

Nordic Ecolabelling for  
**Building operations**



Version 1.0 • date – date

CONSULTATION

# Content

1	Environmental communication guideline for Nordic Swan Ecolabel Building operations.....	4
2	What can carry the Nordic Swan Ecolabel? .....	5
3	How to read this criteria document .....	5
4	Summary .....	6
5	Requirements and justification of these.....	7
5.1	Definition of the product group .....	7
5.2	General.....	9
5.3	Management.....	11
5.4	Energy .....	16
5.5	Climate change.....	24
5.6	Indoor climate .....	28
5.7	Water .....	40
5.8	Recycling, reuse and waste management .....	44
5.9	Outdoor environment and biodiversity .....	47
5.10	Services and products in daily operations, maintenance and building improvements....	49
6	Environmental impact of the Nordic Swan Ecolabel Building operations .....	58
7	Alignment with the EU Taxonomy framework.....	60
8	Future criteria generation .....	63
9	Criteria version history .....	63
10	How to apply and regulations for the Nordic Ecolabelling.....	63
Appendix 1	General information about the building	
Appendix 2	Examples of information in annual follow-up	
Appendix 3	Maintenance plan	
Appendix 4	Operation and maintenance instructions for heating, cooling and ventilation	
Appendix 5	PVC in floors, ceilings, walls, doors and windows	
Appendix 6	Declaration of purchasing routines of copper materials	
Appendix 7	Declaration – tree species with restricted use	

---

## Contact information

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Nordic Swan Ecolabel. 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  
info@ecolabel.dk  
www.svanemaerket.dk

### **Finland**

Ecolabelling Finland  
joutsen@ecolabel.fi  
www.ecolabel.fi

### **Sweden**

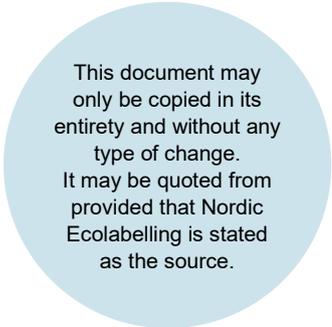
Ecolabelling Sweden  
info@svanen.se  
www.svanen.se

### **Iceland**

Ecolabelling Iceland  
svanurinn@ust.is  
www.svanurinn.is

### **Norway**

Ecolabelling Norway  
info@svanemarket.no  
www.svanemarket.no



This document may only be copied in its entirety and without any type of change. It may be quoted from provided that Nordic Ecolabelling is stated as the source.

# 1 Environmental communication guideline for Nordic Swan Ecolabel Building operations

Nordic Swan Ecolabel Building operations are a better choice for the environment, the climate, and the occupants. They meet strict requirements for the use phase of buildings. This includes requirements on energy, water, waste, outdoor environment as well as chemicals and building products.

The requirements promote resource efficiency, reduced climate impact and adaptation to a changing climate. They also benefit the indoor climate of buildings and aim to prolong their lifespan.

Nordic Swan Ecolabel Building operations:

- Operate buildings that are either energy-efficient from the start or after implementing energy-saving measures.
- Save energy through metering, continuous operation optimization and clear operation and maintenance instructions.
- Identify and analyse potential climate change risks and adapt to the changing climate over time.
- Improve the indoor environment by meeting strict requirements for moisture control and minimised exposure to harmful substances.
- Ensure satisfactory air quality, ventilation, and thermal comfort through building-specific procedures.
- Save water through metering, continuous operation optimization and implementation of water-saving technologies.
- Promote resource efficiency by offering the tenants a system to easily recycle, repair and reuse.
- Promote biodiversity by, for example, banning herbicides, removing invasive species, and protecting natural elements of high value.
- Meet strict chemical requirements for substances harmful to health and the environment by using ecolabelled products and services. This covers product categories such as paints, floors and cleaning products to food and textile services.

The overall environmental impact in the lifecycle of this product group and Nordic Swan Ecolabel identification of where ecolabelling can have the greatest effect is described in “Environmental impact of the Nordic Swan Ecolabel Building operations.

## 2 What can carry the Nordic Swan Ecolabel?

Building operation for a building, understood as the entire physical unit, can be labelled with the Nordic Swan Ecolabel. The license is on the service, having the building as a frame for the operational performance. The following building types can be certified:

- Buildings classified as residential buildings, including student housing, homes for the elderly and homes for persons with disabilities.
- Office buildings, including all associated facilities in the building.
- Educational buildings, including preschool buildings, kindergartens and day-care centres, schools, universities, and other schools for higher education.

### **The following buildings cannot be Nordic Swan Ecolabelled**

- Residential buildings with decentralised heating and ventilation systems.
- Holiday homes and cottages.
- Ice skating halls, gymnastics halls, other sports halls, public and private swimming pools.
- Hospitals, hospices, and other care facilities that are not used as permanent residential buildings or classified as premises according to national legislation.
- Hotels and conference centres. Hotels and conference operations can be Nordic Swan Ecolabelled according to criteria for hotels, restaurants, and conference facilities.
- Commercial buildings such as shops and shopping centres
- Factories and other industrial buildings.

## 3 How to read this criteria document

Each requirement is marked with the letter O (obligatory requirement) and a number. All requirements must be fulfilled to be awarded a licence.

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
- ↑ Upload
- ↓ Download
- 📎 State data in electronic applicatioz
- 📍 Requirement checked on site

All information submitted to Nordic Ecolabelling is treated confidentially. Suppliers can send documentation directly to Nordic Ecolabelling, and this will also be treated confidentially.

## 4 Summary

In June 2023, the Nordic Swan Ecolabel decided to initiate the development of the new criteria for Nordic Swan Ecolabel Building operations. The decision included the start of a Nordic project to develop the new criteria set.

A Nordic Swan Ecolabel Building operations aims to accelerate the transition toward an efficient building operation that lowers the environmental and climate impact of existing buildings in the Nordics. As the first generation of new criteria within Nordic Swan Ecolabel Building operations, the product development has focused on creating few but effective mandatory requirements within areas with high environmental relevance for the use phase of a building. The criteria are designed to be clearly relevant to the market while also encouraging market improvement towards environmental sustainability.

The proposal for criteria for consultation includes 38 mandatory requirements, distributed across 9 different areas:

- Energy, Climate change,
- Indoor climate,
- Water,
- Recycling, reuse & waste management,
- Outdoor area & biodiversity,
- Services and products in daily operation, maintenance and building improvements,
- General requirements,
- Management.

The emphasis has been on implementing measures to reduce energy consumption and mitigate the climate impact of existing buildings. Given that buildings contribute significantly to society's energy usage, addressing issues like inefficient ventilation, excessive heating or cooling, and improperly adjusted fans is crucial to decreasing unnecessary kWh consumption. While approximately 97 % of the existing building stock in Sweden does not require extensive renovation in the foreseeable future, there is still room for improvement in terms of environmental impact through better management and operation of the building installations and the overall condition of the building.<sup>1</sup>

The criteria have been aligned with the requirements for the EU Taxonomy wherever possible, see the section "Alignment with the EU Taxonomy framework" for details.

---

<sup>1</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](https://www.klimatstegen.se)

## 5 Requirements and justification of these

This chapter presents the requirements and explains the background to them. The appendices referred to are those that appear in the criteria document “Nordic Swan Ecolabelling of Buildings operations”. The requirements are divided into 8 main areas:

1. Management
2. Energy
3. Climate change
4. Indoor climate
5. Water
6. Recycling, reuse, and waste management
7. Outdoor environment and biodiversity
8. Services and products

### 5.1 Definition of the product group

Building operation for a building, understood as the entire physical unit, can be labelled with the Nordic Swan Ecolabel. The license is on the service, having the building as a frame for the operational performance.

The following can be licensees in the product group Building operations:

- Property owners
- Companies whose main activity includes operation and maintenance services (building operation contractors)

The licensee must take full responsibility for the fulfilment of all requirements, no matter who the work is performed by. Thus, it is only possible to become a licensee if full responsibility for all requirements is withheld.

#### **Building types that can be subject to Nordic Swan Ecolabel Building operations**

The following building types can be certified as Nordic Swan Ecolabel Building operations according to the criteria for Building operations:

- Buildings classified as residential buildings, including student housing, homes for the elderly and homes for persons with disabilities.
- Office buildings, including all associated facilities in the building.
- Educational buildings, including preschool buildings, kindergartens and day-care centres, schools, universities, and other schools for higher education.

#### **Building types that cannot be Nordic Swan Ecolabelled within Building operations**

- Residential buildings with decentralised heating and ventilation systems.
- Holiday homes and cottages.

- Ice skating halls, gymnastics halls, other sports halls, public and private swimming pools.
- Hospitals, hospices, and other care facilities that are not used as permanent residential buildings or classified as premises according to national legislation.
- Hotels and conference centres. Hotels and conference operations can be Nordic Swan Ecolabelled according to criteria for hotels, restaurants, and conference facilities.
- Commercial buildings such as shops and shopping centres.
- Factories and other industrial buildings.
- Documented description of the bullet points listed above.

### **Buildings certified within Nordic Ecolabelling for New Buildings and Renovation of buildings**

Buildings certified within Nordic Ecolabelling for New Buildings, generation 3 or generation 4, have fulfilled strict requirements for the whole life cycle of the building and automatically fulfil the following requirements within these criteria:

- O8 Energy action plan
- O13 Risk analysis Climate change\*
- O14 Adaptation to a changing climate\*\*
- O15 Damp, mould, and moisture survey
- O17 Inventory of environmental hazardous substances
- O18 Measurement of PCB levels in indoor air
- O21 Radon
- O26 Water-saving technologies and measures

Buildings certified within Nordic Ecolabelling for Renovation of buildings, generation 2, have fulfilled strict requirements for the renovation of the building and automatically fulfil the following requirements within these criteria:

- O15 Damp, mould, and moisture survey
- O17 Inventory of environmental hazardous substances
- O18 Measurement of PCB levels in indoor air
- O21 Radon

Buildings certified within Nordic Ecolabelling for New Buildings or Nordic Ecolabelling for Renovation of buildings must be able to show their license.

*\*Only applicable if meeting the point requirement for "Assessment of risks in a changing climate" in Generation 4.*

*\*\*Only applicable if gathering the point requirement regarding "Adaptation to a changing climate" in generation 4.*

### **Background**

In these criteria, building operation refers to the technical operation of a building, emphasising its operational and managerial aspects. Additionally, considerations are made regarding the technical condition of the building and its systems, as well as the actions of its users/tenants. These factors collectively influence the environmental impact during the use phase of the building. Both building owners and building operation contractors can obtain a license, provided

they have control over the outlined requirements. This can for example be ensured through contractual agreements with the responsible party.

Nordic Ecolabelling aims to align with the criteria for New Buildings and Renovation. Consequently, the same building types are eligible for certification, except for hotels, which have their own criteria document. Buildings with very specialised use are exempted from these criteria since they typically have very specific requirements concerning technical installation. This can make it more difficult for these building types to fulfil e.g. the energy requirements. Nordic Ecolabelling continuously evaluates the possibility of extending the scope of the criteria.

## 5.2 General

### 01 Description of the business

The licensee is responsible for all requirements in the criteria document and for the fulfilment of the requirements, no matter who the work is performed by. The applicant must provide the following information about the business:

- Company name and address
- Description of the operation service e.g. is it externalized, what are the different stakeholders and their areas of responsibility, areas of operation and maintenance that covers, etc.
- Information about any subcontractors, for example, external facility service providers (canteen services, cleaning services, gardening services etc.)
- Information about the responsible person for the Nordic Swan certification.
- Information about other relevant personnel related to building operation and maintenance and the division of responsibilities.

Documented description of the bullet points listed above.

### Background to requirement

Nordic Ecolabelling requires a detailed description of the business, to ensure the setting of appropriate and relevant requirements, tailored to the type of business and its operations. This information must be correct, as it forms the basis for the application process and the requirements that apply to your particular business. The information is relevant to ensure efficient and correct certification in relation to the rest of the document.

A responsible person is required to ensure that Nordic Ecolabelling's requirements are fulfilled throughout the entire validity period of the licence and that the annual follow-up and reporting are completed. The company may comprise several departments but should in the first instance appoint just one person to be responsible for the licence and contact with Nordic Ecolabelling. The company may internally split responsibility between different departments and several people. A large turnover of staff can be a challenge in the industry, not least with regard to the Nordic Swan Ecolabelling of the business. When a person who has had responsibility for producing documentation and carrying out annual

reporting leaves, important experience may be lost. Passing on information and knowledge to their successor is thus vital.

## O2 General information about the building

A description of the building(s) and the immediate surroundings included in the building operation must be given, including information/description on the following:

- a) Description of the building(s) (building type, use profile, year of construction and number of buildings). Building drawings and general layouts.
- b) Number of storeys, number of square metres (NO: BRA, SE: Atemp, FI: A (netto), DK: Brutto and Netto, IS: A (brutto)).
- c) For residential buildings: Number of residential units. For offices and educational buildings: Intended number of users/tenants of the building.
- d) The heating system, ventilation system, automation and control systems, and other relevant installations.
- e) Planned indoor operative temperature during winter.
- f) Planned indoor operative temperature during summer in spaces with comfort cooling.
- g) For offices and educational buildings: Operational/work hours and operating hours for spaces with ventilation.
- h) For offices and educational buildings: Occupant load factor, (m<sup>2</sup> per person) for each room.
- i) Outdoor areas including playgrounds and courtyards.
- j) Any supplementary buildings such as garages, storerooms, bicycle storage rooms, waste sorting stations, etc.
- k) Commercial spaces or other supplementary activities (canteen, gym etc.) in the building.

- Documented description of a) to k) above. Appendix 1 or corresponding documentation can be used.

### Background to requirement

The purpose of the requirement is to give an overview of the building/s and the immediate surroundings that are to be part of the Nordic Swan Ecolabelled certification. The information is relevant to ensure efficient and correct certification in relation to the rest of the document.

## O3 Annual follow up

The company must comply with all requirements in the criteria during the validity period of the Nordic Swan Ecolabel license. Further, the company must submit the information in Tabel 1 annually\*. Nordic Ecolabelling may include a review of all requirements or selected ones.\*\*

**Table 1 Requirements that need to be supplemented once a year.**

Req.	Explanation
O4	Copy of journaling of activities from the maintenance plan for the last year.
O8. B2***	Status of the three-year plan, with improvement objectives and targets achieved to reduce the energy consumption following Table 4.
O9	Annual report of the energy consumption including bullets 4 to 6.
O23	Annual report of the water consumption including bullets 2 to 4.
O26****	Description and documentation of the water-saving technologies and/or measures implemented.
O33	a. Information about the products from the list purchased during the last year. b. Datasheet, construction product declaration or information and license.

*\*Information about follow-up and deadline for reporting is given in advance.*

*\*\*See Appendix 2 for examples of information that may be requested as part of the annual follow-up.*

*\*\*\*Only applicable for licensees that fulfil requirement O8 through section B2.*

*\*\*\*\*Only applicable after the first year of application and if not already fulfilled at the time of application.*

Confirmation that the company conducts annual follow-up of the licence.

## Background to requirement

The business is responsible for complying with all requirements in the criteria during the validity period of the license. However, certain building requirements evolve over time, necessitating ongoing follow-up to ensure that the progress and development upon which the license was granted continue to be maintained. This requirement is therefore included to ensure that the business complies with the requirements in the criteria document during the validity period of the Nordic Swan Ecolabel licence. Nordic Ecolabelling may review and control all requirements, or selected ones. It is always the latest version of the annual report that forms the basis for ensuring that the criteria are met. If the annual report reveals that circumstances have changed, Nordic Ecolabelling must be informed of this. Appendix 2 provides examples of information that the licensee must maintain within their own systems and be capable of presenting during the annual follow-up process. Nordic Ecolabelling will inform about the control and deadline for submitting documentation in advance of an annual follow-up.

## 5.3 Management

### O4 Maintenance plan

The applicant must have a building-specific maintenance plan. This must cover at least all construction components\* stated in Appendix 3 and report on at least 30 years. The maintenance plan must as a minimum contain the bullets in section A and describe the routines from section B:

#### A. Content of the maintenance plan:

- planned maintenance measures.
- performed actions based on planned maintenance.
- technical life span of installations and relevant building parts.

- maintenance intervals including estimated time for implementation.
- responsible for each issue and action within the maintenance plan.

#### B. Routines:

- there must be routines for regular follow-up on the planned actions in the maintenance plan, at least once a year.
- The maintenance plan must be updated regularly, at least every year.
- There must be specified a professional role responsible for the content and updates regarding the maintenance plan.

*\*If any component is not relevant to include in the maintenance plan for the specific building, that must be motivated*

- Maintenance plan including the content described above.
- Responsible person for the content and updates of the maintenance plan.
- Routines for updating the maintenance plan.

### Background to requirement

A well-executed maintenance plan not only ensures the longevity and efficient operation of buildings but also contributes significantly to environmental conservation and sustainability by minimizing resource use, energy consumption, and waste generation. The basic principle in environmental work is to try to extend the technical or aesthetic lifespan of building and installation products. The maintenance plan is crucial in the environmental work during planned maintenance, renovations, and energy-saving measures. It indicates the theoretical technical lifespan and when it is time for replacement. These details are essential for assessing the profitability of energy measures and to determine when actions are needed. The idea of the maintenance plan is to note future maintenance needs. The plan therefore needs to have a long-term horizon. The maintenance plan should initially at least cover the next thirty years and should be updated. To ensure that the maintenance plan stays relevant, it must be considered and updated at least every year.

A responsible person for the maintenance plan is important to ensure the effect of the planning. In another case, it's easy for the issue to fall through the cracks, and the environmental effects may be lacking.

### O5 Training of employees

The licensee must have a procedure that ensures that employees who participate in the day-to-day operation and management of the building must complete training on the environmental practises connected to the building.

The training must include, as a minimum:

- Information on what a Nordic Swan Ecolabelled building operations stands for.
- Environmental impact of the building during the use phase.
- What the employees can and must do to help with the environmental practices connected to the Nordic Swan Certification in each building.

- Detailed information\* on specific requirements connected to this certification.

Training must take place no later than two months after obtaining the Nordic Swan Ecolabel licence. New employees must receive the necessary training within two months.

*\*This information must be given as part of the training to those employees who work directly with tenant adaptations, maintenance projects, indoor environment, handling complaints, energy optimization, purchase of new equipment/products, and other routines within operations and maintenance.*

- The procedure of the licensee's training showing how employees are trained, in accordance with the requirement.
- Procedure that ensures the training of all new employees.

## Background to requirement

Training in the work of Nordic Ecolabelling is important in creating engagement across the whole organisation during the licence period. It is important that the contact person does not feel alone in this work and that all the departments are on board from the outset. The departmental managers are the key people for building up good environmental work at the facility from the beginning and for motivating the rest of the employees.

The training must contain both basic environmental knowledge and the knowledge that is necessary to maintain the Nordic Swan Ecolabel licence. Nordic Ecolabelling's "Training material", can be used for these training purposes. The training material should be supplemented with specific information about the environmental impacts of the particular building and what is being addressed in the respective specific license.

Every second year, all employees are to be informed about the environmental work of the company and matters associated with the Nordic Swan Ecolabel licence – for example which environmental improvements the company is working towards, the results of measurements relating to the limit values, and changes to procedures for the Nordic Swan Ecolabel licence.

## O6 Information to the users/tenants

### A. Yearly information

The licensee must at least once a year inform the users/tenants about the building's operational performance. The information (e.g. an annual letter or be shared in an annual meeting) must at least include:

- The energy use of the building compared to at least the previous\* five years (kWh/year). Data from O9 shall be used.
- The water use of the building compared to at least the previous\* five years (m3/year). Data from O23 shall be used.

### B. General information

The following information must as a minimum be available for users/tenants:

- Communication about the environmental work and information on what holding the Nordic Swan Ecolabel means.

- Intended room temperatures in winter and summer.
- Information about how furniture placement can affect the airflow and temperature in the room and how it can be addressed, for example by avoiding placing furniture or other obstructions in front of radiators or supply air diffusers etc.
- Information on how tenant behaviour can reduce energy and water use.
- Information about cleaning and maintenance methods\*\* (for example, supply and exhaust air devices, filters in the kitchen hood and surface layer of the floor)
- For offices and schools: Information about the environmental benefits of choosing reused items instead of newly manufactured ones. For example, chairs in offices and schools, desks, planters, etc.

*\* If the data available is for less than five years, this will be used as start point. If there is no data from previous years, this bullet point will be controlled as part of the follow-up during the coming years. This is applicable only to new licensees who have not previously measured the data.*

*\*\* Applicable when the users/tenants are responsible for building parts/areas (e.g. apartments, offices, etc).*

- Part A: Description of the process for annual reporting to users/tenants.
- Part B: General information for users/tenants.

## Background to requirement

The actions of users/tenants significantly influence energy consumption, water usage, and waste generation within a building. The licensee can influence their behaviour by providing information and prioritizing sustainability initiatives. Involving building users/tenants in the operation promotes collaboration towards sustainability, resource efficiency, and occupant well-being, leading to a dynamic and responsive environment. User involvement is crucial for several reasons. Firstly, users/tenants can adopt energy-efficient practices like turning off lights and appliances when not in use, adjusting thermostats, and using appliances mindfully, contributing to overall energy conservation. Secondly, they play a key role in responsible water usage by promptly reporting leaks, using water-saving fixtures, and being mindful of consumption habits, reducing unnecessary water use. Thirdly, user participation is essential for effective waste management through promoting recycling, reuse, and following waste disposal guidelines, thereby reducing the environmental impact associated with waste generation. Moreover, engaging users/tenants fosters a culture of sustainability within the building community, encouraging shared responsibility and environmentally friendly practices. Additionally, users/tenants provide valuable feedback on maintenance needs, potential improvements, and usage patterns, aiding in the continuous improvement of building performance.

Within a Nordic Swan Ecolabelled Building operation, it is essential for all users/tenants, whether in residential or commercial units, to receive annual information about the environmental performance. This information provides insights into the building's operational performance, specifically addressing energy consumption, water usage, and waste quantities. This transparent and

informative approach serves as an effective means to involve residents and users/tenants in the principles of the Nordic Swan Ecolabel initiative.

## O7 User complaints and fault reports

The applicant must fulfil the following bullets (A-D):

- A. A system for handling and archiving faults and complaints from users/tenants must be implemented.
- B. A description of how the faults and complaints are handled and archived, must be in place and communicated to the users/tenants. Reported issues must be investigated and addressed directly (within 48 h).
- C. There must be clear instructions and information to the users/tenants on where and how to report issues.
- D. The areas of faults and complaints must at least cover:
  - Issues on air quality.
  - Issues with drafts.
  - Issues with temperatures, for example, room temperature deviating from planned levels.
  - Issues with abnormal building or installation-related noises.
  - Issues related to moisture problems or suspicion of moisture problems.
  - Issues related to abnormal smells/odours.
  - Issues with leaking faucets.
  - Other issues related to the performance of the building

Description of the fault reporting system including A to D sections.

### Background to requirement

The actions of users/tenants play a crucial role in influencing the environmental performance of the building. Users/tenants often notice and report problems in the early stages. This allows for prompt identification and resolution of issues before they escalate, preventing potential damage or extensive repairs. Some user complaints may be related to energy inefficiencies, such as drafts, heating or cooling issues, or malfunctioning equipment. Addressing these concerns can lead to improved energy performance and cost savings. Factors like air quality, moisture, and thermal comfort help in maintaining a healthy and comfortable indoor environment. This is essential for the well-being and productivity of building users/tenants. Further, user complaints often point to areas that may require preventive maintenance. Addressing these issues proactively helps in preventing larger, more costly problems in the future.

Addressing user complaints promptly also contributes to user satisfaction. It shows responsiveness on the part of building management, enhancing the overall experience for users/tenants.

## 5.4 Energy

### O8 Energy action plan

The building must comply with section A and either B1 or B2.

An Energy Performance Certificate and associated report must be conducted by an accredited\* independent expert with a minimum of 5 years experience. The documentation must not be older than 10 years.

*Heritage-listed buildings are not covered by this requirement.*

*Buildings certified within Nordic Swan Ecolabel Renovation of Buildings must comply with section A but are exempted from fulfilling Sections B1 and B2.*

#### Section A

The building must at least meet the Energy class from Table 2, according to the energy declaration for buildings covered by the Energy performance of Buildings Directive\*\*.

**Table 2 Minimum energy class per respective Nordic country.**

Country***	Energy class
Sweden	E
Finland	E
Denmark	D
Norway	E

#### Section B1

The building must at least meet the Energy class from Table 3, according to the energy declaration for buildings covered by the Energy performance of Buildings Directive\*.

**Table 3 Energy class per respective Nordic country.**

Country***	Energy class
Sweden	C
Finland	C
Denmark	B
Norway	C

#### Section B2

1. An energy audit must be performed through a certified energy management system such as EN 16247-2:2022 or similar. The energy audit must be conducted by an accredited independent expert with a minimum of 5 years of experience (accreditation can also be related to the company).
2. Based on the energy audit, the building must reduce the energy consumption according to Table 4 no later than 3 years after the date the Nordic Ecolabel license is issued.
3. The reduction must be verified by an energy action plan based on the energy audit.
4. The continuous improvement objectives and targets relating to the reduction of energy consumption must be reported on a yearly basis

after the requirement is met. The progress of the measures will be evaluated yearly according to O3. Applicants failing to implement and/or failing to show progress for the planned measures will lose their license.

**Table 4 Reduction of energy consumption per energy class and respective Nordic country.**

Country*** and energy class		Reduced energy consumption based on an energy audit****
Sweden	At least C	Fulfil section B1
	D	10 %
	E	20 %
	F, G	N/A
Finland	At least C	Fulfil section B1
	D	10 %
	E	20 %
	F, G	N/A
Denmark	At least B	Fulfil section B1
	C	10 %
	D	20 %
	E, F, G	N/A
Norway	At least C	Fulfil section B1
	D	10 %
	E	20 %
	F, G	N/A

\*Accreditation can be related to a person or a company.

\*\* *The Energy Performance of Building Directive (2010/31/EU) in Sweden, Finland and Denmark and the Energy Performance of Building Directive (2002/91/EC) in Norway. If the Energy Performance of Buildings Directive is renewed or levels are updated during the validity of these criteria, Nordic Ecolabelling will perform a new assessment of this energy requirement and adjust the requirement accordingly. The adjustment may involve a national consultation round.*

\*\*\* *An Icelandic company seeking certification is required to initiate contact with the Nordic Swan Ecolabel.*

\*\*\*\* *Unweighted and actual energy consumption, in relation to energy consumption (kWh/year) at the time of application*

- An EPC (Energy Performance Certificate) for the building including the report alternatively documentation stating a heritage-listed building.
- Documentation that the EPC plan is conducted by an accredited independent expert.

Additional documentation for Section B2:

- The energy audit and energy action plan, including the report, for the building.
- Documentation that the energy audit and action plan are conducted by an accredited independent expert.
- Documentation of the energy action plan (bullet 4) and of the planned improvements showing compliance with Table 4 no later than 3 years after the date the Nordic Ecolabel license is issued.

## Background to requirement

The national legislation in all EU countries is based on the EU Directive on the energy performance of buildings 2010/31/EU and the concept of Nearly-zero-energy buildings (NZEB). However, national classifications for energy performance/energy efficiency are not directly comparable between the Nordic countries. The countries' classification system includes different parts of a building's total energy demand. Other differences concern parameters such as net energy needs, purchased/delivered energy, and primary energy. Furthermore, building areas are calculated in different ways, which makes it difficult to compare numbers that are normalised in relation to area. Nordic Ecolabelling has therefore chosen to set energy requirements based on national legislation. An Energy Performance Certificate (EPC) remains valid for 10 years across all Nordic countries from the date of issuance and is therefore accepted as documentation.

The EU is working on a revision of the building directive. Among other things, it is suggested that all public and commercial buildings must as a minimum have energy label F in 2027 and E in 2030. For residential buildings, energy labels F and E must be achieved in 2040 and 2033 respectively.

The buildings considered to be worst performing within energy in each Nordic country are excluded from these criteria set (Part A). The buildings that are in the lowest levels of energy performance are referred to the Nordic Swan Ecolabel criteria for Renovation where they can improve their energy performance before they can apply within these criteria.

The Nordic Swan has granted an exemption for highly energy-efficient buildings in each country (section B1), as significant energy measures are not immediately necessary for them. However, for buildings below the limit, with potential for improved energy performance and reduced climate impact, an energy audit is mandatory (section B2). Recognizing that these measures may not be within the budget from the start, licensees are given a 3-year window to enhance their buildings. Stricter improvement levels apply to buildings with lower energy performance, emphasizing greater energy-saving potential.

In Denmark, buildings classified as energy class B are considered to perform well in terms of energy efficiency and do not require significant changes to their technical installations to reduce energy consumption. Buildings in energy class E or below are considered to be low performing. Similarly, the energy class C designation in Sweden, Norway, and Finland corresponds to buildings performing well in respective country. Buildings in energy class F or below are considered to be low performing.

Heritage-listed buildings are not covered by this requirement since they have limited possibilities to change their energy performance by changing the construction of the building. However, they can improve for example their energy performance through an optimized operation of the building and can improve their energy performance through other requirements. The following buildings are covered by this alternative:

- **DK:** Protected buildings and buildings worthy of preservation with high conservation value (class 1-4 in the SAVE method1).

- **FI:** Protected buildings and buildings worthy of preservation that are defined in the law on built heritage or in town plans.
- **NO:** Protected buildings, as defined in the act kulturminneloven or svalbardmiljøloven, and buildings worthy of protection, as defined in the act plan- og bygningsloven, or naturmangfoldloven.
- **SE:** Protected buildings and buildings worthy of preservation are defined by the Country administrative Board (Länsstyrelsen). In addition, buildings q-marked by the municipalities in the local/zone plan, or alternatively buildings that are part of a municipality cultural environment programme or conservation programme.
- **IS:** Protected buildings and structures that are defined as protected by the Cultural Heritage Agency of Iceland, see: [Friðuð hús og mannvirki | Minjastofnun](#).

Buildings certified under the Nordic Swan Ecolabel Renovation of Buildings must adhere to section A. However, they are exempt from meeting Section B1 or B2 in these criteria. This exemption is granted because strict energy requirements have already been met during the renovation process. By achieving notable energy savings through the previous renovation efforts, these buildings may struggle to meet the upper limit outlined in section B, posing a challenge to compliance with these criteria.

## O9 Energy metering

The applicant must ensure the fulfilment of the following:

1. The following must be measured (in kWh/year) and documented separately on a building level:
  - The energy for heating,
  - The energy for preparation of hot tap water\*,
  - Property electricity\*\*
  - Energy for cooling.
  - Energy from renewable energy production (electricity and/or heat), for example, solar PV.
  - Energy for energy intensive equipment\*\*\*.
2. An annual report\*\*\*\* on the energy consumption from each measured energy area (heating, electricity, hot water, cooling, etc.) must be compiled.
3. The report figures must be compared to the previous five years \*\*\*\*\*.
4. If the figures have increased by more than 10 % compared to the previous year, a variance analysis must be submitted, describing possible reasons behind the increment and measures taken to return the energy consumption to the previous levels.

\* *Hot tap water can alternatively be calculated from measured data.*

\*\* *This includes at least permanent lighting in common areas and operational spaces, heating cables, pumps, fans, motors, control and regulation equipment, elevators, and similar components.*

*\*\*\*Energy intensive equipment are appliances that use more than 10 % of the total building electricity. This can include items such as heat pumps, large refrigeration units, process electricity for areas like server rooms, etc.*

*\*\*\*\* The information must be based on readings from the facility's own meters. Invoices can also be accepted if individual buildings can be distinguishable.*

*\*\*\*\*\* If there is no data on energy consumption for the individual building from all 5 previous years, the available data from previous years should be used. If no data is available, this bullet point will be controlled as part of the follow-up during the coming years. This is applicable only to new licensees who have not previously measured the data.*

*An Icelandic company seeking certification is required to initiate contact with the Nordic Swan Ecolabel.*

- Documentation of metering structure which fulfils the requirements in bullets 1.
- Annual report of the energy consumption including bullets 2 to 4.

## Background to requirement

Today there is a lack of knowledge regarding the daily operation of buildings where there are few examples where correlations between users, technical, energy- and environment-related, economic, and other parameters are analysed to improve and impact the overall building performance.<sup>2</sup> To measure is to know, and a well-established metering structure is crucial for monitoring individual energy categories to quickly identify and rectify errors.<sup>3</sup> Continuous monitoring of energy consumption allows for prompt troubleshooting, enabling immediate corrections and energy savings. Additionally, compiling annual usage into key performance indicators is essential for accurate operational statistics, aiding in the planning of technical measures to reduce energy consumption. By maintaining operational statistics, we gain insights into the specific building, facilitating targeted improvements. Further, within a Nordic Swan Ecolabelled Building operations, it is essential for all users/tenants, whether in residential or commercial units, to receive annual information about the energy performance of the building. The actions of users/tenants play a crucial role in influencing energy consumption. Their awareness and cooperation contribute to overall energy conservation.

## O10 Energy efficiency – continuous operation optimisation

The applicant must describe building-specific procedures, to ensure optimization and energy efficiency, including at least the following:

1. Routines\* complying at least with the checklist set out in Table 5.
2. Routines being updated in the event of changes in operations or new components in the building.

---

<sup>2</sup> Martinac, et al., Brukaranpassad, hållbar byggnadsdrift med fokus på inneklimat och energiprestanda i kontorsbyggnader – en kunskapssyntes, 2017. [sbuif\\_13293\\_slutrapport\\_brukaranpassad\\_haallbar\\_byggnadsdrift\\_med\\_fokus\\_pa\\_inneklimat\\_och\\_ener\\_giprestanda\\_i\\_kontorsbyggnader.pdf \(e2b2.se\)](#)

<sup>3</sup> Kempe, Vidareutveckling av metoder för idrifttagning och driftuppföljning av installationssystem i flerbostadshus, 2014. [Mall BeBo \(bebostad.se\)](#)

3. Identified deviations being addressed directly in the case of an urgent matter otherwise analysed and documented in the maintenance plan.
4. Changes to system setpoints for the energy system being recorded in a journal with the date and details of the modification.
5. The check and adjustments being optimized for the specific building.
6. A professional role, responsible for ensuring the checks and adjustments are carried out, being specified.

**Table 5 Routines for continuous operation optimization for energy**

Monthly follow-up	
A	Meters for the building's energy consumption are read, monitored, and logged.
B**	Monitoring of the electrical heating system to verify that, for example, panel heaters are adjusted to the designated operational temperature.
Seasonal follow-up***	
C	Inspection of setpoint for seasonal adjustment of ventilation flow.
D	Inspection that the lighting control in common areas, such as the entrance hall, is functioning.
E****	Ensure that the supply air temperature is kept low, for example, no more than 18°C during the heating season
Yearly follow-up	
F	Inspection of the fans' specific fan power (SFP)
G	Inspection to ensure that valves do not leak when they are closed.
H	Inspection and optimization of the cooling machine for comfort cooling concerning flows, pressures, condensation temperature, temperature differentials, valves, cleaning of heat exchanger surfaces, and compressor control.
I	Inspection of the coefficient of performance (COP) of refrigeration machines and heat pumps.
Yearly follow-up – only for buildings with installed cooling	
J	Inspection of setpoint to ensure that heating and cooling cannot occur simultaneously in the same area.

*\* If there is a routine that is not relevant for the specific building and therefore not covered in the building's operation, that shall be described in the application.*

*\*\* Only for buildings with electrical heating systems.*

*\*\*\* Actions conducted periodically, based on the changing seasons.*

*\*\*\*\* Only applicable for buildings with balanced ventilation systems with heat recovery.*

- Routines that at least document the bullet 1 (A-J in Table 5), 2 and 5.
- Confirmation of bullet 3 and description of identified deviations that have been or will be addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
- Routines for recording changes in the setpoints for the energy system, examples of the journal and details of the latest modifications.
- Description of the professional role responsible of these routines.

### Background to requirement

Building-specific procedures for ongoing operational optimization are crucial to ensure energy efficiency. Each building has unique characteristics, usage patterns, and energy consumption profiles. Building-specific procedures allow for

a customized approach to optimizing operations based on the specific needs and features of the structure. By having building-specific procedures, it becomes easier to identify specific areas and systems that offer opportunities for energy efficiency improvements. This targeted approach ensures that the optimization efforts focus on the most impactful areas.

Since buildings undergo changes over time, for example modifications to infrastructure, occupancy patterns, or technology upgrades, having routines for continuous operation allows for adaptation to these changes, ensuring that energy optimization measures remain effective. Ongoing operational optimization also involves real-time monitoring of energy usage and system performance. Building-specific routines facilitate the implementation of monitoring systems tailored to the building's characteristics, enabling prompt identification and correction of inefficiencies.

A responsible person for the continuous operation is important to ensure that the work is continuously performed. In another case, it's easy for the issue to fall through the cracks, and the environmental effects may be lacking.

## O11 Operation and maintenance instructions

The applicant must provide operation and maintenance instructions\* which comply with at least the following:

1. Easily accessible and available where the work is to be carried out.
2. Written comprehensibly for those performing the practical work.
3. Tailored to the current activity and type of system.
4. A professional role, responsible for ensuring the checks and adjustments are carried out, being specified.
5. Updated in case of changes in operations, setpoints, or component elements.

*\*Appendix 4 offers a list of instructions for the heating, cooling and ventilation systems that can be followed by the applicant.*

- Operation and maintenance instructions for the heating, cooling, and ventilation systems that at least cover bullet points 1 to 4.
- Routines for fulfilling bullet point 5.

### Background to requirement

Today, it is a common problem in the industry that operation and maintenance instructions are difficult to access and are not regularly updated.<sup>4 5</sup> All technical systems must be properly maintained to function correctly.<sup>6</sup> Insufficient operation and maintenance instructions can result in operational disruptions and indoor environments failing to meet desired standards.<sup>7</sup> Conducting post-incident

---

<sup>4</sup> Kempe, Vidareutveckling av metoder för idrifttagning och driftuppföljning av installationssystem i flerbostadshus, 2014. [Mall BeBo \(bebostad.se\)](http://Mall-BeBo-(bebostad.se))

<sup>5</sup> Bengtsson, Förstudie systematik för kravställning och överlämning av drift- och underhållsdokumentation, SBUF, 2021. [Systematik för kravställning och överlämning av drift- och underhållsdokumentation - Smart Built](http://Systematik-för-kravställning-och-överlämning-av-drift-och-underhållsdokumentation-Smart-Built)

<sup>6</sup> Glaumann et al., Miljöklassning av byggnader – slutrapport april 2008, Boverket, 2008.

<sup>7</sup> [Risker med brister i drift och underhåll - Boverket](http://Risker-med-brister-i-drift-och-underhåll-Boverket)

investigations to identify the root cause and implement appropriate solutions can incur significant expenses. Moreover, the complexity of these investigations is exacerbated when understanding how the facility should function is hindered by incomplete or absent operation and maintenance instructions. Easily accessible, updated, and specific operation and maintenance instructions are essential for an effective work by operational staff. The clearer the operation is described, the easier it is for new operational staff to truly engage in the operation. Operation cards are designed to provide operational staff with an understanding of the function and handling of each part of the installations, individual units, etc.

In a Nordic Swan Ecolabel Building operations, operation and maintenance instructions must be easily accessible, comprehensible, adapted to the specific system, and updated with any changes. Further, a responsible person for the continuous operation is important to ensure that the work is continuously performed. In another case, it's easy for the issue to fall through the cracks, and the environmental effects may be lacking.

## O12 Purchasing of white goods

The requirement applies to the license holders who are responsible for the purchasing of white goods and within the areas where they have the responsibility.

Household appliances and professional kitchen appliances must at least fulfil the energy class requirements in accordance with Tables 6 and 7.

The applicant must have routines to ensure that documentation is collected from the producer/supplier, and that energy consumption is considered and assessed when purchasing new energy-intensive equipment.

**Table 6 Requirements for household white goods**

Product type	Energy labelling according to Energy Label Regulation 2017/1369 (including supplements)
Washing machine	B
Refrigerator	E
Freezer	E
Combined refrigerator and freezer	E
Refrigerator for mini kitchen (height ≤ 80 cm)	F
Drying cabinets	Must have an energy consumption of no more than 0.4 kWh/kg of laundry
Combined wash and tumble dryer	D
Dishwasher	C
Product type	Energy label in accordance with the Energy Labelling Directive 2010/30/EC (including supplements)
Tumble dryers	A+++
Integrated oven	A+
Oven in free standing stove	A
Electric water heaters installed in individual apartments or single-family houses	C

**Table 7 Requirements for professional kitchen appliances**

Product type	Energy level according to Energy Labelling Directive 2010/30/EC (1094/2015/EU)
Combined freezer/refrigerator cabinets	D
Refrigerators	B
Freezers	D
Boiling pans	At least 90% energy efficiency according to EFCEM's Energy Efficiency Standard for boiling pans or equivalent.

*If new legislation comes into force during the validity period of the criteria, Nordic Ecolabelling will assess the requirement and an adjustment may be implemented.*

*Refrigerators and freezers with central cooling systems are not covered by the requirement.*

- ☒ Routines to ensure that documentation is collected from the producer/supplier, and that energy consumption is considered and assessed when purchasing white goods.

### Background to requirement

Energy classification of household appliances and professional kitchen appliances is an important tool for reducing energy use during the use phase of the building. However, it is important that well-functioning equipment are not changed until it is needed to ensure resource efficiency both in terms of raw material and waste. Therefore, this requirement only applies to new purchases. The requirement on energy efficiency is based on both Energy Labelling Directive 2010/30/EC and Energy Labelling Regulation 2017/1369 with later supplements. The specific requirement concerning the energy label for each product group is set on the best performing appliances in their class.

## 5.5 Climate change

### O13 Risk analysis climate change

A climate risk and a vulnerability analysis of the building and property must be performed, including the following parts A)-C):

#### A) Risk analysis (Exposure)\*:

- Screening of which physical climate risks\*\*, both geographically and in the building's vicinity, that may affect the performance of the building during its expected lifetime (minimum 50 years).
- All risks in Table 8 must be assessed.
- Methods and sources used to carry out the mapping of potential climate risks must be presented.

#### B) Vulnerability analysis (Vulnerability)\*:

- An analysis of the specific buildings' ability to withstand identified climate threats must be performed.
- A description of how the users/tenants are affected, for example sensitivity to heatwaves must be presented.
- Methods used to evaluate the vulnerability must be presented.

**C) List of necessary climate adaption measures (Measures of action):**

- A list of climate adaptation measures\*\*\* must be presented. At least one climate adaption measure for each individual significant identified physical climate risk must be presented.
- It must be clearly described how the measures contribute to reducing the relevant climate risks for the specific property.
- Each risk without a suggested measure must have an explanation describing why no specific measure is needed.
- Methods used to evaluate necessary climate adaptation measures must be presented.
- The adaptation measures must further:
  - Not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities.
  - Promote nature-based solutions or to the extent possible rely on blue or green infrastructure.
  - Be consistent with local, sectoral, regional, or national strategies and plans.

**Table 8 Classification of climate-related hazards.**

Time	Temperature related	Wind-related	Water-related	Solid mass-related
Chronic (long term)	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute (short term)	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust, and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

*\* The climate and vulnerability analysis must be based on RCP scenarios from the IPCC and correspond to a period of at least 50 years. Risk assessments must be performed using at least base scenarios (RCP2.6/RCP4.5) and RCP8.5 according to IPCC. Local or national official data sources, guidelines and tools are accepted.*

*\*\*If any risks are irrelevant for the specific building, that must be described.*

*\*\*\*Climate adaption measures include nature-based solutions (blue or green infrastructure), building and installation techniques, systematic control in*

*operation, as well as providing users/tenants and staff information about risks, effects, and self-help measures.*

- Documentation of risk and vulnerability analysis covering A and B.
- Documentation of climate adaption measures according to C.

## Background to requirement

Climate change is giving rise to a warmer climate and more extreme weather. Problems with heat waves, floods and heavy downpours are present today and will become more frequent. The construction sector has good opportunities to reduce future damage and health hazards in the built environment by working with climate change adaptation.<sup>8</sup> In Sweden and Denmark, the ultimate responsibility for implementing climate adaptation measures on the property lies with landowners, developers, and property owners.<sup>9</sup> Municipalities have the main responsibility for implementing climate-adapted measures in the planning work in Norway, Sweden, and Finland.<sup>10</sup> In Denmark, climate adaptation is primarily regulated by laws and regulations, and Norway also has legislation that covers climate adaptation. Iceland currently has no requirements for climate adaptation.

There are holes to fill in the Nordic climate adaptation work of properties and Nordic Ecolabelling wishes to encourage developers and property owners to work with climate adaptation of existing buildings. The climate and vulnerability analysis must be based on RCP (Representative Concentration Pathways) scenarios from IPCC and correspond to a period of at least 50 years. Nordic Swan Ecolabel requires that risk scenarios based on either RCP2.6 or RCP4.5 and RCP8.5 should be performed based on FAQ 221219.166-170<sup>11</sup> regarding the Taxonomy written by the Commission.

Nature-based solutions (blue or green infrastructure<sup>12</sup>) are multifunctional measures that, in their design, are based on the functions that ecosystems possess and contribute, i.e., ecosystem services. Nature-based solutions are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions can bring more diverse nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions (e.g. green roofs, shady trees, dams that delay runoff, etc.).<sup>13</sup> By using nature-based solutions, ecosystems benefit while providing socially beneficial functions<sup>14</sup>. Nature-based solutions promote climate adaptation in a variety of ways and can, for example, improve resilience to floods and extreme rainfall, provide coolness for residents and cool building surfaces such as roofs and walls, and reduce risks of collapse and landslides.

---

<sup>8</sup> [Klimatsäkra din fastighet - Fastighetsägarna \(fastighetsagarna.se\)](https://www.klimatsakra.se/)

<sup>9</sup> 2017/18:163 Nationell strategi för klimatanpassning

<sup>10</sup> PBL 2010:900

<sup>11</sup> [DRAFT COMMISSION NOTICE on the interpretation and implementation of certain legal provisions of the EU \(europa.eu\)](https://ec.europa.eu/europa/commission/communication/2018/2018_0106_en.htm)

<sup>12</sup> Green infrastructure (GI) – Enhancing Europe's Natural Capital (COM(2013) 249 final)

<sup>13</sup> [https://research-and-innovation.ec.europa.eu/research-area/environment/nature-based-solutions\\_en](https://research-and-innovation.ec.europa.eu/research-area/environment/nature-based-solutions_en)

<sup>14</sup> [Naturbaserade lösningar \(naturvardsverket.se\)](https://naturbaserade.losningar.naturvardsverket.se/)

The adaptation measures must ensure that they do not compromise the adaptation efforts or resilience level to physical climate risks of various entities, including individuals, nature, cultural heritage, assets, and other economic activities. For instance, an example of this could be if a structure incorporates an earth embankment that raises the risk of flooding in the surrounding area.

There are many uncertainties on how EU Taxonomy compliance can be documented as well as the interpretation. Even though Nordic Ecolabelling has done its best in interpreting the EU Taxonomy, Nordic Ecolabelling cannot guarantee alignment through the criteria for Building operations.

#### O14 Adaptation to a changing climate

Based on requirement “O13 Risk analysis climate change”, the applicant must ensure the fulfilment of the following bullets:

A: Maintenance plan

- Identified climate adaptation measures must be implemented in the maintenance plan.

B: Routines

- For implementing the climate adaption measures in at least connection with maintenance, renovation, and reconstruction. \*
- For reviewing the climate adaptation measures every fifth year and potentially revising the measures.

*\*Documentation can for example be included in the maintenance plan, in design instructions and systematic operation controls.*

- Documentation of implemented measures in the maintenance plan according to bullet A.
- Description of routines that fulfil bullet B.

#### Background to requirement

The construction sector has good opportunities to reduce future damage and health hazards in the built environment by working with climate change adaptation.<sup>15</sup> The EU Taxonomy Annex II chapter 7.7 Acquisition and ownership of buildings states that *“The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.”*. Nordic Ecolabelling does not require that all adaptation solutions must be implemented from the day of application. However, the Nordic Swan Ecolabel mandates organizations to integrate identified measures into their maintenance plan, derived from climate risk and vulnerability analyses. Further, the climate change adaptation measures must be integrated into maintenance or renovation projects. This approach enables tailored adjustments for specific buildings and also aligns with the principles of economic and resource sustainability.

There are many uncertainties on how EU Taxonomy compliance can be documented as well as the interpretation. Even though Nordic Ecolabelling has

---

<sup>15</sup> [Klimatsäkra din fastighet - Fastighetsägarna \(fastighetsagarna.se\)](https://www.klimatsakra.se/)

done its best in interpreting the EU Taxonomy, Nordic Ecolabelling cannot guarantee alignment through the criteria for Building operations.

## 5.6 Indoor climate

### O15 Damp, mould and moisture survey

The building must have gone through a survey to assess moisture damage, fungal growth, dry rot fungus, odours, and water damage.

The moisture survey\* must be performed by an expert\*\* and at least include\*\*\* the following:

- Foundation and terrace joists.
- Basement walls or corresponding.
- The building envelope (including roof).
- Moisture-sensitive elements indoors and outdoors.
- Technical installations.
- Interior surfaces in rooms that are exposed to moisture (wet rooms, kitchens, showers and laundry rooms).

*\*The survey can be performed visually and non-destructively, and it must not be older than 2 years at the time of applying.*

*\*\*The survey must be performed by an expert with documented knowledge and experience with moisture related problems within buildings, building constructions and materials. The expert must have a minimum experience of 2 years.*

*\*\*\* If the whole building cannot be surveyed (e.g. technical installations in all residential units) a representative selection of areas must be surveyed, and the selection must be justified.*

- Report with the status of the building in moisture related risks, including all the information detailed in the bullets.
- CV of the expert documenting relevant competence.

### Background to requirement

Moisture problems in buildings have environmental, health and financial effects.<sup>16</sup> A building's lifetime might decrease due to moisture problems, with an increased need for renovations. Moisture in buildings increases the risk of bronchitis, chronic bronchitis, and respiratory irritation by 50%. The costs associated with increased illness and reduced health are considerable, but society's economic losses from reduced learning and lower productivity are even higher.<sup>17</sup> One third of Sweden's buildings have moisture or mould damage. The building elements most often subject to moisture damage are windows, building foundations and wet rooms.

Exposure of building materials to moisture can lead to increased emissions of volatile chemical substances (secondary emissions). The degradation is usually

<sup>16</sup> <https://www.boverket.se/sv/byggande/forebygg-fel-brister-skador/>

<sup>17</sup> Fukt i bygninger-hva koster det? (Moisture in buildings - what does it cost?); Bakke, J.W, Norwegian Labour Inspection Authority, Allergi i Praxis (Allergy in Practice), n4 2012.

due to moisture damage in concrete beams since, besides moisture, the chemical reaction also needs alkaline conditions. Moisture-critical constructions are flat roofs, terrace joists, cold winds, internal roof irrigation, drainage systems, ground runoff, single-stage sealed facades, crawl spaces, wet rooms without waterproofing and kitchens without the possibility of forcing exhaust air at the stove.<sup>18</sup> Suspected moisture damage must always be investigated. When you suspect moisture damage in a building, measures need to be taken because moisture damage often gets worse and more difficult to repair the longer you wait.

This requirement includes a moisture survey providing the status of the building, which has as purpose to identify moisture damage, fungal growth, dry rot fungus, odours, and water damage in the building.

## O16 Damp, mould and moisture prevention and handling plan

The applicant must fulfil sections A and B ensuring knowledge and routines for preventing and remediating moisture damage in the building.

**A. Routines for moisture prevention:** There must be routines for moisture prevention including at least the following:

- A professional role, responsible for ensuring the checks and adjustments of the routines.
- Description of the regular inspection of potential moisture damages.
  - Type of control and visual checks, e.g. visual checks in Table 9.
  - Areas controlled.
- Description of the frequency of the controls, minimum every year.
- All inspections must be documented and saved.

**B. Routines for addressing moisture, mould, and water damage:** There must be routines describing the actions that need to be carried out when moisture, mould or water damage is found. These routines must include:

- Description of the damaged area.
- Description of the problem and a detailed survey.
- Description of the method chosen to eliminate the moisture, mould, or water damage.
- If mould removal is necessary, the work must be carried out in compliance with national occupational health and safety guidelines and performed by a licensed/authorised contractor.
- Description of the time plan\* for execution of actions in case of finding moisture related damage.
- Description of the follow-up plan and implementation in the maintenance plan to ensure that the affected area is now clean and in good condition.

---

<sup>18</sup> Warfvinge, Åtgärds katalog, 2023. [Klimatstegen | Svensk Energiutbildning \(svensk-energiutbildning.se\)](https://www.klimatstegen.se/)

**Table 9 Visual checks for moisture prevention.**

Visual moisture checks
visible moisture stains or moisture damage
salt rash
discolourations
bubbles in carpets and on wallpaper
condensation on the inside of the window
presence of a musty smell
water in pipe shafts

*\*Time plan: An annual plan for the actions planned in relation to moisture damage.*

- Description of the routines for moisture prevention containing at least the bullet points in A.
- Description of the routines for addressing moisture, mould, and water damage according to B.
- If relevant, planned corrective actions to remediate moisture damage that has been found and building components that are at risk of moisture damage.

### Background to requirement

Moisture problems in buildings have environmental, health and financial effects.<sup>19</sup> A building's lifetime might decrease due to moisture problems, with an increased need for renovations. Moisture in buildings increases the risk of bronchitis, chronic bronchitis, and respiratory irritation by 50%. The costs associated with increased illness and reduced health are considerable, but society's economic losses from reduced learning and lower productivity are even higher.<sup>20</sup> One third of Sweden's buildings have moisture or mould damage. The building elements most often subject to moisture damage are windows, building foundations and wet rooms.

Exposure of building materials to moisture can lead to increased emissions of volatile chemical substances (secondary emissions). The degradation is usually due to moisture damage in concrete beams since, besides moisture, the chemical reaction also needs alkaline conditions. Moisture-critical constructions are flat roofs, terrace joists, cold winds, internal roof irrigation, drainage systems, ground runoff, single-stage sealed facades, crawl spaces, wet rooms without waterproofing, and kitchens without the possibility of forcing exhaust air at the stove.<sup>21</sup> Suspected moisture damage must always be investigated. When you suspect moisture damage in a building, measures need to be taken because moisture damage often gets worse and more difficult to repair the longer you wait.

The requirement is divided into two sections. The first section ensures that the business has routines and work procedures that prevent moisture problems from

<sup>19</sup> <https://www.boverket.se/sv/byggande/forebygg-fel-brister-skador/>

<sup>20</sup> Fukt i byggninger-hva koster det? (Moisture in buildings - what does it cost?); Bakke, J.W, Norwegian Labour Inspection Authority, Allergi i Praxis (Allergy in Practice), n4 2012.

<sup>21</sup> Warfvinge, Åtgärds katalog, 2023. [Klimatstegen | Svensk Energiutbildning \(svensk-energiutbildning.se\)](https://www.klimatstegen.se/)

arising preventing any adverse effect on the indoor environment and air quality. The second section ensures routines for dealing with moisture problems.

The plan must also include a follow-up of any damp, mould or water damage discovered. The follow-up must focus on identification, management, and remediation of damage.

### O17 Inventory of environmental hazardous substances

This requirement is activated for buildings constructed before 2005.

A hazardous material survey\* must be performed by an expert\*\*. The inventory must cover the entire building\*\*\* and at least substances such as asbestos and PCB.

The report from the inventory must at least include:

1. Responsible for the report.
2. Screening methods for the different hazardous substances.
3. The location of the suspected or identified harmful substances including description, photographs, or drawings.
4. Analysis and results of different building parts and materials (when taken).
5. A list of building parts and materials where hazardous substances are retained or suspected to be retained in the building, including amounts.

If any harmful substances are found:

- the maintenance plan must be supplemented with the information.
- Instructions on how to manipulate these building parts as part of future maintenance work and improvements must be found.
- Routines must be in place describing how these hazardous building materials and installations will be replaced\*\*\*\* and handled in the future showing compliance with national threshold limits for hazardous waste.

*\* The survey can be performed visually and non-destructively and must not be older than 10 years at the time of applying.*

*\*\* The person performing the environmental survey must be qualified to conduct an environmental survey and have at least three years of relevant experience. The expert must also show relevant experience with the same type of buildings and complexity as the one in question.*

*\*\*\* In residential buildings, 10% of the apartments must be controlled and taken as reference.*

*\*\*\*\*The requirement does not force the applicant to replace the building parts that contain either Asbestos or PCB but to have routines in place for when they may be changed in the future.*

- Report from the inventory of harmful substances including the bullets above (1-4).
- CV of the expert documenting relevant competence.
- If harmful substances are found: Documentation of what is included in the maintenance plan.

- If harmful substances are found: Instructions for manipulation and compliance with hazardous waste.

## Background to requirement

Older buildings may have been constructed using materials that contain various hazardous substances. Depending on the substances, they may pose a risk to the environment and/or human health. The requirement covers the hazardous substances considered to be of higher human risk in relation to operations and maintenance of a building, PCB and asbestos. PCBs are a group of chemicals that affect the development of the brain and nervous system and are suspected carcinogens, immune system- and endocrine disruptors.<sup>22</sup> They were used in e.g. sealants, mastics, windows, paints, and electrical equipment until the 1970s. Asbestos is a collective term for several minerals found in nature.<sup>23</sup> The predominant type of asbestos is chrysotile (white asbestos). Asbestos has been used for a long time due to the valuable technical properties of the material. When working with or demolishing materials containing asbestos, a large amount of asbestos fibres is released into the air, where they remain suspended for a long time because the fibres are very light and thin. Inhaling asbestos fibres is dangerous because they can cause several serious lung diseases, such as cancer. Asbestos is forbidden but was frequently used in, for example, pipe insulation, ventilation joints and wall and floor materials. The initial restrictions on asbestos usage were implemented in the 1970s, but it wasn't until 2005 that a comprehensive ban was enacted, prohibiting both the production and importation of asbestos and asbestos-containing products.<sup>24 25</sup> Hence, this requirement applies to buildings constructed before 2005.

The purpose of this requirement is to identify the existence of these substances in the building. This knowledge and the precautionary measures due to it must be used when performing daily operations, maintenance, and improvements in the building, eliminating the risk related to these substances for the inhabitants and the workers.

The hazardous material survey must be performed by a person qualified to conduct an environmental survey. Due to the rapid changes in regulations and knowledge within the field of environmental surveys, a previous survey may not be more than three years old.

### O18 Measurement of PCB levels in indoor air

In cases where PCBs have been identified, PCBs should be measured in the indoor air. The PCB content must be below 300 ng PCB/m<sup>3</sup> in the indoor air.

If the level of PCBs exceeds the threshold limit value, action must be taken to trace the source of the PCB and remove/remediate it. The indoor air must then be tested once again to analyse PCB levels.

---

<sup>22</sup> [PCB i miljön \(naturvardsverket.se\)](https://naturvardsverket.se)

<sup>23</sup> [Asbest - Arbetsmiljöverket \(av.se\)](https://arbetsmiljoverket.se)

<sup>24</sup> Phoenix, Bygge- og anlægs- affald, Harkev Kommune, 2024-03-04.

<sup>25</sup> [Asbest - Arbejdstilsynet \(at.dk\)](https://at.dk)

The measurement must be conducted in compliance with “Instructions for measuring PCBs in the indoor climate”. See

[https://pcbguiden.dk/Media/637968423794975979/pcb\\_maalemetode.pdf](https://pcbguiden.dk/Media/637968423794975979/pcb_maalemetode.pdf).

If other test methods are used the methods must be verified by the Nordic Ecolabelling in advance.

- Analysis report showing measured PCB contents in the indoor air expressed as ng PCB/m<sup>3</sup> air.

### Background to requirement

PCBs are a group of chemicals that affect the development of the brain and nervous system and are suspected carcinogens, immune system- and endocrine disruptors<sup>26</sup>. They were used in e.g. sealants, mastics, windows, paints, and electrical equipment until the 1970s. Buildings with Nordic Swan Ecolabelled operations must be guaranteed to have low levels of PCBs that may pose a risk to health and the environment. Nordic Ecolabelling therefore requires measurements to be carried out in cases where PCBs have been identified in the building to determine whether any PCBs are present in the indoor air. The requirement also applies if PCBs have previously been found in the building before the Nordic Swan.

Nordic Ecolabelling’s threshold limit value of 300 ng PCB/m<sup>3</sup> for indoor air is the same as the level set by the Danish Health Authority as guidance when no action is required. If the level of PCBs per cubic meter of indoor air is below 300 nanograms, this is considered an acceptable level where exposure to PCBs is not expected to pose a significantly increased risk. If the level of PCBs exceeds the threshold limit value stated in the requirement, further action must be taken to trace the source of the PCB and then remove/remediate it. The indoor air must then be tested once again to analyse PCB levels.

### O19 Air quality and ventilation – continuous operation optimisation

The applicant must describe building-specific procedures to ensure satisfactory air quality and ventilation, including at least the following:

1. Routines\* complying at least with the checklist set out in Table 10.
2. Routines being updated in the event of changes in operations or new components in the building.
3. Identified deviations being addressed directly in the case of an urgent matter otherwise analysed and documented in the maintenance plan.
4. Changes to system setpoints for the ventilation system are recorded in a journal with the date and details of the modification.
5. The check and adjustment being optimized to the specific building.
6. A professional role, responsible for ensuring the checks and adjustments are carried out, being specified.

---

<sup>26</sup> <https://www.naturvardsverket.se/amnesomraden/miljoforeningar/organiska-miljogifter/pcb-i-miljon/>

**Table 10 Routines for continuous operation optimization for air quality and ventilation**

Yearly follow up	
A	• Inspection to determine the need of adjustments according to the current number of users/tenants in the building
B	• Inspection to determine if the ventilation ducts need to be cleaned internally.
C	• Inspection to determine whether the ventilation system requires adjustments of airflow.
Yearly follow-up-- only non-residential buildings	
D	• Ensure the necessary supply of airflow in each room. • The results are compared with the current operational need for airflow, as outlined in the room description of the building
E	• Exhaust airflow is measured every three years. • The results are compared with the current operational need for airflow, as outlined in the room description of the building.
F	• Inspection to ensure that the operating hours of the fans/ventilation are synchronised with the current operational hours (working hours) of the users/tenants. • The ventilation system should be started in advance of operational hours and run for a period** after these hours to effectively eliminate pollutants, odours, and moisture. The air volume must be changed at least once.
When changing activities, business, or users/tenants	
G	• Adjustment of airflow in rooms affected by new or modified activities/business/users/tenants.

*\* If there is a routine that is not relevant for the specific building and therefore not covered in the building's operation, that shall be described in the application.*

- Routines that at least document the bullet 1 (A-G) in Table 10.
- Confirmation of bullet 3 and description of identified deviations that have been or will be addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
- Routines for recording changes in the setpoints for the ventilation system, examples of the journal and details of the latest modifications.
- Description of the professional role responsible of these routines.

### Background to requirement

In offices, schools and pre-schools, there is an increased risk of poor indoor air quality because there are larger groups of tenants than the building was originally planned and built to accommodate. Poor ventilation can cause several indoor climate problems even in residential buildings. Some of the symptoms caused by poor air quality are concentration difficulties, headaches, allergies, and asthma.<sup>27 28</sup> It is common for settings on valves, dampers, air diffusers, thermostats, and other components to be adjusted by either users/tenants or maintenance staff in response to user complaints. Changes in building usage, new or changed users/tenants, comfort preferences, or operational schedules can also impact the air quality and energy consumption if adjustments are not made to setpoints and timers accordingly.<sup>29</sup>

Operational optimization is a continuous process. A well-optimized building experiences higher user satisfaction and lower energy usage because part of

<sup>27</sup> [Risker med dålig ventilation - Arbetsmiljöverket \(av.se\)](http://arbetsmiljoverket.se)

<sup>28</sup> [Din hälsa kan påverkas av dålig luftkvalitet - Boverket](http://boverket.se)

<sup>29</sup> Klimatstegen vers 1.0, [Del-3-Klimatnyckeltalen-fakta-Klimatstegen-vers-1.0-230127.pdf \(svensk-energiutbildning.se\)](http://del-3-klimatnyckeltalen-fakta-klimatstegen-vers-1.0-230127.pdf)

optimization involves closely monitoring indoor climate conditions.<sup>30</sup> Experiences from active operational optimization show that the energy consumption of particularly complex buildings can be reduced by 20-25% through well-executed commissioning, coordinated functional testing, and effective operation.<sup>31 32</sup> Additionally, this approach allows for a more tailored indoor climate adjustment to better suit the needs of the users/tenants. Efficient ventilation is key to creating a good indoor climate and indoor air. There is a risk that a too narrowed focus on tighter and more energy-efficient buildings can have a negative impact on air circulation and ventilation. Energy-saving measures should not be carried out at the expense of the quality of the indoor climate. With quality-assured operation and maintenance work, many of the deficiencies noted during ventilation inspections can be detected and addressed in advance.<sup>33</sup> These deficiencies often lead to poorer indoor environments. Therefore, there should be a plan for operation and maintenance, along with clear checklists for inspections to ensure that ongoing work functions properly. Inadequate instructions for operation and maintenance increase the risk of components not being replaced on time, necessary adjustments being neglected, and it is becoming more difficult to rectify operational disruptions and faults.

Nordic Ecolabelling sets a requirement that focuses on monitoring and maintenance of the ventilation system. While operational optimization may be a singular task in some cases, adopting a climate and health-centric approach, necessitates its continual work.<sup>34</sup> Some checks must be conducted daily, while others occur annually or in relation to changed activities. The sooner deviations are addressed, the less energy is consumed and the better air quality. The aim is to ensure a good indoor environment with good air quality, and to avoid excessive energy consumption. Moreover, the requirement wants to contribute to the circular economy by prolonging the lifetime of the systems by promoting good maintenance routines.

## O20 Thermal comfort – continuous operation optimisation

The applicant must describe building-specific procedures to ensure satisfactory thermal comfort and energy efficiency, including at least the following:

1. Routines\* complying at least with the checklist set out in Table 11.  
Buildings with water borne heating systems must comply with A to H.  
Buildings with electrical heating systems must comply with B, C, E, F and G.
2. Routines being updated in the event of changes in operations or new components in the building.

---

<sup>30</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

<sup>31</sup> Martinac, et al., Brukaranpassad, hållbar byggnadsdrift med fokus på inneklimat och energiprestanda i kontorsbyggnader – en kunskapsyntes, 2017. [sbuf\\_13293\\_slutrapport\\_brukaranpassad\\_haallbar\\_byggnadsdrift\\_med\\_fokus\\_pa\\_inneklimat\\_och\\_ener\\_giprestanda\\_i\\_kontorsbyggnader.pdf \(e2b2.se\)](#)

<sup>32</sup> Kempe, Vidareutveckling av metoder för idrifttagning och driftuppföljning av installationssystem i flerbostadshus, 2014. [Mall BeBo \(bebostad.se\)](#)

<sup>33</sup> [Risker med brister i drift och underhåll - Boverket](#)

<sup>34</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

3. Identified deviations must be addressed directly in the case of an urgent matter otherwise analysed and documented in the maintenance plan.
4. Changes to system setpoints for the heating system, and any comfort cooling system, are recorded in a journal with the date and details of the modification.
5. The check and adjustments being optimized to the specific building.
6. A professional role, responsible for ensuring the checks and adjustments are carried out, being specified.

**Table 11 Routines for continuous operation optimization for thermal comfort**

Monthly follow up	
A	Inspection to ensure that the control curve for the heating system's temperature level is set to a specific setpoint.
Seasonal** follow up	
B	Inspection and maintenance of movable sunshades.
C	Ensure that the setpoint for indoor air temperature is not lowered during summer in rooms with comfort cooling.
D	Inspection to verify that circulation pumps in water-based heating systems have been stopped during the summer.
E	Inspection to verify that outdoor de-icing heaters are turned off outside the winter season.
Yearly follow up	
F	Inspection to determine if the comfort cooling system needs readjustment.
G	Ensure that rooms being heated/cooled have functioning room temperature regulation.
When changing activities, business, or users/tenants	
H	There are routines to readjust heating and cooling systems when there is a change in temperature requirements in the rooms.

*\* If there is a routine that is not relevant for the specific building and therefore not covered in the building's operation, that shall be described in the application.*

*\*\* Actions conducted periodically, based on the changing seasons.*

- Routines that at least document the bullet 1 and 2.
- Confirmation of bullet 3 and description of identified deviations that have been or will be addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
- Routines for recording changes in the setpoints for the heating system, and any comfort cooling system and details of latest modifications.
- Description of the professional role responsible for these routines.

### Background to requirement

Thermal comfort impacts health, productivity, and stress levels. With well insulated buildings and a warming climate, overheating is becoming a common problem. The longer and more frequent heat waves with higher temperatures result in heat stress which costs human lives and health, especially among the elderly. It is common for settings on thermostats, and other components to be adjusted by either users/tenants or maintenance staff in response to user complaints. Changes in building usage, new or changed users/tenants, comfort

preferences, or operational schedules can also impact the thermal comfort and energy consumption if adjustments are not made to setpoints accordingly.<sup>35</sup>

Operational optimization is a continuous process. A well-optimized building experiences higher user satisfaction and lower energy usage because part of optimization involves closely monitoring indoor climate conditions.<sup>36</sup> Experiences from active operational optimization show that the energy consumption of particularly complex buildings can be reduced by 20-25% through well-executed commissioning, coordinated functional testing, and effective operation.<sup>37 38</sup> Additionally, this approach allows for a more tailored indoor climate adjustment to better suit the needs of the users/tenants. There is a risk that a too narrowed focus on tighter and more energy-efficient buildings can have a negative impact on the thermal comfort in the building. Energy-saving measures should not be carried out at the expense of the quality of the indoor climate. With quality-assured operation and maintenance work, many of the deficiencies noted during inspections can be detected and addressed in advance. These deficiencies often lead to poorer indoor environments. Therefore, there should be a plan for operation and maintenance, along with clear checklists for inspections to ensure that ongoing work functions properly. Inadequate instructions for operation and maintenance increase the risk of components not being replaced on time, necessary adjustments being neglected, and it is becoming more difficult to rectify operational disruptions and faults.

Nordic Ecolabelling sets a requirement that focuses on monitoring and maintenance to ensure thermal comfort across the whole year. While operational optimization may be a singular task in some cases, adopting a climate and health-centric approach, necessitates its continual work.<sup>39</sup> Some checks must be conducted daily, while others occur annually or in relation to changed activities. The sooner deviations are addressed, the less energy is consumed and the better thermal comfort. The aim is to ensure a good indoor environment with good thermal comfort, and to avoid excessive energy consumption. Moreover, the requirement wants to contribute to the circular economy by prolonging the lifetime of the systems by promoting good maintenance routines.

## O21 Radon

This requirement is activated for all buildings in Finland, Norway, Denmark, and Sweden. There is no requirement for Iceland.

All buildings must show compliance with the limit values in Table 12.

---

<sup>35</sup> Klimatstegen vers 1.0, [Del-3-Klimatnyckeltalen-fakta-Klimatstegen-vers-1.0-230127.pdf \(svensk-energiutbildning.se\)](#)

<sup>36</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

<sup>37</sup> Martinac, et al., Brukaranpassad, hållbar byggnadsdrift med fokus på inneklimat och energiprestanda i kontorsbyggnader – en kunskapssyntes, 2017. [sbu\\_f\\_13293\\_slutrapport\\_brukaranpassad\\_haallbar\\_byggnadsdrift\\_med\\_fokus\\_pa\\_inneklimat\\_och\\_ener\\_giprestanda\\_i\\_kontorsbyggnader.pdf \(e2b2.se\)](#)

<sup>38</sup> Kempe, Vidareutveckling av metoder för idrifttagning och driftuppföljning av installationssystem i flerbostadshus, 2014. [Mall BeBo \(bebostad.se\)](#)

<sup>39</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

The threshold limits must be verified by long-term radon concentration measurements\* done during the heating season and following national regulations and methodologies with specific standards.

**Table 12 Limit values for radon in the building per respective Nordic country.**

Country*	Limit value of annual average radon concentration in the building
Denmark	100 Bq/m <sup>3</sup>
Finland	200 Bq/m <sup>3</sup>
Norway	200 Bq/m <sup>3</sup> , action limit 100 Bq/m <sup>3</sup> **
Sweden	200 Bq/m <sup>3</sup>

\* *Measurements must not be older than 5 years as long as no alterations have been made after the measurements that affect the pressure conditions in the building.*

\*\**Any measures taken due to the action limit must be accounted for.*

- Long-term measurement(s) and calculated annual average radon exposure, showing methodology complying with the national regulations.

### Background to requirement

Long-term exposure to radon gas can cause lung cancer.<sup>40</sup> The risk of lung cancer increases with prolonged exposure and particularly in combination with smoking. Radon gas in the air inside buildings can have several causes, including air permeability in the building envelope, emissions from building materials and radon from tap water. The annual average concentration inside a building also depends on users/tenants habits, for example ventilation settings and how often rooms are aired. Radon can be a problem in newly constructed buildings since the gas can come from the ground and it can create a problem if the ventilation system is not operated properly. Further, it is only recommendations on how often measurements should be carried out.<sup>41</sup>

In 2009, WHO and the Nordic radiation safety authorities published recommendations for radon concentrations in buildings to be below 100 Bq/m<sup>3</sup>. Under Danish law, radon concentrations in homes in all new-build projects after 2010 must be below 100 Bq/m<sup>3</sup>. In existing buildings, simple and cheap improvements should be implemented if radon concentrations are between 100 Bq/m<sup>3</sup> and 200 Bq/m<sup>3</sup>, and more effective improvements should be implemented if the radon concentration exceeds 200 Bq/m<sup>3</sup> (BR15). This is the most stringent Nordic legislation and Nordic Ecolabelling is aware that this level will appear very ambitious in some other countries. It is therefore accepted that the countries have different construction and building traditions and that national laws, practices and levels of ambition also vary.

The purpose of the requirement is to ensure a very low radon level in buildings where the operations and maintenance service is Nordic Swan Ecolabelled. Measurements of radon in the indoor air are the preferred basis of the risk evaluation, but have seasonal constraints tied to them.

<sup>40</sup> World Health Organization, 2023. [Radon \(who.int\)](https://www.who.int)

<sup>41</sup> [Vad finns det för krav på mätning av radon i min bostad? - Strålsäkerhetsmyndigheten \(stralsakerhetsmyndigheten.se\)](https://www.stralsakerhetsmyndigheten.se)

The radon concentration must be measured during the heating season. Natural ventilation creates negative pressure which draws ground-level air into the building. Natural ventilation is less efficient when there is little difference between the indoor and outdoor temperature. Radon concentrations must also be measured in buildings with mechanical ventilation during the heating season. Short-term measurements are advisory in nature and are not accepted as fulfilment of the requirement. National regulations and guidelines should be followed for measurement methods, number of measurement points, location of meters and so on.

The limit levels for annual average radon concentration are based on national recommendations in each country. There is no requirement for Iceland, due to the low radon risk. The Icelandic bedrock does not contain much uranium which makes the risk low in the country.

## O22 Legionella

Temperatures of hot and cold water must be controlled according to the national specifications below.

The applicant must have clear routines for operations and inspection of the water system following the processes in risk assessment of legionella. Deviations that are identified are addressed directly to avoid diseases.

### SE:

- The temperature in the entire domestic hot water system including the hot water circulation circuit is  $\geq 50$  °C.
- The temperature of stagnant hot water in water heaters (storage cylinders or calorifiers) and storage tanks is  $\geq 60$  °C.
- The temperature in the tap cold water system is  $\leq 24$  °C when the cold water has been stagnant for 8 hours.

### NO:

- The temperature of hot water in circulating systems is  $\geq 65$  °C.
- The temperature of stagnant hot water in water heaters (storage cylinders or calorifiers) and storage tanks is  $\geq 70$  °C.

### FI:

- The temperature in the entire domestic hot water system including the hot water circulation circuit is  $\geq 55$  °C.
- The temperature of stagnant hot water in water heaters (storage cylinders or calorifiers) and storage tanks is  $\geq 65$  °C.
- The temperature in the tap cold water system is  $\leq 24$  °C when the cold water has been stagnant for 8 hours.
- In Finland, the data should follow Ministry of the Environment's regulation on buildings' water and sewage installations (1047/2017).

### DK:

- The temperature in the entire domestic hot water system including the hot water circulation circuit is  $\geq 50$  °C.
- The temperature of stagnant hot water in water heaters (storage cylinders or calorifiers) and storage tanks is  $\geq 65$  °C.

*An Icelandic company seeking certification is required to initiate contact with the Nordic Swan Ecolabel.*

- Specification on who (role) is responsible for following the processes.
- Routines/systems for follow-up and monitoring according to the instructions.

## Background to requirement

Legionella is a bacterium that naturally occurs in water.<sup>42</sup> In the tap water systems in buildings, it can proliferate under favourable conditions, spread, and cause Legionnaires' disease, which is a type of pneumonia. Legionnaires' disease is particularly severe as it affects people with weakened immune systems, with mortality rates of up to 20%. People become infected by inhaling small water droplets (aerosols) containing the Legionella bacterium, for example, in showers or bubble baths. Legionella can also occur in humidification systems and parts of cooling water systems. Drinking water containing the Legionella bacterium is not considered dangerous.

Legionella bacteria multiply at water temperatures between 20°C and 45°C, most rapidly between 35°C and 40°C, and where the water remains stagnant for extended periods.<sup>43</sup> Bacteria are killed at higher temperatures.

The Legionella problem is recognized in all Nordic countries. Despite knowledge of both the spread and methods to control the Legionella bacterium, disease outbreaks and deaths are not decreasing at the desired rate.<sup>44</sup> One reason may be that, during building operation, the hot water temperature is lowered to save energy.<sup>45</sup>

For most operations and buildings, Legionella growth is prevented by ensuring that the hot water temperature is sufficiently high in both the tap water system and in the hot water tank with stagnant water. And by ensuring that cold water is not inadvertently heated.

## 5.7 Water

### O23 Water metering

The applicant must ensure the fulfilment of the following bullets:

1. Submeters must be implemented for each individual building to monitor and track water usage.
2. An annual report\* on water consumption must be compiled for each individual building in m<sup>3</sup>/year.

---

<sup>42</sup> Folkhälsomyndigheten, Legionella i miljön – en kunskapssammanställning om hantering av smittrisker, 2022. [Legionella i miljön – en kunskapssammanställning om hantering av smittrisker — Folkhälsomyndigheten \(folkhalsomyndigheten.se\)](#)

<sup>43</sup> [Managing legionella in hot and cold water systems \(hse.gov.uk\)](#)

<sup>44</sup> Andersson, Schönning, Legionella – sjukdomsförekomst och europeisk utblick, Folkhälsomyndigheten, 2023. <http://www.stoppalegionella.se/download/27-23FC4CBA066F390A8CC729C7592B6EE8/Legionella--sjukdomsforekomst-och-europeisk-utblick--Caroline-Schonning-Folkhalsomyndigheten-.pdf>

<sup>45</sup> Klimatstegen vers 1.0, [Del-3-Klimatnyckeltalen-fakta-Klimatstegen-vers-1.0-230127.pdf \(svensk-energiutbildning.se\)](#)

3. The reported figures from each building must be compared to the previous five years\*\*.
4. If the water consumption has increased by more than 10 % compared to the previous years, a variance analysis must be submitted, describing possible reasons behind the increment and measures taken to return the water consumption to the previous levels.

*\*The information must be based on readings from the facility's own meters. Invoices can also be accepted if individual buildings can be distinguishable.*

*\*\* If there is no data on water consumption for the individual building from the whole 5 previous years, data from previous years can be used. If no data is available, this bullet point will be controlled as part of the follow-up during the coming years. This is applicable only to new licensees who have not previously measured the data.*

- Documentation of metering structure which fulfils the bullet 1.
- Annual report of the water consumption including bullets 2 to 4.

### **Background to requirement**

While clean water is not currently a scarce resource in the Nordic countries, it remains a vital and finite resource that must be used carefully due to its essential role in sustaining life.<sup>46</sup> Additionally, the environmental impact of clean water usage underscores the importance of its wise and efficient utilization.

Not all existing buildings have implemented measures to reduce the water consumption, and not all have meters to monitor consumption.<sup>47</sup> It is common for multiple buildings to share the same meter within the same property, making it challenging to pinpoint leakages. Having submeters for each individual building is important to monitor water usage. Submeters provide a more precise and accurate measurement of water consumption at the individual building level. This accuracy is crucial for identifying specific patterns, detecting leaks, and optimizing water use. With submeters, it becomes easier to identify and locate leaks within a specific building. Rapid detection of leaks allows for prompt repairs, minimizing water wastage and potential damage to the building.

Monitoring water consumption at the building level also helps in understanding usage patterns and optimizing water management strategies. This information is valuable for implementing water-saving measures and promoting sustainable practices. Submeters allow for evaluating of the water performance of each building independently. This information can be used to set targets, measure improvements over time, and implement targeted conservation measures. Within a Nordic Swan Ecolabelled Building operations, it is essential for all users/tenants, whether in residential or commercial units, to receive annual information about the water consumption of the building. The actions of users/tenants play a crucial role in influencing the water consumption. Their awareness and cooperation contribute to overall water conservation.

---

<sup>46</sup> European Environment Agency, Water resources across Europe – confronting water scarcity and drought, 2009. [Water resources across Europe — confronting water scarcity and drought \(europa.eu\)](https://www.europa.eu)

<sup>47</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](https://www.klimatstegen.se)

## O24 Water - continuous operation optimisation

The applicant must describe building-specific procedures to ensure water efficiency, including at least the following:

1. Routines complying at least with the checklist set out in Table 13.
2. Identified deviations are addressed directly and documented in the maintenance plan.
3. A professional role, responsible for ensuring the checks and adjustments are carried out, being specified.

**Table 13 Routines for continuous operation optimization for water efficiency**

Weekly follow up	
A	Meters for the buildings water consumption are read, monitored, and logged.
Monthly follow up	
B	Ensure that there are no water leaks, such as running toilets or leaking faucets.

- Routines that at least document the bullet 1 (A-B) in Table 13.
- Confirmation of bullet 2 and description of identified deviations that have been or will be addressed directly.
- Description of the professional role responsible of these routines.

### Background to requirement

While clean water is not currently a scarce resource in the Nordic countries, it remains a vital and finite resource that must be used carefully due to its essential role in sustaining life.<sup>48</sup> Additionally, the environmental impact of clean water usage underscores the importance of its wise and efficient utilization.

Building-specific procedures for ongoing operational optimization are crucial to ensure water efficiency. Each building has unique characteristics, usage patterns, and water profiles. Building-specific procedures allow for a customized approach to optimizing operations based on the specific needs and features of the structure. By having building-specific procedures, it becomes easier to identify specific areas and systems that offer opportunities for water efficiency improvements. Ongoing operational optimization involves real-time monitoring of water usage and system performance. Building-specific routines facilitate the implementation of monitoring systems tailored to the building's characteristics, enabling prompt identification and correction of inefficiencies.

A responsible person for the continuous operation is important to ensure that the work is continuously performed. In another case, it's easy for the issue to fall through the cracks, and the environmental effects may be lacking.

## O25 Purchasing of sanitary tapware

The requirement applies to the license holders who are responsible for purchasing of sanitary tapware and in areas where they have the responsibility.

The applicant must follow the water efficiency requirements\* from Table 14 when purchasing new products listed in the table.

<sup>48</sup> European Environment Agency, Water resources across Europe – confronting water scarcity and drought, 2009. [Water resources across Europe — confronting water scarcity and drought \(europa.eu\)](http://www.europa.eu)

**Table 14 Efficiency requirements for purchasing of sanitary tapware.**

Water demanding equipment	Requirement
Toilets, WCs including suites, bowls and flushing cisterns	<ul style="list-style-type: none"> <li>• Dual-flush toilet with a maximum flush of 3 litres for small flush and 6 litres for large flush</li> </ul>
Washbasin and mixer taps	<ul style="list-style-type: none"> <li>• Energy class A according to energy classification of bathroom faucets, for example SS 820000, SS 820001 or similar.</li> <li>• A maximum water flow of 6 litres/min</li> <li>• Touchless taps</li> </ul>
Kitchen taps/faucets	<ul style="list-style-type: none"> <li>• Energy class B according to energy classification of kitchen faucets, for example SS 820000, SS 820001 or similar.</li> <li>• A maximum water flow of 6 litres/min.</li> <li>• Touchless taps.</li> </ul>
Showers	<ul style="list-style-type: none"> <li>• Energy class B according to energy classification of thermostatic shower faucets, for example SS 820000, SS 820001 or similar.</li> <li>• A maximum water flow of 8 litres/min</li> </ul>
Urinals	<ul style="list-style-type: none"> <li>• A maximum of 2 litres/bowl/hour</li> <li>• Flushing urinals have a maximum full flush volume of 1 litre</li> </ul>

*\*At least one bullet per water equipment must be fulfilled.*

- Procedure describing purchasing routines that ensure the fulfilment of the requirements when purchasing new sanitary tapware.

### Background to requirement

Energy and water classification of household appliances and professional kitchen appliances is an important tool for reducing water and energy use during the use phase of the building. However, it is important that well-functioning equipment are not changed until it is needed to ensure resource efficiency both in terms of raw material and waste. Therefore, this requirement only applies to new purchases. The purpose is to reduce water and energy use by either selecting energy efficient taps or taps with a limited water flow. Touchless taps save both energy and water primarily in educational and office buildings, by ensuring that taps are never left on. Relevant water flows are defined according to the technical specifications for water appliances and should follow the EU Taxonomy Appendix E, Annex 1 to the Commission Delegated Regulation (EU) 2021/2139. However, for dual-flush toilets a small flush of 3 litres is accepted, hence this requirement does not cover the “average flush” according to the Taxonomy. This allowance is made due to the challenge posed by the fact that older pipes may not be sized to accommodate small water volumes, potentially causing significant issues for piping installations in existing buildings.

### O26 Water saving technologies and measures

The applicant must fulfil one of the following measures at least 1 year after the application date.

- An installed system that identifies base load, detects leakages in the water system and provides a warning or shuts off the water supply when a leak is detected\*.
- At least 75 % of the sanitary tapware (toilets, faucets, showers etc.) fulfils the requirements for newly purchased sanitary tapware according to requirement O25 Purchasing of sanitary tapware.\*\*

- Installation of a system for collecting rainwater to use in for example toilet flushing.
- Installation of water-efficient nozzles on 100 % of the faucets and outlets in the building.\*\*\*

*\*The system can consist of a water fault breaker, leakage breaker, a method for following up water use in high-resolution measurement data, or water alarm management, i.e., systems that monitor the domestic water system, identify leaks, and centrally or locally shut off the water supply or alarms. Utilization of and connection to the existing water meters from the network owner is accepted as a solution. Base load can for example be identified through a 7-day measurement during nighttime (04.00-04.15).*

*\*\* Applies to appliances within the licensee's area of responsibility.*

*\*\*\* As an alternative to replacing the entire faucet or outlet. Applies to appliances within the licensee's area of responsibility.*

- Confirmation of the measure that will be implemented. Description of the implementation process, timeline, and other details.
- Description and documentation of the water-saving technologies and/or measures implemented.

## Background to requirement

Water-saving technologies are crucial for promoting effective water management and contributing to climate change mitigation by reducing the energy demands associated with water treatment and distribution. To advance the adoption of these technologies, the Nordic Swan Ecolabel has integrated specific measures that must be implemented within one year from the application date. This requirement allows for a one-year overlap since it has a slightly lower RPS and provides flexibility for financial investments. If any of the conditions are already met at the time of application, the requirement is considered fulfilled, and no further action is required.

One addition is the installation of a system capable of identifying normal water usage patterns and promptly detecting any leakages. This proactive approach empowers building operations to swiftly rectify errors within the system, enhancing overall efficiency. Reuse of rainwater has also been added to the requirement to lower the need for tap water for toilet flushing. The installation of water-efficient nozzles has been included, encouraging the optimization of existing equipment. This measure promotes resource efficiency, ensuring that water is used judiciously and in line with sustainable practices.

## 5.8 Recycling, reuse and waste management

### 027 Information to users/tenants and possibility of sorting at source

#### Residential buildings:

The applicant must have clear and available information\* on how the users/tenants can improve waste sorting through their behaviour by implementing the following:

**A. Residential buildings with waste room**

- which containers the respective waste should be sorted into.
- how fractions, that cannot be sorted in the waste room (e.g. hazardous waste), should be handled including information about the closest sorting/waste handle station.

**B. Residential buildings without waste room**

- how fractions should be handled and where they should be left including information about the closest sorting/waste handle station.

**Educational and Office buildings:**

The applicant must have information easily available for tenants/users on how they should sort their waste. Further, the applicant must ensure vessels for a certain number of fractions fulfilling the following:

**C. Educational buildings**

- Sorting vessels for a minimum of two fractions must be installed in all classrooms and common rooms.
- Sorting vessels for a minimum of four fractions must be installed in or in the vicinity of the main kitchen and in all other permanent kitchen facilities.

**D. Office Buildings**

- Sorting vessels for a minimum of two fractions must be installed in all kitchenettes and common areas.

**Table 15 Fractions**

Fractions
The following fractions** must be separated: <ul style="list-style-type: none"> <li>• Paper,</li> <li>• coloured and clear glass,</li> <li>• plastics,</li> <li>• metal,</li> <li>• electronic waste such as batteries and lightbulbs,</li> <li>• cardboard packaging,</li> <li>• corrugated board,</li> <li>• organic waste for degradation or composting,</li> <li>• unsorted waste,</li> <li>• hazardous waste.</li> </ul>

*\*Information must include at least the fractions in Table 15.*

*\*\*Exemptions apply to buildings situated in areas where managing the specified fractions is not feasible. This may occur, for instance, if the waste reception capacities of the respective municipality are constrained.*

- ☒ Instructions and pictures that confirm fulfilment of requirements.

**Background to requirement**

By promoting recycling, reuse, and following waste disposal guidelines, users/tenants contribute to reducing the overall environmental impact associated with waste generation. User participation is crucial for effective waste management since the actions of users/tenants play a crucial role in influencing the waste generation. The licensee can affect the users/tenants' behaviours by information, facilitating the right actions, and putting the issue on the agenda.

Various types of buildings face challenges in offering recycling options, as the building's initial design may constrain sorting possibilities. Additionally, the location of buildings in areas with municipal waste management restrictions can further limit waste fraction management.

## O28 Promotion of repair and reuse for users/tenants

To promote the reuse of materials and components for users/tenants, the licensee must offer support to the users/tenants by having/implementing one of the following measures:

- A workspace\* which is conditioned for restoring and repairing.
- A digital system or physical space\* where items can be shared, for example tool or machine pool.
- A system or physical space\* where items, for example furniture, can change ownership.

*\*The potential space must be available within the building or in the vicinity of the building/neighbourhood.*

☒ Description of the measure implemented by the company.

### Background to requirement

Promoting repair and reuse is a crucial aspect of responsible building operations. Repair and reuse contribute to resource conservation by extending the lifespan of products and materials. This helps reduce the demand for new resources, promoting a more sustainable and circular economy. Encouraging users/tenants to repair and reuse items helps minimize waste generation. It redirects items away from incineration or landfills, reducing the environmental impact associated with waste disposal. Further, repairing, and reusing items result in lower environmental impact compared to the production of new goods. For users/tenants, engaging in repair and reuse practices can lead to a mindset shift encouraging them to be more mindful of their consumption habits. It contributes to an educational aspect of sustainable living. To promote the adoption of such incentives, the Nordic Swan Ecolabel has incorporated specific measures that facilitate users/tenants in making environmentally responsible choices.

## O29 Promotion of repair and reuse in relation to building improvements and tenant adaptations

To promote the reuse of materials and components, the licensee must offer support to the users/tenants in relation to building improvements and tenant adaptations by implementing at least one of the following measures:

- Offer the users/tenants a reuse inventory in relation to building improvements and tenant adaptations.
- Offer the users/tenants the reuse of materials in place, for example cleaning, fixing and repairing different components, like flooring, walls, doors and different installations from the previous tenant.
- Offer the tenant reused materials from either an own storage or an external marketplace solution.

☒ Description of the measure implemented by the company.

## Background to requirement

Incorporating repair and reuse practices in minor renovations and tenant adaptations supports the principles of resource efficiency, waste reduction, and sustainable building practices. Repairing and reusing materials both reduce the demand for new resources and minimize the generation of construction and demolition waste.

It is important to guide the users/tenants in the reuse of materials and components in relation to minor renovation and tenant adaptation through for example to reuse and repair the things already in place. To promote the adoption of such incentives, the Nordic Swan Ecolabel has incorporated specific measures. These measures aim to help licensees establish effective routines for guiding users/tenants in making environmentally responsible choices, fostering a culture of resource conservation and waste reduction within the building community.

## 5.9 Outdoor environment and biodiversity

### O30 Outdoor area

This requirement is activated for properties with gardens/outdoor areas.

The applicant must ensure the fulfilment of the following:

1. Herbicides: No chemical herbicides are purchased or used on weeds on the properties (garden/outdoor area).
2. Pesticides: Alternative methods\* must be considered before resorting to the use of pesticides in the property garden/outdoor area.
3. De-icers with the purpose of removing ice and snow must be ecolabelled. Sand and grit are exempted.

For properties with gardens/outdoor areas larger than 1000 m<sup>2</sup> the following further applies:

4. Foreign invasive species\* found on the property must be removed and controlled. Such species should also not be planted.
5. Features of high natural value must be protected\*\*\*, including:
  - Trees that are over 50 years old
  - Large trees\*\*\*\*
  - Natural watercourses, such as natural streams and ponds

\* For example, mechanical or biological treatments.

\*\*\*This applies to species for which importing and trading are prohibited. They are found in the following documents: Denmark: The Danish Environmental Protection Agency's list of invasive species.<sup>49</sup> Finland: National list of alien species.<sup>50</sup> Norway: Regulation on alien organisms.<sup>51</sup> Sweden: Currently, the requirement applies to species on the EU list and the list of most problematic species that have not yet been regulated by law.<sup>52</sup> This may be changed when the

<sup>49</sup> <https://mst.dk/natur-vand/natur/national-naturbeskyttelse/invasive-arter/de-invasive-arter/>

<sup>50</sup> <https://vieraslajit.fi/lajit?EuList=false&FiList=true&invasiveSpeciesMainGroups=HBE.MG2>

<sup>51</sup> <https://www.miljodirektoratet.no/globalassets/publikasjoner/m777/m777.pdf>

<sup>52</sup> <https://lovdata.no/dokument/SF/forskrift/2015-06-19-716?q=forskrift%20om%20fremmede%20arter>

<sup>52</sup> [Invasiva främmande arter – djur och växter \(naturvardsverket.se\)](https://www.naturvardsverket.se/invasiva-frammande-arter-djur-och-vaexter)

*authorities have prepared new lists. Iceland: Law 583/2000.<sup>53</sup> All countries: Regulation EU 2016/1141.<sup>54</sup>*

*\*\*\*Exemptions from the requirement are granted if trees and streams are a danger, for example if they pose a risk to life, health, or significant property damage. The danger must be confirmed by an independent third party.*

*\*\*\*\* Large trees refer to trees with a trunk circumference over 90 cm, measured 1 meter above ground level.*

- Description of the routines confirming bullet 1 to 3.

Additional documentation for properties with gardens/outdoor areas larger than 1000 m<sup>2</sup>:

- Description of the routines confirming bullet 4 to 5.

## Background to requirement

Biodiversity deteriorates rapidly, and changes in land use result in limited habitats, overexploitation of plants and animals, climate change, pollution and foreign, invasive species.<sup>55</sup> The UN's Sustainable Development Goal 15.5 deals specifically with biological diversity and states that the world must reduce the deterioration of habitats, stop the loss of biodiversity, and prevent the extinction of endangered species.<sup>56</sup>

While both pesticides and herbicides are used to manage unwanted organisms, pesticides target a broader range of pests, including insects, rodents, and fungi, while herbicides specifically target unwanted plants or weeds.<sup>57</sup> Historically, several toxic agents have been used, but the industry has developed, and herbicides now degrade more quickly and do not have long-term effects on the environment. Nevertheless, several herbicides and pesticides can have negative effects on the environment, and it is unclear how their use over time will affect different ecosystems. Nordic Ecolabelling therefore prohibits the use of herbicides since weeds can be easily removed mechanically without the use of chemicals. The use of pesticides is sometimes necessary for pest and vermin control and cannot be completely banned. However, other alternatives, such as mechanical or biological treatments, should be tested first before resorting to pesticides.

Foreign invasive species are one of the five biggest causes of biodiversity loss.<sup>58</sup> Nordic Ecolabelling therefore wants these species to be removed, and if they return, they must be removed again. In this way, the species are controlled. Removing these species in favour of local species is good for biodiversity. Objectives to prevent the spread and removal of invasive foreign species are found both in the UN's Sustainable Development Goals and under the UN Convention on Biological Diversity. These are plant and animal species that can change the living conditions of species that are found naturally in one place or displace the local species. They can crossbreed with local species, and they can

---

<sup>53</sup> <https://en.ni.is/flora-funga/invasive-plant-species>

<sup>54</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1417443504720&uri=CELEX:32014R1143>

<sup>55</sup> [Biodiversity — European Environment Agency \(europa.eu\)](https://www.eea.europa.eu/biodiversity)

<sup>56</sup> [Goal 15 | Department of Economic and Social Affairs \(un.org\)](https://www.un.org/sustainabledevelopment/goals/goal-15/)

<sup>57</sup> [CCOHS: Pesticides - General](https://www.ccohs.ca/CCOHS/Pesticides-Gen.html)

<sup>58</sup> [Biodiversity: new IPBES report finds invasive alien species a growing and costly threat worldwide - European Commission \(europa.eu\)](https://ec.europa.eu/commission/presscorner/detail/en/ipbes)

carry diseases. Many alien species of trees and ornamental plants have been imported for horticulture, and have since spread with the wind, with animals or via garden waste. The species that are most at risk of spreading and damaging biodiversity are usually banned from being imported and traded today but are still found in many gardens and parks. It is not illegal to keep them, but you have a duty to prevent them from spreading. The way that this is followed up varies greatly.

Features of high natural value, such as old trees and watercourses, should be looked after. In some cases, they are mapped by the municipality because they are protected by law. This applies, for example, to old oaks. Nevertheless, the degree of mapping varies between municipalities. There are also features of high value that are not legally protected, including other large trees, such as beech and birch. Nordic Ecolabelling wants the building operator to take responsibility and ensure that trees that are over 50 years old and natural watercourses are protected as far as possible.

## 5.10 Services and products in daily operations, maintenance and building improvements

These requirements concern the purchasing of new materials and chemicals in connection to operations, maintenance and building improvements. The purchasing covered by these requirements are those for whom the responsible entity is the license holder or the building owner (in case the license is owned by the operation service provider). These requirements do not cover purchases that are not the responsibility of the previously mentioned stakeholders e.g. purchases made by tenants.

If the users/tenants of the building have the responsibility of hiring the services or buying the products covered by requirements O32 to O37, the applicant must have an informative protocol to guide the users/tenants in the acquisition of those services and products based on the Nordic Swan Ecolabelled certification.

### O31 Cleaning products and services

#### **For Norway, Denmark and Sweden**

**For all types of buildings**, the applicant must fulfil either A or B, depending on whether there is an external cleaning service or not.

A) If the property hires an external cleaning service company for the common areas\*, this must be Nordic Swan Ecolabelled or EU Ecolabelled certified.

B) If the property does not have an external cleaning service, all the products used for general cleaning\*\* in common areas in the everyday must be Ecolabelled with the Nordic Swan Ecolabel, the EU Ecolabel, or the Bra Miljöval (Good Environmental Choice) label.

**For office buildings and educational buildings**, when hiring an external window cleaning service, this must be Nordic Swan Ecolabelled certified.

#### **For Finland**

**For all types of buildings**, all the cleaning products used for general cleaning\*\* in common areas\* in the everyday must be Ecolabelled with the

Nordic Swan Ecolabel, the EU Ecolabel, or the Bra Miljöval (Good Environmental Choice) label. This also applies to cleaning service companies performing the work.

### **For Iceland**

An Icelandic company seeking certification is required to initiate contact with the Nordic Swan Ecolabel.

*\*Common areas: Common kitchens, common toilets, public areas, staircases, staff offices, etc.*

*\*\*General cleaning: all flooring and surfaces, glass, mirrors, etc.*

### **Documentation for Norway, Denmark and Sweden**

- A. Name of the cleaning service with its license number and a description of the service provided.
- B. List with the Ecolabelled cleaning products used for general cleaning. The list must include name of the product, manufacturer, supplier, function, license number and frequency of use.
- For office buildings and educational buildings, it must be documented if an external window cleaning service is hired. The company giving the service and the license nr. Must be submitted.

### **Documentation for Finland**

- List with the Ecolabelled cleaning products used for general cleaning. The list must include name of the product, manufacturer, supplier, function, license number and frequency of use.

### **Background to requirement**

There is a large number of chemical products used in the daily cleaning of buildings. Both workers and tenants are exposed to these chemicals on a daily basis.

Nordic Ecolabelling requires the company to use a Nordic Swan Ecolabelled cleaning service, if an external cleaning service is going to be used. This is because a Nordic Swan Ecolabelled cleaning service uses chemicals that meet strict chemical and health requirements, and a large proportion of them are ecolabelled. They also minimize the use of unnecessary chemicals, and the staff is trained in both the environment and cleaning methods. Choosing an ecolabelled cleaning has also an impact on the energy used since it minimizes the environmental impact from transport. Besides, it has a quality system that ensures a high-quality cleaning.

Nordic Ecolabelling requires that, if the company does not use an external cleaning service, 100% of the products used for the general cleaning are ecolabelled certified. This is to ensure the use of products among the best in terms of environmental profile, where the whole life cycle of the product is considered, and strict requirements are set concerning the environment and health effects of the constituent substances. The environmental requirements include strict requirements as to the content of environmentally harmful substances and substances not readily degradable in aquatic environments.

The overview of all the chemicals used by the company is demanded to guarantee that there is control over the chemicals used and to ensure that chemicals that do not meet Nordic Ecolabelling's requirements are not used.

### O32 Other Ecolabelled services

This requirement applies to those properties that hire one or more of the listed services, where the responsibility for the hiring belongs to the building owner and/or the building operation's provider.

The following services must be Nordic Swan Ecolabelled or EU Ecolabelled certified:

- Canteens
- Printed Matter
- Textile services\*

*\*For Finland, this only applies to the washing of Handtowels in Textile services. Other type of textile categories do not need to fulfil this requirement.*

- List and description of the services that the property hires.
- Information about the licenses: license number, due date, expiry date and license holder.
- Information protocol to guide users/tenants in the acquisition of Nordic Swan Ecolabelled or EU Ecolabelled certified services.

### Background to requirement

Building operators procure services that are utilized by numerous building users, thereby exerting a significant environmental impact owing to the environmental footprint associated with these services. Nordic Ecolabelling requires the purchasing of ecolabelled products and services, as these have a lower environmental impact compared with non-ecolabelled purchases. This requirement applies to those properties where the responsibility for the hiring of the services belongs to the building owner and/or the building operation's provider. This means that this requirement only is activated when the applicant has responsibility and steerability over providing or purchasing these services.

Nordic Swan Ecolabel require that canteens are ecolabelled certified in those buildings that acquired this service since a Nordic Swan Ecolabelled food service meets strict environmental requirements and has taken a holistic approach to its environmental approach. The company works in a structured and active way to reduce its consumption of resources and optimize its operations.

Further, it is required that all of all printed matter comes from ecolabelled printing companies. Printed matter means, for example, flyers, brochures, pads, and stationery with a logo. It is not obligatory for the printed matter to be ecolabelled but note that ecolabelled printed matter must be actively requested when ordering. Even if the printing company is ecolabelled, the printed matter is not marked automatically. The purchasing manager is responsible for ensuring that the Nordic Swan Ecolabel or EU Ecolabel logo and the printing house's licence number are on the ecolabelled printed matter.

Lastly, it is further required that textile services are ecolabelled since a Nordic Swan Ecolabelled textile service is energy efficient and has a low climate impact, consumes limited amounts of water, and uses the planet's resources sparingly. It uses chemicals complying with stringent environmental and health requirements and reduces the environmental impact of transport involved in distribution.

### O33 Ecolabelled products

All the following product categories must be ecolabelled (Nordic Swan Ecolabel or the EU Ecolabel):

- Indoor wall/ceiling paint
- Outdoor paint
- Adhesives for glass felt and wallpaper\*
- Indoor fillers for ceilings and walls\*
- Indoor acrylic sealants
- Microdisperses\*
- Linoleum floors
- Parquet floors
- Laminate floors
- Wood floors
- Countertops
- Particle boards

*\*Not applicable in Finland.*

*Minor repairs or interventions, such as repairing a small section of for example a parquet floor, are not covered by the requirement.*

- Confirmation that only Nordic Swan Ecolabel or EU Ecolabel certified chemicals and building products from the list are used in daily operations.

### Background to requirement

Construction materials and chemical products have been shown to contribute to environmental impacts such as energy and resource consumption, undesirable chemical risks, and negative effects on biodiversity. The building materials represent an increasingly larger share of the environmental burden. The criteria for ecolabelled construction materials and chemical products set requirements for environmental parameters throughout the product's life cycle, having a relevant environmental impact that can be reduced and documented in relation to ecolabelling. There is a big potential in using construction materials and chemical products with a reduced environmental impact.

Construction materials and chemical products are available in all Nordic markets and in order to make a difference, it is important that a Nordic Swan Building Operations uses building materials and chemical products with a reduced environmental impact.

## O34 PVC in floors, ceilings, walls, doors and windows

This requirement is activated for new acquisitions/purchases.

The following products must not contain chlorinated plastics (e.g. PVC)\*:

- Doors
- Windows
- Interior surface layers on floors, ceilings, and walls.
- Mouldings
- Skirtings
- Surface wall films.

With exemption:

- Mouldings, skirting boards and baseboards in bathrooms, professional kitchens, and stairwells.
- Floorings in professional kitchens with floor drains.
- Flooring in wet rooms with floor drains in educational buildings, homes for the elderly and homes for persons with disabilities.
- Plastic details < 50 grams on windows and doors.

*\*This includes watertight layers, wall film, acoustic dampening foams and other products used directly underneath the surface layer.*

Declaration from the applicant – Appendix 5

### Background to requirement

PVC (polyvinyl chloride) is one of the most widely used thermoplastic material. PVC is normally divided into two different categories due to its physical properties: rigid (hard) and soft PVC.<sup>59</sup>

The environmental impact of PVC is associated primarily with emissions of harmful organic chemicals from the entire production chain, potential use of harmful additives and challenges associated with its waste management. There is a development towards products and production less harmful to the environment and health, where the EU has gone a long way, however, in other parts of the world the development is slower.

This requirement covers interior doors and surface layers on floors, ceilings and walls including both PVC and PVDC as a material or component. The latter may involve cork flooring coated with a thin outer layer of PVC or textile flooring with a PVC backing.

In general Nordic Ecolabelling restricts PVC in products where there are better environmental alternatives fulfilling the same function. Nordic Ecolabelling has traditionally been taking a restrictive position in relation to PVC due to emissions of harmful organic chemicals from manufacturing and waste management, as well as emissions of potential endocrine disrupters such as phthalates in the use stage. It is worth noticing that PVC products today can be produced in a much more circular way as additives such as phthalates and lead/cadmium-based stabilisers can be replaced by non-hazardous alternatives.

---

<sup>59</sup> [PVC \(nordic-swan-ecolabel.org\)](http://PVC.nordic-swan-ecolabel.org)

Issues associated with PVC products end-of-use are being addressed, as both techniques to safely incinerate PVC waste and handle neutralisation residues in a responsible manner exist, while take-back, collection, identification, and separation processes to increase the amount of PVC which is recycled, already exist or are being developed. It will however require a relatively extensive list of requirements to regulate the PVC used in buildings according to this. Nordic Ecolabelling will follow the development closely but does not currently see the possibility of allowing PVC more generally without overcomplicating the criteria. Exemptions are made for areas or surfaces with specific needs for high durability or slip resistance (related to working environment legislation) and for smaller details.

### O35 Copper

In new acquisitions, copper is restricted in the following way:

- A. Tap water pipes must not contain >1% weight of copper.
- B. Roof and facade cladding materials and products for roofs and facades (roof drainage products, gutters, exhaust hoods, eaves nets, cover profiles and the like) must not contain more than 10% by weight of copper.

Exemptions:

- Visible pipelines in bathrooms.
- Water fittings connecting pipes, such as couplings or manifolds.
- Installation cabinets, such as manifold or water meter cabinets.
- Pipelines that due to national fire protection legislation must be made of copper and where alternatives are not available.
- Pipes through the wall for an outdoor tap

*Closed pipe systems such as heating or cooling circuits are not covered by the requirement.*

Declaration from the applicant – Appendix 6

### Background to requirement

Sheet metal on the outside of buildings (roofs and facades) and contact cables for the railway, made of copper, are relatively large sources of copper spreading into the environment. The primary recipients of the copper differ. A predominant percentage (60–80%) of the copper entering the treatment plants originates from tap water pipes in properties.

A large part of the copper that reaches the treatment plants via wastewater ends up in the sludge. Unfortunately, the general positive trend for reduced levels of metals in the sludge does not apply to copper and zinc. One reason is that copper is largely built into the infrastructure and it is therefore not as easy to reduce the supply of copper as it is for other metals that should be reduced in the cycle. The Swedish Environmental Protection Agency states that the copper levels found in arable land do not show negative microbiological effects, but that the margin is small. Both the background content of copper and local factors vary across the country. To provide general protection against the effects of copper, it is therefore justified to have stricter requirements regarding copper for the return of sludge. The Swedish Environmental Protection Agency further states that the supply of

copper must specifically be reduced for sludge to be recycled in a manner that is sustainable in the long term. This is important as increased recycling of phosphorus from sludge is desirable from a resource efficiency and recycling point of view. This is the primary reason why Nordic Ecolabelling wants to limit copper as a material in tap water pipes and as a roof and facade material.

A study carried out by SYKES<sup>60</sup> on behalf of the Finnish Ministry of Employment and Economic Affairs concludes that the negative effects of the supply of copper to the environment through sludge returned to agricultural land are not a general Nordic problem. This is correct. However, the problem is not limited to the Stockholm area, which is incorrectly pointed out in the investigation. On the contrary, copper is a limiting factor for returning sludge to arable land in large parts of Sweden. Nordic Ecolabelling has concluded that it is not relevant to write geographically adapted requirements. Therefore, a general Nordic restriction requirement remains in the criteria.

### O36 Prohibited and restricted tree species

This requirement applies to all wood-based products acquired during the operations, maintenance work, improvement of the building and tenant adaptations in the building, supplementary buildings, and outdoor areas.

Nordic Ecolabelling's list of restricted tree species\* consists of virgin tree species listed on:

- a) CITES (Appendices I, II and III)
- b) IUCN red list, categorised as CR, EN and VU
- c) Rainforest Foundation Norway's tree list
- d) Siberian larch (originated in forests outside the EU)

Tree species listed on a) CITES (Appendices I, II and III) are not permitted.

Tree species listed on either b), c) or d) may be used if they meet all the following requirements:

- The tree species do not originate from an area/region where it is IUCN red listed, categorised as CR, EN or VU.
- The tree species do not originate from an Intact Forest Landscape (IFL), defined in the World's IFL 2000 map in Google Earth <http://www.intactforests.org/world.map.html>.
- The tree species shall originate from an FSC or PEFC certified forest/plantation and shall be covered by a valid FSC/PEFC Chain of Custody certificate documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.
- Tree species grown in plantations shall also originate from a FSC or PEFC certified forest/plantation established before 1994.

**Office and educational buildings:** if the building owner/licence holder has a leasing contract where the tenant is responsible for the improvements in the building or tenant adaptations, this requirement is not activated during those

---

<sup>60</sup> Jyrki Laitinen and Riikka Malila, Finish Environment Institute, Sustainable Water Management, Assessment of pipe material used in buildings, Carbon footprint and health and toxicity effects, November 2020.

activities. The license holder must nevertheless inform the users/tenants, when performing any of those activities, about the possibility of following the requirement guidelines.

*\* The list of restricted tree species is located on the website:  
<https://www.nordicecolabel.org/declare-items/pulp-and-paper/forestry-requirements/forestryrequirements-2020/>*

- A declaration that tree species listed in a–d are not used in any of the activities mentioned in the requirement. Appendix 7 must be used.

## Background to requirement

A number of tree species are restricted or not permitted for use in Nordic Swan Ecolabelled buildings. The requirement applies only to virgin forest tree species and not tree species defined as recycled material according to ISO 14021. The list of restricted tree species is based on the wood species that are relevant to Nordic Ecolabelling's criteria, i.e., tree species that have the potential to be included in Nordic Swan Ecolabelled products. Listed tree species are indicated by the scientific name and the most common trade names. The criteria for tree species found in the list relate to wood originating from:

- Tree species listed on CITES<sup>32</sup> Appendices I, II and III.
- IUCN red list <sup>33</sup>, categorised as critically endangered (CR), endangered (EN) and vulnerable (VU).
- Regnskogsfondet<sup>34</sup> (Rainforest Foundation Norway) tree list
- Siberian larch (originating in forests outside the EU)
- Many of the tree species on the list are grown in countries which still have large areas of Intact Forest Landscapes (IFLs). Protecting these is important for biodiversity and climate. Many of these countries also have a high risk of corruption and the national legislation related to the environment, human rights and land ownership are weak and/or not controlled by the authorities. There are different views on whether certification is good enough to meet the challenges of forest management in countries with a high risk of corruption and illegal logging. Due to the uncertainty about whether FSC and PEFC certification systems are good enough in protecting important areas of biodiversity and ethical aspects such as human rights and land ownership in areas with a high risk of corruption, Nordic Ecolabelling takes a precautionary approach and wants further documentation about the tree species and its origin. Nordic Swan Ecolabelling is aware that tree species originating from b, c or d can originate from legal and sustainable forestry. Therefore, it is possible to use tree species listed in b, c or d if the applicant/manufacturer/supplier can demonstrate compliance with a number of strict requirements regarding certification and traceability.

### O37 Wood and bamboo

The requirement applies to the license holders that are responsible for the purchase of the following construction elements\* of solid wood, bamboo, glulam, wood-based panels acquired during the operations, maintenance work, improvement of the building and tenant adaptations in the building and supplementary buildings on the property:

- Frames, trusses, studs and joists used in the wooden structure of the building (roof, walls and floors)
- Underlay on roofs, walls and floors such as plywood, particle boards, MDF, OSB, tongue-and-groove and rafters
- Interior panels
- Exterior cladding and facade panels
- Timber for balcony, terrace, decking, veranda and fences

All purchased wood raw materials and bamboo must be FSC or PEFC certified.

The applicant must have routines in place for the purchasing and documentation of wood/bamboo raw materials to ensure that all materials are FSC or PEFC certified.

*\* Minor repairs or interventions, such as repairing a small section of for example a panel are not covered by the requirement.*

- Routines for ensuring the fulfilment of the requirement.

### Background to requirement

Wood is a key resource for sustainable development. The forest provides many ecosystem services and is also very important in relation to global climate change. The intention behind the requirement is to ensure that all purchased wood raw materials, such as solid wood and wood-based panels, required for daily maintenance work come from responsibly managed forests. FSC<sup>61</sup> and PEFC<sup>62</sup> certification systems enable businesses and consumers to choose wood-based products that support responsible forestry.

The applicant must have routines in place for the purchasing and documentation of wood- and bamboo raw materials to ensure that all purchased materials are FSC or PEFC certified. The purchase shall be documented through invoices/delivery notes from suppliers which prove that the wood raw material is certified e.g., name of tree species, license/CoC code, FSC/PEFC claim and quantities of wood. Pictures of product packaging with a clear FSC/PEFC logo can also be included in the documentation.

### O38 Procurement procedures

**Responsible person:** The business must have one person with main responsibility for the purchasing of cleaning, chemical products and building materials covered by requirements O31 to O37. The business must have one person with main responsibility for the purchasing of the different services included in O31 and O32. Nordic Ecolabelling must be informed if the responsible person/s changes.

**Purchasing procedures:** The business must have procedures in place for the purchasing of cleaning products and services (req. O31), other services (req. O32) and chemical and building material products (req. O33 to O37) to ensure that the business complies with these requirements. The procedures must include:

---

<sup>61</sup> <https://fsc.org/en>

<sup>62</sup> <https://www.pefc.org/>

- Description of the control system for ensuring the fulfilment of the requirements (O31 – O37).
  - Instructions for subcontractors, e.g., via agreements and control plans.
  - Procedure for inspections while making maintenance work, improvements, and tenant adaptations to ensure the fulfilment of the material and chemical requirements (O33 – O37).
- Name, email, phone number and job title of responsible person/s.
- Purchasing procedures for cleaning products and services, other services, and chemical products including as a minimum the bullets above.

### **Background to requirement**

The requirement is intended to ensure fulfilment of the chemicals and materials during the whole validation period and between the different parties involved in operations and maintenance work. It is important that the company has good purchasing procedures in place and a person who is responsible for purchasing chemicals, materials, and services, to ensure that only approved ones are purchased, in order to comply with all the chemical, material and service requirements throughout the validity period of the license.

## **6 Environmental impact of the Nordic Swan Ecolabel Building operations**

The relevant environmental impacts found in the life cycle of Nordic Swan Ecolabel Building operations are set out in a MECO scheme. A MECO describes the key areas that have an impact on the environment and health throughout the life cycle of the product – including consumption of materials/resources (M), energy (E), chemicals (C) and other impact areas (O).

Nordic Ecolabelling sets requirements concerning the topics and processes in the life cycle that have a high environmental impact – also called hotspots. Based on the MECO analysis, an RPS tool is used to identify where ecolabelling can have the greatest effect. R represents the environmental relevance; P is the potential to reduce the environmental impact and S is the steerability on how compliance with a requirement can be documented and followed up. The criteria contain requirements in those areas in the life cycle that have been found to have high RPS, since there is potential to achieve positive environmental gains.

Area	R, P, S level (high, medium or low)	Comments
<b>Energy consumption</b>	R: High P: High S: Medium	<p>The relevance regarding energy is high for the building operations since buildings account for a significant portion of society's energy consumption.<sup>63</sup> Having a building which uses less energy or is operated in an optimal way ensures a reduced environmental impact. Approximately 97 % of the existing building stock (area coverage in Sweden) is not in need of a larger renovation but can still lower the environmental impact by having control over the condition of the building and its installations and having control over how it is operated and managed.<sup>64</sup></p> <p>Energy consumption in buildings encompasses heating, cooling, ventilation, and hot water, among other factors. Strategies to control energy consumption include the use of energy meters, regular follow-ups, energy audits, and maintenance plans. However, due to the unique conditions of each building, setting specific energy consumption targets or prescribing maintenance measures such as window replacements or additional insulation presents challenges. This results in a medium level of steerability.</p>
<b>Climate change</b>	R: High P: High S: High	<p>Changes in the future climate are a fact and to ensure that existing buildings will be able to withstand for example higher temperatures measures are needed. Because of this, both the relevance and potential are considered high.<sup>65 66</sup></p> <p>However, given the unique circumstances of individual buildings, including their location and condition, the feasibility of implementing standardized measures is limited. Instead, emphasis should be placed on conducting thorough risk assessments and implementing adaptive strategies to mitigate these risks.<sup>67</sup></p>
<b>Indoor climate</b>	R: High P: Medium S: Medium	<p>The indoor environment, such as air quality and thermal comfort, in a building is crucial for the well-being of the users/tenants and reflects the overall quality function of the building. Maintaining or establishing a high-quality indoor environment is crucial to sustaining the building's intended purpose, making its relevance high.<sup>68</sup></p> <p>A Nordic Swan Ecolabelled Building operations must encompass measures to guarantee optimal thermal comfort and air quality while also ensuring the absence of harmful elements such as mould, hazardous substances, radon, or legionella for users/tenants' well-being. However, each individual building possesses unique characteristics, which makes the potential and steerability for an ecolabel in this area considered to be medium.</p>
<b>Water consumption</b>	R: Medium P: Medium S: High	<p>Water consumption from existing buildings holds medium relevance in the Nordic countries.<sup>69</sup> While clean water is not currently a scarce resource in this region, it remains a vital and finite resource that must be used carefully due to its essential role in sustaining life. Additionally, the environmental impact of clean water usage underscores the importance of its wise and efficient utilization. There is a medium potential to lower the water use in a building today. Not all existing buildings have implemented measures to reduce the water consumption, and not all have meters to monitor consumption.<sup>70</sup> There are several techniques and systems that enable a</p>

<sup>63</sup> [Utsläpp av växthusgaser från bygg- och fastighetssektorn - Boverket](#)

<sup>64</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

<sup>65</sup> [IPCC — Intergovernmental Panel on Climate Change](#)

<sup>66</sup> [Klimatanpassning i planeringen - Boverket](#)

<sup>67</sup> Directorate-General for Climate Action (European Commission), EU-level technical guidance on adapting buildings to climate change, 2023. [EU-level technical guidance on adapting buildings to climate change - Publications Office of the EU \(europa.eu\)](#)

<sup>68</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

<sup>69</sup> European Environment Agency, Water resources across Europe – confronting water scarcity and drought, 2009. [Water resources across Europe — confronting water scarcity and drought \(europa.eu\)](#)

<sup>70</sup> Warfvinge, Wahlström, Klimatstegen för drift och förvaltning av befintliga byggnader, E2B2, 2022. [Klimatstegen \(e2b2.se\)](#)

		lower water consumption in the market and the steerability is therefore considered high.
<b>Waste from users/tenants of the building</b>	R: High P: Medium S: Low	Waste has a significant impact on the environment and it is important that as much waste as possible can be minimized, reused or recycled. <sup>71</sup> While many existing buildings already implement some form of waste sorting for material recycling, there is still room for improvement in waste minimization efforts. Consequently, the potential for improvement is deemed medium. The ability to steer waste management practices is limited due to the fact that building users/tenants generate the waste. However, building operations can incentivize users/tenants and facilitate proper waste disposal practices. Nonetheless, establishing absolute requirements poses challenges because waste generation can vary significantly based on the building's usage. This variability makes direct comparisons between different building types challenging.
<b>Outdoor environment and biodiversity</b>	R: Low to medium P: Low to medium S: High	The importance of the outdoor environment of a building can vary depending on the size of the outdoor area which makes the relevance and potential considered to be low to medium. <sup>72</sup> Nevertheless, the steerability is high, and buildings with an outdoor area can with relatively simple measures, ensure that the garden's biodiversity is improved by for example avoiding the use of herbicides.
<b>Purchasing of products</b>	R: Medium P: Medium S: Medium	Products such as for example cleaning products and paints are used more or less frequently within the operation of a building which makes the environmental and health relevance considered to be medium. The variety of products in the market is large, and the potential lies in, when in need of purchasing new products, only buying ecolabelled products to ensure products that have been controlled in terms of environmental issues. Although more and more Ecolabelled options are coming onto the market, the steerability is rated medium, since there might be areas where there might be a gap in Ecolabelled products.
<b>Procurement of services</b>	R: Medium P: Medium S: Medium	For certain buildings, such as for example office buildings, additional services are needed to ensure optimal functionality for the users/tenants. These services can have a notable environmental impact, and the relevance is therefore considered medium depending on the building. The potential lies in the selection of services with a lower environmental impact when the services are required. Not all buildings are in need of additional services and there might be areas where for example ecolabelled services are not available.

## 7 Alignment with the EU Taxonomy framework

There are many uncertainties on how EU Taxonomy compliance can be documented as well as the interpretation. Therefore, Nordic Ecolabelling cannot guarantee EU taxonomy alignment through our criteria for Building operations.

Nordic Swan Ecolabel does not take any legal responsibility for the (degree of) alignment, nor can a building be claimed as taxonomy aligned based on the ecolabelling criteria.

The responsibility for documentation of EU taxonomy compliance solely belongs to the company that is claiming it.

This section describes how the Delegated Act on the objective climate change mitigation (Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021) is handled in these criteria for Building operations. From here on it will be referred to as "the EU Taxonomy".

<sup>71</sup> [Waste and recycling \(europa.eu\)](https://europa.eu)

<sup>72</sup> Campell, Ojala. Building in biodiversity - For climate, for health - How can we best use the built environment as part of the ecological system?, Sweco Group, 2020. [urban-insight-report\\_building-in-biodiversity\\_booklet.pdf \(swecogroup.com\)](https://www.swecogroup.com/urban-insight-report-building-in-biodiversity-booklet.pdf)

The following table displays how Nordic Ecolabelling assume how the EU Taxonomy can be interpreted in relation to the criteria for Building operations. This assessment is done to the best of our knowledge and no responsibility is taken on these interpretations.

Nordic Ecolabelling closely follows interpretations of the EU Taxonomy criteria in both the Nordic countries and from the EU. In the end the interpretation is a task for national authorities or other officially appointed bodies.

The technical screening criteria for significant contribution to climate change mitigation and climate change adaptation and the Do No Significant Harm criteria are according to the internal assessment done by Nordic Ecolabelling and assumed to be handled in the following way (please note the disclaimer at the beginning of this section):

<b>Technical screening and Do No Significant Harm criteria in the EU Taxonomy</b>	<b>Nordic Ecolabelling evaluation of the screening criteria compared to the Nordic Swan Ecolabel criteria for Building operations generation 1</b>
<p><b>7.3. Installation, maintenance, and repair of energy efficiency equipment (Annex I)</b></p> <p>The activity consists in one of the following individual measures provided that they comply with minimum requirements set for individual components and systems in the applicable national measures implementing Directive 2010/31/EU and, where applicable, are rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation:</p> <p>(a) addition of insulation to existing envelope components, such as external walls (including green walls), roofs (including green roofs), lofts, basements and ground floors (including measures to ensure air-tightness, measures to reduce the effects of thermal bridges and scaffolding) and products for the application of the insulation to the building envelope (including mechanical fixings and adhesive);</p> <p>(b) replacement of existing windows with new energy efficient windows;</p> <p>(c) replacement of existing external doors with new energy efficient doors;</p> <p>(d) installation and replacement of energy efficient light sources;</p> <p>(e) installation, replacement, maintenance and repair of heating, ventilation and air-conditioning (HVAC) and water heating systems, including equipment related to district heating services, with highly efficient technologies;</p> <p>(f) installation of low water and energy using kitchen and sanitary water fittings which comply with technical specifications set out in Appendix E to this Annex and, in case of shower solutions, mixer showers, shower outlets and taps, have a max water flow of 6 L/min or less attested by an existing label in the Union market.</p> <p><b>DNSH criteria in the EU Taxonomy</b></p> <p>(2) Climate change: The activity complies with the criteria set out in Appendix A to this Annex.</p> <p>(5) Pollution prevention and control: Building components and materials comply with the criteria set out in Appendix C to this Annex. In case of addition of thermal insulation to an existing building envelope, a building survey is carried out in accordance with national law by a competent specialist with training in asbestos surveying. Any stripping of</p>	<p>An evaluation has determined that it is not feasible as an ecolabel to mandate requirements for all equipment categories listed from a) to f) in the provided list. This decision stems from the recognition that not all buildings require upgrades to energy-efficient equipment at the time of application. However, under requirement "O8 – Energy action plan," buildings identified as needing to enhance their energy performance are obliged to implement specific measures based on an energy audit. These measures may align with the equipment categories outlined from a) to e) but are not controlled in the first generation of the criteria. Category f) is however addressed in greater detail within the requirements. The procurement of sanitary tapware is covered in " O25 – Purchasing of sanitary tapware".</p> <p>In the Nordic Swan Ecolabel criteria, the applicant must have routines to ensure that all newly installed sanitary water fittings including showers comply with the demanded levels. The applicant must have routines to ensure that documentation is collected from the producer/supplier.</p> <p><b>DNSH criteria</b></p> <p>(2) Covered by "O13 Risk analysis Climate change" and "O14 Adaptation to a changing climate". See 7.7. Acquisition and ownership of buildings (Annex II) in this table.</p> <p>(5) Not covered in these criteria set since it relates to renovation of a building. See the criteria for the Nordic Swan Ecolabelled Renovation.</p>

<p>lagging that contains or is likely to contain asbestos, breaking or mechanical drilling or screwing or removal of insulation board, tiles and other asbestos containing materials is carried out by appropriately trained personnel, with health monitoring before, during and after the works, in accordance with national law.</p>	
<p><b>7.7 Acquisition and ownership of buildings (Annex II)</b></p> <p>The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.</p> <p>2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:</p> <p>(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;</p> <p>(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;</p> <p>(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.</p> <p>The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:</p> <p>(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;</p> <p>(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.</p> <p>3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications and open source or paying models.</p> <p>4. The adaptation solutions implemented:</p> <p>(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;</p> <p>(b) favour nature-based solutions or rely on blue or green infrastructure to the extent possible;</p> <p>(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;</p> <p>(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;</p> <p>(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.</p>	<p>The requirements defined for climate change adaptation are covered by the requirements for "O13 Risk analysis Climate change" and "O14 Adaptation to a changing climate".</p> <p>It is assessed that the documentation required to verify O13 and O14 can be used as documentation to verify taxonomy alignment. Please note that the building must also comply with the DNSH criteria.</p> <p><b>DNSH criteria in the EU Taxonomy</b></p> <p>(1) The primary energy demand of the building is restricted in requirement "O8 Energy action plan". The requirement is divided into three, Section A, Section B1 and Section B2. If the building complies with the Section B1 of the requirement it is restricted in accordance with the DNSH criteria in the EU taxonomy, Energy Performance Certificate (EPC) class C.</p> <p>In conclusion, the documentation can be used to verify taxonomy alignment if the building also complies with Section B1 of O8.</p>

<p><b>DNSH criteria in the EU Taxonomy</b></p> <p>(1) Climate change mitigation</p> <p>The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.</p> <p>For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class C. As an alternative, the building is within the top 30 % of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.</p> <p>For buildings built after 31 December 2020, the Primary Energy Demand (PED) (617) defining the energy performance of the building resulting from the construction does not exceed the threshold set for the nearly zero energy building (NZEB) requirements in national regulation implementing Directive 2010/31/EU. The energy performance is certified using an as built Energy Performance Certificate (EPC).</p>	
---	--

## 8 Future criteria generation

Requirements relevant to the next generation will be included after the consultation period.

## 9 Criteria version history

Draft for consultation, 10 April 2024.

## 10 How to apply and regulations for the Nordic Ecolabelling

### Application and costs

For information about the application process and fees for this product group, please refer to the respective national website. See contact info first in this document.

The application consists of an application form and documentation showing that the requirements are fulfilled.

### Licence validity

The Nordic Swan Ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be prolonged or adjusted, in which case the licence is automatically prolonged 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.

### **On-site inspection**

In connection with handling of the application, Nordic Ecolabelling normally performs on-site inspection visit/-s 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.

### **Queries**

Please contact Nordic Ecolabelling if you have any queries or require further information. See contact info first in this document. Further information and assistance (such as calculation sheets or electronic application help) is available. Visit the relevant national website for further information.

### **Follow-up inspections**

Nordic Ecolabelling may decide to check whether the licensee fulfils Nordic Ecolabelling 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 licensee does not meet the requirements.

### **Regulations for the Nordic Ecolabelling of services**

To easily identify Nordic Swan Ecolabel services, the licence number and a descriptive sub text shall always accompany the Nordic Swan Ecolabel.

The descriptive sub text for 116 Building operations is:

#### **Building operations**

More information on graphical guidelines, regulations and fees can be found at [www.nordic-swan-ecolabel.org/regulations](http://www.nordic-swan-ecolabel.org/regulations)

## Appendix 1      General information about the building

<b>Applicant</b>	
<b>Operations company</b>	
<b>Building name</b>	
<b>Date</b>	

<b>Building type</b>	<b>Year of construction</b>	<b>Area of the building (m2)</b>	<b>Number of floors</b>	<b>Residential units or number of users</b>
<b>Use profile of the building</b>	[Describe here]			
<b>Heating system</b>	[Describe here]			
<b>Ventilation system</b>	[Describe here]			
<b>Automation and control systems</b>	[Describe here]			
<b>Other relevant installations</b>	[Describe here]			
<b>Outdoor areas including playgrounds and courtyards</b>	[Describe here]			
<b>Any supplementary buildings</b>	[Describe here]			
<b>Commercial spaces or other supplementary activities in the building</b>	[Describe here]			
<b>Indoor operative Temperature (winter)</b>	<b>Indoor operative Temperature (summer)</b>			
<b>For offices and educational buildings</b>				
<b>Operational/work hours</b>	<b>Operating hours for spaces with ventilation</b>	<b>Occupant load factor for each room (m<sup>2</sup>/person)</b>		

## Appendix 2      Examples of information in annual follow-up

Table 16 contains examples of information that may be requested for supplementation as part of the annual follow-up process.

**Table 16 Requirements that may be requested to be supplemented as part of the annual follow-up.**

Req.	Explanation
O6	Documentation of the annual information given to users/tenants about the building's operational performance (Part A).
O7	Journaling of faults/complaints and responses and/or actions taken, showing fulfilment of bullet E.
O10	Description of identified deviations, in the energy system, that have been addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
O12	List of the products covered by the requirement purchased during the last year. Product sheet or manual showing the energy class.
O16	Planned corrective actions to remediate moisture damage that has been found and building components that are at risk of moisture damage. Documentation of moisture inspections.
O19	Description of identified deviations, in the ventilation system, that have been addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
O20	Description of identified deviations, in the heating system and any comfort cooling system, that have been addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
O22	Results of the monitoring of water temperatures fulfilling the requirement for legionella for the last year.
O24	Description of identified deviations that have been addressed directly in the case of an urgent matter or analysed and documented in the maintenance plan.
O25	a. Overview of the type/model/name of sanitary tapware purchased during the last year. b. Datasheet or product label for each of the products. c. Documentation that shows the fulfilment of the requirement.
O30	a. Information about the herbicides and pesticide products purchased during the last year. b. Description of activities related to identified foreign invasive species and information about planted species. c. Description of activities related to the protection of trees and watercourses.
O31	a. Information about the products purchased during the last year. b. Datasheet or product label for each of the products.
O34	a. Information about the products from the list purchased during the last year. b. Data sheet, construction product declaration or information from the producer. c. If relevant, description of the use of chlorinated plastics in products covered by exemptions. Where relevant, supplementary documentation such as product data sheet, construction product declaration or information from the producer.
O35	a. Information about purchasing of materials covered by the requirement. b. If relevant, description of the use of copper in products covered by exemptions. Where relevant, supplementary documentation such as product data sheet, construction product declaration or information from the producer.
O36	a. Information about purchases of wood-based products acquired during the operations, maintenance work, and improvements of the building. b. If species from the lists b, c or d are used: <ul style="list-style-type: none"> <li>• If a tree species is listed in either b, c or d, the supplier is required to present a valid FSC/PEFC Chain of Custody certificate that covers the specific tree species and demonstrates that the tree is controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.</li> <li>• If a tree species is listed in either b, c or d, the supplier is required to document full traceability back to the forest/certified forest unit, thereby demonstrating that: <ul style="list-style-type: none"> <li>o The tree species do not originate from an area/region where it is IUCN red listed, categorised as CR, EN or VUo</li> <li>o The tree species do not originate from Intact Forest Landscape (IFL), defined in the World's IFL 2000 map in Google Earth <a href="http://www.intactforests.org/world.webmap.html">http://www.intactforests.org/world.webmap.html</a>.</li> <li>o For plantations, the applicant/manufacturer/supplier is required to document that the tree species does not originate from FSC or PEFC certified plantations established after 1994.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"><li>• The names (species names) of the wood raw materials and bamboo that have been acquired during the last year or are planned to be acquired.</li><li>• Valid FSC/PEFC Chain of Custody certificate from all suppliers of wood-based products, covering all wood materials and bamboo used covered by the requirement. Alternatively, a link to the certificate holder's valid certificate information in the FSC/PEFC certificate database.</li><li>• Invoice of the acquired materials covered by the requirement showing the % of FSC/PEFC certified product.</li></ul>
O37	<ul style="list-style-type: none"><li>• The names (species names) of the wood raw materials and bamboo that have been acquired during the last year or are planned to be acquired.</li><li>• Valid FSC/PEFC certificate from the suppliers of the wood-based products. Alternatively, a link to the certificate holder's valid certificate information in the FSC/PEFC certificate database.</li><li>• Invoice of the acquired materials covered by the requirement showing the FSC/PEFC certified product. Pictures of product packaging with a clear FSC/PEFC logo can also be included in the documentation.</li></ul>

## Appendix 3 Maintenance plan

The maintenance plan should contain at least the following construction components:

- Outer roof and roof construction
- Attic floor
- Exterior walls
- Façade
- Windows
- Exterior doors
- Fixed interior fittings and interior spaces
- Drainage pipes
- Surface layers
- Foundation
- Ground settlement.

The maintenance plan should contain at least the following installation components:

- Ventilation units,
- Heat recovery,
- Fans,
- Ducts,
- Circulation pumps,
- Heat pumps,
- Combustion boilers,
- Sub-centres,
- Pipes for hot water, heating, and sewage,
- Refrigeration machines,
- Automation and control systems,
- Components such as room thermostats, sensors, actuators in systems for heating, ventilation, and, if relevant, comfort cooling.

## Appendix 4      Operation and maintenance instructions for heating, cooling and ventilation

### **The operational part of the operation and maintenance instruction for the heating system should at least include:**

#### **For water-borne systems:**

- Description of existing activities/operations
- Description of the system with shunt groups and associated components
- Description of which parts of the building each shunt group is serving
- Layout drawings of the heating system, including changes and updates
- Interaction with other systems, such as ventilation systems and hot water preparation
- Information on current temperature schedules
- Operation cards (functions and settings)
- If relevant, weekend temperature setback, night temperature setback

#### **Electrical heating systems:**

- Layout drawings of the heating system, including changes and updates
- Interaction with other systems, such as ventilation systems and hot water preparation
- Information on current temperature schedules

### **The operational part of the operation and maintenance instruction for ventilation units at least should include:**

- Description of existing activities/operations
- System description
- Layout drawings of the ventilation system, including changes and updates
- Description of the areas of the building served by the unit
- Interaction with other systems, such as heating systems and comfort cooling
- Information about present airflows and operating hours
- Pressure setpoints
- Operation cards (functions and settings)
- Defrosting functions
- Summer night cooling
- Morning and afternoon ventilation
- Flowcharts, control system principles, etc.

### **The maintenance section should at least include instructions for the inspection and maintenance of ventilation units, which contain checks and time intervals for example:**

- Filter type with instructions for installation and replacements.
- Cleaning of heat exchange surfaces, fan blades, heating coils and cooling coils.
- Liquid quality concerning contamination.
- Concentration of antifreeze for heat recovery.
- Glycol content in liquid-coupled heat recovery units.
- Air leakage to prevent exhaust air from leaking into supply air within the unit.

- Valve leakage in liquid circuits to air heaters and air coolers.
- Circulation pumps are turned off when there is no heating or cooling demand.
- Bypass dampers are functioning.
- Replacement of belts and pulleys.
- Functional testing of timers and time channels.
- Optimisation of liquid flows for heat recovery.
- Optimisation of liquid flows in heating and cooling coils.

## Appendix 5 PVC in floors, ceilings, walls, doors and windows

Name of the Nordic Swan Ecolabel applicant	Building / Property
--	---------------------

It is hereby declared that the following products do not contain PVC:

- Doors
- Windows
- Interior surface layers on floors, ceilings, and walls.
- Mouldings
- Skirtings
- Surface wall films.

Do any of the exemptions for PVC stated below need to be used:

- Mouldings, skirting boards and baseboards in bathrooms, professional kitchens, and stairwells.
- Floorings in professional kitchens with floor drains.
- Flooring in wet rooms with floor drains in educational buildings, homes for the elderly and homes for persons with disabilities.
- Plastic details < 50 grams on windows and doors.

Please state type of exemption(s):

---

**Signature of applicant**

City and Date	Company
Name of contact person	Signature by contact person
Phone	E-mail

## Appendix 6 Declaration of purchasing routines of copper materials

Name of the Nordic Swan Ecolabel applicant	Building / Property
--	---------------------

It is hereby declared that copper will not be procured for the use in water pipes, as façade, or roofing material within the Nordic Swan Ecolabelled Building operations.

Do any of the exemptions for copper stated below need to be used:

- Visible pipelines in bathrooms.
- Water fittings connecting pipes, such as couplings or manifolds.
- Installation cabinets, such as manifold or water meter cabinets.
- Pipelines that due to national fire protection legislation must be made of copper and where alternatives are not available.
- Pipes through the wall for an outdoor tap.

*Closed pipe systems such as heating or cooling circuits are not covered by the requirement.*

Please state type of exemption(s):

Does the following contain more than 10% copper at the application date?

Roof Yes  No

Facade cladding Yes  No

**Signature of applicant**

City and Date	Company
Name of contact person	Signature by contact person
Phone	E-mail

## Appendix 7 Declaration – tree species with restricted use

Name of the applicant/supplier:
Name of Nordic Swan Ecolabelled Building (filled by applicant):
Version and date of the list of restricted tree species used

*The declaration must be completed at the time of application and remains applicable for all building operation procedures throughout the validity of the license:*

It is hereby confirmed that no tree species on the list of restricted tree species will be procured or used in the operations, maintenance work, improvement of the building, tenant adaptations in the building, supplementary buildings or outdoor areas within the Nordic Swan Ecolabelled Building operations.

It is hereby confirmed that no tree species on the list of restricted tree species are used in the wood-based products.

The list of restricted tree species is located on the website: <https://www.nordic-ecolabel.org/declare-items/pulp-and-paper/forestry-requirements/forestry-requirements-2020/>.

Signature

Date	Company
Name of contact person	Signature by contact person
Phone	E-mail

A correctly signed declaration can result in the acceptance of the use of the construction product in Nordic Swan Ecolabelled Building operations. This shall not be mixed up with the Nordic Swan Ecolabelling of the construction product.