



Draft  
Swan labelling of  
**Personal computers**  
Version 5.0 •



**Nordic Ecolabelling**

In November 1989, the Nordic Council of Ministers adopted a measure to implement an official voluntary ecolabelling scheme, the Swan. The organizations/companies listed below administer the Swan ecolabelling schemes on assignment from their national governments.

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Quotations may be made provided that Nordic Ecolabelling is stated as the source.

# Swan labelling of Personal computers

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## **What is a Swan-labelled personal computer?**

Swan-labelled personal computers are amongst the least environmentally harmful products in their category, since they meet strict environmental requirements.

The environmental problems associated with computers are mainly due to power consumption but also the amount of waste produced. As the service life of computers is often very short, discarded computers represent a considerable waste problem, since they also contain hazardous substances such as flame retardants and lead.

The requirements in this document, which a personal computer must fulfil to be awarded a Swan licence, focus on following aspects:

- power consumption
- design (upgradeability and disassembly)
- plastics and their additives, e.g. flame retardants
- heavy metals
- recycling of discarded products
- performance such as noise level, ergonomics and electrical and magnetic fields

## **Why choose the Swan label?**

- The Swan trademark may be used in the marketing of the computer. The Swan label is a very well-known and well-reputed trademark in the Nordic region.
- The Swan label is a cost-effective and simple way of communicating environmental work and commitment to customers and suppliers.
- Environmentally suitable operations prepare the manufacturer for future environmental legislation.
- Environmental issues are complex. It can take a long time and extensive resources to gain an understanding of a specific area. Swan labelling can be seen as aid in this work.
- The Swan label not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Swan licence can also be seen as a mark of quality.

## What can carry the Swan label?

The Nordic Ecolabelling criteria apply to personal computers for office and home use. The criteria encompass stationary and portable computers.

A stationary personal computer might typically consist of a system unit, display and a keyboard. Accessories such as a mouse, modem or secondary memory, which do not form part of the above-mentioned primary units, cannot be Swan labelled. A Swan licence may be sought for a system unit, display and keyboard, jointly or individually, and for portable computers.

The criteria do not apply to printers, for which separate criteria apply.

## How to apply



Applications must be based on "Rules on Nordic Ecolabelling", 12 December 2001 or later version, and the requirements contained in this document.

Each requirement is marked with the letter R (requirement) and a number. All requirements must be fulfilled for the award of a licence.

Appendices 4-12 may be used as a documentation aid when applying for a licence, but this is not mandatory.

### Icons in the text

The text describes how the applicant shall demonstrate fulfilment of each requirement. There are also icons in the text to make this clearer. These icons are:

-  Enclose.
-  Requirement is checked on site.

### Application

The application shall be sent to Nordic Ecolabelling in the country in which the personal computer is sold. See page 2 for addresses. The application documents comprise an application form and documentation demonstrating fulfilment of the requirements (specified in the criteria).

Further information and assistance may be available. Visit the Web site of the national ecolabelling body for more information.

### **On-site inspection**

Before a licence is granted, Nordic Ecolabelling performs an on-site inspection to ensure adherence to the requirements. For such an inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that support the application must be available for examination.

### **Costs**

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the turnover of the Swan labelled personal computer.

### **Enquiries**

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses.

## **1 Environmental requirements**

The applicant must submit the documentation specified (with the symbol ☒) under each individual requirement in Sections 1, 2 and 3.

Many of the requirements in this document are partly or entirely harmonized with the Blue Angel (Edition June 2003) and/or EU Ecolabel (September 2004) requirements for computers. If the product already carries the Blue Angel or the EU Ecolabel in accordance with the criteria versions listed above, it is simpler to apply for the Nordic Swan. Such applicants are advised to study appendices 2 and/or 3, where the differences between the criteria of the three separate ecolabelling schemes are described as well as the documentation needed in this specific case.

### **1.1 General description**

#### **R1 Description of the computer**

Describe the computer and how it fulfils the definition of what can carry the Swan label.

☒ Description as specified above.

## 1.2 Power consumption

A voltage of 230 V must be used for power consumption measurements.

### Power consumption of system unit

#### R2 On/Off switch

The system unit must have a visible On/Off switch.

Description of the On/Off switch (Appendix 4).

#### R3 Configuration requirements

The computer system unit shall meet the Energy Star configuration requirements that enable energy efficiency modes.

*As defined by the United States Environmental Protection Agency and in operation as at September 2004, [http://www.energystar.gov/index.cfm?c=computers.pr\\_crit\\_computers](http://www.energystar.gov/index.cfm?c=computers.pr_crit_computers).*

A declaration certifying that the personal computer system unit satisfies the configuration requirements ('Guidelines') outlined in Energy Star (Appendix 4).

#### R4 Sleep mode

The computer shall support the ACPI S3 sleep state (suspend to RAM) to allow a power consumption of no more than 4 watts. The computer shall be able to wake up from this mode in response to a command from any of the following:

- modem,
- network connection,
- keyboard or mouse action.

*ACPI = Advanced Configuration and Power Interface Specification*

The default mode-change time from operation to the ACPI S3 sleep state shall be no more than 30 minutes of inactivity. The manufacturer must enable this feature, but the user may change it.

A report certifying that the requirement has been fulfilled and that the power consumption has been measured using the procedure in the current Energy Star computer memorandum of understanding.

#### R5 Off-mode

The off-mode power consumption shall be no more than 2 watts. In this context, the off-mode is the state initiated by command or by switch off. .

See R4.

## Power consumption of displays

### R6 On/Off switch

The display unit must be equipped with a visible On/Off switch.

☒ Description of the On/Off switch (Appendix 4).

### R7 Sleep mode

The monitor shall have a sleep mode power consumption of no more than 2 watts. The default mode-change time from operation to the sleep state shall be no more than 30 minutes of inactivity. The manufacturer must enable this feature, but the user may change it.

*Sleep mode: As defined for monitors in Energy Star Version 4,  
[http://www.energystar.gov/index.cfm?c=computers.pr\\_crit\\_computers](http://www.energystar.gov/index.cfm?c=computers.pr_crit_computers)*

☒ A report certifying that the requirement has been fulfilled and that the power consumption has been measured using the procedure in the Energy Star Programme Requirements for Computer Monitors (Version 4.0).

### R8 Off-mode

The monitor shall have an off-mode power consumption of no more than 1 watt. In this context, the off-mode is the state initiated through the command to shut down the monitor.

*Off-mode: As defined for monitors in Energy Star Version 4,  
[http://www.energystar.gov/index.cfm?c=computers.pr\\_crit\\_computers](http://www.energystar.gov/index.cfm?c=computers.pr_crit_computers)*

☒ See R7.

### R9 Active mode

Monitors shall not exceed the Energy Star Version 4 requirements for Tier 2, maximum active power consumption. Monitors must comply with the appropriate formula given below:

i) if  $X < 1$  megapixel, then  $Y = 23$

ii) if  $X \geq 1$  megapixel then  $Y = 28X$

(where  $X$  is the number of mega-pixels and  $Y$  the power consumption in watts)

☒ See R7.

## Power consumption of portable computers

### R10 On/Off switch

The portable computer must be equipped with a visible on-off switch.

☒ Description of the On/Off switch (Appendix 4).

### R11 Sleep mode

The portable computer shall support the ACPI S3 sleep state (suspend to RAM) to allow an energy consumption of no more than 3 watts. The computer shall be able to wake up from this mode in response to a command from any of the following:

- modem,
- network connection,
- keyboard or mouse action.

*ACPI: Advanced Configuration and Power Interface Specification*

The default mode-change time from operation to the ACPI S3 sleep state shall be no more than 15 minutes of inactivity. The manufacturer must enable this feature.

☒ A report certifying that the requirement has been fulfilled and that the power consumption has been measured using the procedure in the current Energy Star computer memorandum of understanding.

### R12 Off-mode

The portable computer shall have an off-mode consumption of no more than 2 watts when the battery is fully charged and the power supply is connected to the electricity supply. In this context, the off-mode is the state initiated by command or by switch off.

☒ See R11.

### R13 Power supply

The power supply of the portable computer shall have a maximum consumption of no more than 0.75 watt when it is connected to the electricity supply but is not connected to the computer.

*The requirement is based on EU's External Power Supplies Code of Conduct – Version 2, 24 November 2004*

☒ The applicant shall declare compliance with the power supply requirement (Appendix 4).

## 1.3 Design and materials

### Design

#### R14 Disassembly

System units, displays, keyboards and portable computers must be designed in such a way that disassembly is possible. The requirement consists of the following individual requirements:

1. A qualified person, working alone, must be able to dismantle the product.
2. The manufacturer must ensure that disassembly of the system unit is possible and compile disassembly instructions verifying that:
  - connections are easy to locate and access and easily separable with generally available tools
  - connections are as standardized as possible
3. The substances, preparations and components listed in Annex II of WEEE Directive (2002/96/EC) must be removable.
4. If labels are required they shall be easily separable or inherent.
5. Plastic parts heavier than 25 g must be of one polymer or compatible polymers, except for the cover, which shall consist of no more than two types of polymers that are separable.
6. Plastic parts (>25 g) may contain metallic inlays provided that these can easily be separated without the use of special tools.
7. 90 wt% of plastics and metals in the housing and chassis must be technically suitable for material recovery.  
*Material recovery does not include the recovery of thermal energy through incineration.*



Disassembly instructions and a declaration from the manufacturer of the product showing that the requirements are met (Appendix 5).

The ecolabelling body may request a demonstration of disassembly, if considered necessary. The demonstration may take the form of a video film or an inspection visit by the ecolabelling organization. The licence applicant may also choose to arrange for a third party to verify that the product fulfils the requirements. The products that are checked must be selected randomly. The licence applicant will bear the cost of verification.

## Upgradeability

### R15 Upgradeability, stationary computers (desktop)

The system unit of a stationary computer must have a modular design. The user shall be able to replace the modules without the use of special tools and it shall be possible to upgrade the computer by:

- working memory expansion
- installation, exchange and expansion of mass storage
- installation and/or exchange of CD ROM, DVD and hard disk drive
- at least two additional interfaces for external storage media and other peripheral devices.

Declaration from the licence applicant or manufacturer that the requirement is fulfilled (Appendix 6). Demonstration in the form of a video film or an inspection visit by the ecolabelling organization. The licence applicant may also choose to arrange for a third party to verify that the product fulfils the requirements. The products that are checked must be selected randomly. The licence applicant will bear the cost of verification.

### R16 Upgradeability, portable computers

Portable computers must be so designed as to allow performance expansion (upgrading) at least for the following purposes:

- working memory expansion
- ports for:
- external monitor
- external keyboard and mouse
- at least two additional interfaces for external storage media and other peripheral devices.

Declaration from the licence applicant or manufacturer that the requirement is fulfilled (Appendix 6). Demonstration in the form of a video film or an inspection visit by the ecolabelling organization. The licence applicant may also choose to arrange for a third party to verify that the product fulfils the requirements. The products that are checked must be selected randomly. The licence applicant will bear the cost of verification.

## Plastics

### R17 Chlorine-based plastics

The housing and chassis must not contain chlorine-based plastics.

Declaration from the applicant, or the manufacturer(s) of plastic parts, showing that the requirement has been met (Appendix 7).

### R18 Paint and metal

Large plastic parts (>25 g) must not be painted or metallized.

This requirement does not apply to portable computers.

☒ See R17.

### **R19 Marking of plastics**

Plastic parts heavier than 25 g must carry permanent labelling specifying the material in accordance with latest versions of ISO 11469 and ISO 1043, parts 1 to 4. This criterion does not apply to extruded plastics or the light conductors in flat displays. Plastic parts covering a flat surface of less than 200 sq. mm are also exempted from this requirement.

☒ See R17.

### **R20 Flame retardants in plastic parts**

Plastic parts must not contain halogenated flame retardants. The use of flame retardants that can be assigned one or more of the following risk phrases at the time of application, in accordance with EU chemical legislation, is prohibited: R45 (may cause cancer), R46 (may cause heritable genetic damage), R60 (may impair fertility) or R61 (may cause harm to the unborn child). The maximum permitted concentration for impurities is 0.1 wt% in homogenous material.

Exempted from the requirement on halogenated organic compounds are:

- printed circuit boards. These parts must not, however, contain any PBB (polybrominated biphenyls), PBDE (polybrominated diphenyl ethers) or chlorinated paraffins (maximum permitted concentration for impurities is 0.1 wt% in homogenous material).
- plastic parts lighter than 25 g. These parts must not, however, contain any PBB (polybrominated biphenyls), PBDE (polybrominated diphenyl ethers) or chlorinated paraffins (maximum permitted concentration for impurities is 0.1 wt% in homogenous material).

☒ The applicant must provide a list of all used flame retardants including MSDS for each flame retardant. The list must contain complete chemical name, CAS number and supplier. (Appendix 8)

☒ The manufacturer of the flame retardant must certify that there are reasonable grounds for concluding that the flame retardant used cannot be considered to have the health effects specified above. (Appendix 9)

☒ The applicant is not required to supply documentation concerning flame retardants in printed boards if the printed boards are already Swan labelled.

## **Other dangerous substances**

### **R21 Metals**

Materials may not contain cadmium, lead or mercury. The exemptions are the same as in Directive 2002/95/EC (RoHS). The maximum permitted concentrations for impurities are:

Cadmium	0.01 wt% in homogenous material
Lead	0.1 wt% in homogenous material
Mercury	0.1 wt% in homogenous material

*Lamps in flat displays are exempted from this requirement.*

☒ Declaration from the applicant, the manufacturer(s) of different parts or the material producer(s) showing that the requirement is fulfilled.

**R22 Metals in batteries/accumulators**

With the exception of technically unavoidable impurities, batteries and accumulators must not contain any lead, cadmium or mercury. Such impurities must not exceed the limit values specified in the EU Battery Directives (91/157/EEC and 98/101/EEC)

- Declaration that the batteries/accumulators fulfil the requirement and details of the type of batteries used and their manufacturer (Appendix 11).

**R23 Mercury in flat displays**

The background illumination for flat displays must not contain more than 3 mg of mercury per lamp.

- Report of the total mercury content per lamp in the background illumination, the total amount of lamps and information about the lamp supplier (Appendix 12).

## 1.4 Other environmental requirements

**R24 Guarantee and spare parts**

The manufacturer must furnish a commercial guarantee stating that the system unit, display or the portable computer will function for at least three years. The guarantee must apply from the day on which the computer is delivered to the customer.

The applicant undertakes to ensure the supply of spare parts for product repair for at least 5 years following the termination of production and to inform the customer of this. Replaceable parts are those parts which may typically fail within the scope of the ordinary use of a product - whereas those parts which normally exceed the life of the product need not to be provided as spare parts.

- Declaration from the applicant or manufacturer that the requirements as to guarantee and spare parts are met (Appendix 13).

**R25 Recycling**

The manufacturer shall offer, without any extra fee, the take-back for refurbishment or recycling of the product and for any component being replaced.

Items contaminated by users (e.g. in medical or nuclear applications) are exempted from the requirement.

The licence applicant must have a system in place for recycling used products or be a member of an official product return scheme. The following must be documented:

- Description of how the take-back system works and the recycling companies used.

## **R26 Instructions for use**

The following information must be provided to consumers, for example in the instruction manual or information sheets for the individual product:

1. Recommendations on the use of the energy-saving functions. This must include information about the effect that energy consumption and accordingly operating costs may increase if these functions are deactivated.
2. Information on the power consumption of the computer during operation, in energy-saving mode and in off-mode and information about the effect that the consumption of mains current can be reduced to zero if the plug of the computer or the power source of portable computer is removed or if the mains socket is turned off.
3. Maximum declared sound power (A-weighted sound power level according to ISO 7779 and ISO 9296) during operation and in idle mode.
4. Information on the guarantee and the availability of spare parts.
5. Information on the construction of the equipment and expansion of for example the processor, memory and clock frequency.
6. Information on the type of batteries and accumulators used and on the user's obligation to forward used batteries and accumulators to a return station and not dispose them with household waste.
7. Information about the effect that the product has been designed to permit reuse of parts and recycling.
8. Advice on how used products and their packaging are recycled or disposed of in an environmentally acceptable way (deposit system, handling and recycling as well as scrapping) by the manufacturer or third party. Information shall also be provided on where users can dispose of used products.
9. Advice on how consumers can take advantage of the manufacturer's offer to take back used products.
10. Information on how the customer can use the service and support function.
11. Statement that the product has been granted a Swan label and a short account of what this means with references to further information about Nordic Ecolabelling on the Internet (<http://www.svanen.nu>).

The manual must state that the regulations in force in the country/municipality in question must be observed when disposing of batteries and accumulators.

The instructions for use must be in the official languages in the Nordic country where the Swan labelled product is on sale.

The manual must be available in printed or electronic form. If the manual is made available in an electronic form, information on how the computer is connected and started and information on how to print out manual must be provided in printed form.



A copy of the manual or copies of the relevant pages.

## 2 Performance

### R27 Noise

System units and portable computers must fulfil the requirements as to maximum (A-weighted) sound power level LwAd (bel(A)) during operation and idle mode in accordance with the following:

	Operation, LwAd	Idle, LwAd
Desktop/Deskside computers	4.4 bel (A)	4.0 bel (A)
Portable computers	4.0 bel (A)	3.5 bel (A)

*Operation = HDD in full operation mode, CPU and HDD shall be stress tested; optical drive shall not be used.*

*Idle mode = HDD running without I/O (only spindle motor in operation).*

*Deskside computer = equipment standing directly on the floor easily accessible by a seated operator.*

The sound power level of the display, system unit and portable computer must be measured in accordance with ISO 7779 and declared in accordance with ISO 9296. If noise emission measurement is carried out on one appliance only the factor K = 3.0 dB(A) shall be added to the measured value. The factor K allows for measurement errors when the same device is tested using the same method at different times under different conditions and for deviations in production.

- Measurement results with a description of the method of measurement used and details of who performed the measurement.

### R28 Ergonomic properties

Displays, keyboards and portable computers must fulfil the ergonomic requirements of the below mentioned standards.

The ergonomic properties of CRT displays must be tested in accordance with the latest versions of the standards ISO 9241-3, 9241-7 and 9241-8.

The ergonomic properties of LCD displays and portable computers must be tested in accordance with the latest version of the standard ISO 13406-2.

The ergonomics of displays must be tested with the aid of the platform system, which consists of a display, keyboard, system unit with graphics cards, operating system and tested fonts. This system and the graphic resolution must be declared in the test report.

Generally used graphic resolutions must meet the ergonomic requirements.

The ergonomics of the keyboard must be tested in accordance with ISO 9241-4.

The parameters in the standard must be tested and their measurement values reported.

- Measurement results with a description of the method of measurement used and details of who performed the measurement.

**R29 Electrostatic potential**

CRT-displays must fulfil the requirements applicable to electrostatic potential in accordance with the methods contained in TCO '03 / TCO '99.

- Measurement results with a description of the method of measurement used and details of who performed the measurement.

**R30 Electrical and magnetic fields**

Displays and portable computers must fulfil the requirements applicable to electrical and magnetic fields in accordance with EN50279, category A.

During measurement the portable computer must be connected to a Class 1 AC adapter with an earthed plug. The requirement also applies when the portable computer is connected to a docking unit.

- Measurement results with a description of the method of measurement used and details of who performed the measurement.

### 3 Quality and regulatory requirements

**R31 Swan licence administrator**

The company shall appoint a person responsible for ensuring the fulfilment of Swan requirements, and a contact person for communications with Nordic Ecolabelling. Preferably, this should be the same person.

- A chart of the company's organizational structure detailing who is responsible for the above.

**R32 Documentation**

The licensee must be able to present a copy of the application, and factual and calculation data supporting the documents submitted on application (including test reports, documents from suppliers and suchlike).

- Checked on site.

**R33 Quality of the product**

The licensee must guarantee that the quality in the production of the Swan-labelled personal computer is maintained throughout the validity period of the licence.

- Procedures for collating and, where necessary, dealing with claims and complaints regarding the quality of the Swan-labelled personal computer.

**R34 Service and support**

The licensee shall offer the possibility of service and support in the official Nordic language where the Swan labelled product is sold.

- Describe service and support organisation.

**R35 Planned changes**

Written notice must be given to Nordic Ecolabelling of planned changes that have a bearing on Swan requirements.

Procedures detailing how planned changes are handled.

**R36 Unplanned nonconformities**

Unplanned nonconformities that have a bearing on Swan requirements must be reported to Nordic Ecolabelling in writing and journalled.

Procedures detailing how unplanned nonconformities are handled.

**R37 Traceability**

The licensee must have a traceability system for the production of the Swan-labelled personal computer.

Description of/procedures for the fulfilment of the requirement.

**R38 Take-back system**

Relevant national regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Nordic countries in which the Swan-labelled personal computers are marketed.

Declaration from the applicant regarding adherence to existing recycling/take-back agreements.

**R39 Legislation and regulations**

The licensee must guarantee adherence to safety and EMC regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Swan-labelled product is manufactured. Additionally the licensee must guarantee adherence to product-specific regulations in all the Nordic countries where the product is sold.

**No documentation is required, but Nordic Ecolabelling may revoke the licence if the requirement is not fulfilled.**

**R40 Marketing**

Marketing of the Swan-labelled personal computer must comply with "Regulations for Nordic Ecolabelling".

Appendix 1 duly completed.

## Requirements on test institute/analysis laboratory

The analysis laboratory used must fulfil the general requirements of standard EN ISO 17025 or have official GLP status.

The applicant shall bear the costs of documentation and analysis.

The applicant's analysis laboratory/test procedure may be approved for analysis and testing if:

- sampling and analysis is monitored by the authorities, or
- the manufacturer's quality assurance system covers analyses and sampling and is certified to ISO 9001 or ISO 9002, or
- the manufacturer can demonstrate agreement between a first-time test conducted at the manufacturer's own laboratory and testing carried out in parallel at an independent test institute.

## Marketing

The Swan label is a very well-known and well-reputed trademark in the Nordic region. Swan-labelled products and services may be marketed using the Swan label so long as the associated licence is valid.

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear that the personal computer is ecolabelled.

More information on marketing can be found in "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions.

## Design of the Swan label

Design of the Swan label:



Licence number

Each licence has a unique licence number that must be displayed along with the label.

More information on the design of the label can be found in " Regulations for Nordic Ecolabelling" 12 December 2001 or later versions.

## Sales in other Nordic countries

Registering a licence in another Nordic country allows the Swan label to be used on a larger market. The following must be submitted to Nordic Ecolabelling:

- A form for sales in other Nordic countries.
- A copy of the licence.

For Norway:

- Documentation showing how the recycling of packing material is organized.

Registration is free of charge but an annual fee shall be paid in accordance with the national regulations.

## Follow-up inspections

Nordic Ecolabelling may decide to check whether the personal computer fulfils Swan requirements during the licence period. This may involve a site visit, random sampling or similar test.

The licence may be revoked if it is evident that the personal computer does not meet the requirements.

Random samples may also be taken in-store and analysed by an independent laboratory. If the requirements are not met, Nordic Ecolabelling may charge the analysis costs to the licensee.

## How long is a licence valid?

Nordic Ecolabelling adopted the criteria for personal computers on xx Month 2007. The criteria are valid until xx Month Year.

The ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be extended or adjusted, in which case the licence is automatically extended and the licensee informed.

Revised criteria shall be published at least one year prior to the expiry of the present criteria. The licensee is then offered the opportunity to renew their licence.

## New criteria

In the next criteria revision, consideration will be given to the following issues:

- The possibility of further harmonization with other eco-labels.
- The possibility to extend the product group and enable the Swan-labelling of thin clients, PDAs, servers and computer accessories.
- The possibility of imposing the requirement that recycled plastic should be used in the production of the computer.
- Requirements as to recycling of materials in the production process and reductions in waste quantities during manufacture.
- The possibility to ban PVC.
- Requirements as to the use of rare metals.
- The possibility of increasing the stringency of the requirements relating to displays, e.g. prohibiting the use of mercury, limiting the content of chemicals, and recyclability.
- The possibility of increasing the stringency of the requirements relating to the use of flame retardants, other chemicals used in products and heavy metals.
- The possibility of increasing the stringency of the requirements relating to energy consumption.



## Appendix 1

### Marketing of Swan-labelled Personal computers

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic Swan ecolabel, as detailed in "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions. We agree to follow these regulations when marketing the Swan-labelled personal computers.

Further, we confirm that we are familiar with the criteria document regarding the Swan labelling of personal computers.

We undertake to advise those individuals within the company involved in marketing the Swan-labelled personal computers of the criteria for the Swan labelling of personal computers and "Regulations for Nordic Ecolabelling".

_____	_____
Location and date	Company
_____	_____
Contact person	Phone
_____	_____
Marketing director	Phone

In case of a change in personnel, a new declaration must be submitted to Nordic Ecolabelling.



## **Appendix 2**

### **Nordic Swan and German Blue Angel ecolabel**

Many of the requirements stipulated in the criteria document are partly or totally harmonized with the Blue Angel's (Edition June 2006) requirements for computers. If the Blue Angel has already approved the product according to the Edition June 2006 requirements, it is easier to apply for the Nordic Swan. In this specific case, the applicant need only submit the documentation for the requirements which are not covered by the Blue Angel criteria, Edition 2006. As a help to the applicant a comparison of the Nordic Swan and Blue Angel, Edition 2006, will be submitted to the criteria.



## Appendix 3

### Comparison of Nordic Swan and EU Ecolabel (EU Flower)

Many of the requirements stipulated in the criteria document are partly or totally harmonized with EU Flowers requirements for computers (September 2004). This makes it easier to apply for Nordic Swan if the product has already been granted an EU Flower licence. In this specific case, the applicant need only submit the documentation specified at the end of this appendix.

This Appendix will be updated when EU publishes new requirements in 2008.

Requirement	Total harmonization	Flower covers the Swan requirement	Requirements are different
Power consumption of displays (CRT and LCD)	X		
Power consumption of system units	X		
Power consumption of portable computers	X		
Disassembly		X	
Upgradeability: stationary computers (desktops)		partly	partly
Upgradeability: portables		partly	partly
Plastics		partly	partly
Flame retardants in plastic parts		partly	EU does not ban all halogenated flame retardants (in plastic parts weighing more than 25 g).
Metals		partly	EU requirement covers only plastic parts.
Batteries/accumulators		X	
Mercury content of flat displays	X		
Guarantee and spare parts			X
Recycling	X		
Instructions for use		Flower covers sub-requirements 1, 4, 5, 7 and 9	X
Noise	X		
Ergonomics			X
Electrostatic potential			X
Electrical and magnetic fields	X		
Regulatory requirements		X	
Eco and quality assurance			X
Marketing			X

The documentation required from the EU Ecolabel licensees:

#### A. SYSTEM UNITS

- 1) description of the computer according to R1
- 2) disassembly instructions
- 3) declaration and demonstration according to R15 (Upgradeability)
- 4) declaration from the applicant, or the manufacturer(s) of plastic parts, showing that the housing and chassis do not contain chlorine-based plastics (R17)
- 5) documentation according to R20 on flame retardants used in plastic parts heavier than 25 grams other than printed boards
- 6) information on heavy metals in materials according to R21
- 7) documentation on guarantee and spare parts according to R24
- 8) description of how the take-back system works and which recycling companies are used in the Nordic country in question (R25)
- 9) a copy of the manual or copies of the relevant pages (see R26) in the official languages of the Nordic country where the Swan labelled product is on sale
- 10) documentation concerning quality, regulatory requirements and marketing according to R31, R33-R38 and R40

#### B. DISPLAYS

- 1) description of the computer according to R1
- 2) disassembly instructions
- 3) declaration from the applicant, or the manufacturer(s) of plastic parts, showing that the housing and chassis do not contain chlorine-based plastics (R17)
- 4) documentation according to R20 on flame retardants used in plastic parts heavier than 25 grams other than printed boards
- 5) information on heavy metals in materials according to R21
- 6) documentation on guarantee and spare parts according to R24
- 7) description of how the take-back system works and which recycling companies are used in the Nordic country in question (R25)
- 8) a copy of the manual or copies of the relevant pages (see R26) in the official languages of the Nordic country where the Swan labelled product is on sale
- 9) documentation on ergonomics according to R28
- 10) in the case of a CRT-display documentation according to R29
- 11) documentation concerning quality, regulatory requirements and marketing according to R31, R33-R38 and R40

## C. PORTABLE COMPUTERS

- 1) description of the computer according to R1
- 2) disassembly instructions
- 3) declaration and demonstration according to R16 (Upgradeability)
- 4) declaration from the applicant, or the manufacturer(s) of plastic parts, showing that the housing and chassis do not contain chlorine-based plastics (R17)
- 5) documentation according to R20 on flame retardants used in plastic parts heavier than 25 grams other than printed boards
- 6) information on heavy metals in materials according to R21
- 7) documentation on guarantee and spare parts according to R24
- 8) description of how the take-back system works and which recycling companies are used in the Nordic country in question (R25)
- 9) a copy of the manual or copies of the relevant pages (see R26) in the official languages of the Nordic country where the Swan labelled product is on sale
- 10) documentation on ergonomics according to R28
- 11) documentation concerning quality, regulatory requirements and marketing according to R31, R33-R38 and R40



## Appendix 4

### Requirements as to power consumption (R2-R13), Declaration

If this appendix is used, measurement results must also be submitted, containing the following information: descriptions of the measurement methods and details of who performed the measurements for power consumption.

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

**R2**                      Is the product equipped with an On/Off-switch?                       Yes                       No

**R6**                      Where is the On/Off-switch located?

**R10**

#### System Units

**R3**                      Does the product satisfy the Energy Star configuration requirements?                       Yes                       No

**R4-R5**                      Has a report, certifying that the requirements concerning sleep mode and off-mode has been fulfilled and that the power consumption has been measured using the procedures in the current Energy Star computer memorandum of understanding, been attached to the application?                       Yes                       No

#### Displays

**R7-R9**                      Has a report, certifying that the requirements concerning sleep mode, off-mode and active mode has been fulfilled and that the power consumption has been measured using the procedures in the Energy Star Programme Requirements for Computer Monitors (Version 4.0), been attached to the application?                       Yes                       No

#### Portable computers

**R11-R12**                      Has a report, certifying that the requirements concerning sleep mode and off-mode has been fulfilled and that the power consumption has been measured using the procedures in the current Energy Star computer memorandum of understanding, been attached to the application?                       Yes                       No

**R13**                      State the power consumption (in W) of the power supply when it is connected to the electricity supply but is not connected to the computer: \_\_\_\_\_ W

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 5

### Design requirements (R14), Declaration

If this appendix is used, disassembly instructions must also be submitted.

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| Can one qualified person dismantle the product alone?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are the connections easy to locate and access, as standardized as possible and accessible with generally available tools? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are disassembly instructions attached to the application?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Can hazardous materials be separated?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Do plastic parts heavier than 25 g (with the exception of the cover) consist of a single polymer or compatible polymers?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does the cover consist of a maximum of two types of polymer that are separable?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| If plastic parts (>25 g) contain metal inlays, are they easy to remove without special tools?                             | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are labels easy to remove or inherent?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Are 90% (by weight) of plastics and metals in the housing and chassis technically suitable for material recovery?         | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 6

### Upgradeability (R15-R16), Declaration

If fulfilment of the requirements as to upgradeability (R15/R16) is demonstrated by means of a video recording or by a third party, the video recording or certification by the third party must accompany the application.

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

#### Stationary computers (desktops)

- R15**
- Does the system unit of a stationary computer have a modular design?       Yes       No
- Can the user replace the modules without the use of special tools?       Yes       No
- Can the working memory be expanded?       Yes       No
- Can a mass storage device be installed, exchanged and expanded?       Yes       No
- Can the CD ROM, DVD and hard disk drive be installed and/or exchanged?       Yes       No
- Does the computer have a minimum of two additional interfaces for external storage media and other peripheral devices?       Yes       No

#### Portable computers

- R16**
- Can the working memory be expanded?       Yes       No
- Does the portable computer have ports for external monitor and for external keyboard and mouse?       Yes       No
- Does the computer have a minimum of two additional interfaces for external storage media and other peripheral devices?       Yes       No

Demonstration that the above design requirements are fulfilled, (choose one of the following options):

- Will be performed in consultation with the ecolabelling organization.
- Was performed on: \_\_\_\_\_ in consultation with the ecolabelling organization.
- The requirements are documented with the aid of a video recording or the like.
- The product has been checked by a third party for fulfilment of the design requirements. Declaration/certificate is attached.

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 7

### Requirements as to plastics (R17-R20), Declaration

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

- R17**            Do the housing or chassis contain chlorine-based polymers?                       Yes             No
- R18**            Have large plastic parts (>25 g) been coated or metallized? (Permitted in the case of portable computers)                       Yes             No
- R19**            Are all plastic parts weighing more than 25 grams and with a surface in excess of 200 sq.mm labelled in accordance with ISO 11 469? (This requirement does not apply to extruded plastic materials or the light conductor in flat screens.)                       Yes             No

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 8

### Flame retardants, Manufacturer's Declaration

To be completed by the applicant and sent to Nordic Ecolabelling

#### Detachable sheet

We, the manufacturer of the candidate product, declare that only the flame retardants listed in the table below will be used for ecolabelled products.

In case new flame retardants are to be introduced I/we will inform Nordic Ecolabelling and provide the necessary documentation.

Material safety data sheets of the flame retardants used are attached to the application.

#### List of flame retardants

Trade name	Chemical name and CAS no.	Used in component:	Supplied by:

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 9

### Flame retardants, Supplier's Declaration

To be completed by the supplier of the flame retardant and sent to Nordic Ecolabelling.

#### Detachable sheet

We declare that (name of the flame retardant)

\_\_\_\_\_ is not a halogenated flame retardant and may not be assigned, at the time of application, any of the risk phrases: R45; R46; R60; R61 as defined in Directive 67/548/EEC and 1999/45/EEC.

Statement for not classifying the flame retardant according to risk phrases; R45; R46; R60; R61:

This blank section must be filled with appropriate information on classifying the flame retardant. (The statement "No data available" is not accepted!)

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 10

### Requirements as to metals (R21), Declaration

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

Part/parts or material which this declaration covers:

Name of part/parts/material: \_\_\_\_\_

Declaration has been given by

- manufacturer of the candidate product
- manufacturer of part/parts
- material supplier

We hereby declare that the above part/parts/material does/do not contain cadmium, lead or mercury at levels above the permitted concentrations for impurities:

Cadmium    0.01 wt% in homogenous material

Lead            0.1 wt% in homogenous material

Mercury      0.1 wt% in homogenous material

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 11

### Requirements as to batteries and accumulators (R22), Declaration

Type of product for which ecolabelling is sought:

System unit                       Display                       Portable computer

Name of product: \_\_\_\_\_

Type of battery: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Content of mercury (Hg) in batteries.     \_\_\_\_\_ ppm

Content of cadmium (Cd) in batteries.     \_\_\_\_\_ ppm

Content of lead (Pb) in batteries.         \_\_\_\_\_ ppm

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 12

### Requirements as to displays (R23), Declaration

Type of product for which ecolabelling is sought:

- Display                       Portable computer

Name of product: \_\_\_\_\_

#### Flat displays

What is the mercury content per lamp in the background lighting? \_\_\_\_\_ mg

How many lamps are used in the background lighting? \_\_\_\_\_ lamps

#### List of lamps and supplier

Trade name:	Parts nr:	Supplied by:

Location and date	Company
Contact person	Phone
Name in block capitals	



## Appendix 13

### Requirements as to guarantee and spare parts (R24), Declaration

Type of product for which ecolabelling is sought:

System unit     Display     Portable computer     Keyboard

Name of product: \_\_\_\_\_

Has the manufacturer furnished a commercial guarantee stating that the system unit, display or the portable computer will function for at least three years from the date on which the computer is delivered to the customer?     Yes     No

Is the supply of spare parts for product repair guaranteed for at least 5 years following the termination of production.     Yes     No

Location and date	Company
Contact person	Phone
Name in block capitals	