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About Swan-labelled

Hotels and youth hostels

Version 3

Background to ecolabelling

Nordic Ecolabelling

Swan-labelled Hotels and youth hostels - Background to ecolabelling

Hotels and youth hostels 072/Draft version, January 2007

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1 Summary

The criteria for the Swan-labelling of hotels and youth hostels were revised and issued for review from 23 January until 24 March 2007.
The most significant changes between version 2 and version 3 are:

- Fulfilment of the limit values for energy is now mandatory.
- Several requirements have been tightened with mandatory use of ecolabelled products.
- The requirements for kitchens, dining rooms and restaurants have been harmonised with the criteria for the Swan-labelling of restaurants.
- There are 21 fewer requirements (5 fewer mandatory requirements and 16 fewer point score requirements).

2 General facts about the criteria

Products that can be labelled
Hotels, youth hostel, conference hotels and similar establishments that satisfy the definitions can be Swan labelled.
Swan labelling also requires that any associated restaurant, conference facilities and pool satisfy specific environmental requirements. The following definitions apply:

Hotel
A hotel must offer guests a room with beds, including bed-linen, towels, access to a shower/bath and be responsible for cleaning the rooms. In addition to this, breakfast must be offered.

Youth hostel
A youth hostel must offer beds and access to toilets and shower/bath facilities included in the basic price. To acquire the Swan label also requires that any associated kitchen and common room satisfy specific environmental requirements. Special adjustments are made to the criteria for youth hostels.

Swan-labelled restaurants
Criteria for the Swan labelling of restaurants were published in December 2006: Restaurants 091 version 1.0, 13 December 2006. If a hotel wishes to Swan label their restaurant, all relevant restaurant criteria must be fulfilled and a separate application submitted to Nordic Ecolabelling.

Criteria structure
The requirements are divided into limit values, mandatory requirements and point score requirements. Of the four limit values, the energy requirement and one further requirement must be fulfilled. All mandatory requirements must be fulfilled. 65% of the total score from point score requirements must be achieved. There are no constraints as to which sections points come from with the exception that 60% of the total score for Operation and Maintenance must be achieved.
The criteria make reference to appendices. There are two separate MS Word documents that can be used as working copies.

Justification for Swan labelling
A hotel or other accommodation service has the same type of environmental impact as a normal household. Since the environmental impact of a household is significant, it is easy to see that there is justification for the ecolabelling of hotels.
The major difference is that the environmental impact of accommodation services is far more extensive, since each new guest means that bed linen and towels, for example, are washed daily or every other day, compared with weekly or every other week in a normal household. The rooms are cleaned more intensively, fixtures and fittings are subjected to harder wear, and resources are used less efficiently since hotels do not have 100% occupancy.
Whether staying at a hotel or living at home, the resultant environmental impact is strongly linked to the lifestyle and activities such as eating, cleaning, washing, travelling, communications, waste management and leisure activities.

It is necessary to adapt the results from LCA and LCI from related areas since no LCA have been produced for hotels and accommodation services. Related areas include household resource consumption and environmental impact. There is a detailed Danish study from 1996 (reference 1, page 12) that concludes:

- The activity of eating (production of foodstuffs, shopping with car, storage, food preparation, dishwashing, etc.) accounts for somewhat more than 1/3 of the families collective resource consumption and environmental impact.
- Travel by car (proportion not included in shopping) and room heating are approximately comparable and account for just under 1/3 of the emissions to the environment.
- In total, eating, transport and heating make up 2/3 of the model family's collected resource consumption and 3/4 of the emissions to the environment.
- 1/3 of the resource consumption and 1/4 of the environmental impact result from leisure activities in the home (incl. interior decorating), clothing (incl. washing), hygiene and health (incl. baths/showers etc.), and cleaning.

Based on these conclusions, the most significant environmental aspects of hotel operations are seen to be energy consumption, water consumption, chemical use and waste. The criteria primarily focus on these areas.

Criteria version and validity
Version 1.0 of the criteria were adopted on 1 October 1999.
The criteria were revised and version 2.0 adopted on 3 October 2002. The most significant changes in this revision were that the requirements were clarified, the number of requirements cut, and the document generally made more user-friendly.
The current version, v2.3, is valid until 31 June 2008.
This draft is for version 3 of the criteria.

The Nordic market
The interest for environmental issues, in particular the climate, is growing rapidly throughout the Nordic region. This is reflected in the interest in environmentalising company operations, such as through ecolabelling.
These hotel criteria have penetrated the Swedish market and are expected to penetrate the Norwegian and Danish markets shortly.

Table of the number of licences

Country	Number of licences
Denmark	1 (covering 4 hotels)
Finland	5
Iceland	2
Norway	21
Sweden	96

Denmark
One barrier in Denmark is that legislation requires that the fee is kept at 0.4% of the total turnover and does not allow the fee to be based on half the turnover as in the other Nordic countries and as the EU does for hotels. It is however possible that this legislation, which is presently under review (April 2006) will be changed.

Finland
The criteria have had little penetration in Finland. The criteria have been marketed in Finland on many occasions through various promotions, such as nationwide seminars and visits to potential clients. Cited hinders to licensing are the high licence fee, a low cost/benefit ratio, the existence of other environmental campaigns and programs, and the extensive documentation required for application.

Iceland
On Iceland, one hotel and one youth hostel are Swan labelled.
In 2005, Iceland had 75 hotels (3706 beds). In total there were 328 establishments (8046 beds) that year. The growth of the Icelandic hotel and lodging industry is rapid. Since 2000, the number of hotels has increased more than 40% and the number of other establishments (hostels, youth hostels, etc.) has risen 32%. In recent years, interest from the tourist industry in environmental goals has increased. Marketing activities by the Swan have however been scarce. Nonetheless, several hostels and small hotels have contacted Umhverfisstofnun and declared their interest in ecolabelling.

Norway
In Norway there is a growing interest in the ecolabelling of hotels. Two hotel chains aim are to become ecolabelled. Expectations that these chains will profit from there environmental efforts are high since two large purchasing organisations say that they will require Swan labelling as of autumn 2007.

Sweden
According to figures from the Swedish hotel and restaurant association (SHR), Sweden has roughly 1,600 hotels. Of these, 300 dominate the market and 700 are part of some chain. Several chains are presently interested in ecolabelling.

Other labels

There are several other Nordic ecolabels for hotels and youth hostels such as The Green Key (Denmark and Sweden), Eco-Lighthouse (Norway), Green Globe 21 and the Flower. In addition, diplomas are awarded by several local administrations. The industry also has its own quality label through hotels are given a star rating (maximum of five stars).

3 Criteria development/revision

Purpose of the revision

The aim of this revision is to produce criteria that are a significant and credible aid in the hotel's/youth hostel's/conference centre's environmental work and to produce clear environmental benefits from these environmental efforts. A further aim is to include fewer requirements, but requirements that are optimally suited to all Nordic countries. Swan-labelled hotels must be attractive on the Nordic market so that hotel guests and purchasers actively seek these.

About this revision
The revision has been performed by the secretariats in close contact with licensees.

The participants from Nordic Ecolabelling were:

Lena Rogeman	Project manager
Susanne Møller	Representative from Ecolabelling Denmark
Jaakko Suursalmi	Representative from SFS Ecolabelling, Finland
Marte Kjölberg Thommesen	Representative from Ecolabelling Norway
Malin Möller	Representative from SIS Ecolabelling, Sweden

Kristian Dammand Nielsen has been area coordinator.

Much information has been gained from annual reports and inspection visits that are made continually to all licensees. Preliminary meetings have also been held with trade associations for hotels in Denmark and Finland. In Norway there have been meetings with Radisson and Scandic Hotel chain. Further more, in Sweden, specific issues have been discussed with representatives from Milgårdarna and the Scandic Hotel chain.

Meetings with groups of licensees are planned for the review period.

4 Justification of the requirements

Limit values
General
The class division is in general the same as in the previous version. It is also important to understand that this class division is a generalisation. To be made more specific

would require a large quantity of data that neither the ecolabelling bodies nor the licensees have.

The class division indicates that Class A hotels have a higher level of standard than Class C hotels. Consumption generally increases with a raise in standards.

The parameter lodging occupancy is unchanged for the class division. The higher the lodging occupancy the higher the hotels class. The main reason for this is that energy consumption is calculated by unit area and not guest night. Each additional guest requires more energy (hot water and electricity consumption).
Experience from licensees shows that guest activities influence consumption. Business travellers (or other travellers that are journeying from one place to another) have a low consumption; they generally travel alone, arrive late, stay overnight, eat breakfast and leave. On the other hand, consumption is usually higher for holiday guests, who are often families with multiple occupancy, and conference guest. These guests often arrive early and have many or all activities on premises, eat several meals and enjoy leisure activities at the hotel or conference centre itself. A hotel with a high proportion of business guest will have find it much easier to meet the limit values than a "holiday hotel" or conference centre simply due to the guests' behaviour. There is no environmental gain in rewarding business hotels ahead of holiday hotels.

Some changes were made to the class division in the revision of 2001 to compensate for hotels with a large restaurant turnover in relation to accommodation turnover. The problem for this type of hotel was that is was virtually impossible to meet the limit values for chemical and water consumption. It has become apparent that this problem to some extent still exists. Hotels that have a high restaurant turnover, i.e. many external guests, find it difficult to fulfil the requirements on chemicals and water.

We therefore propose the following solution, which is a further development of the concept of extra consumption by day guests.
Establishments that run a restaurant, excluding breakfast, which accounts for more than 45% of the hotel's total turnover for restaurant and lodging and that also have a lodging occupancy greater than 60% are allowed to count every restaurant guest as 0.25 guest-nights subject to approval by Nordic Ecolabelling.

Level of limit values
An analysis of licensees' fulfilment of limit values on application shows that Finnish and Swedish licensees (96 licences) on average meet 2.26 of the four limit values, while Norwegian licensees (21 licences) fulfil 3.71 limits. There is no general explanation for this. Each individual establishment is unique and the particular conditions vary greatly.

We propose in this revision that the limit value for energy is made mandatory. By this, Nordic Ecolabelling hopes to emphasise that hotels with exceptionally high energy consumption must reduce this to be Swan labelled. The limit value has been lowered approximately five per cent, with the reason not make it impossible to fulfil, but the requirement is still a clear tightening since fulfilment is mandatory.

Because a part of the energy consumption is proportional to the number of guest nights and the limit value must not work against a high lodging occupancy we will give an opportunity to choose between to alternative limit values.
Alternative 1: The limit value refers to the total energy consumption per year and total square metres for the running of the establishment, with regard to heating and electricity.
Alternative 2: The limit value refers to the total energy consumption per year and the number of guest-nights per year for running of the establishment, with regard to heating and electricity. This limit value is at the time of the review not ready to present more as an idée with some values only as examples. The list of limit values will be find and evaluated during the time of the review.

The point score requirement that awards points if the hotel lies a certain percentage below the limit value is unchanged from version 2 of the criteria.

The level of the limit values for water consumption and chemical use are such that they require active efforts from the establishment but are attainable. It is proposed to change the limit value for waste in this revision since virtually all establishments fulfil the present requirement without difficulty.

Energy requirements
The energy requirements are set to reduce energy consumption, promote the use renewable energy and reward the non-use of electricity for heating.
Fulfilment of the limit values for energy is mandatory. 36% of the total points awarded are related to energy-saving actions and the use or renewable energy. There follows a more detailed description of selected energy requirements.

Energy review
The requirement aims to reduce energy consumption and make establishments more carbon dioxide neutral. The majority of establishments can through a variety of actions reduce their energy consumption. These shall be specified in an action plan.
Within the coming years, Commission Directive 2002/91/EC on the Energy Performance of will be implemented in all Member States. The directive means that all properties are be subject to an energy review. This has already been implemented in Denmark but is not due for implementation in the other Nordic countries until 2009.
Essentially, the directive contains five requirements for introduction in the member states:

- A method of calculating a building’s integrated energy performance.
- A minimum requirement for energy performance in new buildings.
- A minimum requirement on energy performance of major renovations/modifications to buildings.
- Energy certification of buildings.
- The inspection of heating systems with boiler/burner and air conditioning system plus an assessment of heating systems older than 15 years.

This directive should be implemented in all Nordic countries ahead of the next revision of these criteria and should provide extended possibilities to set well-founded energy requirements.

Heating and electricity
These two requirements replace the requirements regarding direct-acting electricity, fossil fuels and electricity. The aim is to reduce the use of electricity for heating and promote the use of renewable energy sources. The requirement on heating excludes electricity as an energy source, which emphasises our intention to reduce the use electric heating. Points are awarded if the hotel uses heat pump also when the heat pump uses electricity. The higher efficiency of the heat pump the more points. Points are awarded under the Electricity requirement for the use of electricity from renewable sources.
Electricity is dealt with separately from other forms of energy since there are several issues particular to electricity. Electricity is a "high-grade" form of energy, which should primarily be used for applications that are not suitable for any other energy form, i.e. mechanical work. Electricity is "high-grade" form since the production of electricity requires 3 MJ of fuel for every 1 MJ of electricity, with the exception of hydroelectricity and wind, solar and tidal energy. The remaining portion ends up as heat, the use of which should be promoted. Due to a significant rise in electricity consumption and low potential for the expansion of renewable energy sources, the reduction of electricity consumption is a priority in all Nordic countries. There are several alternatives available for the production of low-temperature thermal energy (e.g. heat pumps, solar panels and waste heat).

Regarding electricity, it is proposed to only approve a mix from a specific electricity company rather than at national or Nordic level. If an electricity company sells electricity from renewable sources separately, this must be included before the energy mix is calculated. This is to promote active participation on the part of the electricity customer. In Norway all supplier of electricity must when asked give information about their energy mix to their customer (from 1.1.2007). But in that case the suppliers have the same energy mix as the country energy mix it is accepted to refer to the homepage where the energy mix of Norway is presented.

Ventilation
The conditioning of the indoor climate, ventilation and cooling are a significant factor in the energy consumption of buildings. One source claims that between 10 and 40% of a buildings energy consumption is used for ventilation[1]. Many buildings can cut the electricity consumed by the ventilation system by 40 to 50% by adjusting the air flow and operating duration to the demand, and by changing components and units to more efficient varieties. There are significant savings to be made by lowering excessive air flow. For example, a 20% reduction in air flow gives a 44% reduction in electricity consumption. Reducing operating times saves electricity equivalent to the time reduction. For example, lowering the operating period by 10% reduces electricity consumption by a corresponding 10%. Also to reduce the operation time with 10% will reduce the electricity consumption with 10% if the power is constant.

Office machines
The hotel is awarded points for the purchase of ecolabelled office machines. Refer to Appendix 2 for more information on ecolabelled office machines. The hotel also receives points if the machines are set to enter standby after certain idle period. The

[1] Elsparefonden in Denmark www.elsparefonden.dk 2006-12-19

requirement has been amended so that 0.5p are awarded if "At least 50% of office machines are connected to an auto power-off socket". An auto power-off socket switches off all equipment plugged into the socket when the main apparatus (computer) is switched off[2]. Se also http://www.sparel.dk/article.asp?MenuID=143 Ecolabelled means a product marked with the Swan, the EU Flower, Bra Miljöval (Good Environmental Choice) or TCO 99 or later versions.

Television sets
The requirements focus on television sets being set to low power in both active and passive standby modes. The terms active and passive standby are defined as follows.
Active standby: The TV connected to a power source produces neither sound nor vision but is exchanging/receiving data from an external source.
Passive standby: The TV is connected to a power source, produces neither sound nor vision, and is waiting to be switched into the modes 'off', 'active standby' or 'on' on receipt of a direct or indirect signal, e.g. from the remote control.
0.5 points are also awarded if there is a procedure in place meaning that cleaning staff turn off television sets when cleaning.

Minibars
Minibars have relatively high energy consumption which makes it important that they are energy efficient. Minibars are also "on" the whole time. Very energy-efficient minibars are available, including those developed especially for hotel rooms. The scores reflect that new solutions are available, such as Peltier technology. It is however also possible to receive points with conventional equipment if the installation of the minibar is suitable with regard to location and air flow.

Transport
The major environmental impact from transport stems from the transport of goods to and from the hotel, as well as from the guest's personal transport. This is difficult for the hotel to control. The hotel can however control their own methods of transport, and points are therefore awarded to hotels with vehicles powered by renewable fuels or that are extremely energy efficient. The level of the values of carbon dioxide emissions are from the definition of Eco cars from The Swedish Road Administration[3]. Additionally points are awarded if the hotel provides guests clear information on public transport and distributes timetables.

Temperature of the pool water
The purpose of the requirement is to reduce energy consumption. The level of the temperature is chose from a normal temperature for indoor swimming pools.

Water consumption
Although water supplies in the Nordic region (with the exception of Denmark) are generally good, water consumption is considered a significant environmental aspect. This is primarily since water ultimately becomes waste water, which must be purified and returned to nature. It is easier to purify small quantities of water with high concentrations of pollutants than large quantities of water with low concentrations. Resources are also consumed in the transport of water.

[2] http://www.sparel.dk/article.asp?MenuID=143 2006-10-20
[3] http://www.vv.se 2007-01-15

Water consumption is also linked to energy consumption, such as hot water used in bathrooms and kitchens. Saving water gives direct energy savings.

The limit value and the six point score requirements all promote reduced water consumption. See also Appendix 1, which presents an analysis of the requirements.

Chemical products

The criteria promote a reduction in the use of chemical products and rewards more environmentally suitable alternatives. Many requirements are linked to the purchase of ecolabelled products. These requirements encompass a limit value, nine mandatory requirements and 25% of the total point score. See also Appendix 1. There follows a brief justification for the requirements.

Limit value for chemicals

The limit value controls the use of chemicals products. Nordic Ecolabelling wishes to prevent the overconsumption of chemical products and unnecessary quantities of chemicals entering the sewage system.

Environmentally dangerous products

Products that are not readily biodegradable may cause environmental problems now or in the future. The consequences can be very serious if such a substance also has high acute toxic effects. Accordingly, there is a prohibition against products carrying the risk phrase R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Reactive chlorine compounds

Reactive chlorine compounds are harmful on skin contact and if swallowed, and toxic to aquatic organisms. Chemical compounds that contain active chlorine can at high temperatures and high levels of soiling form dangerous organic chlorine compounds. Organic chlorine compounds can also form in the sewage system. These may be toxic, persistent and bioaccumulable. There are therefore good grounds to prohibit the use of active chlorine compounds. There are today less harmful and less environmentally hazardous alternatives available.

Surfactants

Surfactants must be readily biodegradable. Ready biodegradability is a very important characteristic of organic substances. Persistent substances accumulate in the environment. These may present a present and future risk even though they do not cause acute toxicity. Knowledge about the long-term environmental effects of persistent substances is often inadequate. Rapid biodegradability in aerobic environments is therefore essential from an ecological viewpoint. The availability of readily biodegradable surfactants is considered good.

Alkyl phenol ethoxylates (APEO)

Alkyl phenol ethoxylates are banned since their decomposition products are considered to be environmentally hazardous and since the EU has declared that certain APEOs cause hormonal imbalance (e.g. nonylphenol).

Alkyl phenol derivatives (APD)

Alkyl phenol derivatives are derived from APEO. Their use is prohibited since they are harmful and not readily biodegradable.

Linear alkylbenzene sulphonates (LAS)

Linear alkylbenzene sulphonates are prohibited since they are not anaerobically biodegradable and are toxic to aquatic organisms. Toxicity and biodegradability vary with carbon chain length and the position of the benzene ring.

Waste

The production of waste is a major problem in society at large. The Swan criteria, by imposing limit values, stipulate the maximum permitted quantity of unsorted waste that may be produced. The mandatory waste requirements ensure that environmentally hazardous waste is disposed of correctly and that waste is sorted at source to minimise the quantity of unsorted waste. Preventing the creation of waste is more effective in saving resources and environmental impact than recycling. The use of returnable packaging is an important factor in minimising waste.

Five mandatory requirements and 12% of the total point score are associated with waste. See also Appendix 1.

Ecolabelled products

The requirement on the purchase of ecolabelled products benefits all the environmental aspects that each product impacts. Appendix 2 contains a brief description of the most significant aspects that relate to the most common ecolabelled products used at hotels, besides those already described under Chemicals.

Comments regarding other requirements

Bed linen and towels

The criteria prioritise ecolabelled products in preference to organic fibres, though organic textiles also gain points. The benefits of ecolabelled textiles are also discussed in Appendix 2.

Laundry

There is a mandatory requirement regarding the purchase of ecolabelled detergent. Hotels often use external laundries. Laundries are a significant environmental burden with high energy and water consumption and the use of large quantities of chemicals. A hotel is therefore awarded two points if they use a Swan-labelled laundry that fulfils the stringent requirements on energy, water and chemicals. It is positive if the hotel has its own laundry since this reduces transport and enables the use of ecolabelled detergents.

Kitchen, dining room and restaurant
The requirements in the section Kitchen, Dining Room and Restaurant is fully harmonised with the Criteria for the Swan Labelling of Restaurants, with the exception that the mandatory requirements in the restaurant criteria are point score requirements in the hotel criteria but with the same wording. This means that some new requirements have been added since version 2. Justification for this is given below. For more detailed background, please refer to the background document for the Swan-labelling of restaurants, which can be found on the Swan website.

Organic foodstuffs
Organic farming does not use chemical pesticides, synthetic fertilisers or genetically modified organisms. The environmental gains of organic production include biodiversity and the exclusion of chemical biocides.

Vegetarian food
LCA have shown that the production of meat is far more resource intensive than the production of vegetables. Accordingly, promoting vegetarian dishes results in environmental benefit. A diet containing a large proportion of vegetables is also healthy.

Regional foodstuffs
The aim of this requirement is to support rural communities and, to some extent, reduce the transportation of foodstuffs.

Fairtrade products
Fairtrade is an ethical and social labelling that focuses on human rights. Using Fairtrade produces contributes to a better and more liberated future for children and adults alike in poor areas of the world.

GMO
Modern genetic engineering makes it possible to alter the characteristics of plants and foodstuffs in a way that is not possible with traditional cultivation, even if something could also be produced traditionally. The Swan does not take a stance on whether GMOs are in general good or bad. However hotels receive points if the menu informs guests as to whether the food served contains GMOs. This allows guests to decide themselves whether they wish to eat such food.

Environmental management system
The requirements have been modified slightly with the aim of providing greater practical help in environmental work. An individual must be appointed responsibility for each action, which must be measurable and scheduled and have allotted resources. The requirements follow to a large extent the restaurant criteria, though no points are awarded for environmental management.

5 Changes from the previous version

This section lists the changes made between version 2 and the draft. The table below also provides some further justifications. All other justifications to the requirements can be found in Section 4.

Version 2	**Draft (2007-01-19)**	**Change**
1.2 Energy limit value	1.2 Energy limit value	Requirement tightened; it is now mandatory. Requirement level lowered roughly 5%.
1.3 Water consumption limit value	1.3 Water consumption limit value	Requirement unchanged.
1.4 Chemical products limit value	1.4 Chemical products limit value	Requirement unchanged.
1.5 Waste management limit value	1.5 Waste management limit value	Requirement tightened 10%.
2.1 Operation and maintenance		
O1 Heat pumps and refrigeration equipment		Omitted due to legislation.
O2 Heat pumps and refrigeration equipment		Omitted due to legislation.
O3 Water and sewage		Omitted due to legislation.
P1 Energy consumption	P1 Energy consumption	Requirement unchanged
P2 Energy inspection	P2 Energy review	The requirement has been clarified. The aim is energy saving and to make the establishment carbon dioxide neutral. The review shall be performed by a third party.
P3 Direct-acting electric power		Requirement omitted. The requirement P3 Heating covers the same areas.
P4 Fossil fuels, nuclear power and district heating	P3 Heating	The aim is still to promote the use of renewable energy sources but the requirement has been reformulated.
P5 Electric power	P4 Electricity	The aim is still to promote the use of renewable energy sources but the requirement has been reformulated.
P6 Heat pumps and	P5 Refrigerants	The aim is still to prevent the use of CFCs and

refrigeration machines		HCFCs. Reformulated requirement.
P7 Heat recovery	P6 Heat recovery	Requirement clarified.
P8		Requirement omitted due to minimal controllability. This type of installations which require high investments are mostly made during construction time.
P9 Ventilation	P7 Control of ventilation and interior lighting	Requirement extended to include interior lighting
P10 Sewerage		The requirement has been omitted since there is legislation or political intentions that make it impossible to formulate a Nordic-wide requirement.
P11 Urinals		Requirement omitted since all applicants fulfilled the requirement and it was not considered justified to make the requirement mandatory.
P12 Sauna	O1 Sauna	Requirement now mandatory.
P13 Lighting	O2 Lighting	Requirement now mandatory.
Consumables		
O4 Mercury in low-energy lamps and fluorescent tubes	O3 Mercury in low-energy lamps and fluorescent tubes	The requirement means that the longer the service life the higher the permitted mercury content.
P14 Soap and shampoo	P11 Soap and shampoo	Requirement is by and large unchanged.
P15 Toilet paper and kitchen paper	O4 Kitchen rolls, paper towels and toilet paper	The requirement has been tightened as it is now mandatory.
P16 Office paper	P13 Purchase of ecolabelled consumables	Requirement unchanged.
P17 Printed matter	P12 Printed matter	Requirement adapted to new criteria for printing companies.
P18 Low-energy lamps	P14 Low-energy lamps	Requirement unchanged.
P19 Batteries	P13 Purchase of	Requirement is by and

	ecolabelled consumables	large unchanged.
P20 Toner cartridges	P13 Purchase of ecolabelled consumables	Requirement unchanged.
	P16 Drinking glasses and cups	New requirement with the purpose to reduce the use of disposable items.
P21 Towels etc.	O4 Kitchen rolls, paper towels and toilet paper P13 Purchase of ecolabelled consumables	The requirements regarding the purchase of ecolabelled paper towels are now mandatory. The purchase of ecolabelled towel dispensers is unchanged. No points are any longer awarded for air hand driers.
	P15 Toner cartridges	New requirement
Fixtures, fittings and other equipment		
O5 Textiles	O5 Textiles	Requirement is by and large unchanged.
O6 Fittings	O6 Fittings and fixtures	Kitchens and wet rooms are now excluded from this requirement.
P22 Work clothes	P18 Ecolabelled durable goods/infrequently bought commodities	Requirement unchanged.
P23 Work clothes	P17 Work clothes	Requirement is by and large unchanged.
P24 Office machines	P18 Office machines	Requirement clarified.
P25 Office machines	P19 Ecolabelled durable goods/infrequently bought commodities	Requirement unchanged but point score halved to correlate to the other requirements in the criteria document.
P26 Fittings, fixtures, equipment and services	P19 Ecolabelled durable goods/infrequently bought commodities P20 Ecolabelled services	Level of requirement unchanged but divided into products and services for clarity.
Guest rooms		
O7 Smoke-free rooms	O7 Smoke-free rooms	Requirement unchanged.
O8 Toilets		Requirement omitted since standard nowadays.
P27 Bed linen	P21 Ecolabelled bed-linen and towelling	The requirement has been changed and clarified so that it clearly rewards ecolabelled products.
P28 Towelling	P22 Ecological bed-linen	The requirement has been

	and towelling	changed and clarified so that it clearly rewards ecolabelled products.
P29 Lighting	P23 Lighting	Requirement clarified.
P30 Television sets	P24 Television sets	The requirement is tightened. 0.5 points are also awarded if there is a procedure in place for cleaning staff turn off television sets when cleaning.
P31 Minibars	P25 Minibars	Requirement tightened and point score raised.
P32 Toilets	P8 Toilets	Requirement moved to section on operation so that it also applies to common areas, thus tightened.
P32 Toilets	P9 Toilets	Requirement moved to section on operation so that it also applies to common areas, thus tightened.
P34 Water-saving taps	P10 Water-saving taps	Requirement tightened (lower flow) and moved to section on operation so that it also applies to common areas.
P35 Water saving shower heads	P26 Water-saving showers	Requirement is by and large unchanged.
P36 Single-lever mixer taps	P27 Single-lever mixer taps	Requirement unchanged.
P37 Soap and shampoo	P28 Soap and shampoo	Requirement unchanged but point score lowered.
P38 Disposable articles	P29 Disposable items	The requirement has been tightened by now also including guest rooms. The point score is lowered.
P39 Waste sorting	P30 Waste sorting	Requirement unchanged.
P40 Waste paper bin	P31 Waste paper bin	Requirement unchanged.
Kitchen and dining room	**Kitchen, dining room**	

	and restaurant	
O9 Disposable articles	O8 Disposable items	Requirement is by and large unchanged.
O10 Chemical products for dishwashing	O9 Chemical products for dishwashing	Requirement tightened since at least 80% ecolabelled products are now mandatory.
O11 Chemical products for dishwashing	O9 Chemical products for dishwashing	Requirement tightened since at least 80% ecolabelled products are now mandatory.
	O10 No-smoking dining area	New requirement
P41 Ecological products	P32 Organic foodstuffs and beverages	Requirement differentiates between the different Nordic countries due to varying availability of organic foodstuff. The aim is the same.
P42 Plastic film without PVC		Requirement omitted, as in restaurant criteria.
P43 Dishwashing chemicals	O9 Chemical products for dishwashing	Requirement mandatory.
P44 Organic waste	P48 Organic waste	Requirement is by and large unchanged but moved to chapter Waste.
P45 Dosing of dishwashing chemicals	P34 Dosage of dishwashing chemicals	Combines old P45 and P46. Point score lowered.
P46 Inspection of automatic dosing	P34 Dosage of dishwashing chemicals	Combines old P45 and P46. Point score lowered.
	P33 Fairtrade products	New requirement from restaurant criteria.
Cleaning and laundry		
O12 Reactive chlorine compounds	O11 Reactive chlorine compounds	Requirement by and large unchanged. Exemption made for cleaning recommended by the authorities for disinfection.
O13 Laundry		Requirement omitted. Replaced with mandatory requirement on ecolabelled detergent and point score for selection of laundry.
O14 Chemical products for cleaning and washing	O12 Detergents	Requirement tightened, ecolabelled products mandatory.

O15 Chemical products for cleaning and washing	O13 Chemical products for cleaning	Requirement tightened, ecolabelled products mandatory.
P47 Dry cleaning methods	P42 Dry cleaning methods	Requirement clarified.
P48 Chemical products	O12 Detergents O13 Chemical products for cleaning	Requirement now mandatory.
P49 Chemical products	P45 Chemical products	Requirement clarified.
P50 Exact dosing	P44 Exact dosing	Requirement is by and large unchanged.
	P43 Laundry	New requirement
Waste		
O16 Waste management		Requirement omitted since it did not enforce any control or serve any educative purpose.
O17 Recycled packaging	P47 Returnable packaging	Requirement changed to a point score requirement with the purpose of forcing an activity.
O18 Hazardous waste	O14 Environmentally dangerous waste	Requirement is by and large unchanged.
O19 Sorting at source	O15 Sorting at source	Requirement is by and large unchanged.
P51 Further sorting at source	P46 Further waste sorting	Requirement unchanged.
P52“Consumed” fixtures, fittings and equipment		Requirement omitted the activity is covered of other requirements (waste sorting).
P53 Batteries	O16 Batteries	Requirement tightened since made mandatory.
Transport		
O20 Own vehicles		Requirement omitted because it was found not to be relevant.
P54 Own vehicles	P49 Own vehicles	The requirement also give points to vehicles which use fossil fuel but with low energy consumption.
P55 Suppliers of goods		Requirement omitted because it needed a lot of documentation which not was motivated from an environmental point of view.
P56 Public transport	P50 Public transport	Requirement is by and large unchanged.
P57 Shared transport		Requirement omitted

		because it did not forced any activity.
P58 Bicycles and horses	P51 Bicycles and horses	Requirement retained but point score lowered.
Extra points from the limit values	**Extra points from the limit values**	Requirement unchanged.
Official requirements, safety and hygiene	O23 Legislation and regulatory requirements	Requirement partly contained in O23 and partly in application form.
Extra requirements for hotels with restaurant	**Kitchen, dining room and restaurant**	
P59 Organic foodstuffs	P32 Organic foodstuffs and beverages	Requirement differentiates between the different Nordic countries due to varying availability. The aim is the same.
P60 Vegetarian dish	P36 Vegetarian food	Requirement unchanged but point score lowered.
P61 Origin of raw materials	P38 Origin of main ingredients	Requirement by and large unchanged but point score lowered.
P62 Returnable bottles or barrels/tanks	P40 Returnable bottles or barrels/tanks	Requirement by and large unchanged but point score lowered.
P63 Dishwasher	P41 Energy and water-saving actions	Requirement tightened and point score lowered.
P64 Dishwasher		Requirement omitted.
P65 Rinsing taps	P41 Energy and water-saving actions	P42 Energy and water-saving actions
P66 Cookers	P41 Energy and water-saving actions	Requirement by and large unchanged but glass ceramic hobs changed to low-radiation hotplates.
P67 Water and energy metering	P41 Energy and water-saving actions	Requirement unchanged.
P68 Waste measurement		Requirement omitted because it is relatively a heavy task which do not give anything more besides all requirements of waste sorting.
P69 Serviettes	P13 Napkins	Requirement retained and moved to chapter Consumables
	P35 Regional foodstuffs and beverages	New requirement from restaurant criteria.
	P37 Declaration of GMO content	New requirement from restaurant criteria.
	P39 Food with	New requirement from

	documented sustainable origin	restaurant criteria.
Extra requirements for hotels with conference facilities		
	O17 Sorting at source	New requirement which make it mandatory to sort paper
P70 Sorting at source	P52 Sorting at source	Requirement require at least three different fractions for waste sorting.
P71 Conference pads and flipcharts	P53 Conference pads P54 Flip charts	Old requirement divided into two giving higher score.
P72 Drinking glasses	P55 Drinking glasses	Requirement unchanged.
	P56 Organically grown fruit	New requirement
Extra requirements for hotel with pool	**Extra requirements for hotels with pool/spa/hot springs**	
P73 Pool	P57 Pool disinfection	Requirement unchanged.
P74 Pool	P58 Pool cleaning chemicals	Requirement unchanged but point score lowered.
P75 Pool department/spa	P59 Pool facilities/spa/hot springs	Requirement by and large unchanged. Hot springs included.
	P60 Pool temperature	New requirement
Extra requirements for hotels with garden		
O22 Pesticides	O18 Biocides	Requirement unchanged.
P76 Composting	O19 Composting	Requirement tightened since made mandatory.
Extra requirements and changes for youth hostels		
O23 Dishwashing detergents and cleaning chemicals	O20 Dishwashing detergents and cleaning chemicals	Requirement unchanged.
O24 Waste	O21 Waste	Requirement unchanged.
Environmental management		
M1 Environmental policy		Requirement omitted.
M2 Constant improvements	O23 Actions to reduce environmental impact	Requirement clarified but the aim still the same.
M3 Organisation and responsibility	O22 Organisation and responsibility	Requirement clarified.
M4 Legislation	O24 Legislation and regulatory requirements	Requirement is by and large unchanged.
M5 Training	O25 Information about the Swan for employees	Requirement is by and large unchanged.

M6 Guest information	O26 Guest information	Requirement is by and large unchanged.
M7 Purchasing		Requirement omitted.
M8 Continuous measurements	O27 Continuous measurements	Requirement unchanged.
M9 Controlling documents	O28 Documentation of Swan requirements	Requirement is by and large unchanged.
M10 Technical service	O30 Energy-demanding equipment and service log	Requirement is by and large unchanged.
M11 Management of chemicals	O31 Handling of chemical products	Requirement is by and large unchanged.
M12 Annual follow-up	O30 Annual follow-up	Requirement is by and large unchanged.

Limit values – general
The class division is in general the same as in the previous version. We therefore propose the one change, which is a further development of the concept of extra consumption by day guests.
Establishments that run a restaurant that accounts for more than 45% of the hotel's total turnover and that also have a lodging occupancy greater than 60% are allowed to count every restaurant guest as 0.25 guest-nights, subject to approval by Nordic Ecolabelling.

Level of limit values
We propose in this revision that the limit value for energy is made mandatory. By this, Nordic Ecolabelling hopes to emphasise that hotels with exceptionally high energy consumption must reduce this to be Swan labelled. The requirement is written as kWh per square meter heated indoor area. The limit value has been lowered approximately five per cent with the reason not make it impossible to fulfil, but the requirement is still a clear tightening since fulfilment is mandatory. The point score requirement that awards points if the hotel lies a certain percentage below the limit value is unchanged from version 2 of the criteria.

Because a part of the energy consumption is proportional to the number of guest nights and the limit value must not work against a high lodging occupancy we will also give an opportunity to choose another alternative for limit value of energy consumption based on energy consumption per guest-nights. This limit value is at the time of the review not ready to present more as an idée with some values only as examples. The list of limit values will be find and evaluated during the time of the review.

It is proposed to tighten the limit value for unsorted waste by 10%. Based on the annual reports from our license holders we can now see an opportunity to tighten this requirement.

It is proposed to leave the limit values for water consumption and chemical products unchanged.

Legislation
Several requirements in version 2 of the criteria are legislation included to raise awareness of these. The Swan aims to impose requirements that are more stringent than legislative requirements. A general requirement is included that Swan-labelled hotels and youth hostels must fulfil all legislation and regulatory requirements (Legislation and regulatory requirements under Environmental Management). There is therefore now cause to omit several requirements from the criteria, such as Water and Sewage and Heat Pumps and Refrigeration Equipment.

Heating and electricity
The form of the requirements has been changed but the aim is still to promote the use of renewable energy and reduce the use of electricity for heating.

Sewerage
The point score requirement that hotels not connected to a sewage works with phosphate removal are awarded points if they use phosphate-free washing detergents has been omitted from the draft. National legislation and political intentions regarding this issue make a requirement that sends the correct signals to each country in question unworkable as either a mandatory requirement of point score requirement. Nordic Ecolabelling believes it is important to aim towards phosphate-free products. However, Nordic Ecolabelling also believes that this should be done as suitable substitute complexing agents become available. In Norway, for example, 3.8 wt% of phosphate is permitted in dishwasher detergent. Denmark has hard water and phosphates provide a superior complexing agent for such conditions. Phosphates also mean that the dosage can be reduced. Other complexing agents such as citrates necessitate a greater quantity of chemicals and thus increase the required dose. Nordic Ecolabelling promotes low dosage quantities since this reduces both chemical consumption and the impact of transport.
Despite most households in the Nordic region being connected to municipal sewers, many homes are not and thus pose a risk of phosphorous entering the aquatic environment. Therefore, the Swan requires clear information notifying whether the product contains phosphorous and if so that it must not be used if the house is not connected to municipal sewers.

Hot-air hand dryers
The draft criteria omit the possibility to score points for hot-air hand dryers in public toilets.
The latest report in this area is an LCA study from E.T.S.A supplied by the Öko-Institut, Germany. The report shows that there is a strong correspondence between paper and textile towels when seen as an aggregate. The background data also shows large variations between suppliers which makes it only natural to award points for ecolabelled products, ensuring that these are at the better end. With regard to hot-air hand dryers, these may be environmentally comparable (or even better) than the other

alternatives. However, functionally these differ preventing direct comparison. Hand drying using paper and textile towels is a mechanical process, which is part of the process of removing dirt and bacteria. Hot-air hand dryers are prohibited from use in the food industry for hygiene reasons while hand towel rolls and paper towels are permitted.
A Dutch life cycle analysis compares all three categories of product also based on user behaviour. The analysis shows that people to a far greater extent avoided washing their hands in toilets with hot-air hand dryers compared with toilets with paper towels of hand towel rolls. This of course reduces environmental impact but is an undesirable situation.

Kitchen, dining room and restaurant

It is proposed to remove the previous division of "Kitchen and dining room" and "Extra requirements for hotels with restaurant" and harmonise the requirements with the restaurant criteria. In the draft, all requirements regarding the kitchen/restaurant are collected under "Kitchen, dining room and restaurant". The point score of the requirements is halved compared to the restaurant criteria. This is to ensure correspondence with the other requirements in the document. The requirements that only apply to hotels with a restaurant are clearly marked. A number of new requirements have therefore been included, all as point score requirements. The new requirements cover:

- Regional foodstuffs and beverages
- Fairtrade products
- Declaration of GMO content
- Food with documented sustainable origin

See also Section 4 for the justification behind these requirements.

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6 Harmonisation with Flower criteria

The European ecolabel, the Flower, also has criteria for hotels and youth hostels. The criteria document goes under the official name of "Commission Decision of 14 April 2003 establishing the ecological criteria for the award of the Community eco-label to tourist accommodation service". The criteria document is valid until 30 April 2008. At the time of publication, no revision of the criteria had been initiated.

The project group for the revision of the Swan criteria for hotels and youth hostels has thoroughly examined to what extent the Swan criteria can be harmonised with the Flower criteria - regarding the period of revision, criteria structure and criteria content. Harmonisation is desirable for both the Swan and the Flower since this provides licensees a greater range of markets on which it is possible to use the ecolabel. For example, an entire hotel chain, which hotels throughout Europe, may wish to be ecolabelled. The hotel chain may wish to use the Flower in Southern Europe (where the Flower is most well known) and the Swan in Northern Europe (where the Swan is most well known). Furthermore, this makes it easier for the customers of the hotel chain to understand what ecolabelling entails if the Swan and Flower are harmonised.

Unfortunately, the project group revising the Swan criteria document for hotels and youth hostels has not found it difficult to fully harmonise either 1) the time period of revisions, or 2) the content of the criteria.

1) It is not possible to harmonise the period between revisions between the Swan and Flower. At the time or writing it was not known when the Flower criteria would be revised. And since the Swan criteria document is older (from 2003) and in need of updating, it is not suitable to wait until the Flower criteria are revised. Instead, the plan is for representatives from the Nordic ecolabelling bodies to actively participate in the revision of the Flower criteria, when this takes place, with the aim of initiating an approach towards future harmonisation.

2) It is only possible to harmonise partially the structure of the Swan and Flower criteria since hotels in Northern and Southern Europe operate under very different conditions. Accordingly, different ecolabelling requirements are needed in several areas. Nonetheless, this does not preclude a joint criteria document for all hotels in Europe. This would however require an extensive process with the establishment of flexible requirements that can be used in both Southern and Northern Europe. It is not considered possible that the Swan alone harmonise its requirements with the Flower without taking regard to the differences in accommodation.

Examples of the different conditions:

1. Differences in energy consumption due to different climates.
2. Differing energy policies.
3. Different markets regarding organic foodstuffs.
4. Different markets regarding ecolabelled products.
5. Differing working conditions.
6. Differing waste management possibilities.
7. Differing waste water processing.

It should however also be noted that in this revision – and in previous revisions – of the Swan criteria, several harmonisations have been made between Swan and Flower criteria.
It is proposed that the structure of the criteria is unchanged so that both criteria documents continue to be divided into the main areas of energy, water, waste, chemicals (primarily cleaning agents) and environmental management. The requirements are evaluated in view of whether they can be included in both documents and whether there are grounds for different requirement levels. For example, it is possible to have goals for the treatment of hazardous waste, water-saving toilets and time-controlled sauna heaters. It is however far harder to set requirement levels on heating and the purchase of organic and ecolabelled products.

7 New criteria

Ahead of the next revision of these criteria, the sustainability of operations will be assessed further with a focus on energy, water, chemicals and waste.
For example:
Investigate whether it is possible to set requirements on the control of air-conditioning.
Investigate how future EU directives on building energy performance can affect the criteria.
Investigate the possibility to tighten the requirement on chemicals that are not ecolabelled.
Investigate the possibility to harmonise these criteria with Flower criteria.

8 Glossary

Term	*Explanation or definition*
Active standby	Active standby: The TV connected to a power source produces neither sound nor vision but is exchanging / receiving data from an external source.
Active substances	Chemical substances, excluding water (regardless of whether or not water has been added).
Area	The total heated indoor area of the establishment.
Calorific values for the energy limit value	The calorific values listed below are used for the calculations. More accurate calorific values may be used subject to approval by Nordic Ecolabelling.

	<table><tr><td></td><td>Value [MJ/kg]</td></tr><tr><td>Oil</td><td>40.4</td></tr><tr><td>Wood pellets</td><td>16.8</td></tr><tr><td>Wood chips</td><td>8.3</td></tr><tr><td>Natural gas</td><td>51.9</td></tr><tr><td>LPG</td><td>46.1</td></tr></table>
Concentrated product	Product containing less than 40% water. Applies to chemical products.
Day guest	A guest staying at the establishment for at least four hours.
Direct-acting electricity	Electric power that is used for heating directly, e.g. in electric radiators, electric boilers or under floor heating. Additional electricity for heat pumps does not count as direct-acting electricity.
Ecolabelled	Ecolabelled: a product marked with the Swan, the EU flower, Bra Miljöval (Good Environmental Choice) or TCO 99 or later versions - unless otherwise specified.
Garden	Garden refers to an outdoor area belonging to the hotel excluding roads, driveways and car parks.
Geothermal energy	For the limit value calculations, the heat from geothermal energy is counted as free, but the water consumption must be included in the limit value for water.
Guest night	One let bed per day (24 hours).
Heat pumps definition	Heat pumps refer to built-in units and free-standing units heavier than 3 kg. When calculating the limit value, only supplied electrical energy and possibly other peak heating is included.
Heat pumps – calculation for requirement R3	If the efficiency factor of the heat pump is x does it correspond to a part according to the formula [(x-1)/x]*100 %. This part must be related the heat pumps part of the total energy consumption for heating. Example: A hotel gets half of their energy consumption for heating from a heat pump. If the efficiency factor is three is their part will be 66% of half of the energy consumption for heating which will be 33%. The hotel will get 1 p.
Heating	The energy used for heating the hotel's rooms and other areas.
LCA	Life Cycle Assessment
LCI	Life Cycle Impact Assessment
Lodging turnover	Revenue from guests who stay overnight.
Low-energy lamps	Low-energy lamps includes conventional fluorescent tubes, fluorescent tube bulbs and low-energy lamps.
Organic	Organic refers to food and/or drink labelled according to Council Regulation (EEC) No 2092/91, unless otherwise specified, for example, KRAV, the Finnish "Sun label" (Luomu) – controlled organic production, Debio, Statskontrolleret økologiskt (Ø-label), and Tún-lífrænt.
Own vehicles	Vehicles that are used in the running of the hotel, e.g. to carry goods and guests to and from the hotel. Leased cars are also counted as own vehicles.
Passive standby	Passive standby: The TV is connected to a power source, produces neither sound nor vision, and is waiting to be switched into the modes 'off', 'active standby' or 'on' on receipt of a direct or indirect signal, e.g. from the remote control.
Printed matter	Printed matter refers to, for example, advertising, brochures, writing paper and other stationery carrying the hotel logo. The requirement also covers printed matter the hotel chain has ordered centrally.

Refrigeration appliances	Refrigeration appliances refers to built-in units and free-standing units heavier than 3 kg.
Renewable energy sources	Renewable energy sources include wind power, solar energy, geothermal energy, wave and tidal energy, hydroelectric power, biofuel, landfill gas, gas from sewage-treatment plants and biogas. Biofuel is the biodegradable fraction of products, waste and residual products from agriculture (vegetable and animal), forestry and similar industries, and the biodegradable fraction of industrial waste and municipal waste.
Restaurant	A restaurant where food is prepared, rather than simply re-heated.
Restaurant turnover	Revenue from food, drink and other restaurant takings.
Service life, low-energy lamps	Refer to the method described in Commission Directive 98/11/EC of 27 January 1998 implementing Council Directive 92/75/EEC with regard to energy labelling of household lamps.
Turnover	Turnover refers to the revenue from lodging and restaurant activities and conference if it is included in the license.
Waste heat	Excess heat that cannot be recovered and is released to the surroundings. The heat may be contained by fluids or gases.
Water consumption	The total water consumption of the establishment. If the establishment has its own laundry, the water consumption of the laundry may be deducted from the total water consumption.

9 References

Summary of:

Literature

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- Individuals contacted

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Appendix 1

Analysis of requirements for draft hotel criteria

Analysis of spread of requirements in the draft, including environmental management

This analysis is based on a hotel with restaurant, pool, conference facilities and garden.

Total score 92,5

Spread of requirements, draft

Requirement type	Mandatory (qty)	Point score (qty)	Total score	% of total	Comparison with version 2
Energy	2	18	33	35.7	33.6
Chemical products	9	15	22.5	24.3	25.3
Water		6	7.5	8.1	
Waste/recycling	6	10	11.5	12.4	
Miscellaneous				19.5	
Ecolabelled purchasing	5	10.5			

Comparison between v2 and draft

	O-requirements	P-requirements	Total score
Version 2 (incl. environmental management)	36	76	114.5
Draft (incl. environmental management)	31	60	92.5
Difference drat – version 2	-5	-16	-22

Appendix 2

Brief description of the most significant environmental aspects of ecolabelled products that may occur in hotel operations, excluding dishwashing detergents, cleaning chemicals and laundry detergents.

Paper products: The environmental aspects of paper products are significant. Paper production requires considerable amounts of energy, emissions to water and air are great and large quantities of chemicals are used. Typical for paper products is that the final process stages, printing, paper manufacture and refinement are not the dominating environmental factors. The greatest environmental impact comes from earlier often "invisible" processes, i.e. forestry and pulp production.

Batteries - disposable and rechargeable: Swan-labelled disposable and rechargeable batteries contain a minimum of heavy metals. To ensure a long service life, stringent requirements are set of the batteries' capacity and durability. Rechargeable batteries: If a charger is provided with the batteries, this shall fulfil tough requirements regarding energy efficiency and materials.

Toner cartridges: Swan-labelled toner cartridges contain low quantities of environmentally hazardous and toxic substances; Plastic parts do not contain environmentally hazardous and toxic chlorinated substances (E.g. PVC); Reusable parts are collected via a custom collection system (money-back system); Further, the cartridge must fulfil stringent quality requirements; Print quality and durability are tested.

Electrical light bulbs and fluorescent tubes: There are both Swan and Flower criteria for light sources. Both require that the light source shall: be energy efficient (class A or B); have a low content of the toxic heavy metal mercury; and have a long service life (e.g. a low-energy lamp must burn for at least 10,000 hours).

Flooring: Swan-labelled floor coverings comprise at least 50% renewable materials, e.g. wood (solid or with fibre board), linoleum or carpeting. Plastic floor coverings cannot be ecolabelled. The criteria set specific requirements on the constituents of the floor covering and production that apply to both the raw materials and the final product. The floor covering must also meet requirements on durability that vary depending on where the floor is laid. An ecolabelled floor covering may only contain very small amounts of toxic and environmentally hazardous substances. In particular, the flooring must not contain added heavy metals, chlorinated/brominated paraffins, organic tin compounds, phthalates or polybrominated diphenyl ethers. Requirements are also set of formaldehyde emissions from the flooring. In general, the use of renewable raw materials, low energy consumption and wood from sustainable forests are required.
The Flower labelled Hard Floor Coverings for indoor/outdoor use: natural stones, agglomerated stones, concrete paving units, terrazzo tiles, ceramic tiles and clay tiles. The requirements on the products contribute to: reducing impact to local flora and fauna at the site of raw material extraction; reducing energy consumption in production; reducing pollutant emissions to the environment; reducing the use of toxic and environmentally hazardous substances; and providing uses with good advice

regarding use and maintenance so that this has a minimum impact on the environment.

PC computers: A Swan-labelled or Flower labelled PC ensures low energy consumption. Tough requirements are set of the energy consumption of the PC during use and in standby. In addition the PCs are designed for easy disassembly and are thus easy to reuse/recycle. Several problematic chemicals are forbidden (e.g. brominated fire retardants). To increase the service life of the product, the producer guarantees that spare parts are available for at least three years from the purchase date.

Copiers, printers and faxes: The Swan label covers copiers, printers, faxes and multifunction devices and guarantees: Low energy consumption, which is tested to exceed the Energy Star requirements; Plastic parts and other electronic parts do not contain a variety of environmentally hazardous and toxic substances (e.g. phtalates, flame retardants and heavy metal compounds); Requirements are set to raise the recyclability of material – plastic parts must be marked, the casing designed to allow easy disassembly and a spare parts guarantee shall exist; The appliance is tested and proven not to cause toxic emissions at the workplace (e.g. ozone, styrene and dust).

Television sets: A Flower or Swan-labelled TV has passed requirements on energy consumption. Tough requirements are set of the energy consumption of the set during use and in standby. In addition, the set is designed to allow disassembly and reuse. Several problematic chemicals are forbidden (e.g. brominated fire retardants). To increase the service life of the set, the producer guarantees that spare parts can be purchased for at least three years from the purchase date.

Furniture and fittings: The Swan sets requirements regarding the use of non-environmental materials in furniture and also requires the use of recyclable materials. The Swan also set requirement on energy consumption and the use of environmentally hazardous and toxic substances in furniture production. Furniture impacts the environment the most during production and disposal. The Swan therefore sets requirements of the furniture's service life. Finally, the Swan requires that the furniture can be recycled.

Textiles: The criteria for the Flower labelling of textiles contain requirements for many different types of fibres and permit the use of only the most environmentally friendly. Strict requirements are set of all chemicals used in production and waste water from colouring. Limits are set for the quality of the finished products to ensure that they are equally as good as other textiles.

Alternative dry cleaning: The Swan label for alternative dry cleaning means that textiles are cleaned without the use of fluid organic solvents. Swan-labelled alternative drycleaners use methods suitable for health and the environment. The active cleaning agents are readily biodegradable and do not have long term effects regarding health and the environment. Swan-labelled alternative dry cleaning ensures good results in the cleaning of all types of textiles.

Cleaning services: Swan-labelled cleaning services can be external or in-house. Swan-labelled cleaning services guarantee: Low consumption of cleaning agents and

detergents; Low impact associated with transport; Minimum quantities of waste; Extensive use of ecolabelled cleaning agents and detergents. Cleaning agents must not, for example, be classified as environmentally hazardous; Cleaning results must be high quality and personnel must receive training.

Vehicle wash installations: Swan-labelled vehicle wash installations guarantee: Very low water consumption per washed vehicle; Purification facilities that enable the cleaning and reuse of water; All chemicals shall primarily contain readily biodegradable substances; Strict limit values for heavy metals and mineral oils in the purified waste water admitted to the sewage system; A documented level of cleaning quality on a par with traditional wash installations.