appliances from the best (A) to the worst (G); green denotes ‘more efficient’ and red ‘less efficient’. The arrows show relative energy efficiency for a standard level of service.

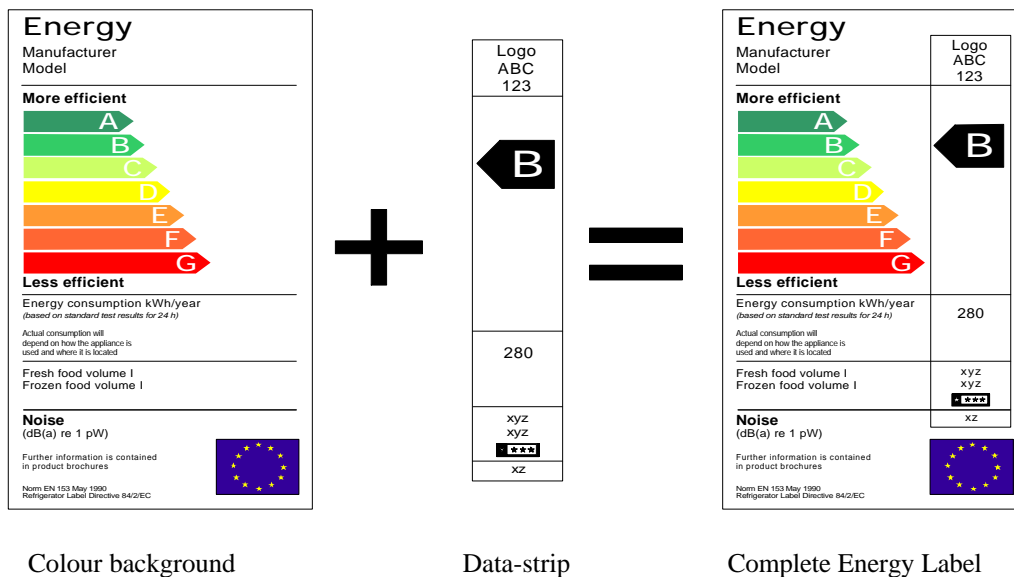


Figure 1 The Energy Label and its components

There are two parts to the Energy Label: a colour background and a data-strip. These often come separately and have to be combined when they are stuck on the machines. A few manufacturers print the Label as a single entity. The colour background is generic and can be applied to any cold appliance (provided it is in the correct language). The data-strip contains model-specific information and is applied to all identical models irrespective of the language of the destination market.

The Energy Label has to be supported by an information fiche, a standard table of information relating to a particular model of appliance. The fiche has to be contained in all product brochures and if these are not provided, with other product literature supplied with the appliance. The framework directive requires the information to be included in mail-order catalogues is similar to that required on the standard label.

4.1. Institutional responsibilities

Responsibility for the implementation of the labelling scheme, as set out in the directives, falls mainly on three parties: Member States, suppliers, and dealers.

4.1.1. Member States

The duties placed upon Member States are:

- Translate directives into Member State law coming into force on 1 January 1994 (92/75/EEC) and 1 January 1995 (94/2/EC).
- Take all necessary measures to ensure that all suppliers and dealers established in their territory fulfil their obligations.
- Take all necessary measures to ensure that other labels, marks, symbols and inscriptions likely to confuse or mislead, and which do not fulfil the requirements of the framework directive and the implementing directive, are prohibited.
- Take all necessary measures to ensure that the introduction of the labelling scheme is accompanied by educational and promotional information campaigns aimed at encouraging more responsible use of energy by private consumers.

4.1.2. Suppliers

The supplier is defined in Article 1.4 of the framework directive as “the manufacturer or his authorised representative in the Community or the person who places the product on the Community market”. The responsibilities of the supplier are:

- Supply of the Label to the dealer free of charge.
- Supply of the fiche to the dealer.
- Responsibility for the accuracy of the Label.
- Responsibility for the accuracy of the fiche.
- Establishing technical information sufficient to enable the accuracy of the information contained in the Label and the fiche to be assessed.
- Make the technical information available for inspection purposes for a period of 5 years after the last product has been manufactured.

4.1.3. Dealers

The dealer, defined in Article 1.4 of the framework directive as “a retailer or other person who sells, hires, offers for hire-purchase or displays household appliances to end-users”, is responsible for:

- Placing the Label correctly: on the outside of the front or top of the appliance, in such a way as to be clearly visible and not obscured.
- Attaching a Label in the appropriate language.
- Provision of required information with mail order and other distance selling.

4.1.4. Regulatory Committee

Article 10 of the framework directive establishes a committee composed of the representatives of Member States and chaired by the representative of the Commission. This Committee, commonly known as a regulatory committee, was established to assist the Commission in progressing the labelling scheme. The representative of the Commission submits drafts of any measures to be taken under the framework directive to the Committee. Such measures principally cover the specification of new groups of appliances to be labelled, either by introducing specific implementing directives, or by amending the list of appliances covered by the framework directive itself. The Regulatory Committee delivers its opinion on the proposed measures on the basis of ‘qualified majority voting’. If the Regulatory Committee votes down a Commission proposal, that proposal is referred to the Council of Ministers.

5 - FINDINGS

5.1. Timing of legal implementation

All Member States, apart from Italy, had implemented Directive 94/2/EC at the close of the study. The directive came into force in Italy 8 October 1998. In the other fourteen Member States, timing was staggered over a three year period from 1 January 1995 to 1 January 1998.

Because some of the more populous countries in the Community implemented late, by the end of 1995 only 55% of the population of the Community lived in a Member State where the labelling scheme was in force, although Directive 94/2/EC had required implementing legislation to come into force twelve months earlier (Figure 2).

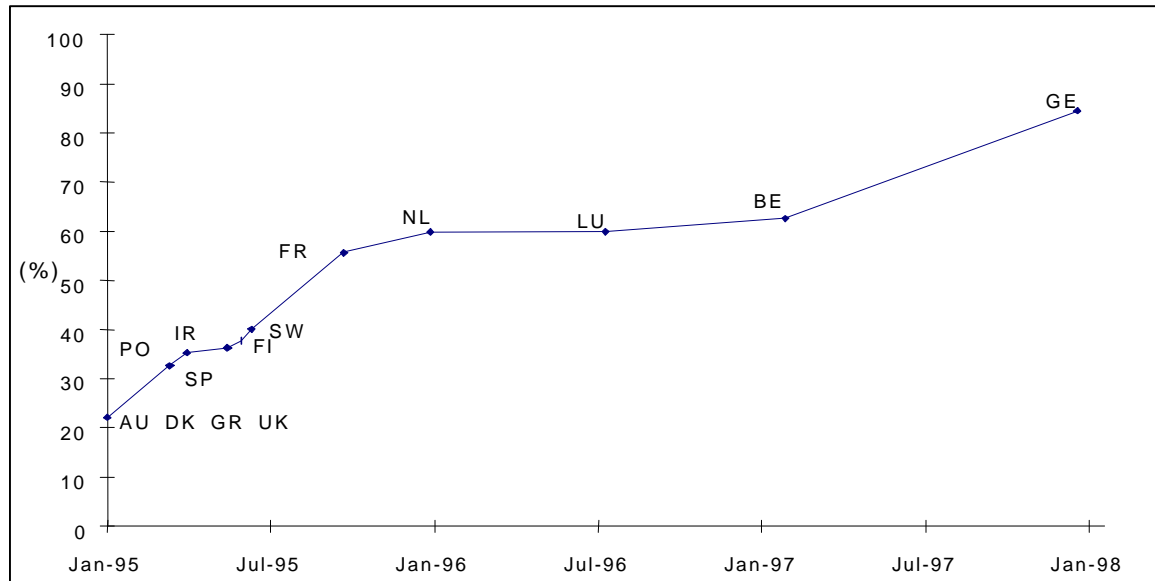


Figure 2 EU population affected, by date of implementation of Directive 94/2/EC

Formal implementation is of course only part of the story and sections 5.4 and 5.5 review the results of the research on the presence of the Energy Label at the point of sale and the accuracy of the Label.

5.2. Monitoring and enforcement action

Governments have a necessary (but not sufficient) role in supporting the Energy Label. Through the timely implementation of the Directive in domestic law, regular monitoring of compliance and taking enforcement action when necessary, governments send a clear signal to dealers and suppliers that the scheme is being taken seriously by the State.

Nine Member States had undertaken some monitoring of compliance by summer 1997 and an additional three were planning to do so. In five Member States, the compliance of suppliers as well as of dealers had been monitored, but only Denmark, the Netherlands and Sweden reported having carried out laboratory testing of cold appliances. The lack of testing facilities and the cost of testing appliances makes such monitoring difficult and expensive. As appliances are marketed throughout Europe, it would be helpful if Member States that are actively checking the information could share information with others. There is some evidence this is already happening: Ireland relies on an informal European network to identify instances of non-conformity or false declaration of results. An alternative method would be to require manufacturers to deposit the technical information where it can be accessed by the public.

No Member State reported having taken formal legal action (a prosecution) for non-compliance with cold appliances. The only prosecution identified related to mislabelling of a wet appliance in the UK.

5.3. Information campaigns

Information campaigns alert consumers to the existence of the Energy Label and confirm that it has official support. Eleven Member States undertook promotional campaigns to support the scheme. Five Member States provided details of extensive information campaigns (Denmark, Finland, France, Ireland and Portugal). A wide range of communication tools were reported to have been used, but newspaper and TV advertisement campaigns, and brochures at the point of sale were the most frequently reported. Retailer education programmes were also used by several Member States. Less frequently used tools include leaflets with the quarterly electricity bill and rebate schemes. Some innovative communication tools were reported, such as a wall-newspaper at railway stations in the Netherlands and a children's cartoon in Ireland. As the surveys for the study were carried out at a single point in time, it is not possible to examine whether these information campaigns were successful in changing consumer attitudes.

5.4. Dealer compliance – is the label on the machines?

The results indicate that the average compliance level across the Community is low. Just over half the machines (56%) surveyed carried the Energy Label by June 1997. There are large differences between Member States, though in only three Member States (Denmark, the Netherlands and the UK) were more than 70% of appliances correctly labelled 30 months after the directive became mandatory. The Italian consumer was the least likely to encounter the Energy Label: only 17% of appliances surveyed in Italy were labelled. At the other extreme, 94% of appliances in the Netherlands were labelled. Broadly speaking, compliance was found to be lower in the Southern European countries. This is particularly unfortunate, as the potential for energy savings from cold appliances is related to temperature: cold appliances consume more energy in summer than in the winter, because the ambient temperature in the house is higher. In the UK, the increase is from 10 kWh per week in winter to 16.5 kWh per week in summer, a 65% rise (DECADE 1997a). The benefits of more efficient appliances will, therefore, result in greater savings in the summer than in the winter. This will be most evident in countries with long, hot summers - particularly when temperatures of over 30°C are experienced. The low level of coverage means that the consumer in many countries may not have full information available when choosing a cold appliance.

As far as the presence of the Label at the point of sale is concerned, there appears to be only a weak relationship between timely implementation in domestic law and compliance. However, if the timing of implementation is coupled with the level of monitoring and enforcement activity as well as with the presence of an information campaign, it may be possible to discern a pattern that begins to explain the differences in compliance levels found in the survey. Other factors, such as dealer perceptions of the consumer's interest and the structure of the retail trade, may also influence dealer compliance. However, since at least one shop managed to exceed 80% compliance in all Member States except Italy, the implication is that retailer apathy is a major reason for absent Labels throughout the Community.

5.5. Supplier compliance – is the label accurate?

Since the idea of the labelling scheme was first suggested, there has been debate about the accuracy and reproducibility of the laboratory data generated by manufacturers. By 1997, little monitoring and enforcement of supplier compliance had taken place, and only a few Member States had begun to test the accuracy of the manufacturer declared information on the Label (Denmark, the Netherlands and Sweden). Most Member States now have independent consumer organisations that test appliances. These organisations regularly report energy ratings for appliances that are different from those given on the Label itself. Data from a series of tests carried out at Consumers' Association Research and Testing Centre (CARTC) in the UK on cold appliances between 1994 and 1997 were re-analysed. Test data generated elsewhere in Europe (notably an analysis carried out by the Danish Energy Agency) were inspected to check that the findings reported here were broadly in line with those from other independent tests. These tests represent the tip of an iceberg, as far as the number of distinct models on the market are concerned.

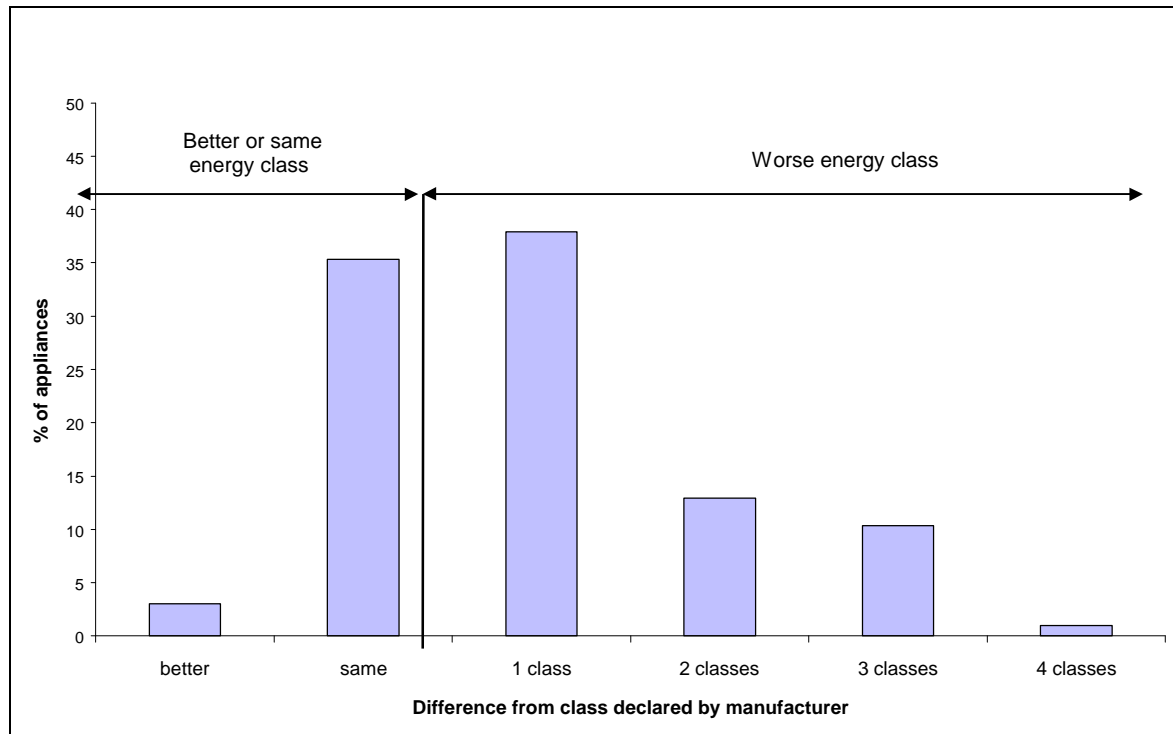


Figure 3 Changes in label class with CARTC data

The analysis suggests that the figures declared by manufacturers still diverge significantly from those produced in independent test houses and that manufacturers' declared figures remain strongly skewed towards an 'optimistic' view of the efficiency of their appliances, when compared to those from independent test houses. If the independent laboratory figures are correct, substantial numbers of appliances are mis-labelled, many by two or more bands (Figure 3). This latter point will become particularly pressing with the implementation of minimum standards September 1999, many of the appliances that will continue to be sold actually have worse performance than some that will be removed from the market.

The problem of inaccurate labels has been explicitly acknowledged by at least one major manufacturer (Electrolux September 1998). In addition the European Committee of Manufacturers of Domestic Equipment (CECED) has set up a verification scheme where manufacturers can challenge each other over label accuracy.

The overall level of compliance is disappointing, both in terms of the number of appliances fully labelled in the shops and in terms of the continuing controversy over the accuracy of the declared values on the Labels. Independent testing was only able to confirm the energy efficiency class on the Label for a little over a third of the appliances tested. Taken together, it is possible that as few as one in five machines in the shops, across all 15 Member States, are accurately and fully labelled. This jeopardises the potential success of the policy and reduces the chances of making real energy savings.

Revisions to the implementing directive are unlikely to be in force until 2001. Therefore the need is to use the present legislation effectively rather than wait for improved regulations. The clear evidence of testing discrepancies between manufacturers and independent laboratories indicates a more powerful role for enforcement agencies. The Commission's project to confirm consistent test procedures is welcome. It should help reduce the scale of the problem, and the public disagreement over the value of the Labels. However, the main task of enforcement will need to be accomplished by Member States.

Monitoring compliance in a retail outlet is relatively easy and inexpensive, and is essentially a local issue - a great deal could be achieved by discussion and gentle threats. In the case of the accuracy of the Label, the monitoring process is both costly and time-consuming. As appliances are traded internationally, there would be clear advantages for a network and information exchange between Member States. This has been developed

informally by Denmark, Ireland, the Netherlands and Sweden, and could sensibly be extended, perhaps with specific countries co-ordinating information on individual manufacturers or importers.

5.6. Response of consumers

The issue of real interest is the proportion of consumers who actually change their buying behaviour as a result of the Labels. It is only by changing purchasing patterns that consumers will demonstrate that the Energy Label policy is working and that energy is being saved. The link between the Label and actual purchasing behaviour depends upon a complex interaction between:

- the proportion of appliances fully labelled in the shop;
- consumer concern about appliance energy use;
- consumer understanding of the Label;
- consumer concern about the environment;
- trust in the information on the Energy Label;

Of these the proportion of appliances labelled in the shop and the level of consumer concern about appliance energy use were found to be by far the most important. The research carried out for *Cool Labels* suggests that where Labels are present on appliances in the shops they are both noticed and recalled by consumers, and that the majority of consumers appear to have no difficulty in understanding and interpreting the main message of the Label. The level of compliance in the shops is a highly significant factor. A close match was found between the proportion of correctly labelled appliances in the shops in a given country and the level of recall of the Label by consumers in that country. The simple presence of the Labels appears to be a stronger determinant of recall than personal interest in the energy use of appliances.

A strong relationship was also found between the salience of energy use to the individual consumer, and the influence of the Energy Label. This works in both in the positive and the negative sense: 44% of consumers who did not think energy use is important, did not recall seeing the Label at all, while 58% of those who spontaneously mentioned energy use as a factor in choosing an appliance said that the Label had had a strong influence on their purchase. The significance of energy use as a factor in choosing an appliance varies from country to country. In four countries, Austria, Denmark, the Netherlands and Sweden, energy use is a major determinant, as important or more important than brand or price. In other countries, few respondents mentioned it as a factor. The emphasis on energy use is unrelated to the price of electricity: high or low levels of interest in energy use can be associated with either high or low national electricity prices. Although less-affluent consumers could benefit most from the cost savings associated with more efficient appliances, those in the lower socio-economic groups were actually less likely to mention energy use as a significant factor in appliance purchasing, and were more likely to concentrate on initial purchase price. Policies aimed at influencing the behaviour of these groups would have social as well as environmental benefits.

Although European consumers seem to be widely aware that energy use is an important environmental issue, far fewer appear to link this to their own personal behaviour, specifically to the use of cold appliances. A more significant factor may be a connection made between efficient appliances and 'high quality', including environmental quality. This was suggested by some of the retail companies interviewed and is tentatively confirmed from the evidence in the survey of consumers. It also corresponds to the finding that concern with the energy use of appliances is linked to higher levels of affluence, rather than with opportunities for saving money. Environmental quality may, in this sense, have the characteristic of a luxury good.

Raising the profile of environmental and energy issues should also have positive feed-back effects on the retail sector. Retail employees are, of course, themselves members of the public and will share those motivations. Perhaps more importantly, if consumers begin to request information on energy use when making purchases, energy use will come to be seen by retailers as a useful selling point. The extent to which appliances in the shops are fully labelled is only partly a function of enforcement and monitoring. Consumer demand is at least as important a source of pressure. This seems clear in the German example, where compliance levels were above the EU average, even before the relevant directives had been brought into force.

If the Labels are to be influential, consumers must have trust in the information that they carry. This does not - despite the concerns about label accuracy discussed - appear to be problematic at present. Trust in the Labels varied from country to country but mistrust was not a major issue anywhere. The relationship between the degree of trust in the accuracy of the Label and a willingness to be influenced by it was, in any case, a weak one.

The Energy Label is noticed as much by shoppers who are in a hurry (bought on the same day) as those who took more than a week to purchase. Those who researched their purchase were more likely to say that they had noticed the Energy Label, although 50% of those who undertook no research still reported that they had definitely seen it. For shoppers who did no research, the Energy Label is the most important source of information together with information from the retail staff. Among those who carried out research before buying, manufacturers' brochures were clearly the most popular source of information. This suggests that the dual approach of placing Labels on the appliances themselves, with more detailed information in the 'fiche' (normally part of the manufacturer's brochure) is an appropriate one.

The proportion of shoppers who reported having discussed appliances at all with shop staff varied from less than a third in the UK to almost two-thirds in Spain. Where discussions did take place, they quite frequently covered energy use or running costs. The pattern largely reflected the findings already reported: shoppers in Germany and the Netherlands were more likely to have discussed energy or running costs, those in the UK and, in this case, Italy were less likely to have done so. The advice given by shop staff on energy use appears to have been straightforward, and was widely reported as helpful.

Many consumers considerably underestimated the extent to which energy consumption varies between similar machines and hence excluded energy use as a criterion in making their purchase. This again underlines the importance of retail information.

The two keys to improving the effectiveness of the labelling scheme are therefore to increase the proportion of labelled appliances in the shops, and to persuade individual consumers that energy use is an important criterion in buying appliances. A few countries appear to be successful on both fronts. Denmark and the Netherlands, in particular, score highly both in terms of compliance levels and the proportion of the population who mention energy as a leading factor in choosing an appliance. These are also the two countries with the highest proportion of the population saying that the Label influenced their choice of appliance when making a purchase. At the other extreme, Greece and Spain have quite low levels of compliance, and relatively few respondents from these countries mention energy as a factor in buying an appliance. Again, the two countries are at the bottom end of the scale in terms of the proportion of consumers who said that the Label had influenced their purchase.

This information is summarised in Table 2 for all eleven countries where the in-the-home survey was carried out. The first column reflects the proportion of appliances fully labelled in the shops, column two the importance to consumers of energy consumption when choosing an appliance, and column three the proportion of consumers who said that the Label had influenced the purchase that they had made. The table illustrates that the barriers to effectiveness are different in different countries. It suggests that there is probably a ceiling on the overall level of influence that the labelling scheme could hope to achieve. The reported level of influence by the label on consumer purchase in Denmark and the Netherlands suggests that it may not be possible to influence more than about 60% of shoppers, even in relatively favourable circumstances. This may be related to the limited range of models in some retail outlets and inflexible consumer priorities (e.g. dimensions) which will sometimes reduce the consumer's choice to a single appliance.

Table 2 Overall effectiveness of labelling

	Compliance	Importance of Energy Efficiency	Influence of Label on Purchase (%)
Denmark	***	***	56
Netherlands	***	***	45
Austria	**	***	39
Sweden	**	***	39
Finland	**	**	41
Portugal	*	**	35
UK	***	*	24
France	**	*	32
Ireland	**	*	15
Spain	*	*	19
Greece	*	*	4

Note: *** >70%; ** 50-70%; * <50%

6 - RESPONSE OF MANUFACTURERS

The seven manufacturers interviewed expressed support for the Energy Label as a policy tool and as a source of consumer information while acknowledging that their attitudes had become more positive over time. They also reported a greater emphasis on energy efficient appliances and that this had been achieved within the same overall research and development budgets, which have been reallocated, rather than enlarged. The relative effects of the framework directive, the implementing directive on cold appliances and the minimum standards coming into force in September 1999 on the behaviour of manufacturers are not clear. It was not part of the *Cool Labels* study to examine the trends in efficiency in the Community market for cold appliances. This was carried out by a separate project.

Most Labels are assembled by the retailer from the data strip supplied with the appliance and the colour background distributed separately and in bulk. The process of distributing the Labels is still thought to need improvement and some manufacturers expressed uncertainty about the legal responsibilities of different parts of the supply and dealer chain. Manufacturers expressed concern about unlabelled products and believe that retail outlets should be fined for failing to fully label appliances.

Manufacturers had not initiated major advertising campaigns in support of the Energy Label and there had been limited additional support for the promotion of more efficient models. Nevertheless, some claimed they and their trade associations have been playing a leading role in co-ordinating publicity for the labelling scheme. The promotional benefits that come from rebate schemes operated by the utilities and governments were particularly praised by manufacturers.

Manufacturers claimed that there has been no overall effect on the market share of different appliance manufacturers, but that there has been a shift in the fortunes of the component manufacturers: only those that are producing more efficient components are thriving.

In general, the manufacturers interviewed believed that the level of inaccurate Labels is minimal and not a major cause for concern. Some accepted that there had been early errors resulting from the need to label a lot of models at the same time, but also stated that the level of discrepancy was dropping. Nevertheless, manufacturers support the need for more stringent test standards and independent certification if the problem of disputed Labels is not resolved.

7 - RESPONSE OF RETAILERS

Retailers argue that it is not and should not be their responsibility to promote the Energy Label or energy efficiency. There appears to be little recognition that this is a mandatory scheme backed by legislation in both the Member State and the Commission. Some senior retail managers believe that their stores are fully compliant

when they are not, suggesting that the obligations the legislation places upon them have not been fully understood. The fact that there is little expectation that the labelling scheme will be rigorously enforced or checked by the authorities may also contribute to complacency and apathy.

Sales of white goods are being concentrated in large outlets and fierce price competition limits the opportunities for other campaigns, so few retailers make energy efficiency a focus of their marketing strategy. Large outlets prefer to promote other electrical ranges, such as brown goods, where there is more technology development and variety. The cold appliance market is seen as fairly static and unchanging. Ironically, the advent of a new focus and marketing opportunity, with the Energy Label, does not appear to have been utilised.

Retailers strongly emphasise cultural variations between national markets: it was thought that energy efficiency is important, for example, to German shoppers but of no interest to the French. Overall, however, they believe that consumer interest in energy efficiency is low in most European markets, and do not believe the Energy Label has had much impact. Consumer interest in energy use is expected to rise at some future point - up to 10 years time - though it is recognised that some national markets have already begun to change. Because of perceived consumer apathy, retailers are not monitoring consumer views on energy efficiency or plotting sales trends on this criterion. It appears that retailers are tending to underestimate the significance consumers place on energy use, and the influence that the Label is capable of having.

The design of the Label had more supporters than dissenters and there were few concerns from retailers about the validity or reliability of the data. Shop floor staff are reputed to find the Label complex and this reduces their confidence in explaining it to consumers. There is also a perception that consumers want different information anyway (for instance on price) and this further reduced the likelihood of retail staff discussing the Label with consumers. However, the consumer survey evidence suggests that retailers may underestimate the interest that consumers are already expressing in the energy use of appliances.

Manufacturers have been the main source of information about the Energy Label, but retailers believe the labelling scheme is an unwelcome chore, both for themselves and the manufacturers. Retail managers believe that the distribution system for Labels does not recognise retailing constraints. This dislike of the bureaucracy meant that in some cases the labelling scheme was either ignored or believed not to apply, particularly in the small, independent stores.

8 - RECOMMENDATIONS

8.1. Commission

Revisions to the Energy Label for cold appliances will allow several of the procedures to be tightened and to clarify the intentions of the policy. This might require the framework directive to be revised.

Greater clarity is needed in the test procedure documents about what the manufacturers are to declare. If the values are intended to be those of an average model, then the process of defining 'average' should be clear: for example, the average of six models tested. Alternatively, the declared values could be the maximum (energy) and minimum (volume). Then all machines sold would be at least as efficient as the energy efficiency category on the Label and possibly more so. With the present system, the reverse is true: the energy efficiency category displayed may only be attained by the best machines from the production run.

Lower levels of tolerances could be adopted in the next revision, to encourage manufacturers to reduce variability in the production process.

Tighter definitions will make it easier to enforce the legislation, if a Label is thought to be inaccurate, and to make sure that the checking procedure would stand up to legal scrutiny.

The amount that a manufacturer would be fined for an inaccurate label is negligible (about 3,000 euro). An alternative method would be to link the payment to the level of unnecessary energy consumption resulting from an inaccurate Label. For instance, if a fridge-freezer is labelled B instead of D, the consumer is using about 100 kWh pa more than implied from the Label. Over the 10 years (or more) that the consumer owns this appliance, at the European average of 0.15 euros/kWh, this amounts to 150 euro per machine sold with an incorrect Label.

With high volume machines, selling in several Member States, this would represent a substantial penalty for the manufacturer.

There appears to be no requirement that consumers are provided with the full Energy Label with the machine they purchase. With the present system, the Energy Label has to be complete on the machine displayed in the showroom: the two parts of the Energy Label are not combined at any other time. This limits the opportunity for consumers to learn, understand and confirm the figures on the Label.

The information in mail-order catalogues and in the fiche in brochures should be accurate, up-to-date and properly presented, as this enables the consumer to obtain an efficient machine, even though they cannot see a fully-labelled appliance in the shop. Advice to mail-order companies on how best to incorporate the information required would be helpful.

The Commission could require the public deposition of data by manufacturers, so that the test results are available for public consultation. If there is a designated centre in each Member State or centrally, then this can confirm that the data are consistent and incorporated into a website. At the moment, the ELDA¹ groups in Denmark and Scotland, the DECADE team at the Environmental Change Unit and others spend considerable amounts of time checking inconsistent data with manufacturers (i.e. when the declared net volume, annual consumption and energy efficiency category cannot all be correct). Uncertainty about the consistency of the results identifies an appliance that should be tested at an independent centre.

Manufacturers should also nominate a contact, within each Member State, who is responsible for all issues concerned with the Label, including supply of Labels, accuracy of information and all compliance issues. These contacts should be provided to each enforcement agency.

In preparation for a second round of Labels, the date of issue should be printed on the Label, so it will be clear which is the old and which the new. The design of the next Label could consider providing a space for the cost of electricity consumption, to be completed by the retailer.

The Commission should encourage Member States to enforce directives more promptly: 3.5 years after the Directive was to come into force, there was still one Member State which has not implemented the cold appliance directive.

8.2. Member States

There is a need for vigorous enforcement and no leniency when a manufacturer's declared values are shown to be incorrect. The present system allows manufacturers to gamble, because they are unlikely to be exposed for making false declarations.

The informal network between some Member States could be extended so that action on inaccurate Labels is co-ordinated. Individual Member States could specialise in monitoring individual manufacturers.

The proportion of appliances in retail outlets that carry a full label should be monitored annually and reported to the Commission, so that the effect of policy can be identified over time.

More positive action should be taken to publicise the benefits of energy efficient cold appliances in those countries that experience hot summers.

The lessons learned from this monitoring study should be applied to the way other labelling directives are implemented, so that the opportunities to reduce energy consumption are realised as quickly as possible.

Maximum benefits are achieved when more energy efficient appliances are produced by manufacturers, stocked by retailers and bought by consumers. All three links in this chain need to be strengthened.

9 - ACKNOWLEDGEMENTS

The project represents a large collaborate effort involving researchers from nearly forty organisations across all Member States. For a full list of these please see Winward et al. 1998).

Many individuals within Member State Governments took the time to reply to questionnaires, particularly members of the Regulatory Committee.

Altro Consumo of Italy co-ordinated the field work on compliance in retail outlets which was carried out by local consumer organisations. The data was processed and analysed by the ECU. CARTC in the UK re-analysed data held by them from previous testing work done for members of International Testing. Further analysis of these results was carried out by the ECU.

For the 'Recall survey' of consumers, the ECU commissioned BMRB to co-ordinate the field work and tabulate the data. For the 'Street survey' of consumers the ECU commissioned Cfs International to co-ordinate the field work and tabulate the data. The data analysis was carried out by the ECU.

The ECU commissioned Van Holsteijn en Kemna to carry out the field work for the survey of manufacturers and their report was edited by the ECU. Senior staff from within the industry kindly gave of their time and experience.

The ECU commissioned the Oxford Institute of Retail Management (OXIRM), University of Oxford to co-ordinate the field-work on the response of retailers and produce a report on the basis of the fieldwork. The report was edited by the ECU. Senior staff from within the industry kindly gave of their time and experience.

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10 - REFERENCES

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11 - ENDNOTES

⁽¹⁾ ELDA is a comprehensive database of domestic electrical appliances containing all relevant product information including energy efficiency and performance. The database was developed in Denmark and is used by Danish utilities such as Copenhagen Energy to advise consumers on the most suitable appliances for their needs. ELDA is also used in some Scottish Hydro Electric shops, and under SAVE II it is being developed further for wider European dissemination including Portugal, Sweden, and Austria.