Background Document
on the
Swan labelling of
Supermarkets/Grocery Stores

Background Document
Version 1.0
June 2003

This is a translation of the document in Danish:
“Baggrundsdokument for Miljømærkning af Dagligvarebutikker”.
In any cases of dispute the original document should be taken as authoritative.

In November 1989, the Nordic Council of Ministers adopted a measure to implement a voluntary, positive ecolabelling scheme in the Nordic countries. The scheme is administered by the Nordic Ecolabelling Board. The board among other things choose product groups and lay down the final criteria. Secretariats in the participating countries are responsible for implementing the scheme on national level.

The objective of ecolabelling is to provide information to consumers to enable them to select products the least harmful to the environment. Ecolabelling is intended to stimulate environmental concern in product development and a sustainable society.

In its work on ecolabelling Nordic Ecolabelling follows the ISO 14024 standard: "Environmental labels and declarations - Type 1 ecolabelling - Principles and Procedures". The product groups and environmental and performance requirements selected by Nordic Ecolabelling reflect the objectives, principles, practices and requirements of the standard. ISO 14024 includes the requirements that criteria should be objective, reasonable and verifiable, that interested parties should be given the opportunity to participate and that their comments are evaluated.

The criteria are based on evaluation of the environmental impacts during the products' life cycle. The criteria set requirements towards a number of these factors. Upon approved application all products found to meet the criteria are awarded the ecolabel.

Due to new knowledge and production methods the criteria must be updated regularly. New revised criteria are presented at least 1 year prior to the expiry date. During the period of validity minor corrections may be adopted. This will normally not affect already approved licences.

A handling fee is paid upon submission of a complete application. The turnover value of the product determines the additional annual fee.

Denmark:
Ecolabelling Denmark
dk-TEKNIK ENERGY & ENVIRONMENT
Gladsaxe Møllevej 15
DK-2860 SØBORG
tel: +45 39 69 35 36
fax: +45 39 69 21 22
Homepage: www.ecolabel.dk

Finland:
SFS-Miljömärkning
Pb 116
FIN-00241 HELSINKI
Tel: +358 9 1499 331
Fax: +358 9 1499 3320
Homepage: www.sfs.fi

Iceland:
Norræn Umhverfismerking á Íslandi
Umhverfisstofnun
Sudurlandsbraut 24
IS-108 REYKJAVIK
Tel: +354 591 20 00
Fax: +354 591 20 20
Hjemmeside: www.svanurinn.is

Norway:
Ecolabelling Norway
Kr. Augusts gt. 5
NO-0164 OSLO
Tel: +47 22 36 57 40
Fax: +47 22 36 07 29
Homepage: www.ecolabel.no

Sweden:
SIS Ecolabelling
SE-118 80 STOCKHOLM
Tel: +46 8 55 55 24 00
Fax: +46 8 55 55 24 01
Homepage: www.svanen.nu

Ecolabelling of supermarkets/grocery stores

Abbreviations used in the Criteria Document and the Background Document

EC	The European Community
EMAS	Eco-Management and Audit Scheme
EN	European Norm
EEA	The European Economic Area
EU	The European Union
ISO	International Standardization Organization
GMO	Genetically Modified Organisms
PVC	Polyvinyl chloride

1 Summary

This document describes the background to the environmental requirements (criteria) for the ecolabelling of supermarkets/grocery stores [1] by Nordic Ecolabelling. The document describes and provides the reasons for Nordic Ecolabelling's criteria and is aimed at applicants, consumers and interest organizations.

The document contains the reasons underlying the choice of product group and criteria in light of the environmental objectives defined in Nordic Ecolabelling's environmental philosophy [2) and strategy. In the case of supermarkets, the aims are to reduce:

- energy consumption
- the negative environmental effects associated with the production, sale and consumption of food products and non-food products
- the negative environmental effects associated with the operation of stores
- emissions during transportation that might contribute to climatic change and air pollution
- the use of packaging and the generation of waste
- problems in the working environment

The reasons for the choice of criteria also include the potential environmental benefits that the ecolabelling of supermarkets might generate. The procedures for checking and documenting the criteria are also described.

The Background Document also examines the requirements relating to eco-management procedures in stores and discusses the requirements from the perspective of the objectives of ecolabelling.

This background document also discusses possible future criteria for the ecolabelling of supermarkets/groceries.

The criteria for the ecolabelling of supermarkets/groceries were developed under Danish management, starting in the autumn of 2001.

The following persons participated in the criteria development process:

The secretariat group
Tanja Annila, Karin Bergbom and Ismo Halonen, SFS, Finland
Tormod Liena and Aina seland, Stiftelsen Miljømerkning, Norge
Nicki Eby, Elisabeth Gynäs, Karin Carlsson and Marie Fahlin, SIS Miljömärkning AB, Sverige
Kristian Dammand Nielsen, Ecolabelling Denmark (Project Manager).

During the process national working parties, selected experts and relevant stores also provided comments and advice.

The criteria document for the ecolabelling of supermarkets will by means of mandatory requirements, point-generating criteria and requirements as to eco-management offer supermarkets the opportunity to work systematically towards bringing about environmental improvements in the areas described in chapters 5 and 6. All supermarkets that fulfil the requirements of the criteria document may apply for a licence to use the Swan label.

2 Introduction

2.1 Delineation of the product group and definitions

Nordic Ecolabelling has decided to introduce the Swan labelling of supermarkets/groceries because supermarkets/groceries contribute to the pollution of the local environment through their operations and also to the pollution of the global environment as a result of, for example, the production and transportation of the goods sold in the stores.

In general, consumer awareness of environmental issues relating to supermarkets is focused on the goods on the shelves. In the case of Swan labelled stores there will be requirements relating to the availability of ecolabelled and organic products in the product range on sale, consumers will be secured a genuine choice. Nevertheless, other parameters also play a part in determining the overall environmental impact of the individual store. For example, power consumption is high in supermarkets because refrigeration and freezer equipment is energy intensive, particularly when the equipment is not enclosed, as is often the case in stores [4,5]. Furthermore, the goods on offer in the stores are often transported over long distances, involving a high level of energy consumption, [6]. By offering supermarkets the opportunity to qualify for a Swan label, Nordic Ecolabel will give consumers a genuine opportunity to shop in stores in which the environmental impact of their consumption of general goods is lowest.

If ecolabelling of stores spreads, it will have a positive effect on the environment in the way that energy consumption will be reduced, eco and organically labelled goods will achieve a higher profile and greater availability and consumers will be made aware of the environmental aspects of daily consumption.

The secretariat group has conducted research amongst experts within the industry in Norway, Sweden and Denmark. This included asking Dansk Handel og Service, Scandinavian Retail Institute and the Stockmann Group in Denmark for their definitions of supermarkets. The equivalent Swedish [7] and Norwegian institutes (Statistics Norway and AC Nielsen) were also consulted on the definition issue.

This research has left us with the impression that there is no specific definition of a supermarket/grocery. The nearest we could get to a definition of this concept was that supermarkets/groceries are stores offering a general range of everyday goods

and that in most places they also offer a selection of ”everyday” specialist goods, such as clothing and leisure goods.

General goods (as opposed to specialist goods) are goods that fulfil the consumer’s daily requirements i.e. foodstuffs, chemical-technical products, newspapers, tobacco, flowers etc.

However, there is general agreement that foodstuffs represent an important part of the requirement as to "a general range of everyday goods" contained in the definition of supermarkets. Account has been taken of this in the criteria document that there is a requirement that a specified proportion of the product range offered should be foodstuffs.

There is also a requirement that at least 50% of the goods offered in a supermarket (based on sales) must be general everyday goods. This means that the store will also be able to sell specialist goods such as clothing, kitchen equipment, electronic products, music etc. Most supermarkets in the Nordic countries already do this. Accordingly, Swan labelled supermarkets will also be able to do so, since there is nothing to be gained in environmental terms in operating a criteria document that very few supermarkets will be capable of complying with.

The secretariat group has evaluated that on-line or Internet stores and mobile shops should also be eligible for a Swan label provided that they comply with the rules in the criteria document.

The secretariat group also discussed whether service stations should be eligible for an ecolabel. It is the wish of the secretariat group that they should not be eligible, since this would involve the ecolabelling of petrol sales, petrol being a product that has a negative impact on the environment. According to the information available to the secretariat group, approximately 30% of the sales of an ordinary service station encompass general goods, i.e. all goods excluding fuel and car accessories. In other words, an ordinary service station will not be eligible for an ecolabel.

2.2 The period of validity of the criteria document

The secretariat group recommends that the first set of criteria for the ecolabelling of supermarkets/groceries should apply for 3 years. This will make it possible for Nordic Ecolabelling to follow up the experience with the first licenses in good time

3 Other environmental schemes for supermarkets

3.1 Environmental schemes in the individual countries

Sweden
In Sweden Good Environmental Choice operates an ecolabelling scheme for supermarkets. Under this scheme supermarkets may be labelled at level A or level B, depending on the number of requirements they are able to meet. Good Environmental Choice has operated the scheme since 2000. The requirements relate primarily to the product range offered by the stores: ecolabelled and organic goods are favoured. Good Environmental Choice's objective is to promote goods that are good from an environmental perspective and to aid consumers in finding stores that work for the environment. Requirements are also imposed as to energy consumption, since the energy supply must be labelled with a Good Environmental Choice label and the lighting used must be of a specified type with low energy consumption.
The requirements relating to the freezer and refrigeration equipment used in the stores prohibit the use of HCFCs and also contain rules on the monitoring and maintenance of the equipment. The stores must be cleaned using only ecolabelled products and ecolabelled paper must be used in the office [8].

KRAV also operates a scheme under which stores can be certified if they carry a specified range of KRAV-labelled goods and present the goods in such a way that they are not mixed with traditionally produced goods. Furthermore, the staff of the stores must be thoroughly familiar with organic cultivation and the KRAV rules [9].

Norway
In Norway Miljøfyrtårnet [10] operates a basic scheme for certifying small business of various types, including supermarkets/groceries.
According to Miljøfyrtårnet's websites:
"The purpose of Miljøfyrtårnet is to raise environmental standards in as many private and public organizations as possible. In the private sector the programme is directed at enterprises within the industrial, transport, trade and service sectors" [10].
Businesses that perform an environmental analysis and fulfil the predefined industry requirements may be certified. Miljøfyrtårnet is a Norwegian public certificate, which primarily contains requirements as to eco-management processes within an enterprise. However, in 2001 some requirements relating to product range in the stores was also introduced.
Miljøfyrtårnet has mainly been aimed at public enterprises, retail and service business and small-scale industry (less than 25 employees).
As at June/May 2002, 9 supermarkets in Norway have been certified by Miljøfyrtårnet. A total of 342 businesses have been certified and industry requirements have been developed for a total of 50 industries.

The official Norwegian labelling scheme for organic agriculture in Norway, Debio, focuses on certifying organic produce. To this end Debio cooperates with supermarkets with a view to encouraging the stores to sell more organic products. However this is not really an ecolabelling scheme for supermarkets/groceries.

Denmark
Denmark has no competing ecolabelling schemes for supermarkets. A number of local environmental organizations have established schemes for promoting environmental improvement in stores in their local area, for example in Odense, Kolding and Århus. However, this does not really involve ecolabelling even though the schemes incorporate a number of green symbols for stores to use in their marketing.

In Denmark the eco-management systems EMAS and ISO 14001 come closest to ecolabelling since stores can use the systems to systemize their environmental work. In this way they can achieve specific environmental targets. In the case of eco-management, the stores themselves define their environmental objectives, whereas ecolabelling lays down mandatory requirements as to environmental work which the stores must comply.

Finland
In Finland the supermarket chain KESKO operates its own environmental certification scheme in which the chain specifies the requirements.

3.2 Reasons for Swan labelling

Ecolabelling is designed to aid consumers in distinguishing environmentally friendly goods and services from other goods and services. Ecolabelling shows consumers which goods and services are the most environmentally friendly.

Consumers should also have this choice when it comes to supermarkets. Many consumers will already be aware of which shops offer the largest and best range of organic and ecolabelled goods. However, very few consumers know anything about other environmental aspects of the stores, for example their energy consumption and waste processing procedures. The Swan label can help to provide consumers with this information, enabling them to make an informed choice.

Although certain countries already have well established ecolabelling criteria (for example Good Environmental Choice in Sweden and Miljøfyrtårnet in Norway) there are advantages in developing Swan criteria for supermarkets. The Swan is a pan-Nordic environmental label which over the years has established a presence in most of the Nordic countries and which enjoys the trust of consumers in these countries. The public authorities are responsible for managing the Swan label and ensure that proper procedures are followed. This is precisely why this ecolabel has such a high degree of trust amongst consumers. Furthermore, an acknowledged Nordic label will be in a better position than national labels to encourage international partners and subcontractors to develop better environmental conditions in and outside the Nordic countries.

There will also be advantages associated with holding a Swan label licence for supermarkets/groceries even where a certification or registered eco-management system such as ISO 14001 and EMAS is available. The Swan label lays down mandatory environmental requirements with which the individual store must com-

ply. Eco-management does not do this. Nevertheless Swan labelling and eco-management can complement one another and following both systems can only be an advantage to the store.

4 The market

4.1 Statistics

The Nordic market is sufficiently large and encompasses a sufficient number of players for ecolabelling to represent a competition parameter. The market is described in greater detail below:

Denmark
There are three large supermarket chains in Denmark: COOP Danmark, Dansk Supermarked and De Samvirkende Købmænd. Their market shares are as follows:

	Market-share (%)	**Sales (DKK billion)**	**Number stores**	**Number employees**
COOP Danmark:	38.2	38.296 (1999)	1192	19502
Dansk Supermarked	23.1	35.973 (2000)	725	13537
De Samvirkende Købmænd:	25.7	19.7 (1999)	1054	-

Each supermarket chain has subchains:

	Sales (DKK billion)	**Number stores**	**Number employees**
FDB subchains [11]:			
Kvickly	8.7 (2000)	74	4733
Super Brugsen	14.2 (2000)	303	6035
Dagli' Brugsen	4.9 (2000)	289	1831
Lokal Brugsen	1.1 (1999)	200	-
OBS	3.2 (2000)	12	1500
Irma	1.8 (2000)	55	1600
Fakta	5.0 (2000)	230	2400
Dansk Supermarked subchains [11]:			
Føtex	8.2 (1999)	61	10200
Netto	6.3 (1999)	321[1]	5500
Bilka	8.1 (2000)	12	7200

[1] **Stories in Denmark, more than 500 stores in England, Poland, Germany, and recently also in Sweden.**

De Samvirkende Købmænd also consists of a number of different chains of stores.

A number of other chains exist - for example MATAS, a large Danish chain store, which sells chemical/technical products and uses the Swan Label extensively in it's marketing. Matas has 288 stores spread throughout Denmark and 1800 employees. Matas' sales in 2000 totalled approximately DKK 2.0 billion. Matas was founded in 1949 as a voluntary association of shops. This means that the shops are independently owned but are subject to general rules applicable to the chain as a whole. These general rules include targets for the environmental work of the chain [12]. MATAS is not a typical supermarket chain, but over the years the number of general goods on sale in MATAS stores, including food, have increased to the point where it may be possible for MATAS to be granted a Swan Label. The same applies to many health food shops and newsagents.

Finland

There are four major supermarket chains in Finland: K-group (Kesko), S-group (SOK), Tradeka/Elanto and Spar-group. In 2001 their market shares were as follows:

K-group (Kesko)	36.5%
S-group (SOK)	30.5%
Tradeka/Elanto	12.6%
Spar-group	8,7%
Others	11.7%

In 2001 sales of general goods totalled Euro 10,4 billion. The largest portion of this derived from the supermarkets' own sales which totalled 53%. Restaurants and cafes accounted for 18%. Newsagents, service stations, produce markets, fast food outlets etc. made for a combined total of 12%.

In 2002 the number of stores was 4165.

The number of shopping centres and hypermarkets has increased annually, whereas the number of stores with a floor space of less than 200 m^2 has fallen. By 2001 the share of stores with a floor space of less than 200 m^2 14 % and shopping centres and hypermarkets had a share of over 50%, whereas in 1989 this figure was less than 20%. The total number of stores has been reduced dramatically during the last decade. In 1978 the number of stores was 9398 and in 2001 only 3555 [13].

One of Europe's larges chains of supermarkets, Lidl of Germany, has started to develop a network of low cost stores in Finland.

Iceland

In Iceland there are 18 shopping centres, about 100 supermarkets of less than 400 m^2 and about 150 newsagents. Sales in 2000 totalled 63 billion Icelandic kroner, a 3 billion reduction in relation to the preceding year. Shopping centre sales totalled 36 billion, supermarkets of less than 400 m^2 totalled 21 billion and newsagents totalled 5 billion Icelandic kroner in 2002 [14].

The largest supermarket chains in Iceland are Baugur (43-44%) and Kaupás (22-23%), and these in turn operate various different chains under different names and with different images. Baugur owns eight stores trading under the name of Hag-kaup, and these are active on the environmental front.

Norway
There are four major supermarket chains in Norway. Based on sales in 1999 their market shares were as follows [15]:

1. NorgesGruppen AS, 2053 stores: 33.8%
2. Hakon Gruppen AS, 1137 stores: 26.4%
3. Coop Norge, 1020 stores: 24.7%
4. Rema 1000 Norge AS, 297 stores: 14.3%
5. Others 82 stores: 0.7%

Sales totalled NOK 97.4 billion.

Between 1980 and 2000 the number of supermarkets fell from about 8400 to about 4600. During the same period sales per square metre doubled.

Sweden
In 1999 the industry recorded sales of SEK 172 billion. The Swedish market is divided into three blocks: ICA, KF and Axfood, which together account for 75% of all sales of general goods in Sweden [7].

ICA has 35% of the Swedish market, KF 23% [3] and Axfood almost 20% [16].

In total there are approximately 6400 supermarkets, of which ICA owns about 200, KF about 1000, Axfood just under 1000 and others total approximately 2300 [17].

Although there are relatively many stores in the group "others", they account for only approximately 10% of sales. The remaining 15% of sales take place in markets, newsagents, service stations and other sales outlets.

ICA operates a range of chains with different images/profiles: ICA Maxi, ICA Kvantum, ICA Supermarket, ICA Nära and RIMI.

KF has two supermarket profiles: Coop Konsum and Coop Forum, the is a shopping center. COOP is now known as COOP Sverige and forms part of COOP Norden.

Axfood consists of inter alia Hemköp, Willys, Vivo, Spar and Tempo.

4.2 Analysis of the market

Trends
In recent years the supermarket industry has moved in the direction of globalisation with a tendency for larger chains to become even larger by acquiring smaller chains. The rationale for this has been a wish to succeed in competition with other chains and to capture new markets. In this situation smaller chains run an even greater risk of losing market shares.

This trend became apparent when the world's biggest chain, Wal-Mart of the US, acquired two of the largest chains in Germany as well as the UK chain Asda in 1999 [16].

Effective from 1 January 2002, chains in Sweden, Norway and Denmark entered into a collaboration to create the new COOP Norden, 42% of which is owned by KF of Sweden, 38% of FDB of Denmark and 20% by COOP in Norway. This makes COOP Norden the largest player on the supermarket sector in the Nordic countries, with sales of approximately DKK 65 billion. The cooperation encompasses 2500 stores and shopping centres [18].

Market shares are also being sought in the Baltic States. Ahold of the Netherlands is attempting to gain a foothold via ICA Baltic. Axfood too has taken up this battle with Baltic Food, Rema of Norway and Stockmann of Finland, all of who have already established a presence in Estonia [7].

ICA of Sweden, which is owned by Ahold of the Netherlands, has started opening small supermarkets in service stations. The Norwegian Haakon Group is also owned by Ahold [7].

One of Europe's larges chains of supermarkets, Lidl of Germany, has started to develop a network of low cost stores in the Nordic countries, and is thinking establishing stores in Finland, Estonia, Norway, Denmark and Sweden.

Although the chains are getting bigger, each chain comprises a range of different concepts and store types, and the store managers and shoppers are still able to take decisions on the local level. These decisions include the question of whether or not a store is to apply for ecolabelling, although increasingly this is a decision that has to be approved by the senior management of the chain.

Shopping for general goods on the Internet is not as yet widespread. The tendency so far has been for those chains that have tried Internet trading to shut down their service because of a lack of demand (source: Dansk Detail ApS). It has not proved possible to find market surveys covering Internet sales of general goods.

5 The environmental impact of supermarkets/groceries

On the basis of the work performed by the national working parties and the secretariat group's contacts with industry experts, and having conducted various studies of

the literature, Nordic Ecolabelling has decided on the following eight areas of priority:

- Product range
- Energy consumption
- Packaging and waste processing
- Transport
- Refrigeration and freezer equipment
- Consumer goods
- Working conditions
- Quality

Over the following pages these eight areas of priority are described on the basis of their environmental relevance (R) and the scope for achieving an environmental improvement (P). Chapter 6 then describes how it is thought that Nordic Ecolabelling could encourage environmental improvement by including requirements in the criteria document for the ecolabelling of supermarkets (C). R, P and C stand for "Relevance", "Potential" and "Controllability". Water consumption is discussed here and also in Chapter 6 since during the criteria development process there was some discussion as to whether this parameter should be included in the criteria document. It was decided that water consumption should not be included and the reasons for this conclusion are given below.

Product range
During the development of the criteria for the ecolabelling of supermarkets/groceries all parties involved attach considerable importance to the product range requirement. This is primarily because the production of the goods in the product range of the stores often entails extensive environmental impact on the part of agriculture and industry, i.e. the environmental relevance (R) is high. But it is also because the product range offered by stores is what consumers focus on when they shop, and the product range offered will therefore play an important role in connection with the ecolabelling of the store since it will allow consumers to see clearly that this is an ecolabelled store. The store is assumed to have excellent scope for promoting the availability and sale of ecolabelled and organic goods, in other words the potential is also high (P). The preliminary study on the ecolabelling of supermarkets/groceries discusses the issues of relevance and potential in greater detail and also provides references to the literature.

Energy consumption
Energy consumption is regarded as a considerable source of environmental impact (R) since supermarkets/groceries have a relatively high energy consumption because of their lighting, ventilation and, in particular, refrigeration and freezer systems for foodstuffs [4,5,18]. Moreover, emphasis has been placed on this source of environmental impact because both the national working parties and the secretariat group consider it to be reasonably straightforward for stores to reduce their energy consumption (P). Furthermore, there is a financial incentive to reduce energy consumption.

Water consumption
The secretariat group does not consider water consumption in supermarkets to represent a major environmental problem (R) when compared with other environmental factors such as product range, energy consumption and waste generation. For this reason the secretariat group has decided against including a requirement as to water consumption in the criteria document. It would be possible for stores to reduce water consumption (P), but since their consumption is already low [18] there is no reason to include the requirement. The national working parties did not agreed on this point (see also Chapter 6).

Packaging and waste processing
A supermarket/grocery will use a great deal of packaging and deliver large quantities of waste for removal. This is considered to represent a major environmental problem (R) since waste disposal facilities have difficulty in keeping up with the quantity of waste deriving from for example the use of packaging [19,20]. The secretariat group and the national working parties are of the view that it is possible for stores, working in cooperation with their suppliers, to reduce the amount of packaging used and to develop better solutions for removing waste by means of recycling in cooperation with waste transporters and waste processors (P).

Transport
Transport is one of the greatest sources of air pollution in the Nordic countries [21, 22]. Accordingly, the carriage of general goods from manufacturers, suppliers and warehouses out to the stores represents a major source of environmental impact (R). Goods are often carried on lorries powered by diesel engines [21], resulting in emissions of particles and air polluting chemical compounds into the atmosphere [21,22]. There are many ways of reducing air pollution (see Chapter 6), and it is possible for stores/chain of stores to make the necessary improvements to achieve such a reduction. However, as noted in Chapter 6, it has proved difficult to impose requirements in the criteria document as to the transportation of goods.

Refrigeration and freezer equipment
The two greatest environmental problems associated with the use of refrigeration and freezer equipment are energy consumption and the use of ozone-depleting coolants and insulation agents [5]. Although a process underway aimed at reducing these environmental problems, much of the equipment in use in supermarkets at present contains ozone-depleting coolants and insulation agents and moreover the energy consumption (R) of this equipment is relatively high. Furthermore, in many sites there are high rates of leakage of coolant from refrigeration systems [5]. It is the view of the secretariat group and the national working parties as well as the refrigeration and freezer equipment industry that the environmental impact of refrigeration and freezer equipment can be reduced by simple measures (P).

Consumables
The stores use a certain amount of consumables such as toiletries, cleaning products, office supplies, advertising material etc. The production, use and disposal of items of this nature can entail negative effects on the environment, albeit on a small scale (R). Nevertheless there is scope for using more environmentally friendly prod-

ucts (ecolabelled products) (P) and accordingly the inclusion of such a requirement in this document is justified.

The working environment
The secretariat group and the national working parties investigated the relationship between the impact of the external environment and the working environment of the store. A relationship was found to exist in that the working environment in the store will often impact on the level of quality, store management and the efforts of the staff, factors that are also essential to achieving focused work on environmental issues. Furthermore the working environment in the store will also impact upon the way in which customers perceive the store, and it is essential that Swan labelled stores should maintain a certain level of quality so that the ecolabel will also represent a guarantee of quality. For this reason improvements in the working conditions can be seen from the perspective of environmental improvement (R). It would appear to be straightforward to impose simple requirements as to the working environment that would not involve overburdening the individual store with administrative tasks (P).

Quality
As noted above in the section on the working environment Nordic Ecolabelling has identified a close link between environmental conditions and quality (R). For consumers to choose Swan labelled stores not only must environmental conditions be in order, the quality must also be acceptable. Swan labelled stores should not be considered to be inferior to other stores in terms of quality. Imposing straightforward requirements as to quality management in the store can help to ensure that this goal is achieved (P).

6 The background to the requirements and criteria

The key principle applied in the work on developing the criteria has been that the application for and maintenance of the ecolabel should involve as little administrative work on the part of the store as possible. For this reason the requirements in the criteria document have been reduced to an absolute minimum and only those criteria with a high degree of environmental relevance (R), potential (P) and controllability (C) have been included. This should ensure that it would be possible in practice for stores to be eligible for an ecolabel and at the same time ensure that when a store applies for an ecolabel there will be a significant reduction in the negative impact of the store on the environment.

6.1 Key information

In order to provide an impression of the store, a number of requirements as to description of the store are contained in section 1.1. Here the store is asked to provide information on the following:

1. *The number of staff employed by the store.* It is essential from the point of view of processing applications for the ecolabelling organization to know how many employees work at the store, since both instructions for environmental

management, the working environment and the involvement of the personnel (including personnel training) will depend on this.

2. *The size of the store.* This information must be provided because the energy consumption of the store may be dependent on this parameter.

3. *The location of the store.* This is important since the location of the store will affect its ability to receive goods by various means of transport, to deliver goods, and to facilitate parking (inter alia for bicycles). The consumption of energy by the store is also dependent on whether the store is situated in its own building or as a part of a bigger property and who is the owner of the property?

4. *Type of store.* The product range offered by a store will depend on the type of store in question. The same applies to the energy consumption of the store because requirements for refrigeration systems, ventilation and lighting will vary. Accordingly, information must be provided on the type of store in question.

5. *Special units in the store.* This information must be provided since it plays an important role in the store's energy consumption and the waste quantities generated.

6. *Group or chain of stores.* It is important to know whether the store forms part of a larger unit since this will impact upon the requirements imposed on the store but decided by senior management. This could relate to product range, advertising leaflets, the purchase of refrigeration systems and marketing incorporating the Swan label.

7. *The turnover of the store and the number of product numbers.* Information on sales is important to allow requirements as to energy consumption and product range to be documented. In order for an assessment to be performed of whether it is easier for the store to fulfil the product range requirements the more product numbers it stocks, the number of product numbers must be stated.

6.2 Product range

The product range carried by a store can have a negative impact on the environment for a variety of reasons. The production of goods might, for example, require the expenditure of a great deal of energy, the use of environmentally harmful materials or the use of chemical substances that are disposed of after use with negative effects on the external environment.

The criteria document imposes requirements as to general goods that may represent environmental problems in connection with their production, use and disposal. At the same time a system of points has been established, allowing a store to achieve a specific number of points by stocking a certain range of environmentally labelled and

organic products in the store. A product is defined in terms of its trade name and product number. Two different product numbers are two different products.

Visibility

The requirement is imposed that the store must make it clear to customers if a product is ecolabelled or organic. Frequently this information will be found only on the reverse of a product, for which reason it will not always be apparent to the consumer. Products that are environmentally friendly must be clearly marked in order to allow consumers to make an informed choice.

Genetically modified material

Genetically modified material in foodstuffs arrives after use of Genetically Modified Organisms (GMO) in the production of foodstuffs.

The secretariat group and the national working parties considered whether requirements should be imposed as to GMO products. There have been calls in all the Nordic countries for a total ban on goods containing GMO or produced on the basis of GMO. However, after consultations with the industry it was apparent that such a requirement would be difficult to impose. It has become more and more common for GMO to be used in small quantities in the raw materials for foodstuffs (for example in soya) or in the feed fed to domestic animals. This means that it will be difficult for a store to determine or check whether a product is based on GMO. This does not apply however in the case of products produced by the store or under the stores own brand name. For this reason a requirement has been imposed that the stores own branded goods (food only) must not contain GMO. In addition Miljøstyrelsen and Fødevaredirektoratet in Denmark have been contacted with a view to securing information on future developments within GMO in the EEA countries. All the Nordic countries are part of the EEA.

The outcome of this inquiry has been we now know that there is a draft proposal for a directive on the labelling and traceability of GMO for adoption by the EU Parliament [23]. If this legislation is adopted in summer 2003 - and there is every sign that it will be - consumers will be able to see whether the goods in the store contain or are produced on the basis of GMO. In the view of the secretariat group this legislation will provide consumers with satisfactory scope for making an informed choice when shopping, and for this reason Nordic Ecolabelling does not wish to impose further GMO-related requirements on the stores.

Irradiated goods

Irradiated goods have not been included in the criteria document since irradiation does not represent an environmental problem. Furthermore, Fødevaredirektoratet in Denmark is of the view that irradiated goods do not represent a health problem, particularly not in Europe, where irradiation is confined to herbs and spices. Moreover industry representatives also argue that irradiated goods do not represent a problem in Europe, because there are so few of them [24].

The allocation of points for product range

It is the wish of the secretariat group and the national working parties that the requirements as to product range should be related to the turnover of the individual store, since larger stores have greater scope for offering a broad range of organic and ecolabelled goods. A specified number of points may be scored for each product

group, depending on the number of organic, ecolabelled and fair-trade goods offered for sale in the store within each product group. The allocation of points is regulated on the basis of the number of organic or ecolabelled goods on the market and on the basis of the environmental relevance of each product group. For example, the score for organic fruit and vegetables has been fixed on the basis of the large number of products of this nature available on the market. Accordingly, in order to score points the store must offer a relatively high number of products in this category. However, account is also taken of the fact that the environmental relevance of these products is high, since critical values of pesticides have been found in fruit and vegetables. The stores' points for product range must be compared with the specified threshold values related to turnover and a number of product categories offered by the store. The turnover figures [7] have been rounded off to Euro from Swedish kroner. The method of categorising stores according to their turnover has been taken from the same reference and the percentage rate for the number of stores in each category can also be found here.

The threshold values for the required number of points for any particular store have been fixed on the basis of a survey of approximately 10 stores in Denmark and a more thorough research made by AC Nielsen 2003 in 342 supermarkets in Finland. After that the threshold values have been commented by the industry in Denmark, Sweden, Norway and Finland and have been tested in a range of pilot stores in Sweden, Norway and Finland.

Other goods
The secretariat group and the national working parties discussed whether points should be awarded to stores if they were able to meet specific requirements as to product range. The requirements that were agreed were: 1) points if the store does not sell goods containing more than 0,5% active chlorine, 2) points if the store does not sell pesticides, 3) points if the store does not sell goods containing PVC.

Environmentally harmful products
The secretariat group and the national working parties considered the possibility of imposing requirements as to specific products on sale in supermarkets/groceries, which are considered to be particularly environmentally harmful. Particular attention was focused on products with high active chlorine content, because active chlorine has been shown to be toxic to organisms in the aquatic environment. Pesticides were also considered since they often contain environmentally harmful ingredients. Furthermore, it is not considered necessary to use such products as on a general basis. The PVC requirement has been imposed in light of the environmental problems associated with disposing of PVC waste by means of for example incineration and because of certain additives like phtalates (plasticisers) and heavy metals [25]. Above mentioned products may still be sold in Swan labelled stores, but a shop will gain points not for selling such products.

The secretariat group also investigated the possibility of including this requirement as a general requirement as to "products that are classified as environmentally harmful". However, although there can be high concentrations of environmentally harmful substances in products containing chlorine and PVC and pesticides, it is by no mean cer-

tain that the products themselves should be classified as environmentally harmful. For this reason it is found that no such requirement can be formulated.

Minimum number of product categories with organic/ecolabelled goods
A lower limit has been set on the number of the product groups stated in the section above that a store may have in stock. The lower limit is 9 (50% excluding "other organic or ecolabelled products"). Furthermore, at least 5 of the listed product categories must be foodstuffs. These requirements provide the definition of when a store can be referred to as a supermarket/grocery.

Minimum number of organic/ecolabelled goods
Furthermore, in the assessment of the secretariat group it is important that consumers entering a Swan labelled store should find a varied range of ecolabelled and organic goods. There is therefore a requirement that at least 70% of the above product categories offered by the stores must contain at least one organic or ecolabelled product.

6.3 Energy consumption

Mandatory requirements for total energy consumption
The store shall document its total energy consumption specified in terms of electricity and heat in order to make possible for Nordic Ecolabelling to evaluate if it is possible to have a future criterion for energy consumption as a whole.

Point-scoring criteria

Lighting
There are several point-scoring criteria for lighting.
Up to 3 points can be scored depending on the proportion of light sources in the store that are labelled with the energy label A or B. This is aimed at reducing the energy used by the store for lighting purposes.

Ventilation, heating and cooling
As part of the point-scoring criteria, the store can score points for installing a system to regulate the ventilation in the store according to need so that unnecessary energy is not used in ventilating the store, for example outside opening hours or during cooler periods. Regulation on ventilation scores up to 2 points.

No ventilation
If the store has mechanical ventilation (not with engine) it is given 2 points for saving the energy.

Heat recovery
Many stores have already installed heat recovery devices in their ventilation and/or their refrigeration and freezer systems. Stores that have done so can score points for this method of optimising their energy use. Heat recovery generates 5 points, since a great deal of energy can be saved by simple means.

Energy sources
If more than 90% of heating requirements in the store derive from district heating produced on a central heating system with co-production of heating and electricity or that is using more than 60% renewable energy sources as fuel the store will score 1p. The reason is that co-production of heating and electricity gives a better utilization of the fuel.
Stores, without district heating but individual heating instead, and are using at least 60% renewable energy sources will also score 1p.

Points can also be scored for using electricity from renewable energy sources (also ecolabelled electricity), i.e. non-fossil fuels and non-nuclear power. This applies both to heating and to electricity consumed in energy consuming installations within the store. The use of electricity from renewable energy sources is widespread in both Norway and Sweden (primarily from hydroelectric power), whereas in Denmark, Finland and Iceland it is possible to purchase and consume electricity from renewable energy sources. The choice of energy source is an important detail, for which reason the total potential score is 3 points.

6.4 Water consumption
There was no general agreement within the national working groups or between the national working groups on the subject of whether a requirement as to water consumption should be included in this document. There is general agreement that the environmental relevance of a water consumption requirement would not be particularly great, since the water consumption of an average supermarket is low. However, many people are of the view that imposing requirements as to water consumption is important from a symbolic point of view since this is visible environmental work, work that the staff of the store can play an active part in. Others are of the view that there are already enough requirements that staff can participate in actively, in terms of for example product range, energy consumption, packaging and waste generation etc., and that a water consumption requirement would only involve further work to comply with the Swan-labelling requirements without any significant improvement in environmental factors. The secretariat group belongs to this latter group and has accordingly decided not to include a requirement as to water consumption.

6.5 Packaging and waste

PVC
No PVC must be used in the packaging on the store/store chain's own-brand goods or the store's own packaging, i.e. packaging applied in the store. The PVC requirement is confined to goods that the store is able to control itself, since it will be difficult for the store to control goods coming in from the outside. There is no requirement that transport packaging should not include PVC, since packaging of this type is more or less unobtainable [27], and because this is a factor that is difficult for the store to control. The PVC requirement has been imposed in light of the environmental problems associated with disposing of PVC waste by means of for example incineration and because of certain additives like phthalates (plasticisers) and heavy metals [25]. Chains in Denmark and Sweden were consulted during the formulation of this requi-

rement. Many stores especially in Sweden still uses packaging machines that can only use PVC-film. Therefore there is an exception in the criterion.

Total recycling
65 % of the waste generated by the store must be recycled. This requirement has been imposed on the basis of guidelines contained in the Swedish act on responsibility for packaging, SFS, 1997:185, and data provided in a survey conducted in Denmark [29]. Furthermore, comments from the supermarket industry in Sweden, Norway and Denmark suggest that this percentage rate is already complied with by those stores that have best control over their waste processing and this now encompasses a high proportion of all stores. Furthermore, Denmark's objective is that 64% of all waste generated in Denmark in 2004 should be recycled [19]. The transport packaging received by stores is included as part of the overall waste generated by stores. Up to 90% of transport packaging can be reused [31]. Alternatively the amount of waste that is not recycled must be below 7.500 kg pr million Euro turnover. The reason for this alternative is, that many stores have difficulties in measuring their total waste.

Reusable organic waste
By 2004 it should be possible to reuse 95% of organic waste from Danish industry [19]. According to data published in 1992-1994 less than 1% is incinerated and dumped. 8% is used in biogas plants, 47% as a substitute for raw materials and 44% is used directly as fertilizer on agricultural land [30]. Organic waste makes up 22% of the total waste generated by a selection of supermarkets in Denmark [20].

Reuse of paper and board
By 2004 it is expected that 75% of paper and board used by Danish businesses will be reused [19]. Paper and board make up 38% of the total waste generated by a selection of supermarkets in Denmark [20].

Reuse of plastics
The reuse of plastics is complicated by the fact that there are many different types of plastic, and plastic is often polluted with other packaging materials. The target figure in Denmark was 15% reuse by the year 2001. The only objective for 2004 is that more plastic should be reused. The environmental problem associated with the production of plastic is that almost 2 kg of oil is used for each kilo of plastic manufactured [19]. Pure plastic for reuse makes up only 1% of the total quantity of waste generated by a selection of supermarkets in Denmark [20].

Hazardous waste and waste sorting
It is a requirement that hazardous waste and toxic waste should be handled correctly and that waste should be sorted in accordance with the instructions issued by the local authority or responsible producers/producer organizations. Since it is possible for the stores to sort cardboard, cardboard paper, paper, glass, plastic and organic materials on site for reuse without any major problems, a requirement has been imposed in this respect that at least 4 of these waste fractions will be reused.

Consumer assistance
The requirement is also imposed that the store must allow consumers to return waste in the form of product packaging. This requirement has been imposed because it is important that stores take responsibility for the packaging that they pass on to consumers.

Point-scoring criteria for waste
The point-scoring criteria for the overall waste quantity generated by a store have been taken from a survey of Danish supermarkets [20]. This report reveals that:

- stores do not generally generate iron and metal scrap.
- stores do not generally generate glass waste.
- stores generate very little paper waste (2%).

Reuse
Relatively high scores are awarded to stores that has less than 7.000 kilo not recycled waste per million Euro turnover. It is hoped that this opportunity for scoring points will encourage the stores to increase the amount of waste they recycle.

Sorting on site
If a store chooses to sort waste on site into more waste fractions than those outlined in the mandatory requirements, 1 point may be scored for each fraction, up to 3 points. This might for example involve metal waste.

It is also possible for the store to receive points if the customers in the store can sort waste to reuse. Maximum 2 points.

6.6 Transport

The national working parties and the secretariat group concluded that it would be difficult to impose requirements as to transport since this parameter is normally not under the control of the individual store. It could be difficult for a store to control absolute requirements as to exploitation of capacity and fuel consumption for trucks and lorries since so many different carriers deliver goods to a single store and the store will have no control over most of this carriage.

Instead, requirements have been imposed as to certain management tools that must be introduced by the store's own carriers transporting goods to the store. These relate to training plans for environmentally friendly driving and vehicle maintenance, exploitation of capacity and the fuel efficiency and environmental performance of new vehicles.

Point-scoring criteria

Purchases of new vehicles
Up to 2 points is awarded if the transporters of goods to the store purchase vehicles within a specific environmental class as provided for in EU or Swedish classification.

Other Vehicles
Requirements have been imposed as to obtain points for certain management tools that must be introduced by carriers from outside the store transporting goods to the store. These relate to training plans for environmentally friendly driving and vehicle maintenance, exploitation of capacity and the fuel efficiency and environmental performance of new vehicles.

Particle filters
Particle filters on diesel-powered vehicles serve to reduce pollution levels. For this reason relatively high scores are awarded if the store uses vehicles with particle filters.

Logistics and use of capacity
No absolute requirements are imposed as to logistics (route planning) and the use of capacity. The reason for this is that that is difficult for a store to impose requirements of this type on transport and furthermore it is very difficult for carriers to consider the environmental aspects of logistics and use of capacity. However, all carriers plan their routes on the basis of financial gain, which will indirectly have the effect that both logistics and use of capacity will automatically be improved in environmental terms.

6.7 Refrigeration and freezer systems

Covers
One way of reducing the energy consumption of refrigeration and freezer equipment is to cover the equipment with curtains or some other form of cover. According to the Danish energy management scheme [4] energy consumption can be reduced by approximately 50 % by this means. Accordingly, there is a mandatory requirement that ecolabelled stores must have covers on their refrigeration and freezer equipment out of opening hours if the equipment allows this. And it is furthermore possible to receive up to two points, if there is also covering in the opening hours.

Ozone-depleting potential
Coolants used in refrigeration and freezer equipment must have an ozone-depleting potential of 0. This will encompass coolants such as HFCs, propane, butane, ammonia and carbon dioxide. This requirement is relevant because some refrigeration and freezer equipment still contain HCFCs and similar substances with an ozone-depleting effect. Nowadays most equipment uses HCF as a coolant and this is a better option even though HFCs have a greenhouse effect. Foam forming agents used in future in the production of insulation for refrigeration and freezer equipment must also have an ozone-depleting potential of 0. It is important to note that this refers to insulation products used in the future. This is because many refrigeration and freezer systems contain HCFCs as their foam forming insulation agents. These are released when the equipment is disposed of. It would be wrong however to prohibit equipment containing HCFCs at present, because regardless of whether the equipment is disposed of today or in ten years time, there is still a chance that HCFCs will be released. Accordingly there is also a requirement that when the store disposes of

equipment of this type, the disposal shall be in such a way that substances with an ozone-depleting potential are not released into the environment. CFC is not aloud to use.

Natural coolants
Testing is under way on the use of natural coolants such as HCs (methane, propane, butane etc.), NH_3 and CO_2. Compared with HCFCs, CFCs and HFCs, these coolants have very little impact on the external environment. Two points are therefore awarded for use of natural coolants. However, switching to natural coolants is a complicated step to take, and very few have 100% natural coolants in their systems. Stores must therefore have over 50% natural coolants in order to score points. One point is awarded, if the store uses more than 90 % HFC as coolant, because this is better than HCFC, CFC and HFC (see above).

Leakage rates
The secretariat group has also been in contact with the refrigeration and freezer industry in Sweden and Denmark. According to the industry, leakage is one of the biggest problems associated with these systems. Leakage rates frequently reach 5-10%, sometimes more. This is viewed as a major environmental problem that is relatively easy to resolve. Accordingly, the criteria document awards points for low leakage rates from refrigeration and freezer equipment and there is an upper limit on 5 % for the leakage rate. Authorized inspectors must declare that leakage rates have been checked. The national working environment authorities have rules on authorized inspections of refrigeration and freezer equipment.

6.8 Consumables

This section imposes requirements as to the consumables used in the store in connection with operations, maintenance and marketing.

Cleaning products and toiletries
Ecolabelled Soap, shampoo, toilet paper, kitchen roll and cleaning products must be used in the store. Products of this type are widely available in the Nordic countries and compliance with this requirement should not be difficult. However, there may be areas of the store in which the authorities prescribe the use of disinfectants for cleaning purpose, for example in the butchery and fish department. Stores are exempted from using ecolabelled products in areas such as this since it might otherwise be difficult for the store to comply with the requirements of the authorities. However, under no circumstances will it be permissible for stores to use products concerning active chlorine. Contact with the industry that supplies cleaning products to supermarkets has revealed that there is no need to use products with active chlorine content for cleaning purposes.

Dry cleaning
A single point is awarded if the store uses dry cleaning methods with micro fibre cloths. Point is given because this cleaning method is environmentally better than most others, saving water an cleaning agents.

Office supplies and services
Points are awarded for using ecolabelled office stationery and services.

Advertising material
A relatively high score is awarded if the store's own advertising material is eco-labelled (3p). This also applies to advertising material circulated by a chain of stores, if the material is advertising goods that make up part of the product range sold by the store. The general view is that permission (or instructions) for an individual store to be ecolabelled will come from the chain, and for this reason advertising material circulated by the chain as a whole must also be ecolabelled if it includes goods sold by the individual store.

6.9 The quality level of the store

The criteria document imposes a number of requirements as to the quality level of the store. The reason for this is that Nordic Ecolabelling wishes to emphasize the fact that a licence for a Swan label goes hand-in-hand with high quality. Consumers must not get the impression that Swan labelled stores are in any way inferior in quality to other stores. This applies to the store's fixtures and fittings, maintenance, customer service and the performance of the personnel.

6.10 The requirements of the authorities

Before a store can be awarded a Swan labelling licence it must fulfil all national statues and rules and there must be no unresolved business with any relevant authority. This requirement has been imposed to ensure that the store maintains the standard required for ecolabelling.

6.11 Eco-management

A number of requirements are imposed as to the eco-management operated in the store. Eco-management is important in order to ensure that the environmental work in the store is maintained on a regular basis and that compliance with the requirements of the critieria document is secured.

Therefore there is a formal requirement that the store must systematize its environmental efforts in an eco-management folder containing relevant documents, including the store's environmental policy, action plan, objectives, organizational structure, training and miscellaneous procedures for securing compliance with the ecolabelling requirements. The section on eco-management contains more specific requirements as to the content of the above documents, in order to secure correspondence between mandatory requirements, point-scoring criteria and eco-management criteria in the criteria document. In addition, Danish experts [32] in this field have reviewed and commented on the eco-management section of the criteria document. This is to ensure that the eco-management requirements are realistic and applicable in practice, and that they accord with the EMAS and ISO 14001 eco-management systems. Thus it is an advantage, but not essential, for stores to operate an EMAS or ISO 14001 eco-management system. 3 points are awarded to stores with ISO 14001 or EMAS,

since in Nordic Ecolabelling's assessment there are clear advantages in environmental terms to having a registered or certified eco-management system that is subject to control.

6.12 Marketing

In order to make it clear that it is the store to which the ecolabelling applies, and not the contents of the store, strict requirements are imposed as to the marketing of ecolabelled supermarkets. Marketing material must inter alia contain a supplementary text to the swanlabel-logo as specified in the criteria document. In addition, the store must describe its plans for marketing, and it must also declare in Appendix 2 that it is familiar with Nordic Ecolabelling's rules on marketing.

7 Future criteria

The background to the areas of focus of future criteria was discussed in an earlier section. The areas specified in the criteria document are:

- whether the criteria document might help to bring about further environmental improvements if it were extended to include other types of store in the retail sector. Such stores might for example include specialist shops offering a product range of ecolabelled and organic goods. They might include clothes shops, shoe shops, bookshops, DIY centres, greengrocers, butchers, etc. Significant changes would need to be made in the requirements as to product range and energy consumption.
- whether extended requirements as to transport should be introduced, which might also include requirements as to fuel and logistics. Experience of the first version of the criteria document will show whether it is possible and relevant to impose extended requirements on carriers.
- whether new requirements as to product range should be introduced prohibiting certain products. Whether or not it is possible to specify that certain products must not be sold in the store will become clear when the criteria have been in use for some time.
- whether new working environment requirements should be introduced or whether the national regulations function satisfactorily in the retail sector. Here, too, time will tell.
- whether the requirement should be introduced that refrigeration systems should not contain HFCs. In 2007 an EU directive is expected to phase out HFCs as coolants in refrigeration equipment. Nordic Ecolabelling is eager to accelerate this process.
- whether the requirement should be introduced that use of energy to refrigeration and freezer systems should be limited in relation to the organization of the store (dimensional power). The Trade associations are developing standards for this. The result of this work we can use to develop our criteria.
- if it is possible to have a threshold value limiting the total consumption of energy.

8 References

[1] Svanemærkning af Dagligvarebutikker, version 1.0
[2] Nordisk Miljömärkning: *Miljöfilosofi*, 2000.
[3] Strategidokument for Nordisk Miljømerking 1999 – 2001, version 3
[4] Energiledelsesordningen, Danmark. www.energiledelsesordningen.dk.
[5] Miljøstyrelsen Danmark 2002. *Anvendelse af naturlige kølemidler i supermarkeder*, miljøprojekt nr. 658.
[6] Miljøstyrelsen Danmark 2001. *Transport på vej ind i virksomhedernes miljøarbejde?,* miljøprojekt nr. 640.
[7] Supermarket, *Marknadsguide 2000*, ICA Förlaget AB, ISBN 91-534-5158-9, Sverige, 2001.
[8] Svenska Naturskyddsföreningen, *Livsmedelsbutiker 2000 – Kriterier för Bra Miljöval*, Sverige, 2000. www.snf.se.
[9] KRAV, *Butikshantering och butiksauktorisation – KRAV-regler 2002.* www.krav.se.
[10] Miljøfyrtårnet, *bransjekrav nr. 5 – dagligvare,* november 1997, justert mai 2002. www.miljofyrtarn.no.
[11] Dansk Detailhandel. www.danskdetail.dk.
[12] MATAS. www.matas.dk.
[13] Finlands Dagligvaruaffärer. www.pty.fi.
[14] XJÓDHAGSSTOFNUN, Kalkofnsvegi 1, Reykavik, Island.
[15] Dagligvarehandel i Norge. www.dagligvarehandelen.com/dagligvarefasiten_index.phtml.
[16] Axfood. www.axfood.se.
[17] Butikskalender 2001, *Idé och fakta*, ICA Förlaget, ISBN 91-534-5161-9, Sverige.
[18] COOP Norden. www.coopnorden.org.
[19] Affaldsplan 21. Miljø- og Energiministeriet, Danmark, 1999.
[20] Miljøstyrelsen Danmark 2002. *Kortlægning af affald i Dansk dagligvarehandel,* miljøprojekt nr. 671.
[21] Miljøstyring og transport. *Håndbog for små og mellemstore virksomheder.* Cowi. Januar 2000.
[22] Eco-driving Europe. www.ecodrive.org.
[23] Forslag til Europa-parlamentets og Rådets forordning om sporbarhed og mærkning af genetisk modificerede organismer og sporbarhed af fødevarer og foder fremstillet af genetisk modificerede organismer og om ændring af direktiv 2001/18/EF. Kommissionen i EU. Bruxelles d. 25.7.2001.
[24] Centrallaboratoriet COOP Danmark, Pers. Komm. 15.03.02.
[25] Green Paper. *Environmental issues of PVC.* Kommissionen I EU. Buxelles d. 26.7.2000.
[26] Gröna Konsum, *Sila Kamelerna! – en miljöanalys av Gröna Konsum.*
[27] Miljøstyrelsen Danmark 2002. *Emballageforsyningen i Danmark 2000,* miljøprojekt nr. 696.
[28] Miljøstyrelsen Danmark 2000. *Miljøparametre til miljøindsats for emballageafgifter*, miljøprojekt nr. 546.

[29] *Aluminium, forbrug og miljø*, Rapport fra DTU 1997 af Anja K. Petersen og Malene Staal Jensen.
[30] Danmarks Miljøstyrelses hjemmeside. www.mst.dk.
[31] Miljøstyrelsen Danmark 2002. *Miljømæssige fordele og ulemper ved genvinding af plast*, miljøprojekt nr. 657.
[32] Cowi Consult, Danmark, Anne Abildgaard og Sonja Hagen Mikkelsen, 2002.

Appendix 1. Table showing the scoring of points

	Maximum number of points to be scored
Product range	6
Energy consumption	14
Packaging and waste processing	11
Transport	8
Refrigeration and freezer equipment	7
Consumables	10
Eco management	3
I alt:	**59**
Points given as follows:	
Product range:	
p1	3
p2	1
p3	1
p4	1
Energy consumption:	
p5	3
p6	2
p7	2
p8	3
p9	1
p10	3
Packaging and waste processing:	
p11	6
p12	3
p13	2
Transport:	
p14	2
p15	3
p16	3
Refrigeration and freezer equipment:	
p17	2
p18	3
p19	2

Consumables:	
p20	1
p21	2
p22	4
p23	3
Eco management:	
p24	3
I alt:	**59**