

Nordic Ecolabelling of
Computers



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Nordic Ecolabelling

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This document is a translation of an original in swedish. In case of dispute, the original document should be taken as authoritative.

Addresses

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Swan. These organisations/companies operate the Nordic ecolabelling system on behalf of their own country's government. For more information, see the websites.

Denmark

Ecolabelling Denmark
Danish Standards foundation
Kollegievej 6
DK-2920 Charlottenlund
Phone +45 72 300 450
Fax +45 72 300 451
E-mail: info@ecolabel.dk
www.ecolabel.dk

Norway

Ecolabelling Norway
Henrik Ibsens gate 20
NO-0255 Oslo
Phone +47 24 14 46 00
Fax +47 24 14 46 01
E-mail: info@ecolabel.no
www.ecolabel.no

Iceland

Ecolabelling Iceland
Umhverfisstofnun
Suðurlandsbraut 24
IS-108 Reykjavik
Phone +354 591 20 00
Fax +354 591 20 20
E-mail: svanurinn@ust.is
www.svanurinn.is

Sweden

Ecolabelling Sweden
SE-118 80 Stockholm
Phone +46 8 55 55 24 00
Fax +46 8 55 55 24 01
E-mail: svanen@ecolabel.se
www.ecolabel.se

Finland

Ecolabelling Finland
Box 489
FIN-00101 Helsinki
Phone +358 424 2811
Fax +358 424 281 299
E-mail: joutsen@motiva.fi
www.ecolabel.fi

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What is a Nordic Ecolabelled computer?

Nordic Ecolabelled computers meet strict environmental requirements making their environmental impact among the lowest in their category.

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

The requirements in this document, which a computer must fulfil to be awarded the Nordic Ecolabel, focus on the following aspects:

- power consumption
- design (upgradeability and disassembling)
- 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 Nordic Ecolabel?

- Companies selling Nordic Ecolabelled computers may use the Nordic Ecolabel trademark in their marketing. The Nordic Ecolabel, the Swan, is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel 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. The Nordic Ecolabel can be seen as an aid in this work.
- Nordic Ecolabel requirements cover not only environmental aspects but also ethical production.

What can carry the Nordic Ecolabel?

1) Definitions

Below are the definitions of the relevant terms in this document.

Computer:

A device which performs logical operations and processes data. Computers are composed of, at a minimum:

- 1) a central processing unit (CPU) to perform operations;
- 2) user input devices such as a keyboard, mouse, digitizer or game controller; and
- 3) a computer display screen to output information.

For the purposes of this specification, computers include both stationary and portable units, including desktop computers, gaming consoles, integrated desktop computers, notebook computers, small-scale servers, thin clients, and workstations. Although computers must be capable of using input devices and computer displays, as noted in numbers 2 and 3 above, computer systems do not need to include these devices on shipment to meet this definition.

Electronic Display (also referred to as "Display"):

A commercially-available product with a display screen and associated electronics, often encased in a single housing, that as its primary function displays visual information from

- 1) a computer, workstation or server via one or more inputs, such as VGA, DVI, HDMI, or IEEE 1394, or
- 2) a USB flash drive, a memory card, or wireless Internet connection.

Common display technologies include liquid crystal display (LCD), light emitting diode (LED) and plasma display panel (PDP).

Maximum viewable diagonal screen size:

The display must have a viewable diagonal screen size of less than or equal to (\leq) 60 inches.

Computer Types

A. Desktop Computer: A computer where the main unit is intended to be located in a permanent location, often on a desk or on the floor. Desktops are not designed for portability and utilize an external computer display, keyboard, and mouse. Desktops are designed for a broad range of home and office applications.

B. Integrated Desktop Computer: A desktop system in which the computer and computer display function as a single unit which receives its AC power through a single cable. Integrated desktop computers come in one of two possible forms:

- a system where the computer display and computer are physically combined into a single unit; or

- a system packaged as a single system where the computer display is separate but is connected to the main chassis by a DC power cord and both the computer and computer display are powered from a single power supply.

As a subset of desktop computers, integrated desktop computers are typically designed to provide similar functionality as desktop systems.

C. Notebook Computer: A computer designed specifically for portability and to be operated for extended periods of time either with or without a direct connection to an AC power source. Notebooks must utilize an integrated computer display and be capable of operation off of an integrated battery or other portable power source. In addition, most notebooks use an external power supply and have an integrated keyboard and pointing device. Notebook computers are typically designed to provide similar functionality to desktops, including operation of software similar in functionality as that used in desktops. For the purposes of this specification, docking stations are considered accessories and therefore, the performance levels associated with notebooks presented in requirement R3, below, do not include them. Tablet PCs, which may use touch-sensitive screens along with or instead of other input devices, are considered Notebook Computers in this specification.

D. Workstation: A high-performance, single-user computer typically used for graphics, CAD, software development, financial and scientific applications among other compute intensive tasks. To qualify as a workstation, a computer must:

- Be marketed as a workstation;
- Have a mean time between failures (MTBF) of at least 15,000 hours based on either Bellcore TR-NWT-000332, issue 6, 12/97 or field collected data; and
- Support error-correcting code (ECC) and/or buffered memory.

In addition, a workstation must meet three of the following six optional characteristics:

- Have supplemental power support for high-end graphics (i.e., PCI-E 6-pin 12V supplemental power feed);
- System is wired for greater than x4 PCI-E on the motherboard in addition to the graphics slot(s) and/or PCI-X support;
- Does not support Uniform Memory Access (UMA) graphics;
- Includes 5 or more PCI, PCIe or PCI-X slots;
- Capable of multi-processor support for two or more processors (must support physically separate processor packages/sockets, i.e., not met with support for a single multi core processor); and/or
- Be qualified by at least two Independent Software Vendor (ISV) product certifications; these certifications can be in process, but must be completed within three months of qualification.

E. Thin Client: An independently-powered computer that relies on a connection to remote computing resources to obtain primary functionality. Main computing (e.g., program execution, data storage, interaction with other Internet resources, etc.) takes place using the remote computing resources. Thin Clients covered by this specification are limited to devices with no rotational storage media integral to the computer. The main unit of a Thin Client covered by this specification must be intended for location in a permanent location (e.g. on a desk) and not for portability.

F. Small-Scale Server: A computer that typically uses desktop components in a desktop form factor, but is designed primarily to be a storage host for other computers.

A computer must have the following characteristics to be considered a Small-Scale Server:

- Designed in a pedestal, tower, or other form factor similar to those of desktop computers such that all data processing, storage, and network interfacing is contained within one box/product;
- Intended to be operational 24 hours/day and 7 days/week, and unscheduled downtime is extremely low (on the order of hours/year);
- Capable of operating in a simultaneous multi-user environment serving several users through networked client units; and
- Designed for an industry accepted operating system for home or low-end server applications (e.g., Windows Home Server, Mac OS X Server, Linux, UNIX, Solaris).

Small-Scale Servers are designed to perform functions such as providing network infrastructure services (e.g., archiving) and hosting data/media. These products are not designed to process information for other systems or run web servers as a primary function.

This specification does not cover Computer Servers as defined in the ENERGY STAR Version 1.0 Computer Server specification. Small-Scale Servers covered by this specification are limited to computers marketed for non-datacenter operation (e.g. homes, small offices).

2) Products not covered by the product type definitions in this document:

- Computer Servers (as defined in ENERGY STAR Version 1.0 Computer Server specification)
- Handhelds, PDAs
- Game Consoles
- Mobile phones and Smartphones
- Computer accessories such as keyboard, mouse, modem, docking stations, external hard drive, USB memory stick
- Cathode-ray tube (CRT) displays
- Printers (see separate criteria for imaging equipment.)

How to apply

The application must comply with “Regulations for Nordic Ecolabelling” and the requirements of this document. The applicant must submit the documentation specified (with the symbol ☒) under each individual requirement in Sections 1, 2 and 3.

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

Appendices 1-2 and 6-11 may be used to facilitate documentation 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 checked on site

Application

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

Further information and assistance regarding application 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 may perform an on-site inspection to ensure adherence to the requirements. For this 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 Nordic Ecolabelled computer. A fee for an on-site inspection may also be payable.

Enquiries

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

1 Environmental requirements

The power consumption requirements in the document are fully or partially harmonised with the ENERGY STAR specification for computers (version 5.0) and ENERGY STAR specification for monitors/displays (version 5.0).

1.1 General description

R1 Description of the computer

Describe the computer and how it fulfils the definition of what can carry the Nordic Ecolabel.

- ☒ Description as specified above.

1.2 Power consumption

Power consumption for category A-F computers

R2 On/Off switch

Products in categories A-D must have a visible On/Off switch.

- ☒ Description of the On/Off switch (Appendix 2).

R3 Energy and power consumption

The computer must fulfil the requirements of the most current version of the ENERGY STAR specification for computers. A link to version 5.0 (August 2009) of the ENERGY STAR specification for computers can be found at www.svanen.se/datorer.

Following applies for Slate computer:

- The AC-adapter must at least fulfil the requirements of "International Efficiency Marking Protocol for External Power supplies" level V (earlier Energy Star requirement for AC-adapter, version 2.0).
- The battery must be possible to swap. A replacement battery must be available as an option or a spare part. The battery replacement can be done at a repair shop.

- ☒ The computer must be tested by a laboratory fulfilling requirement R29 in Section 4 of these criteria. Further, the computer must be tested according to the most current ENERGY STAR specification for computers and the test report be submitted with the application.
- ☒ Test report showing the fulfillment of the requirement on the AC-adapter of the Slate computer (when applicable).
- ☒ Certificate from the manufacturer (when applicable) that the battery requirement (Slate) is fulfilled.

Power consumption of displays

R4 On/Off switch

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

- ☒ Description of the On/Off switch (Appendix 2).

R5 Energy consumption

The display must fulfil the requirements of the most current version of the ENERGY STAR specification for monitors/displays. A link to version 5.0 (August 2009) of the ENERGY STAR specification for monitors/displays can be found at www.svanen.se/datorer.

- ☒ The display must be tested by a laboratory fulfilling requirement R29 in Section 4 of these criteria. Further, the display must be tested according to the most current ENERGY STAR specification for monitors/displays and the test report be submitted with the application.

Power consumption of external power supplies

R6 Efficiency requirement

External power supplies that are sold with Nordic Ecolabelled products must be ENERGY STAR labelled or fulfil the requirements of the ENERGY STAR specification for single voltage external power supplies, version 2.0.

NB! This performance requirement also applies to external power supplies for multiple voltage/frequency combinations in accordance with the test method specified in Section 4 of the ENERGY STAR specification for computers (version 5.0).

Following applies for Slate computer:

- The AC-adapter must at least fulfil the requirements of "International Efficiency Marking Protocol for External Power supplies" level V (earlier Energy Star requirement for AC-adapter, version 2.0).

A link to version 2.0 (August 2009) of the ENERGY STAR specification for external power supplies can be found at www.svanen.se/datorer.

- ☒ The external power supply must be tested by a laboratory fulfilling requirement R29 in Section 4 of these criteria. The external power supply shall be tested in accordance with the most current version of ENERGY STAR Program Requirements for Single Voltage External Ac-Ac and Ac-Dc Power Supplies. The applicant shall enclose the test report with the application.
- ☒ Test report showing the fulfillment of the requirement on the AC-adapter of the Slate computer (when applicable).
- ☒ Certificate from the manufacturer (when applicable) that the battery requirement (Slate) is fulfilled.

1.3 Design and materials

Design

R7 Disassembly

Computers and displays must be designed in such a way that disassembly is possible. The requirement consists of the following individual requirements:

A qualified person, working alone, must be able to disassemble the product.

The manufacturer must ensure that disassembly of the unit is possible and compile disassembly instructions demonstrating that:

- connections are easy to locate and access and easily separable with generally available tools.
- connections are, where possible, standardized.

It must be possible to separate the substances, preparations and components listed in Annex II of the WEEE Directive (2002/96/EC).

If labels are required they shall be easily removable or integrated. This does not apply to safety labels according to CENELEC safety standard EN 60850 §1.7.2.

Plastic parts heavier than 25 g must compose of one polymer or compatible polymers, except for the enclosure, which shall consist of no more than two types of polymers that are separable.

Plastic parts (>25 g) may contain metallic inlays provided that these can easily be separated without the use of special tools.

90% by weight of plastics and metals in the enclosure 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 3).

The ecolabelling body may request a demonstration of disassembly, if this is 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

R8 Upgradeability

Categories A, B and D computers

A category A, B or D computer must be modular. 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 one additional interface for external storage media and other peripheral devices.

Category C computers

The design of category C computers must permit performance expansions (upgrades). At a minimum, the following expansions must be possible:

- working memory expansion.
- port for external monitor.
- port for external keyboard and mouse.
- at least one additional interface for external storage media and other peripheral devices.

For tablet computers the following is required:

- Working memory (RAM) capacity shall be minimum 1 GB.
- Storage capacity shall be minimum 16 GB
- Storage expansion slot (example a SDHC slot)
- Minimum 1 expansion port/contact following industry standard for accessories.
- Support for external monitor, keyboard and mouse.

- ☒ Declaration from the licence applicant or manufacturer that the requirement is fulfilled (Appendix 4). 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.
- ☒ Certificate from the license holder or manufacturer that the requirement on the Slate computer is fulfilled (when applicable).

Plastics

R9 Chlorine-based plastics

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

- ☒ Declaration from the applicant, or the manufacturers of plastic parts, showing that the requirement has been met (Appendix 5).

R10 Paint and metal

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

Exempted from this requirement are:

- Notebook computers.
- Fog paint with max. 1w-% paint per plastic part.
- Coatings made from the base polymer.

- ☒ See R9.

R11 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, sections 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 mm² are also exempted from this requirement.

- ☒ See R9.

R12 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)
- R61 (may cause harm to the unborn child).

The maximum permitted concentration for impurities is 0.1% by weight 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), decaBDE or chlorinated paraffins (maximum permitted concentration for impurities is 0.1% by weight in homogenous material).
- Plastic parts lighter than 25 g. These parts must not, however, contain any PBB (polybrominated biphenyls), PBDE (polybrominated diphenyl ethers), decaBDE or chlorinated paraffins (maximum permitted concentration for impurities is 0.1% by weight in homogenous material).
- Plastic parts that are demonstrably reused and marked in accordance with requirement R11. These parts must not, however, contain any PBB (polybrominated biphenyls), PBDE (polybrominated diphenyl ethers), decaBDE or chlorinated paraffins.
- Fluoroorganic additives which are used to improve the physical properties of plastic, provided they are not present in concentrations greater than 0.5% by weight.
- Fluorinated plastics such as PTFE.

- ☒ The applicant must provide a list of all used flame retardants and submit an MSDS for each flame retardant. The list must contain the complete chemical name, CAS number and supplier. (Further information in Appendix 6)

- ☒ 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 7)

Mercury content

R13 Mercury in LCD displays

This requirement applies to displays and category B computers. It is prohibited for category C (notebook) computers to contain mercury in backlighting.

The backlighting in displays and category B computers must not contain more than 14 mg Hg.

- ☒ Declaration that the requirement is fulfilled, including manufacturer documentation on the mercury content of lamps. (Appendix 8)
- ☒ Report of the total mercury content per lamp that is used in the background illumination, the total number of lamps and information about the lamp supplier. (Appendix 8)
- ☒ Category C computers: a declaration from the manufacturer that the requirement is fulfilled, including documentation on the technology used for background illumination for LCD displays. (Appendix 8)

1.4 User information

R14 Instructions for use

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

Recommendations on the use of the energy-saving functions. This must include information about the effect that power consumption and accordingly operating costs may increase if these functions are deactivated.

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.

Maximum declared sound power (A-weighted sound power level according to ISO 7779 and ISO 9296) during operation and in idle mode.

Information on the guarantee and the availability of spare parts.

Information on the design of the equipment and expansion or upgrading of for example the processor, memory and clock frequency.

Information on the type of batteries and accumulators used and on the user's obligation to leave used batteries and accumulators at a return station and not dispose of them with household waste.

Information that the product has been designed to permit the reuse and recycling of parts.

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 a third party. Information shall also be provided on where users can dispose of used products.

Advice on how consumers can take advantage of the manufacturer's offer to take back used products.

Information on how the customer can use the service and support function.

Statement that the product has been granted a Nordic Ecolabel and a short account of what this means with references to further information about Nordic Ecolabelling on the Internet (<http://www.ecolabel.se>).

The instructions 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 language(s) of the Nordic country in which the Nordic Ecolabelled product is sold.

The instruction 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 the manual must be provided in printed form.

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

2 Performance

R15 Sound power level

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:

| | Operating, LwAd | Idle mode, LwAd |
|----------------------------|-----------------|-----------------|
| Category A, B and D | 4.2 bel (A) | 3.8 bel (A) |
| Category C and E | 4.0 bel (A) | 3.5 bel (A) |

Operating (HDD load): The hard disk drive is activated (RAL-UZ-78 3.2.2.1 (1) or ISO7779/A1:2001, No C.9.3.2).

E.g.: Test program "Diskload" of all HDD with parameter: "Diskload c: -t7200 dac960_ loc c:12" (c = Drive name).

Idle mode: The computer operates in Idle mode (RAL-UZ-78 3.2.2.1 (3) or ISO7779:2001, No C. 15.3.1). The OS is running, but no additional program is started. HDD is running without I/O (only spindle motor in operation). All other devices are connected but not activated.

The sound power level of computers must be measured in accordance with ISO 7779 or RAL-UZ 78 and declared in accordance with ISO 9296. If the sound power level measurement is carried out on one appliance only the factor $K = 3.0 \text{ dB(A)}$ 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.

R16 Ergonomics

Displays and notebook computers must, with regard to ergonomics, be tested and meet all relevant mandatory requirements in the latest valid version of the standards of ISO 9241-300 series.

Alternatively displays must be certified according to TCO Displays 5.0 or later version and notebook computers be certified according to TCO Notebooks 3.0 or later version.

External keyboards sold with computers in category A and D shall comply with and be tested according to ISO 9241-4.

Following additional requirements apply for a Slate computer:

- The display size shall be minimum 7 inches.
- The tablet computer shall have a virtual keyboard that is full size in the meaning that standard positioning of fingers is possible.

- ☒ Certificate from the manufacturer that the additional requirements on the Slate computer are fulfilled (when applicable).

At least one of the following documentation requirements must be fulfilled.

- ☒ A certificate confirming that all relevant mandatory requirements of the latest version of the standards of ISO 9241-300 respectively ISO 9241-4 are met. The certificate shall be signed by the person at the producer who has the ultimate responsibility for products specification. Organization chart in which the above person's position is indicated shall be submitted.
- ☒ The TCO certificate for the product. For displays, TCO Displays V5.0 or later, for notebook computers, TCO Notebooks 3.0 or later.

R17 Electric and magnetic fields

Displays and notebook computers must fulfil the requirements applicable to electrical and magnetic fields in accordance with prEN50279, 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 notebook computer is connected to a docking unit.

At least one of the following documentation requirements must be fulfilled.

- A certificate confirming that the requirements concerning electric and magnetic fields according to prEN50279, category A, are met. The certificate must be signed by the person who has the ultimate responsibility for the design of the product. An organization chart showing the position of this person must be included. Measurement results with a description of the method of measurement used and details of who performed the measurement.
- The TCO certificate for the product. For displays TCO Display V5.0 or later, for portable computers TCO Notebooks 3.0 or later.

3 Quality and regulatory requirements

R18 Code of conduct

The licensee must have a code of conduct that requires adherence to the ten principles of the UN Global Compact.

Comment: The UN Global Compact comprises 10 principles in the areas of human rights, labour, the environment and anti-corruption. Read more at <http://www.unglobalcompact.org/>

If the licensee violates this code of conduct, Nordic Ecolabelling may revoke their licence.

- The licensee's code of conduct.
Description of how suppliers and manufacturers are informed of this code of conduct.

R19 Nordic Ecolabel administrator

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

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

R20 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.

R21 Quality of the product

The licensee must guarantee that the quality in the production of the Nordic Ecolabelled 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 Nordic Ecolabelled computer.

R22 Service and support

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

- Description of the service and support organisation.

R23 Planned changes

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

- Procedures detailing how planned changes are handled.

R24 Unplanned nonconformities

Unplanned nonconformities that have a bearing on fulfilment of the ecolabelling requirements must be reported to Nordic Ecolabelling in writing and journalled.

- Procedures detailing how unplanned nonconformities are handled.

R25 Traceability

The licensee must have a traceability system for the production of the Nordic Ecolabelled computer and describe the development and production units used to manufacture the computer. This applies also to suppliers that produce significant parts of the computer.

- Description of/procedures for the fulfilment of the requirement. A chart of the company's organizational structure detailing who is responsible for the above development and production units.

R26 Take-back system

Pertinent national producer responsibility 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 Nordic Ecolabelled computer is marketed.

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

R27 Laws and regulations

The licensee must guarantee adherence to safety regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Nordic Ecolabelled product is manufactured.

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

R28 Marketing

Marketing of the Nordic Ecolabelled computer must comply with "Regulations for the Nordic Ecolabelling of products".

- Appendix 1 duly completed.

4 Requirements on the analysis laboratory

R29 Analysis laboratory

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

The applicant shall be liable for the documentation and analysis costs.

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

- the analyses and tests are monitored by the authorities, or if
 - the manufacturer has a quality management system encompassing sampling and analysis and has been 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.
- Certification from the analysis laboratory that the requirements are fulfilled. Appendix 9 duly completed.

Marketing

The Nordic Ecolabel, the Swan, is a very well-known and well-reputed trademark in the Nordic region. A Nordic Ecolabelled computer may be marketed using the Swan ecolabel 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 computer is ecolabelled.

More information on marketing can be found in "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later version.

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



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 the Nordic Ecolabelling of products" of 22 June 2011 or later version.

Sales in other Nordic countries

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

- Form for sales in the country in question.
- A copy of the licence.
- 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 computer fulfils Nordic Ecolabel 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 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 version 6.0 of the criteria for computers on 8 June 2009. The criteria are valid until 30 June 2012.

The secretariat manager's meeting of 9 November 2010 adopted amendments in R16 and R 17. The new version number is 6.1.

At the Nordic Ecolabelling Board meeting on 22 June 2011 it was decided to prolong the criteria with eighteen months. The new version is 6.2 and it is valid until 31 December 2013.

The secretariat manager's meeting of 15 November 2011 adopted amendments in R3, R6, R8 and R16. The new version number is 6.3.

At the secretariat manager's meeting of 15 November 2012 it was decided to prolong the criteria with six months. The new version is 6.4 and it is valid until 30 June 2014.

At the secretariat manager's meeting of 15 May 2013 it was decided to prolong the criteria with six months. The new version is 6.5 and it is valid until 31 December 2014.

An 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, the following issues will be considered:

- The possibility of further harmonization with other eco-labels.
- The possibility to extend the product group and enable the Nordic Ecolabelling of PDAs, game consoles and computer accessories.
- The possibility of requiring that the computer should be made of recycled plastic.
- 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 to tighten requirements on displays, such as by prohibiting the use of mercury.
- The possibility of tightening requirements relating to the use of flame retardants, other chemicals and heavy metals.
- The possibility of tightening requirements relating to power consumption.
- The possibility of tightening requirements relating to noise.

Appendix 1 Marketing of Nordic Ecolabelled computers (R28)

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic Ecolabel, as detailed in “Regulations for the Nordic Ecolabelling of products” of 22 June 2011 or later version. We agree to follow these regulations when marketing Nordic Ecolabelled computers.

Further, we confirm that we are familiar with the criteria document regarding the Nordic Ecolabelling of computers.

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled computers of the criteria for the Nordic Ecolabelling of computers and “Regulations for the Nordic Ecolabelling of products”.

Location and date

Company

Signature, contact person

Clarification of signature

Phone

Signature, marketing manager

Clarification of signature

Phone

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

Appendix 2 Power consumption (R2-R6)

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

Type of product for which the Nordic Ecolabel is sought:

- Category A-F. Type: _____
- Display External power supply

Name of product: _____

R2, R4 Is the product equipped with a visible and easily accessible On/Off switch? Yes No

Submit description of On/Off switch.

Category A-F

R3 Does the product fulfil the current ENERGY STAR specification for computers? Yes No

R3 Is a report demonstrating fulfilment of the requirements enclosed with the application? Yes No

Displays

R5 Does the product fulfil the current ENERGY STAR specification for monitors/displays? Yes No

R5 Is a report demonstrating fulfilment of the requirements enclosed with the application? Yes No

External power supplies

R6 Does the product fulfil the current ENERGY STAR specification for single voltage external power supplies? Yes No

R6 Is a report demonstrating fulfilment of the requirements enclosed with the application? Yes No

| | |
|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Appendix 3 Design (R7)

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

Type of product for which the Nordic Ecolabel is sought:

Category A-F. Type: _____

Display

Name of product: _____

The following requirements must be fulfilled:

Are the requirements met?

A qualified person, working alone, must be able to disassemble the product.

Yes No

The manufacturer must ensure that disassembly of the unit is possible and compile disassembly instructions demonstrating that:

Yes No

- connections are easy to locate and access and easily separable with generally available tools.

- connections are, where possible, standardized.

It must be possible to separate the substances, preparations and components listed in Annex II of the WEEE Directive (2002/96/EC).

Yes No

If labels are required they shall be easily removable or integrated. This does not apply to safety labels according to CENELEC safety standard EN 60850 §1.7.2.

Yes No

Plastic parts heavier than 25 g must compose of one polymer or compatible polymers, except for the enclosure, which shall consist of no more than two types of polymers that are separable.

Yes No

Plastic parts (>25 g) may contain metallic inlays provided that these can easily be separated without the use of special tools.

Yes No

90% by weight of plastics and metals in the enclosure and chassis must be technically suitable for material recovery.

Yes No

| | |
|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Appendix 4 Upgradeability (R8)

Type of product for which the Nordic Ecolabel is sought:

Category A-F. Type: _____

Display

Name of product: _____

Stationary computers (Category A, B and D)

- 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 a CD ROM, DVD or 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

Notebook computers (Category C)

- Can the working memory be expanded? Yes No
- Does the notebook computer have ports for an external monitor and for an external keyboard and mouse? Yes No
- Does the computer have a minimum of one additional interface 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 body.
- Was performed on: _____ in consultation with the ecolabelling body.
- The requirements are documented with the aid of a video recording or similar.
- 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 5 Plastics (R9-R11)

Type of product for which the Nordic Ecolabel is sought:

Category A-F. Type: _____

Display

Name of product: _____

- R9** Does the enclosure or chassis contain chlorine-based plastics? Yes No
- R10** Have large plastic parts (>25 g) been coated or metallized? Yes No
- R11** Are all plastic parts heavier than 25 g and with a surface in excess of 200 mm² labelled in accordance with ISO 11 469 or ISO 1043, sections 1 to 4? Yes No

| | |
|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Appendix 6 Flame retardants, Manufacturer's Declaration

To be completed by the applicant and sent to Nordic Ecolabelling.

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 we will inform Nordic Ecolabelling and provide the necessary documentation.

Material safety data sheets for the flame retardants used are enclosed with the application.

List of flame retardants

| Company name | Chemical name and CAS no. | Used in component: | Supplied by: |
|--------------|---------------------------|--------------------|--------------|
| | | | |
| | | | |
| | | | |
| | | | |
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|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Note:

This information can be submitted directly by the manufacturer of the flame retardant/plastic. If so, the applicant must make a list of used plastics and their suppliers.

A confidentiality agreement can be drawn up between the manufacturer of the flame retardant/plastic and Nordic Ecolabelling.

Appendix 7 Flame retardants, Supplier's Declaration

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

We hereby 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 or R61, as defined in Directive 67/548/EEC and 1999/45/EEC.

Background information on not classifying the flame retardant according to risk phrases R45, R46, R60 or R61:

Specify below appropriate information on the classification of the flame retardant. (The statement "No data available" is not accepted!)

| | |
|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Appendix 8 Mercury content of LCD display backlighting (R13)

Type of product for which the Nordic Ecolabel is sought:

- Category C computer (notebook)
 Display

Name of product: _____

Notebook computer

Is the backlighting of the notebook computer display mercury free? Yes No

Is a supplement describing the technical solution for LCD background illumination enclosed? Yes No

Flat panel displays

What is the mercury content of the background illumination? _____ mg

What is the mercury content per lamp of the background illumination? _____ mg

How many lamps are used for the background illumination? _____ lamps

List of lamps and supplier

| Company name: | Parts nr: | Supplied by: |
|---------------|-----------|--------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

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|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |

Appendix 9 Requirements on the analysis laboratory (R29)

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

The applicant's own analysis laboratory/test procedure may be approved for analysis and testing if one of the following is fulfilled:

Yes No

Does the analysis laboratory comply with standard EN ISO 17025?

Yes No

Does the analysis laboratory hold official GLP status?

Yes No

Are sampling and testing monitored by the authorities?

Yes No

Has the analysis laboratory a quality management system encompassing sampling and analysis that is certified to ISO 9001 or ISO 9002?

Yes No

Can the analysis laboratory 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?

Yes No

Submit documentation that provides proof of the above.

| | |
|------------------------|---------|
| Location and date | Company |
| Contact person | Phone |
| Name in block capitals | |