

Energy Efficiency Labelling for Appliances : a New Use of an Old Instrument in the French Region „Nord / Pas de Calais“

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1. Synopsis

This analysis of a French pilot programme presents the retail sector as a key actor for the success of energy labelling schemes.

2. Abstract

The lack of information regarding unit consumption and relative performances of appliances on sale is often highlighted as a reason for the low interest of consumers in energy efficiency. As a consequence several energy labelling programmes has been implemented in different countries in order to facilitate the dissemination of more efficient appliances, with mixed results. Generally, evidence fails to prove that labelling schemes have a major influence on the purchasing behaviour of a large number of consumers. Among others, the influence of retailers on the final choice of the consumer may explain this limited impact.

On the contrary, our analysis of a French pilot programme in the Region “Nord - Pas de Calais” shows that retailers may greatly improve the efficiency of a labelling scheme. When it is integrated in the commercial strategy of the retailer, the modification of the supply structure according to the efficiency criteria and active support from the salesmen can strongly boost the message of the energy label and orientate the consumers towards more efficient appliances.

3. Introduction

A European Directive adopted in early 1994, after long preparatory debates, introduced the mandatory display of the energy consumption of appliances in the Member States of the Union. Cold appliances (refrigerators and freezers) were the first affected by this regulation which has been extended in the last few months to laundry appliances and will soon be generalized to all household appliances.

This regulation was set up in Europe after numerous studies had shown that consumers, lacking information concerning the energy consumption of appliances, had little concern for this criteria in making their purchase decision. Better informed by the label, the consumer would bear this criterion in mind and thus facilitate the dissemination of more energy efficient appliances.

This paper tries to enumerate the conditions under which better information may lead to purchasing behaviours which are more favourable to efficient techniques. The first part of the text describes energy labelling programs which have been implemented at the international level, and the observed results, as well as the commonly observed limits of this instrument. The second part presents, through a pilot program on the introduction of labelling in the Nord-Pas-de-Calais Region (France), opportunities for reducing certain of these constraints through an active participation of the retailers.

4. Purchase Behaviour and Energy Labelling : Assessment of the International Experience

4.1. The Information Gap, a Barrier to the Dissemination of Efficient Technologies

According to the economic theory of consumer behaviour, the consumer is supposed to be perfectly informed, receptive to the price signal, and rational in his choices. In other words, the consumer is supposed to have all the necessary information concerning product cost and characteristics, and to be able to make a choice that minimizes the global cost (taking into account the equipment price and its running costs). Finally, he is supposed to know where to buy the selected equipment which furthermore must be available without extra-costs.

In practice, consumers consider so many different criteria in choosing their electric appliances that the final result often differs from the theoretical optimum. The theory of global cost minimization is rarely verified. Customers are not concerned about running costs, which are often considered insignificant, but often react to the sale price alone. On the other hand, the real or supposed quality of the product as well as the proposed characteristics, aesthetics, brand name,... and the salesman's persuasive style are significant factors in customers decisions.

In reality, the hypothesis of perfect information is not verified either. The signal transmitted by the electricity bill which aggregates the different uses of electricity (lighting, heating, electrical appliances,...) does not inform the consumer of the relative importance of each use. The consumer has only a vague idea of the running costs of various appliances, and is not interested in related energy savings. Moreover, even if this was known, the consumer lacks the information needed to estimate the different performances of equipment : the technical information provided by manufacturers generally does not allow us to compare the energy efficiency of equipment of different sizes or different categories .

This information gap is generally identified as one of the factors which explains why purchasing behaviour is unfavourable to efficient technologies and why innovation is limited in the industrial sector.

4. 2. Energy Labelling Programmes

The lack of a spontaneous dynamic in favour of efficient technologies has led to the implementation of public policies in order to stimulate new technologies or promote their adoption. Among the latter, several countries have established energy labelling programmes for household appliances. The „EnerGuide“ label appeared in Canada in 1978 (modified in 92), „Energy Guide“ was launched on a national basis in the USA in 1980, „Energy Rating“, was set up in Australia in 1986 (for the most important states). More recently, the European label Directive was adopted in 94 and its implementation in the Member States followed a few months later.

The aim of the labelling regulation is to compensate for the information gap observed in this sector, to draw the consumer attention to the electricity consumption of specific appliances, and to reveal differences between models. Well-informed, the consumer should be more attentive to the energy efficiency of the appliances and, in general, should choose the more efficient ones.

The label format differs from one country to another, but the following features are common :

- an estimation of the energy consumption of the appliance, measured under standard conditions : generally the consumption is indicated in kWh/year (exceptionally in kWh/month), but some labels indicate the annual operating costs. (Energy Guide, first period in the USA).
- a comparison of the equipment efficiency with other comparable appliances (category, volume) ; Energy Guide (USA) and Energuide (Canada) positions equipment on a scale that goes from the more efficient to the less efficient (same category, same volume). Australian (Energy Rating) and European labelling schemes respectively indicate stars or colours¹, in order to indicate the relative efficiency of the product .

In certain countries (Europe, Australia), comparison between different products is made easier through the use of an efficiency index which takes into account the volumes (fridge and freezers) of the appliances. In other countries, calculation methods used presume that only appliances which have the same volumes are compared.

The option of indicating energy consumption instead of running costs may seem to introduce an important distinction in the label formats. The indication of annual running costs would be more understandable and have more influence on the consumer's choice. On the other hand, the kWh would remain a very abstract notion to most of them, all the more so since electricity prices are not well known. On this particular point, programmes evaluations do not give a clear view of on the respective impact of the different label formats, even if consumers seem to prefer reference to running costs².

4. 3. The Main Results of Labelling Programs

The assessment of labelling experiences would have required a precise follow-up of the dissemination of efficient appliances, of innovation dynamics, of purchase behaviours... In fact, very few studies have been conducted on a long-term basis (J.P. Harris and N. Casey-McCabe, 1996). The impact of energy labelling is not well known and is difficult to isolate from other market transformation actions. In the USA notably, where the experience is older, the impact on cold appliances is difficult to dissociate from that of the energy efficiency standards, mandatory since 1987. In Europe on the other hand, the experience is too recent. Moreover, impact of labelling will be disturbed by the efficiency standards under preparation for the late nineties.

The few available assessments of past experiences show contrasting results. According to an American study quoted by J.P. Harris and N. Casey-McCabe, 50% of refrigerator buyers aware of the „Energy Guide“ label, declare that this information has influenced their purchase (R. Dyer and T.J. Maronick, 1988). A more recent study, ordered by the American Department of Energy shows that three-quarters of the consumers who noticed the label, did refer to it in choosing their appliances (US Department of Energy, 1995). The pilot program in Denmark has also produced positive results : consumers consider that their choice was influenced by the label, and the salesmen observe that the turnover of efficient models has increased and that the demand has shifted toward these products (DTI Energy, 1994).

This sparse information cannot be confirmed by systematic and large-scale monitoring of purchasing behaviours. The estimation of impacts thus remains essentially qualitative. One of the few attempts to quantify the effect of labelling estimate the savings resulting from the „Energy Rating“ programme in Australia at 11% of the total consumption of the electrical appliances, compared to a reference situation without any label (G. Wilkenfeld, 1993).

At the same time, other studies suggest that energy labelling was not well adapted and of a limited help in the choice of appliances (Bonneville Power Administration, 1988). These counter-references are in part explained by inadequacy in the format, or information provided by the label ; for example, the „Energide“ label (Canada) was modified after a first trial, because its round shape suggested a quality label and was interpreted as such by consumers, regardless of the appliances' actual efficiency. In the same manner, the „Energy Guide“ label (first period) was seen as too confusing and as having too much information (JP. Harris and N. Casey McCabe, 1996). More generally, the introduction of energy labelling and of reliable and complete information (at least in theory) does not seem to have radically changed purchasing behaviour.

4.4. Technical Information and Purchasing Behaviour

Theoretically, the label allows a choice between extra costs of more efficient appliances, on one hand, and future savings, on the other. In fact, one observes that the consumer uses the label as a stamp³, with which to distinguish between different models, but not as an optimization instrument. The model classification on a performance scale (colour or number of stars) is then the most important information compared to the absolute consumption (in kWh or in price) of the appliance (G. Wilkenfeld, 1993).

Even if energy labelling appears to reveal existing performance differences and to establish a rating between appliances, its real use is not well known. It is observed that the label user is generally favourably predisposed to

it : already being sensitive to information, he or she tries to look for further sources (price lists, newspapers, magazines, advertising...) before making a definite choice (J. McMahon, 1991). In this case, energy labelling offers a new means of differentiating between the products, and allows an assessment of their relative qualities. On the other hand, it is not clear that the label inspires the consumers, who buy on impulse or have complete trust in the salesman, to take more note of the energy efficiency criteria.

These mixed results raise some questions about the true influence of information on the purchasing behaviour and its possible limits. An American study has shown that, confronted with two absolutely identical refrigerators , differing only in terms of their prices and efficiency, consumers act as if their implicit discount rate was greater than 35%, or even 60% in some cases (A. K. Meier and J. Whittier, 1983). In a „complete“ information situation, the consumer does not necessarily choose the most efficient appliance, even if this choice seems to be to most rational one.

4.5. A Key Actor for the Success of Labelling Programs : the Retail Sector

Theoretically informed by the label, the consumer's choice remains limited by the nature of the goods suggested by the retailer, whose influence is at least as important as that of the manufacturer. Of course, the consumer remains free, faced with an insufficient choice to play on competition between retailers⁴, but this involves additional transaction costs. Generally, and even in presence of a label, the consumer is only informed about products available at the retailer where he or she has decided to shop.

With the possible exception of “wise” consumers who inform themselves before buying and who have made their choice beforehand, the purchase involves an key actor who may influence the final choice : the salesman. For those who purchase a household appliance without any preconceived intention, and who turn to the salesman to guide them through the diversity of proposed models, the contact, the exchange and the arguments put forward by the salesman are more important than written information which is often not very reliable or too technical and too complex.

It was to analyse this type of purchasing behaviour and to learn how to use the potential influence of distributors, to augment the effect of energy labelling, that the experience in the Nord-Pas de Calais region was undertaken.

5. Energy Labelling and the Retail Sector : the Example of the Nord-Pas de Calais Region Program

5.1. The Background

The Nord-Pas-de-Calais programme aims to promote the diffusion of efficient cold appliances (refrigerators/freezers), using the European energy efficiency label. The Programme is co-ordinated by the Regional Energy Agency (ARE) of the Pas-de-Calais Region for the group „DSM Nord-Pas-de-Calais“, i.e. the Ademe, EDF, the Nord-Pas-de-Calais Region, and the Urban Communities of Lille and Dunkerque.

This action is linked to the new European labelling scheme and could have simply been aimed at the consumers : to advertise the instrument (label), or even the product (refrigerator), and to steer better informed consumers toward the more efficient products. However, the operation carried out in Nord-Pas-de-Calais has largely gone beyond this framework. Studying the market of household appliances has shown the importance of considering all the economic actors involved, from the manufacturer to the consumer, and seeking to use the potential motivations of each, as opposed to imposing new views and arguments on them.

5.1.1. Consumers

When a consumer buys a refrigerator, his or her prime concerns is to buy an appliance which refrigerates : this commonplace consideration is often necessary to remind energy economists that their favourite topic is only, at

best, of second importance for the consumers. For this reason, it did not appear effective to develop too strong a message on energy efficiency, or to consider it as a key criterion in the choice of a product .

Marketing specialists know that any purchase generates fear : the consumer is confronted with a decision-making problem, which he is not certain how to control. This factor of insecurity is stronger when the product (like a fridge or freezer) is not appealing in its own right, unlike a car, for example, for which a strong attraction (for a model, a brand name) already represents a factor of security. In order to avoid reinforcing this situation with destabilizing or guilt-inducing messages, an encouraging message („the good choice“) should be used and elements set up which confirm this state of mind ; for example, the stock of models on sale should be modified, so that the increase in energy efficiency from one model to another is coherent with the increase in price, to comfort the customer and maintain the idea that price and quality are linked.

5.1.2. Retailers

What interest might retailers have in energy labelling ? One cannot expect a retailer to commit himself free of charge, to the well-being of the society. However, he could find a personal interest in developing this kind of message. This implies finding a common ground between the interest of the collectivity, the aim of which is to improve well-being, and that of a private actor whose mission is to run and develop his business.

For the retailer, the label may represent a means to reassure for the customer. Likewise, it may offer an opportunity to develop customer loyalty, in that it goes beyond the frame of the purchasing act and allows the retailer to initiate a wider dialogue on questions of product durability, lifetime, etc... Retailers not only try to make sales at a given moment, but they hope above all that the customer will come back for a future purchase.

Energy efficiency rating is potentially a new element for market segmentation, which introduces new product differentiation criteria. It may help to limit price competitions between retailers, and limit the worst effect of this classical marketing weapon. Retailers “specialized” in appliances and home electronics, or certain „generalists” (- large stores) which choose quality as their strategy would then be in a better situation to resist the offensive of discounters, justifying their higher prices in terms of higher quality.

Although these different strategies can be used by a retailer who seeks to outstrip his competitors, labelling programmes have their drawbacks. Their first negative aspect is that they are mandatory, which does not create a positive image. Secondly, they raise material problems. Finally, their most important drawback is that certain products which normally sell well, are devalued and sell less well, with possible consequences for salespersons behaviour, relations with the suppliers, etc. In that sense, there is a risk of marginalization for a forerunner to propose, over a long period, an offer markedly different from that of competitors and customer’s immediate expectations.

5.1.3 Appliance manufacturers

Market surveys carried out in Europe show that manufacturers already offer a wide range of products and that an important evolution is under way, notably as a consequence of the campaigns carried out in northern Europe for the dissemination of efficient technologies.

On the other hand, analysis of the range of products in the French retail sector shows that the diversity in manufacturers’ supply is not transferred to the retailers⁵, the only form of supply that is important for the consumer. The first operation was to address the retail sector to identify the reasons of this gap. Manufacturers were therefore not directly concerned by the Nord-Pas-de-Calais programme.

5.2. The Motivations of a Forerunner : the Retailer Boulanger

The project set up in Nord-Pas-de-Calais involved several different actions (a Retailer’s-Charter and information campaigns, for example) but the main part of the action consisted of assisting the partner retailers in a global approach, to elaborate a new range of products, to reflect on the arguments to be developed by the salesmen, to

prepare the price-list and advertising strategy, and to actually set up the labels, train the salesmen, etc. After preliminary contacts with five retailers, two of them finally agreed to commit themselves to the proposed approach : Boulanger and Cora⁶. The first one was a forerunner, despite the importance of the task and its inherent commercial risks, because the proposed strategy was thought to be in perfect harmony with the firm's own strategy.

As a rapidly growing specialist, but still small compared with competitors, Boulanger needed to assert an image. On this particular point, Boulanger has made a real effort to enlist customer loyalty, notably by putting forward the life-cycle of the product : guarantees and after-sales service, purchasing advice based on the motto "you'll never regret it. A very strong campaign also allowed the group to develop the message of 'the company - a citizen'⁷.

The labelling project was perfectly linked with this strategy ; it represents a new means of internal motivation by offering a new approach to the provision of purchasing advice ; it offered a new parameter for discussion with and possibly competition among suppliers ; and, lastly, it allowed the retailer the renewal of the dialogue with the customers in two already explored directions : product life-cycle and "the company - a citizen".

This explains why this firm has invested a lot of human and financial resources in this area.

5.3. The Global Strategy Set Up by the Retailer

If the retailer agreed to confront the difficulties and the risks inherent in labelling, it is because he hoped the benefit would justify the effort. The retailer was faced with the challenge of setting up an adapted and globally coherent strategy in a very competitive context : a context which the retailer seeks to outstrip, but which also set the limits of his action.

We recall here the main parameters of this strategy (modification of the product line, development of a specific sales argumentation, information and training of the salesmen), as well as the general constraints associated with each activity.

5.3.1 Evolution of the product line

Using the "energy efficiency" message to guide customers is only possible if the line of products on sale presents a uniformly coherent structure with regard to this new criterion. The coherence of the line can be assessed as follows :

- its composition : the „red" products (classified F or G) must obviously not be over-represented. Inversely, it is necessary to propose a generous supply of B and C products, and to introduce some A products. Even if the latter may only represent a small proportion of sales, they constitute a "high boundary", which notifies the customer the existence of a "top-of-the-line" product, and make it easier to buy reasonable B products by comparison.
- the structure of the line : i.e. the hierarchy of products in relation to their price has to be coherent with an energy efficiency improvement, so that the dialogue on "product quality" remains coherent.

In the present case, an important restructuring operation appeared necessary. This restructuring was indispensable because the energy criterion was not until now a sale argument, and was therefore not taken into account by retailers when negotiating their product selection with suppliers. Analysis of the line revealed problems in line structure, which led one say, a little hastily, that there was no relation between the price and the energy efficiency of the products.

From an industrial point of view, it is clear that the energy efficiency has a cost : increased insulation thickness, high performance compressors, over dimensioning of heat exchangers, etc., has direct consequences on manufacturing costs. If this logical hierarchy was not observed in the shops, until now, it is because, since the market did

not eliminate very inefficient products, there was a place in the shops for relatively expensive products with low energy efficiency. In fact, the representation of the products on a price/efficiency graph does not indicate a linear relation, but does it neither show a random organisation : if, for comparable appliances, the price of a product of

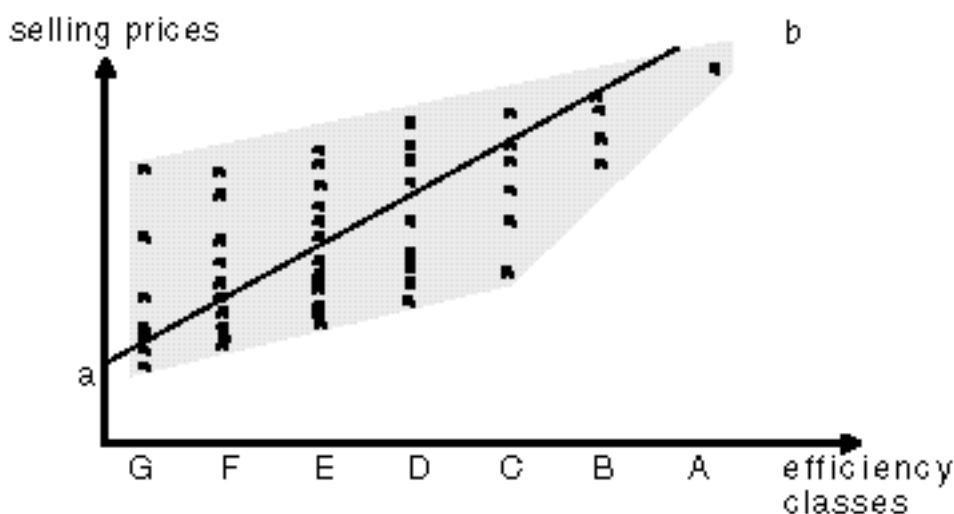


Figure 1 : Relation between prices and efficiency for cold appliances on the french market

the F or G class is very variable, there is no loss-leader price in the A or B classes.

So, in order to establish a clear coherence between the range of products and the labelling information, the retailer had to modify its product line on both sides : to complement the range in C, B and A classes, on the one hand, and to eliminate G, E and D products, which were “above” the right line (ab), i. e. whose price position seemed to contradict their energy performance (for a lower or same price, more efficient products were available), on the other hand.

In fact, this line modification has met with several difficulties. The retailer had to buy A, B or C products under satisfactory conditions, and sell them at prices compatible with those of the competitors. To propose new and more efficient products, he had to remove others, because shop space cannot be extended.

It may seem easy to remove products which are both expensive and inefficient, but one has to bear in mind criteria other than energy efficiency. For example, it was unimaginable for an important French retail store to remove Brandt products from its range, even if it was theoretically possible to substitute them with products of a comparable quality and better energy efficiency for the same price : a consumer faced with an „exotic“ range of brand names would have been confused and could leave the shop, even before speaking with the salesman...

Finally, if line modification was possible, it also represented a risk for the retailer, because it took place in a context of severe competition between the different actors of the retail sector.

5.3.2. Adapting Selling Proposition

The retailer's concern was of course that sales will improve following the line modification. He thus had to adopt a sales strategy which highlights energy efficiency, but without also destabilising the consumer by putting too much emphasis on a factor which is only secondary in his mind. The risk would be twofold : to destabilize the consumer by adopting arguments that are not compatible with his wishes, and to give him the impression that he being led to buy products of a higher standard than he/she wants.

The first remark, confirmed by the salesmen themselves, is that the kWh does not say anything to the customer :

what he seeks is a global appreciation of quality, or simple economic information. For reasons of tariff and currency disparities, the European label indicates the electricity consumption in kWh and not in francs, but it gives an assessment of appliance quality based on the „energy“ criterion, meaning that the consumer does not have to compare and calculate relative consumption values, volumes, etc.

On this basis, three selling strategies were developed with the salesmen, in order to complete the labelling message :

- “For the same price, we propose a better product” : first proposition, aimed at convincing the consumer reluctant to buy a more efficient product. This customer favours the price, and does not wish to pay a higher price in order to buy a famous brand. The salesman will then try to show that, for the same price, he proposes a better classed appliance and thus one that is less expensive to run.
- „The price difference is quickly paid off“ : second proposition, aimed at the customer who is interested in appliances of a famous brand name, and is ready to accept extra expenditure. Among other criteria, the salesman can use the label, showing that an extra cost of 100 to 300 francs could be paid off in one, two or three years if one takes account of the running costs.
- „Don’t hesitate to buy a beautiful appliance, in the long run, it will not cost you more“ : third proposition for a customer who is interested in high quality appliances. This customer, whose budget constraint is low, hesitates to make a step and to choose an expensive appliance. If the latter is classified in A or B categories, the salesman will have the possibility of talking about global costs (purchase + running) in order to make the sale.

Of course, these arguments can only be developed if the proposed product line allows it. One must however bear in mind the compromises that have to be made to reorganize the product line, and which sometimes oblige the salesmen to adopt a withdrawal strategy.

The environmental or citizen argument, much appreciated by the Danish salesmen (and consumers), does not appear relevant in the French context : a lower concern for the issue, the feeling that nuclear energy does not pollute... the reasons that could explain these differences are numerous. At best, this argument can be used by the salesman during the dialogue, to reinforce a choice.

5.3.3. The Role of Salesmen

Salesmen adopt a sales argument when they are themselves totally convinced of its relevance. This was not the case in the beginning for cold appliances. In order to interest the salesmen in the approach, it was necessary to inform them of the average annual running cost and the differences between models. This information came as a great surprise, both in terms of the importance of the energy factor and in terms of the difference between products⁸. All of which led salesmen to reconsider their established hierarchies of „good and bad“ appliances. Without this previous information, the appearance of the label on the shelves would not have mobilised the salesmen, essentially because it still needed to be interpreted and given meaning information.

The motivation of salesmen to use the arguments thus put at their disposal was based on knowledge and conviction which the training part of the program aimed to develop :

- Salesmen should know and understand the new label and discover the extent to which products differ in this respect.
- Salesmen who were not convinced by the arguments, would have been reluctant to use them ; this suggests that training in energy efficiency should be considered as a new element of company strategy .

One should also mention the fear that salesmen may feel when they see their advising role reduced by the information that figures on the label. We observed a certain reluctance on the part of salesmen who had not received any specific training courses, who did not really understand the information provided and who perceived the

label as to be something which put their own arguments in question. The training programme helped to eliminate this fear : the label, now considered as an important source of supporting, reinforces the value of the salesman's proposition.

In this case, the issue of the payment of the salesmen, often put forward as a key problem, was no longer constraining. Salesmen are often paid on the basis of fixed wages, completed by an incentive system based on actual sales ; the seller may then have a strong motivation to sell a certain appliance, for which he will earn a higher premium, rather than another, more efficient one. If this is not to be neglected, it should also be understood that these profit-sharing modes, when they vary according to the products, allow the firm to send an incentive signal. And this signal has to be made coherent with the global strategy adopted by the firm even if some inconsistencies may persist for a period of transition (some rather expensive appliances with low efficiency are maintained because the firm makes profits with these models and refuses to substitute them). As a consequence, the payment system is not perverse in itself, when the approach is well integrated within the firm.

6. Conclusion

The principal purpose of this text was not to analyze the impact of the pilot operation in Nord-Pas-de-Calais Region on the cold appliances market, but rather to present its philosophy and the contents of the approach. However, it is interesting to briefly review several of the observed results of this action⁹.

We observe that, over a relatively short period, a strongly motivated retailer (Boulangier) succeeded in bringing about a significant evolution in its product line : in the refrigerators/freezers category for example, the 1994-line, which was centered on the D and E classes, has been replaced by a 1995 line in which the C class is dominant, whereas the A and B classes, nearly absent before, are better represented. This evolution took place in spite of a very strong context of competition between the different retail chains, which circumscribed the possibility of radical range transformation because of the risk of confusing the customers.

Thanks to the training programme carried out for the salesmen, and more generally to the commercial strategy followed by the retailer, actual purchases have followed the shift in the line ; the proportion of sales in B and C categories has clearly grown, whereas, the sales of E and F products have virtually collapsed. For the retailer, the strategy of coherence between energy labelling and products line is thus positive ; the consumers accepted the label information and the propositions of the salesmen, and they have purchased more efficient products.

These first results have to be confirmed in the medium term. Notably, we need to verify whether or not the retailer's strategy is reflected at the commercial level by an increased turn over, a better index of consumers satisfaction, or by a stronger differentiation and, accordingly, lower competitive pressure.

Lastly, this experience allows us to draw some lessons for the implementation of public policies aimed at stimulating the dissemination of efficient technologies. It appears that a labelling scheme should not be seen as an instrument which targets consumers alone, whose increased interest in the energy efficiency criteria would automatically lead to an evolution in the range supplied by the manufacturers. Other economic actors are involved and may, depending on their own priorities and strategies, choose to appropriate the instrument for themselves or, on the contrary, to minimize its significance. The distribution sector is an example of an actor which may usefully relay and amplify the signal given by the label, if this signal also suits his own motivations. The experience in Nord-Pas-de-Calais shows precisely that retailers' concerns may mesh with the collective interest in labelling and contribute to make it an instrument of market transformation which is really efficient.

7. Acknowledgements

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8. Endnotes

1 - In the European label, the products are classified on a scale going from G (the less efficient) to A (the most efficient). This classification is completed by a colour code which gives the red for the letters E, and G and green for the letters A, B and C.

2 - This reference to costs raises operational problems and obliges the manufacturers to modify the labels according to the products' destination or to utilize, like in the USA, an average electricity tariff, which may confuse the consumers whose tariffs differ from the average one.

3 - Endorsement labelling is a peculiar form of labelling which distinguishes the quality of certain products according to specific criteria. The "Energy Star" label is an example of endorsement labelling utilized for office equipment using a low energy consumption stand-by mode. Endorsement labelling has a slightly different function from that of a comparison labelling because the former preselects the products when the latter leaves the choice in the hands of the consumers. Cf. N. McCabe and J. Harris (1995).

4 - To complete the consumers' information, certain programs provide a list (or a computerized data base) of all the appliances for which the labelling is mandatory, with their relative energy performances.

5 - It is interesting to notice that the range of efficiencies displayed by the retailers is not the same for the different categories of cold appliances. For chest freezers, for example, efficient appliances are already available on the market, which is not true for the most popular fridge/freezers (Colombier, M. and Menanteau, P., 1997).

6 - The remaining three were less motivated because of the experimental nature and the perceived risks of the programme but they are now involved in a similar approach at the national level.

7 - Boulanger has issued since two years a „partner products“ campaign. The announced characteristic of these products is to be „better, not more expensive and manufactured in France“.

8 - Less than 5% of the participating salesmen have cited the refrigerators and/or freezers. as the most energy consuming household appliance. In the same manner, the sales persons were surprised by the importance of the consumption gap between appliances which are nevertheless comparable in terms of supplied services to the consumer.

9 - For details, see Colombier, M., and Menanteau, P. . 1997.

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