About Nordic Swan Ecolabelled

# Wash installations for vehicles

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## Consultation

Nordic Ecolabelling

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# Addresses

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
Fonden Dansk Standard
Göteborg Plads 1, DK-2150 Nordhavn
Fischersgade 56, DK-9670 Løgstør
Tel: +45 72 300 450
info@ecolabel.dk
www.svanemaerket.dk

**Iceland**
Ecolabelling Iceland
Norræn Umhverfismerking
á Íslandi
Suðurlandsbraut 24
IS-108 Reykjavik
Tel: +354 591 20 00
svanurinn@ust.is
www.svanurinn.is

**Finland**
Ecolabelling Finland
Annankatu 25, 6. Flr
FI-00100 Helsinki
Tel: +358 9 61 22 50 00
joutsen@ecolabel.fi
www.ecolabel.fi

**Norway**
Ecolabelling Norway
Henrik Ibsens gate 20
NO-0255 Oslo
Tel: +47 24 14 46 00
info@svanemerket.no
www.svanemerket.no

**Sweden**
Ecolabelling Sweden
Box 38114
SE-100 64 Stockholm
Tel: +46 8 55 55 24 00
info@svanen.se
www.svanen.se

# What is a Nordic Swan Ecolabel wash installation for vehicles?

Nordic Swan Ecolabel wash installations for vehiclesfocus on the impact wash installations have on the environment. The environmental impact from wash installations is mainly from the areas of effluents, water consumption, energy consumption, chemical products used in the wash installation, and handling of sludge and oil. Nordic Swan Ecolabel wash installations for vehicles must comply with requirements in all of these areas.

**Nordic Swan Ecolabelled wash installations for vehicles:**

- Has reduced water consumption.
- Has reduced effluents of oil, lead, chromium, nickel, cadmium, copper, zinc, antimony and the phthalate DEHP.
- Complies with requirements for energy consumption.
- Use 100% Nordic Swan Ecolabel care products and thereby meet strict requirements for chemicals.
- Promotes recycling and reuse of packaging of chemical products.
- Has water treatment technology dimensioned according to the washing method and the washing capacity at the site.
- Has documented procedures for operation and maintenance.

# Why choose the Nordic Swan Ecolabel?

- Wash installations for vehicles may use the Nordic Swan Ecolabel trademark for marketing. The Nordic Swan Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Swan Ecolabel is a simple way of communicating environmental focus and commitment to customers.
- The Nordic Swan Ecolabel clarifies the most important environmental impacts and thus shows how a company can cut effluents, resource consumption and waste management.
- Environmentally suitable operations prepare wash installations for vehicles for future environmental legislation.
- Nordic Ecolabelling provides businesses with guidance on the work of environmental improvements.
- The Nordic Swan Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Swan Ecolabel licence can also be seen as a mark of quality.

# What can carry the Nordic Swan Ecolabel?

Wash installations for cars, buses, trucks, trains, other rail transport and airplanes can be Nordic Swan Ecolabelled.

The wash installations must be automated and/or manual, pre-programmed installations, meaning that the consumption of water and care products are controlled by time or quantity.

The operator of the wash installation (for example a petrol station) is the licensee.

Licences are issued to each individual wash installation. If a chain/group has several wash installations, a licence will be awarded to each wash installation, on the precondition that each wash installation meets the requirements.

A total supplier of washing units, chemical products and water treatment units may obtain a **basic licence** for their washing technology. If the supplier uses an external care product supplier, it must be stated on the licence. The wash installation where the initial sampling took place must also be stated on the licence.

Wash installations for containers and for use in other services, such as reconditioning and repairs, are not covered by the criteria. Graffiti wash installations are also not covered by the criteria.

# 1 Summary

Wash installations for vehicles affect the environment through considerable consumption of water and chemical products, and through discharge of contaminated wash water and use of energy. Effluents containing undesirable chemicals, metals and oil can be significantly limited by choosing specifically adapted care products, tailoring the wastewater treatment technology to the washing method, and having sound procedures in place for operation and maintenance.

The purpose of this document is to present the background to the criteria for Nordic Swan Ecolabel wash installations for vehicles.

The document explains why Nordic Ecolabelling has chosen to ecolabel wash installations for vehicles and gives the background to the individual requirement. The criteria focus on:

- The design of the wash installation and water treatment unit
- Reduced effluents
- Reduced water consumption
- Requirements regarding chemical products
- Requirements regarding recycling and reuse of packaging for chemical products
- Reduced energy consumption
- Requirements for procedures to ensure proper operation and maintenance

Key changes in this generation are:

- Stricter requirements for effluents and water consumption
- Introduction of a requirement for 100% Nordic Swan Ecolabelled care products and cleaning products for cleaning of wash installations
- Introduction of a requirement for removal of solvent based degreasers from standard programs for car wash
- Introduction of requirements for recycling and reuse of packaging for chemical products
- Introduction of a requirement for energy consumption.

The requirements regarding chemicals in care products and cleaning products for cleaning of wash installations, have been removed in this revision of the criteria as they are unnecessary due to the new requirement of 100% Nordic Swan Ecolabelled products.

The key changes in the criteria described above will contribute to less environmental impact from wash installations for vehicles certified with the Nordic Swan Ecolabel.

# 2 Environmental impact of wash installations for vehicles

As a basis for the criteria development, Nordic Ecolabelling has performed a MECO-analysis and a RPS-analysis to evaluate the environmental impact from wash installations for vehicles.

The purpose of the MECO-analysis (materials/resources (M), energy (E), chemicals (C) and other impact areas (O)) is to assess all the relevant environmental aspects throughout the life cycle of the wash installation, ref. MECO-analysis for Transport Wash Installations[1].

Nordic Ecolabelling sets requirements concerning the topics and processes in the life cycle that have a high environmental impact– also called hotspots. A 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.

In the table below, the summary of the RPS is given. The aspects where the assessment concludes with high or medium RPS are marked with green and are those covered by requirements in the criteria.

**Table: Summary of the RPS analysis.**

| Lifecycle stages | Area and assessment of R, P, S (high, medium or low) | Comments |
|---|---|---|
| **Raw materials for construction of the wash installation** | | |
| | Production of steel, other metals, cement, sand, and crude oil for plastic<br>R: High<br>P: Medium<br>S: Low | Environmental impact from mining/production/extraction of raw material is significant, but the steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |
| | Energy to produce metals, cement and other raw materials<br>R: High<br>P: Medium<br>S: Low | Energy consumption is a relevant parameter in much of the life cycle of a wash installation. Extracting materials for the installations themselves (extraction of iron and other metals, cement and other raw materials) is considered to consume significant energy although there are little data available on the magnitude of this energy consumption. The steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |
| | Chemicals used for mining and extraction of raw materials<br>R: High<br>P: Medium<br>S: Low | Chemicals are used in producing materials/mining and in the production of machines/equipment, but the steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |
| **Production** | | |
| | Use of materials for building the in-stallation, machinery and water treatment unit<br>R: Medium<br>P: Medium<br>S: Low | There is an environmental impact from the consumption of the use of materials for the installation, machinery and water treatment unit, but the steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria |
| | Construction energy.<br>Energy to produce washing and water treatment chemicals<br>R: High<br>P: Medium<br>S: Low | Energy consumption is a relevant parameter in much of the life cycle of a wash installation. Building the installation is considered to consume significant energy as well as the manufacturing of the washing/polishing and water treatment chemicals (although there is little data available on the magnitude of this energy consumption). The steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |
| | Production of building materials and chemical building materials<br>R: High<br>P: Medium | Chemicals are used in building the installations (e.g. in chemical building products). But the steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |

[1] MECO for Transport Wash Installations, Anita Øygarden Burgos and Lena Stenseng, 10.05.23

| | | |
|---|---|---|
| | S: Low | |
| | Design and construction of the wash and water treatment installations<br>R: High<br>P: High<br>S: Medium | Measures to reduce effluents containing heavy metals and oil include choosing the right care products and adapting the water treatment technology to the washing method. The water treatment technology must be dimensioned according to the washing method and the washing frequency at the site. It is important that eventual sludge and oil separator (s) are designed for the needed capacity.<br><br>It is also important to have the right operational and maintenance procedures in place for the wash installation. |
| **Use phase** | | |
| | Wear and tear of brushes and mechanical components in the transport wash and water treatment installations<br>R: Medium<br>P: Medium<br>S: Low | There is an environmental impact from the replacement of brushes, mechanical components etc. due to wear and tear, but the steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria |
| | Energy consumption for fans, brush machine, pumps, heating of wash installation and water treatment buildings and the water itself, lightning, automatic doors, heating cables etc<br>R: High<br>P: Medium/high<br>S: Medium | Energy consumption is a relevant parameter in much of the life cycle of a wash installation. Operating the facilities (fans, brush machines, pumps, heating the enclosed wash installation and the water, and the water treatment system) consumes energy. In addition, water production and treatment of the wastewater require energy.<br><br>Based on energy data from operation of wash installations, Nordic Ecolabelling has introduced a new requirement on maximum energy consumption/per wash or per 12m train/airplane in this generation of the criteria. |
| | Water consumption<br>R: High<br>P: High<br>S: High | The amount of water in use when washing a car is up to 400-500 litres. Washing of buses, trucks, trains and other rail transport and airplanes also affects the environment through extensive use of water. In addition, treating/cleaning of water consumes energy and chemcials.<br>The amount of water consumed in washing installations varies depending on the vehicles , whether the washing is manually or automatic and with the geographical location. Total consumption of tap water per washed vehicles is considerably lower in installations where the water is recirculated than in installations where the water is not recirculated, for instance less than 90 litres tap water for cars.<br>It is possible for Nordic Ecolabelling and licensees to steer in the direction of lower water consumption by encouraging wash installations where the water is recirculated. The water consumption requirement for Nordic Swan Ecolabelled wash installations has therefore been set so low that installations must have installed a solution that recirculates treated wastewater in order to fulfil the requirement. In addition, installations are rewarded if they have even lower water consumption |
| | Consumption of chemical products<br>R: High<br>P: High<br>S: High | Chemicals are consumed in the use phase for operating the installation. Large quantities of care products, cleaning products for cleaning of the wash installation and water treatment products are used to wash and care for the vehicles and the wash installation itself and to operate the water treatment units. Residues of the chemicals end up in the sludge and the wastewater. Raw materials and energy are consumed to produce the chemicals<br><br>To reduce the amounts of chemicals that are harmful to health and environment ending up in the sludge and wastewater Nordic Ecolabelling has in this generation introduced a new requirement stating that 100% of the care products and the cleaning products used for cleaning of the wash installation, must be ecolabelled.<br>Nordic Ecolabelling has also introduced a new requirement in this generation to reduce the amount of chemicals used for car wash, by requiring that all standard/basis/normal car wash programs do not make use solvent-based degreasers. |

| | | |
|---|---|---|
| | Emptying of toilet systems and risk for spread of infections<br>R: High<br>P: Medium<br>S: Medium | A description of the emptying system for toilets on buses, trucks and trains and a description of how customers are informed if there is no emptying system available, is required to avoid possible risk for spread of infections by contamination of the recycled water when empying toilet systems. |
| | Increased use of tap water and need for double water systems, for cleaning of special vehicles<br>R: High<br>P: Medium<br>S: Medium | A declaration on how the vehicles requiring special hygiene are washed, is required. This is because when vehicles requiring special hygiene are washed, only tap water may be used, i.e., no use of re-circulated water. However, the total emission values per vehicle must be met. If the plant washes both vehicles that demand extra hygiene and vehicles that may be washed with re-circulated water, the plant shall be equipped with a so-called double system. |
| **End of life** | | |
| | Sludge and oil disposal<br>R: High<br>P: Medium<br>S: Medium | A sludge and oil separator is considered as the minimum wastewater treatment for wash installations, and this is usually a national regulatory requirement in the Nordics. The only exception is for biological treatment units where a sludge and oil separator is not required.<br>It is important that the eventual sludge and oil separator (s) is dimensioned for the water capacity needed in the wash installation, and that it is emptied according to need. Nordic Ecolabelling requires confirmation of and documentation for that the slugde and oil separator(s) is dimensioned according to the wastewater capacity. Nordic Ecolabelling also requires that a procedure is in place to ensure emptying of the separator according to needs.<br><br>The sludge from water treatment equipment with possible residuals of chemicals, metals and oil and the oil from the separator must be handled as hazardous waste and must be collected and processed at approved facilities. Nordic Ecolabelling requires documentation for the approval of both the transportation company and the facility. |
| | Waste handling of packaging for chemical products<br>R: High<br>P: Medium<br>S: Medium | Resources and energy can be saved by recycling or reusing packaging.<br>Therefore, empty packaging from care products, cleaning products for the wash installation and water treatment chemicals must be sorted by source and delivered to a recycling facility for material recycling. Delivery of the empty packaging to a facility for reuse of the packaging itself, will be rewarded by points. |
| | Emissions from transportation of sludge, oil and general waste<br>R: Medium<br>P: Low<br>S: Low | Waste of sludge and oil from the water treatment equipment must be collected by a contractor and transported to a facility for handling of hazardous waste. The general waste from the operation of the wash installation will also be collected and transported to waste facilities. All this transportation will cause emissions to air.<br>The steerability is considered to be low, and thus making requirements within this area is not suitable for the wash installation criteria. |
| | Chemicals (also including possible microplastic), metals and oil residues in wastewater<br>R: High<br>P: High<br>S: High | Chemicals are consumed in the use phase for operating the installation. Large quantities of care products, cleaning products for cleaning of the wash installation and water treatment products are used to wash the vehicles and the wash installation itself and to operate the water treatment units. Residues of the chemicals end up in the wastewater together with oil and metals residues from the dirt that is cleaned off the vehicles.<br><br>To reduce the amounts of chemicals that are harmful to health and environment ending up in wastewater Nordic Ecolabelling has in this generation introduced a new requirement stating that 100% of the care products and the cleaning products used for cleaning of the wash installation, must be Nordic Swan Ecolabelled and a new requirement stating that all standard car wash programs do not make use of solvent based degreasers.<br><br>To reduce the amount of heavy metals and oil residues from the wash installations, Nordic Ecolabelling has introduced stricter maximum levels for effluents of heavy metals and oil. |

| | | |
|---|---|---|
| | | Regarding possible microplastic in the wastewater, Nordic Ecolabelling has performed a search for possible information/reports/test results. Based on the fact that little information was found about possible microplastic in wash installations wastewater, Nordic Ecolabelling has not made a requirement regarding microplastic emissions in this generation of the criteria, but will follow the topic closely. |

# 3 Other labels

In Sweden is an industry initiative run by the Organization of Sweden's Service Stations called "Hållbar biltvätt", for which the focus is to prevent people from washing their vehicles on the streets[2], but instead use wash installations and hereby avoid that effluents from the washing water run directly into sewer drains or into the ground. Wash installations can be certified, and criteria includes that the facility is approved by the municipality and/or a paper on the municipality's target values and test of effluents[3].

In Norway there is also an initiative that is taken by employee and employer organisations and is called "Initiativ for bærekraftig bilvask"[4]. The main purpose is to ensure proper working conditions and to focus on orderly relationship between employees and employers.

There are no other ecolabelling systems for wash installations for vehicles in the other Nordic countries.

# 4 Justification of the requirements

This chapter presents new and revised requirements, explains the background to them, the chosen requirement levels and any changes compared with version 3. The appendices referred to are those that appear in the criteria document "Nordic Swan Ecolabelling of wash installations for vehicles".

## 4.1 Definition of the product group

Wash installations for cars, buses, trucks, trains, other rail transport and airplanes can be Nordic Swan Ecolabelled.

The wash installations must be automated and/or manual, pre-programmed installations, meaning that the consumption of water and care products are controlled by time or quantity.

The owner and/or operator of the wash installation (for example a petrol station) is the licensee.

Licences are issued to each individual wash installation. If a chain/group has several wash installations, a licence will be awarded to each wash installation, on the precondition that each wash installation meets the requirements.

[2] https://hallbarbiltvatt.se/
[3] https://hallbarbiltvatt.se/att-bli-medlem/
[4] https://brabilvask.no

A total supplier of washing units, chemical products and water treatment units may obtain a **basic licence** for their washing technology. If the supplier uses an external chemical supplier, it must be stated on the licence. The wash installation where the initial sampling took place must also be stated on the licence.

A basic licence may only be marketed with the Nordic Swan Ecolabel logo to potential purchasers of wash installations, not to consumers/users of wash installations.

Wash installations for containers and for use in other services, such as reconditioning and repairs, are not covered by the criteria. Graffiti wash installations are also not covered by the criteria.

## 4.2 Definitions

| | |
|---|---|
| **Wash installation** | The wash installation means the physical wash hall including washing machines, wastewater treatment, heat system, lighting system, automatic doors, ventilation, etc. It also includes outdoor installation connected to the wash hall, such as outdoor lightning and de-icing facilities. |
| **Care products** | Products that have a cleaning function (e.g., degreasers, shampoos, and windscreen washer fluids) and/or polishing function (e.g., waxes or polishes) for the care of cars, buses, trucks, trains and other rail transport and airplanes |
| **Chemical product** | In these criteria *chemical product* is used about care products, cleaning products for the wash installation and water treatment chemicals. |
| **Car** | Car/Passenger car designed for the transportation of no more than 9 people including the driver. |
| **Bus** | A vehicle that is registered as a bus for more than 9 persons. |
| **Truck** | Truck means a vehicle larger than 3.5 tonnes, with or without trailer. |
| **Basic licence holder** | A total supplier of washing units, chemical products and water treatment units may obtain a basic licence for their washing technology.<br>If the supplier uses an external chemical supplier, it must be stated on the licence. |
| **Vehicle unit (vu)** | One vehicle unit (vu) is a vehicle, truck, or bus, with a length of 12 metres.<br>• 0.5 vu is a van or minibus, for instance, with a length of about 6 metres.<br>• 1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.<br>• 2 vu is a truck plus trailer with a length of about 24 metres. |

## 4.3 Information regarding basic licence and overview of exemptions

**Basic licence:**

A total supplier of washing units, chemical products and water treatment units may obtain a basic licence for their washing technology system. If the supplier uses an external care product supplier, it must be stated on the licence which care product supplier the basic licensee has a contract with, and which care products are tailored to the treatment technology and wash installation, and thus covered by the basic licence. When applying for a basic licence, the

applicant must refer to a physical wash installation where the initial sampling has been conducted. The installation where the initial sampling took place must also be shown on the licence.

A basic licence may only be marketed with the Nordic Swan Ecolabel logo to potential purchasers of wash installations, not to end users/consumers of wash installations.

**Exemptions for specific types of licence:**

The licensees must meet all the requirements in the criteria document, but there are some exemptions shown in the table below.

**Table: Exemptions for specific types of licence.**

| Type of licence holder | Exempted from following requirements |
|---|---|
| Licencees using a basic licence | - O5 Initial sampling<br>- O9 Water treatment chemicals<br>- Part of O26 Annual follow up<br><br>The licensees that use a basic licence are not required to submit documentation for each requirement above, where the basic licence holder has already submitted documentation. |
| Basic licencees | - O13 Fossil fuel<br>- O14 Energy consumption<br>- O16 Emptying systems for toilets<br>- O17 Special vehicles<br>- P1, P2, P3, P4, P5 and P6, all point score requirements<br><br>But the basic licence holder must document the number of points achieved regarding water consumption (P2). |
| Licencees for trains or other rail transport or airplanes | - O4 Manual wash installations<br>- O23 Information on use of customers' own products/degreasers |
| Licencees for all vehicles except cars | - O11 Use of solvent based degreasers in car wash |

## 4.4 Design of the wash installation

### O1 General description of the wash installation

Aa brief description of the wash installation is needed which includes:

- Type of wash installation (manual self-service installations and/or automated installation, dimensioned for cars, buses, trucks, trains, other rail transport or airplanes)
- Washing method (high-pressure, brush wash etc.)
- Type of wastewater treatment unit (treatment technique)
- Number of vehicles, vehicle units or 12 meters of train/airplane (see definition of vehicle units in O6) that the wash installation is designed for per day
- Number of vehicles, vehicle units or 12 meters of train/airplane (see definition of vehicle units in O6) washed per day

- If a basic licence is being used

The wastewater from the wash installation, (also in the case of overflow) must be cleaned by a water treatment solution tailored to the washing method and washing volume. A sludge and oil separator with sand trap is to be included in the water treatment solution with the exception for biological treatment units where a sludge and oil separator is not required.

✉ Description of the wash installation from the applicant, in line with Appendix 1.

✉ Declaration from the suppliers of the water treatment solution and the chemical products that the water treatment solution and chemical products are tailored to the washing method and washing volume, in line with Appendix 1.

### Background to requirement

Both automated and manual pre-programmed wash installations can be Nordic Swan Ecolabelled. There are many different solutions for treating effluents from wash installations, such as chemical flocculation, biological treatment and filter treatment.

Nordic Ecolabelling consider a system for sludge and oil separation with sand trap to be a minimum requirement for the operation of a wash installation, since this is usually a national regulatory requirement. The only exception is for biological treatment units where a sludge and oil separator is not required. It is up to the owner of the wash installation to decide which water treatment solution to use over and above a sludge and oil separator with sand trap.

To achieve a good washing result with a limited environmental impact, it is important that the choice of care products, dosing and application time are tailored to each other, but also to factors such as dirt and temperature. High-pressure washers without brushes normally require a larger dose of care products and more water than machines that wash using brushes. Thus, there is no requirement concerning dosing of care products since Nordic Ecolabelling considers requirements for water consumption and effluents to be more important. In addition, wash installations have automatically controlled dosing, and are set to dose the optimum quantity of care products for the washing method in question giving little steerability in setting dosing requirements.

The wastewater treatment technology must be dimensioned according to the washing method and the washing frequency at the site, to treat the wastewater to a satisfactory level in terms of oil and heavy metal content.

## O2 Technical description of the wash installation

A sketch of the wash installation is to be provided, showing the location of:

- The wash installation's water and drainage systems
- Washing machines
- Water treatment equipment
- Sludge and oil separator with sand trap, overflow
- Sampling point
- Water meter and energy meter connected to the wash installation

The sludge and oil separator with sand trap and the water treatment solution tailored to the wash installation, must not be used to treat surface water*. The water treatment system may be used to treat wastewater from a part of the site that has a use other than the washing of transport, provided this is approved by the supplier of the water treatment system. Toilets must not be connected to the water treatment system due to the risk of spreading infections.

The sampling point must be at a point after the wastewater treatment but before the connection to the municipal wastewater network. Water turbulence is important at the sampling point, to avoid samples from layered water. The sampling point must be easily accessible.

** I.e., rainwater and meltwater from nearby roofs and ground.*

✉ Description of the wash installation in line with Appendix 1.

✉ Drawing of the wash installation showing the above points.

### Background to requirement

Nordic Ecolabelling wishes to have a good overview of the wash installation and the water treatment system to ensure that the installation functions well. It is also important that the company has a good overview of the installation, the water and wastewater system, and the location of the water meter, energy meter and sampling points.

Sludge and oil separator(s) with sand trap and water treatment equipment must not be used to treat surface water (i.e., rainwater and meltwater from nearby roofs and ground). The water treatment equipment is to be designed for the maximum water flows used for washing the vehicles. A water treatment unit will therefore be unable to cope with the addition of rainwater and melting snow from the surrounding area. The channelling of water from these sources can also cause contaminants to be flushed into the drainage system.

Sites with some other activity (such as a workshop) may channel their wastewater to the water treatment unit if the supplier of the treatment system and the authorities approve this.

**Sampling points:**

In order to check that effluents do not exceed permitted levels, it must be easy to take representative samples from the wastewater. If taking samples is difficult, there is a major risk that the checks will be lacking/insufficient.

The sampling points must be located such that the samples are taken from the wastewater that is channelled away from the wash installation, i.e., after the wastewater treatment system.

The sampling points must be easily accessible, and the location must be clearly marked on a drawing/map of the wash installation.

**Water meter:**

A water meter is to be located so that it measures all tap water consumption in the wash installation. Water used for cleaning the installation must also be measured. If there is more than one washing unit in the same installation, each unit must have a separate water meter and a separate counting machine for the vehicles.

For the water supply, for any re-circulation of water and for the wastewater from the installation, it must be made clear where the water supply comes in, where it is re-circulated and where it is channelled away from the installation.

### O3 Installations with re-circulated water

Wash installations with re-circulated water must be designed to keep anaerobic conditions in the water treatment system to a minimum. This may be done, for example, by pumping air into the water.

✉ Description of the measures taken to avoid anaerobic conditions in systems with re-circulated water, in line with Appendix 1.

#### Background to requirement

Wash installations that re-circulate water are more vulnerable to the occurrence of anaerobic conditions in the system and thus the growth of algae and bacteria. To avoid this, the installation must be designed to prevent such conditions from occurring. One measure, for example, may be to pump air into the water during the water treatment process.

### O4 Manual wash installations

Re-circulated water must not be used in manual wash installations.

In wash installations where vehicles are washed manually, the choice and use of care products is to be controlled automatically and water consumption is to be time-controlled or dosage-controlled.

✉ Declaration from the supplier of the wash installation that re-circulated water is not used for manual washing, in line with Appendix 1.

✉ Declaration of how the choice of care products, dosing and water consumption are controlled in the manual wash installation.

#### Background to requirement

To reduce any health risks, re-circulated water may not be used in manual wash installations. Water from manual wash installations may contain high concentrations of chemicals and microorganisms.

At a manual wash installation vehicles are washed manually by customers or professional cleaners, who decide on how much of washing is needed. Customers/professional cleaners can choose wash programmes (e.g., degreasing, hot wax and/or wax polish). Nordic Ecolabelling would like to see the quantity of water and care products used regulated, and therefore sets the requirement that the use of care products and water consumption must be time-controlled or dosage-controlled.

Wash installations for trains and other rail transport or airplanes are exempt from the requirement since they are generally automated.

## 4.5 Water consumption and effluents

### O5 Initial sampling

Wash installations using a basic licence do not need to submit documentation for this requirement. When applying for the Nordic Swan Ecolabel, sampling is to be conducted at the installation to show that the effluent requirements in O6 and the water consumption requirements in O7 are fulfilled.

For new wash installations awarded a licence outside the sampling period, an initial sampling must be performed during the next sampling period (see below)

**Sampling period:**

The sampling must be conducted during the period 1st of November – 30th of April, and when at least 10% of the annual vehicles figure have been washed after emptying of the sludge and oil separator.

**Sampling for water analysis:**

The results of the sampling will form the basis for a Nordic Swan Ecolabel licence application and must show compliance with the effluent requirements in O6.

In the case of a new application, water samples must be taken using the automatic flow proportional method or manual random sampling. Two wastewater samples are to be taken within the period 1st of November – 30th of April, and there must be a minimum of one month between the two samples.

Licence applicants which use washing technology from a basic licence holder, do not need to conduct the initial sampling, since it has already been documented that the technology works to a satisfactory degree.

**Water consumption:**

Water consumption must be measured for seven days during the sampling period. In the case of initial sampling, the water consumption must be measured over the same period as the water analysis sampling.

✉ Description of compliance with the requirement, see Appendix 2 and Appendix 6.

#### Background to requirement

The purpose of initial sampling is to verify that the installation has technology in place that will function successfully at all times. This check must show that the installation meets the Nordic Swan Ecolabel's effluent requirements over time.

Sampling must be performed between 1st of November – 30th of April, since there is more dirt on the vehicles during this period and installations require higher doses of care products to function satisfactorily. When new wash installations and installations that have been refurbished are awarded a licence outside the sampling period, an initial sampling must be conducted during the next sampling period (1st of November – 30th of April). Wash installations that are due for renewal must also perform a new initial sampling when renewing their licence.

Wash installations that make use of a basic licence are exempted from the requirement regarding the initial sampling, since this will already have been performed by the basic licence holder.

Sampling must be performed when at least 10% of the annual vehicles figure have been washed and after emptying the sludge and oil separator. The results from this check will form the basis for a Nordic Swan Ecolabel licence application. The above criteria means that once the sludge and oil separator has been emptied, at least 10% of the annual figure for vehicles must have been washed before the sampling takes place. For example, if a wash installation washes 5,000 vehicles a year, at least 10% (500 off) must have been washed since the most recent emptying and before the sampling is conducted.

This is to ensure that effluent measurements are taken from the water treatment unit after it has been in operation for a while. The measured values will thus prove whether the water treatment unit is working properly or not.

Wastewater samples are taken with automatic and flow proportional equipment or manually from running wastewater. Two wastewater samples must be taken within the period 1st of November – 30th of April, and there must be a minimum of one month between the two samples.

Water consumption is to be measured for seven days during the period 1st of November – 30th of April.

Licence applicants using technology from a basic licence holder, do not need to perform the initial sampling, since it has already been documented that the technology works to a satisfactory degree, and the water consumption has also already been documented.

## O6 Effluents from the wash installation

Effluents to the drainage system from automated and manual wash installations must not exceed the values specified in the table below.

The sampling is to be conducted during the period 1st of November – 30th of April, and when at least 10% of the annual vehicles figure have been washed after emptying of the sludge and oil separator.

Water samples are to be taken using the automatic flow proportional method or manual random sampling. Two wastewater samples are to be taken within the period 1st of November – 30th of April, and there must be a minimum of one month between the two samples.

The effluent values must be calculated as monthly average values. The estimated loss of water in the system can be included in the calculations (max 15 l/car, 45 l/vehicle unit or 45 l/12 metres of train/other rail transport/airplanes). For more information on water sampling, see Appendix 7 “Explanations, analysis and control”.

**Table: Effluents, maximum levels allowed.**

| | **Effluents for car washes (mg/car)** | **Effluents for bus washes (mg/vu)** | **Effluents for truck washes (mg/vu)** | **Effluents for trains, other rail transport and airplanes (mg/12 metres)** |
|---|---|---|---|---|
| ∑ Pb, Ni, Cr | 3 | 10 | 10 | 4 |
| Cd | 0.02 | 0.05 | 0.05 | 0.05 |
| Zn | 30 | 50 | 120 | 30 |

| | | | | |
|---|---|---|---|---|
| Cu | 7 | 10 | 15 | 15 |
| Sb | 2 | 2 | 2 | 2 |
| DEHP | 13 | 13 | 13 | 13 |
| Oil | 300 | 1500 | 1500 | 1000 |

*One vehicle unit (vu) is a vehicle, truck or bus, with a length of 12 metres.*

- *0.5 vu is a van or minibus, for instance, with a length of about 6 metres.*
- *1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.*
- *2 vu is a truck plus trailer with a length of about 24 metres.*

✉ Test results. The water analysis shall be carried out by a competent laboratory according to test methods specified in Appendix 7. The sampling must take place at a point after the wastewater treatment equipment but before the connection to the municipal wastewater network.

## Background to requirement

The most common contaminants from wash installations for vehicles are lead, chromium, nickel, cadmium, and zinc, in addition to mineral oil. In generation 4 of the criteria also limits for antimony and di-2-ethylhexyl phthalate (DEHP) are included. Antimony may be included in the brake pads on cars and trains. Particles of antimony can stick to rims and tires when the brakes are used, and hereafter washed of[5]. The phthalate DEHP may be washed out from plastic part of the car, e.g., from the bumper. Plastic materials are increasingly included in the body parts of cars[6].

The contaminants may come from the dirt washed off, which comprises particles from tyre wear, material from other transport and the roads, plus residues of fuel and exhaust gases. Added to this is the material in the wash installation itself, with galvanised materials and brass parts for example capable of releasing metals. Treatment of wastewater is a key factor in controlling emissions of metals and oil from wash installations. It is important that a Nordic Swan Ecolabelled wash installation's water treatment unit captures as many of these undesirable substances as possible before the wastewater is sent on to the municipal treatment plant. Wastewater from wash installations contains substances that may disrupt the water treatment process in municipal treatment plants and lower the sludge quality. Some substances may also have a negative impact on the ecosystems of the water recipient.

Experience from Nordic Swan Ecolabelled wash installations for vehicles shows that the requirement levels for effluents can be tightened in this generation 4 of the criteria. Limit values for all specified substances in effluents, except antimony (for trains), have been tightened, and requirements for DEHP and antimony have been added for all vehiclesation. The level of DEHP has been set at the same level as the Danish municipalities recommend[7]. The level of antimony has been set at the same level as recommended in the guideline for

[5] Råd vid mottagande av avloppsvatten från industri och annan verksamhet, Publikation P95, Svenskt Vatten, Mars 2019 (p95-2019-rad-vid-mottagande-av-avloppsvatten-fran-industri-och-annan-verksamhet.pdf (svensktvatten.se)).
[6] Paradigmer for tilslutningstilladelser af spildevand til spildevandskloak for bilvaskehaller og vaskepladser, Vejledning nr. 42, Miljøstyrelsen, Januar 2020 (Rapport (mst.dk)).
[7] Paradigmer for tilslutningstilladelser af spildevand til spildevandskloak for bilvaskehaller og vaskepladser, Vejledning nr. 42, Miljøstyrelsen, Januar 2020 (Rapport (mst.dk)).

trains in Sweden[8]. In generation 4 of the criteria the limit values for Cd, Zn, Cu, oil and ∑ Pb, Ni and Cr are stricter than in the guidelines for wash installations from Svenskt Vatten[9] and Ministry of Environment of Denmark[10], however the limit is the same for antimony and DEHP.

Sampling is to take place at a point after the wastewater has passed through the water treatment equipment but before the connection to the municipal wastewater network/water recipient, where the collected wastewater from the wash installation passes. Water turbulence is important at the sampling point, to avoid samples from layered water.

The sampling is to be conducted during the period 1st of November – 30th of April, and after at least 10% of the annual vehicles figure has been washed after emptying of the sludge and oil separator.

Regarding possible microplastic in the wastewater from wash installations for vehicles, Nordic Ecolabelling has performed a search for possible information/reports/test results. Based on the fact that little information was found about possible microplastic in wash installations wastewater, Nordic Ecolabelling has not made a requirement regarding microplastic emissions in this generation of the criteria, but we will follow the topic closely.

### P1 Measurement of phthalates in effluents (1 p)

Wash installations that take measurements of phthalates dibutyl phthalate (DBP), butyl benzyl phthalate (BBP) and/or diisobutyl phthalate (DIBP) in effluents are awarded 1 point. Water samples must be taken both before and after the water treatment unit in order to measure the phthalate content before and after treatment.

✉ Test results using the GC-MS method (Gas Chromatography-Mass Spectrometry) with detection limit ≤ 0.5 micrograms/litre.

## Background to requirement

Phthalates are used chiefly as plasticisers in plastic and can be found in many products that are used on a daily basis. The phthalates can be found in plastic, primarily PVC (for example construction materials, flooring and roofing, cables)[11].

Many phthalate compounds have undesirable effects on health and the environment. Some phthalates are inscribed on the EU's priority list of substances that should be investigated more closely for endocrine disruptive effects. Di-2-ethylhexyl phthalate (DEHP), dibutyl phthalate (DBP) and butyl benzyl phthalate (BBP) are classified as toxic and specifically toxic to reproduction. They may damage fertility and the unborn child. Diisobutyl

[8] Råd vid mottagande av avloppsvatten från industri och annan verksamhet, Publikation P95, Svenskt Vatten, Mars 2019 (p95-2019-rad-vid-mottagande-av-avloppsvatten-fran-industri-och-annan-verksamhet.pdf (svensktvatten.se)).
[9] Paradigmer for tilslutningstilladelser af spildevand til spildevandskloak for bilvaskehaller og vaskepladser, Vejledning nr. 42, Miljøstyrelsen, Januar 2020 (Rapport (mst.dk)).
[10] Råd vid mottagande av avloppsvatten från industri och annan verksamhet, Publikation P95, Svenskt Vatten, Mars 2019 (p95-2019-rad-vid-mottagande-av-avloppsvatten-fran-industri-och-annan-verksamhet.pdf (svensktvatten.se)).
[11] www.erdetfarlig.no

phthalate (DIBP) is on the EU's Candidate List of Substances of Very High Concern. Di-2-ethylhexyl phthalate (DEHP) has also been recorded in wastewater from wash installations and is suspected to derive from soft PVC materials on the underside of the vehicle. Denmark in particular has been monitoring di-2-ethylhexyl phthalate in effluents from wash installations.

A point score requirement is set in the hope that Nordic Ecolabelling would gain more knowledge about phthalates levels in wastewater. Measurements should be taken before and after the water treatment unit, in order to see the effect of the treatment.. It is unknown to Nordic Ecolabelling if water treatment methods are effective in capturing phthalates and hope to get more information about this by setting this point score requirement.

## O7 Water consumption

Water consumption is calculated as the number of litres of tap water consumed per wash, vehicle unit or 12 metres of train/other rail transport/airplane, calculated as an annual average, and must not exceed the values in the table below. If any manual washing is combined with automatic washing, this water consumption must be included.

Points will be given for water consumption that is lower than the limit values in the table below. See requirement O18 for required minimum total points.

Water consumption is to be measured and logged on a monthly basis.

For information on calculating water consumption, see Appendix 7.

For geographical zones, see Appendix 8.

**Table: Tap water consumption.**

| **Geogra-phical zones** | **Cars (litres/wash)** | | **Buses (litres/vu)** | | **Trucks (litres/vu)** | | **Trains, other rail transport and airplanes (litres/12 metres)** |
|---|---|---|---|---|---|---|---|
| | Automated | Manual | Automated | Manual | Automated | Manual | Automated/ Manual |
| **1** | 50 | 40 | 140 | 110 | 150 | 120 | 110 |
| **2** | 80 | 60 | 160 | 130 | 170 | 140 | 110 |

*One vehicle unit (vu) is a vehicle, truck or bus, with a length of 12 metres.*

- *0.5 vu is a van or minibus, for instance, with a length of about 6 metres.*
- *1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.*
- *2 vu is a truck plus trailer with a length of about 24 metres.*

✉ Documentation showing the calculation of water consumption, see Appendix 7. For newly built installations, water consumption must be documented in a declaration from the supplier of the wash installation.

### Background to requirement

There are wide variations in water consumption, and it is possible for Nordic Ecolabelling to make a difference by requiring reduced water consumption.

In Denmark, water is considered a scarce resource, which means there is a strong commitment to reducing water consumption. Historically there has been less

focus on reducing water consumption in Sweden and Finland, and even less focus in Norway. This is reflected in the water treatment technology used and the willingness to invest in water treatment solutions where the water is re-circulated. However, due to climate change, it is likely that all the Nordic countries in the future will experience periods of drought and limited water courses. There should therefore be focus on limiting water consumption in all the Nordic countries.

Climatic differences in the Nordic region leads to different washing processes. In Finland, Norway and the majority of Sweden, the transport are dirtier during the winter (due to the use of studded tyres) and the use of salt on the roads, which then accumulates in the water systems of the wash installations. Higher chemical consumption and greater quantities of salt require larger water treatment units and slightly greater water consumption to keep the re-circulated water at a satisfactory level of quality (applies both to biological and chemical water treatment units). The requirement concerning water consumption is therefore different for Denmark and the southern part of Sweden (zone 1) than for the rest of the Nordic region (zone 2).

Different washing methods involve very different water consumption. High-pressure washing uses as much as 300 litres of water to wash one car. If the installation does not re-circulate water, this represents considerable consumption of tap water. If the installation does re-circulate the water, tap water consumption is around 60-80 litres.

The consumption can be significantly reduced by installing water treatment solutions where the water can be re-circulated. The Swedish Environmental Protection Agency assessed that a maximum amount of water sent to the drainage system per washed car of around 50 litres could be obtained with a re-circulation level of 80%[12]. This limit was considered too strict in the requirement in relation to normal water consumption in zone 2 based on license data. The requirement of maximum 80 litres (zone 2) and 50 litres (zone 1) of water per washed car was based on license data.

At wash installations for buses and trucks, it is generally the case that tap water is only used for brush washes and re-circulated water for undercarriage cleaning for high-pressure washers. This tends to give a consumption figure of 150-250 litres per 12 metres (1 vehicle unit). If tap water is also used for high-pressure washers, water consumption rises to around 1100 litres per wash. In general, truck use more water than washing of cars. Buses are usually washed every day, so they are not so dirty as trucks and the washing goes quickly. Water consumption for buses is therefore expected to be lower than truck washing.

Most truck wash halls have combined manual and automatic washing, e.g., flushing (to remove sand, gravel and dirt), which may be manual, and then automatic washing. The water consumption from all parts must be included in the calculation of water consumption. Most trucks have the size of 1½ vehicle unit.

Water used to fill up the system after emptying can be excluded from the calculation of water consumed, on condition that no water escapes during filling

[12] Utvärdering av miljöanpassade fordonstvättar ut ett bredare perspektiv, IVL Rapport B1554, IVL Svenska Miljöinstitutet AB, 2004.

and that the installation can prove when the system has been emptied (for example via a receipt or similar document).

If rainwater is collected and used for washing, the rainwater can be excluded from the calculation of water consumed. Use of rainwater limits the use of tap water and may also limit the load on sewage systems during heavy rain, which are becoming more frequently in the Nordic countries due to climate changes.

Requirements have been set for sampling points and sampling periods.

Water consumption is calculated as the number of litres of tap water consumed per wash, calculated as an annual average. The figure for tap water consumption is shown on water meters connected to the wash installation.

The water consumption in manual wash installations may, for example, be controlled by having water consumption pre-programmed. To reduce the risk of health hazards, re-circulated water is not to be used in installations for manual washing. Re-circulated water may contain high concentrations of chemicals and microorganisms.

During the initial sampling, the water consumption is measured over a period of 7 days. Water consumption per transport is calculated by dividing water consumption over the period of a week (7 days) by the number of transports that were washed during that same period.

The limit value for water consumption for trains and other rail transport is based on data gathered from a handful of train wash installations in the Nordic region. The requirement means that the water must be recycled. Water vapour used for de-icing should not be included in the calculation.

The limit value for water consumption for airplanes is set as the same level as for trains and other rail transport. The water consumption shall be calculated per 12 meters of airplane body length.

### P2 Water consumption (max. 3 p)

If the water consumption calculated as an annual average is lower than in requirement O7 up to 3 points can be obtained. Points are given according to the table below showing water consumption per wash/vehicle unit/12 meters train or airplane.

For information on calculating water consumption, see Appendix 7.

For geographical zones, see Appendix 8.

**Table: Tap water consumption and points.**

| **Points** | **Geogra-phical zones** | **Cars (litres/wash)** | | **Buses (litres/vu)** | | **Trucks (litres/vu)** | | **Trains, other rail transport and airplanes (litres/12 metres)** |
|---|---|---|---|---|---|---|---|---|
| | | Automated | Manual | Automated | Manual | Automated | Manual | Automated /Manual |
| **1** | **1** | 45 | 40 | 120 | 90 | 130 | 100 | 90 |
| **1** | **2** | 75 | 55 | 140 | 110 | 150 | 120 | 90 |
| **2** | **1** | 35 | 35 | 100 | 70 | 110 | 80 | 70 |
| **2** | **2** | 65 | 50 | 120 | 90 | 130 | 100 | 70 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **3** | **1** | 30 | 30 | 80 | 50 | 90 | 60 | 55 |
| **3** | **2** | 45 | 40 | 100 | 70 | 110 | 80 | 55 |

*One vehicle unit (vu) is a vehicle, truck, or bus, with a length of 12 metres.*

- *0.5 vu is a van or minibus, for instance, with a length of about 6 metres.*
- *1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.*
- *2 vu is a truck plus trailer with a length of about 24 metres.*

✉ Documentation showing the calculation of water consumption, see Appendix 7.

### Background to requirement

Nordic Ecolabelling wishes to focus on the water consumption of the wash installation and the licensee to be more aware of the installation's water consumption and opportunities to reduce it. Therefore, up to 3 points may be achieved for water consumption below the mandatory requirement O7.

## 4.6 Chemical products

Care products used to clean the vehicles and cleaning products of the wash installations themselves must be Nordic Swan Ecolabelled. Water treatment chemicals cannot be Nordic Swan Ecolabelled but must meet requirement O9.

### O8 Overview of chemical products and Nordic Swan Ecolabelled products

An overview of all chemical products used in operating the wash installation i.e., all care products, all cleaning products for the wash installation itself and all water treatment products is obligatory. Each product must be listed together with information on manufacturer/supplier, function (care product (degreasing, wax, etc), cleaning of the wash installation or water treatment), and if the product is Nordic Swan Ecolabelled, the licence number is to be stated.

All care products used in the wash installation and cleaning products used for cleaning of the wash installation itself, must be Nordic Swan Ecolabelled. Products containing oxalic acid (CAS no. 6153-56-6) for use in removing surface rust from trains and other rail transport are excluded from this requirement.

✉ Overview of all chemical products, see Appendix 3.

### Background to requirement

Chemical products are used to clean and/or polish the vehicles, to clean the wash installation itself and to treat the water. Chemical products used in conjunction with the washing process include:

- Cold degreasers
- Water-based degreasers (alkaline and non-alkaline)
- Micro-emulsions
- Shampoo and wash & wax shampoo
- Waxes
- Rinsing and drying agents
- Cleaning products
- Water treatment products

When washing trains and other rail transport, oxalic acid is used to remove surface rust – iron oxide that has worn away from wheels, rails and brakes. Since oxalic acid (CAS no. 6153-56-6) cannot be Nordic Swan Ecolabelled, it is excluded from the requirement of being Nordic Swan Ecolabelled. The exclusion applies to the whole product that contains oxalic acid.

A more detailed description of this can be found in the Nordic Ecolabelling criteria for care products for vehicles, generation 6.

Even if chemical products used at a Nordic Swan Ecolabelled wash installation are not discharged directly into the drainage system, due to the water treatment system that all Nordic Swan Ecolabelled wash installations are required to have, Nordic Ecolabelling considers it important not to use chemical substances that can have long-term damaging effects. The reasons for this are:

- Treated water from the wash installation will be channelled into the municipal drainage system or the water recipient.
- The wash installations are generally not entirely sealed. The contaminants that are separated in the water treatment units must generally be handled by a dedicated facility as hazardous waste.

The care products play a crucial role in ensuring that the vehicles are cleaned properly. However, they must not cause effluents containing substances that are harmful to health or the environment, and nor must they risk jeopardising the operation of the installation's water treatment unit or the municipal water treatment plant.

The choice of care products is usually determined by the kind of installation the customer has and thus which care products are tailored to the installation, and what agreements the supplier has with suppliers. The wash installation operator (licensee) may not decide which products are to be used, as this can be governed by agreements between the equipment supplier and the care product supplier.

Automated wash installations almost always use a series of care products that are tailored to each other. This means that it is not possible to simply replace single products in a series with another product. Entire series are often Nordic Swan Ecolabelled. Suppliers also have series where none of the products are Nordic Swan Ecolabelled.

To reduce the health- and environmental impact from chemicals, Nordic Ecolabelling wishes to encourage care product manufacturers to Nordic Swan Ecolabel their products.

Therefore, the following requirement has been introduced: 100% of the care products and cleaning products for the wash installation itself to be used in a Nordic Swan Ecolabelled wash installation, must be Nordic Swan Ecolabelled.

Water treatment products cannot be Nordic Swan Ecolabelled but must meet the requirements in O9.

To ensure correct operation, it is important for the wash installation and for Nordic Ecolabelling to have an overview of the chemicals used in the operation of the installation.

### O9 Water treatment products – all wash installations

*Wash installations using a basic licence do not need to submit any documentation for this requirement.*

Chemical products used for water treatment (e.g., chemical separation, pH regulation, combating microorganisms) must not contain organochlorine substances or reactive chlorine compounds that may form organochlorine metabolites.

✉ Declaration from the supplier of the water treatment products that the products or methods do not contain organochlorine substances or reactive chlorine compounds that may form organochlorine metabolites, in accordance with Appendix 4.

#### Background to requirement

Experience from Nordic Swan Ecolabelled wash installations for vehicles shows that methods for combating microorganisms, which can cause problems such as unpleasant odours, include treatment using ozone ($O_3$), hydrogen peroxide ($H_2O_2$), sodium hypochlorite or UV radiation. Sodium hypochlorite in combination with organic matter in the water can cause unwanted organochlorides, such as organochlorine metabolites. Sodium hydroxide is used for pH regulation.

Sodium hypochlorite (which is an antibacterial agent) is considered inappropriate due to the risk of forming organochlorine metabolites. Chemical products for water treatment must therefore not contain organochlorine substances or reactive chlorine compounds that may form organochlorine metabolites.

### O10 Safety data sheets

Up-to-date safety data sheets for all chemical products, including care products used for cleaning of the vehicles, cleaning products used for cleaning of the wash installation itself and water treatment products, must be readily available at the installation, and they must be easily accessible to the workers.

✉ Information of where the safety data sheets for all chemical products are kept.

#### Background to requirement

Up-to-date safety data sheets must be available for all the chemical products used at the installation. This is to ensure that the operators at the wash installation have available information regarding required personal protective equipment, possible health hazards, proper storing etc. related to the chemical products in use.

### O11 Use of cold degreasers in car or bus wash

*Wash installations for other than cars and buses are exempted from this requirement.*

Cold degreasers are not allowed in standard/basis/normal car or bus wash programs.

✉ Confirmation of that cold degreasers are not used in the standard/basis/normal car or bus wash programs.

**Background to requirement**

Based on input from licence holders, it seems to be possible to get satisfactory cleaning performance for cars and buses without the use of cold degreasers. Cold degreasers are allowed to be included in the washing programs for special dirty cars or buses, winter cleaning programs etc. and for other vehicles than cars and buses.

### P3 Technology for analysing amount of needed care product (3 p)

If the wash installation has advanced technology for analysing the dirtiness of each individual vehiclesation and hereafter adjust the amount of care products as needed, 2 points can be obtained.

✉ Short description of the technology.

**Background to requirement**

By only applying the amount of care products that is actually needed depending on the dirtiness of each specific vehicle, the amount of care products can be saved and hereby resources are saved.

## 4.7 Packaging

### O12 Recycling of packaging for chemical products

Empty packaging from care products, cleaning products for the wash installation itself and water treatment chemicals must be sorted by source and delivered to a recycling facility.

✉ Copy of agreement with recycling company or description of how empty packaging is handled.

**Background to requirement**

To promote a circular economy, as much as possible of the material used for packaging needs to be recycled and kept in the material loop. This is to decrease the need of new resources and use of more energy, which is needed to produce new packaging.

### P4 Reuse of packaging or direct refilling of chemical products from tank truck (2 p)

Wash installations which make sure that used packaging from chemical products are collected and reused, are awarded 1 point,

or

Wash installations which are using direct refilling of all or some of the chemical products from tank truck and hereby do not use packaging, are awarded 1 point.

✉ Documentation of that the used packaging is collected for reuse for chemical products or that direct refilling of chemical products from tank truck is taking place at site.

### Background to requirement

By reusing the packaging, even more resources and energy are saved compared to recycling of the packaging material and is thus an even better alternative for a circular economy. Most of the manufacturers of the care products, cleaning products for the wash installation itself and water treatment chemicals have, per today, not a functional working method on collecting packaging for reuse. However, there are a few companies that are collecting larger packaging to recondition and reuse them. Nordic Ecolabelling wants to reward this type of initiatives. To obtain points the packaging must be sent for reuse.

Direct refilling from tank truck is a method that is beneficial for eliminating packaging and therefore contributes to less use of materials.

## 4.8 Energy

*Basic licencees are exempted from requirements in this section 4.8 and have no opportunity to achieve points in requirements P5 and P6.*

### O13 Fossil fuel

The wash installation may not use fossil fuel* as an energy source.

** The requirement does not apply to electricity from the grid or district heating.*

✉ Declaration of which types of energy sources are used e.g., electricity from the grid.

### Background to requirement

The requirement is set because Nordic Ecolabelling wishes to encourage a fossil-free operation.

The requirement does not apply to electricity from the grid or to district heating since the owner of the wash installation cannot influence the fuel composition in the energy transformation. Regarding electricity, Nordic Swan Ecolabel does not recognize purchasing of green electricity documented with EU guarantees of origin as a way to promote fossil free electricity. Natural gas counts as fossil, but biogas may be used.

### O14 Energy consumption

Energy consumption* calculated as kWh per wash, vehicle unit or per 12 meters of train/airplane must not exceed the values in the table below.

Points will be given for energy consumption lower than the limit values in the table below. See requirement O18 for required minimum total points.

The energy consumption shall include all energy used related to the wash installation e.g., energy used for the washing machines, wastewater treatment, heating, lighting, automatic doors, ventilation, etc. Also, outdoor energy demands related to the wash installation shall be included, for example de-icing facilities. Self-generated energy, from example solar PV cells, shall also be included.

Energy consumption is to be measured and logged on a monthly basis.

** Energy consumption shall include both electricity and thermal energy (heat) related to the wash installation and shall be calculated as an annual average. In other words, the total yearly energy consumption must be divided by the total numbers of washes, vehicle unit or 12 metres of train/airplane per year.*

**Table Maximal energy consumption**

| Cars (kWh/wash) | Buses (kWh/vu) | Trucks (kWh/vu) | Trains, other rail transport and airplane (kWh/12 meters of train/airplane) |
|---|---|---|---|
| 3.0 | 2.5 | 3.0 | 3.0 |

*One vehicle unit (vu) is a vehicle, truck or bus, with a length of 12 metres.*

- *0.5 vu is a van or minibus, for instance, with a length of about 6 metres.*
- *1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.*
- *2 vu is a truck plus trailer with a length of about 24 metres.*

✉ Documentation of energy consumption over the past 12 months, or from a representative period of operation stated as kWh, e.g., via invoices or meter readings.

✉ Calculations showing annual energy consumption per wash/vehicle unit/12 meters of train/airplane.

## Background to requirement

Data representing the energy consumption (kWh) is required per functional unit (washed car or 12 meters of washed train/airplane) in order to assess the energy consumption of the wash installation. To be able to document the requirement the energy consumption of the wash installation must be measured separately from e.g., connected shops or workshops.

In this generation 4 of the criteria, a mandatory requirement regarding level of energy consumption per wash is set for the first time. In the previous two generations, several point score requirements where set (see more information below), but very few installations used the opportunity to score point from these requirements. In this generation of the criteria, it is appropriate to set a mandatory quantitative requirement for energy consumption.

Data from licensed installations were studied in the work to set the limit for energy consumption. In addition to licenced data, relevant LCAs and reports have been studied. A report by IVL Svenska Miljöinstitutet AB from 2004[13] states that energy consumption is lower in installations with a wastewater treatment unit and 80% re-circulation than at installations without re-circulation, if one considers the treatment of tap water and wastewater that must take place (0.1-1 kWh/washed car). For entirely closed installations that use evaporation technology to remove the salts from the system, the energy consumption is around 5 kWh/washed car. If the heat from such an induction unit is used to heat up the premises or prepare hot wax, net consumption will be around 4 kWh/washed car. As comparison, showering for 5 minutes consumes 2

[13] IVL Svenska Miljöinstitutet AB, Rapport B 1554 Utvärdering av miljöanpassade fordonstvättar ur ett bredare perspektiv (January 2004).

kWh (60 l water consumption)[14]. The available data thus suggests that energy consumption in the use phase, i.e., at the water treatment unit, is not considerably large.

The highest energy consumption of the washing machines is from the dryers/fans, also the wastewater treatment consumes a considerable proportion of the energy[15].

In general, truck washes use more water and are generally more time consuming (approx. 12 min/truck) compared to washing of cars. However, since truck washes generally do not have dryers/fans, the energy consumption is assumed to be comparable to car washing. Bus washing is generally very fast (approx. 2 min/bus). It is common for a large number of buses to be washed "on a conveyor belt". Buses are usually washed every day and have generally no embedded dirt, resulting in a less time-consuming wash. Energy consumption for buses is therefore expected to be lower than car washing.

Energy may be saved in the wash installation in various ways e.g., optimizing the dryer and other high energy demands in the wash installation, lowering the hall temperature, heat exchange ventilation, ensuring that doors are not open in both ends at the same time to avoid heat losses in the wash installation, thermostatically controlled frost protection for wash installations, automatic light control, LED lighting etc.

Nordic Ecolabelling intends to tighten the energy consumption requirement in the next revision.

### P5 Energy consumption (max. 4 p)

If the energy consumption is lower than in requirement O14 up to 4 points can be obtained. Points are given according to the table below showing energy consumption per wash, vehicle unit or 12 meters train or airplane.

**Table Max. energy consumption and points**

| Points | Cars (kWh/wash) | Buses (kWh/vu) | Trucks (kWh/vu) | Trains, other rail transport and airplane (kWh/12 meters of train/airplane) |
|---|---|---|---|---|
| 1 | ≤ 2.5 | ≤ 2.0 | ≤ 2.5 | ≤ 2.5 |
| 2 | ≤ 2.0 | ≤ 1.5 | ≤ 2.0 | ≤ 2.0 |
| 3 | ≤ 1.5 | ≤ 1.0 | ≤ 1.5 | ≤ 1.5 |
| 4 | ≤ 1.0 | ≤ 0.5 | ≤ 1.0 | ≤ 1.0 |

*One vehicle unit (vu) is a vehicle, truck or bus, with a length of 12 metres.*

- *0.5 vu is a van or minibus, for instance, with a length of about 6 metres.*
- *1.5 vu is, for instance, an articulated bus or a semi-trailer rig with a length of about 18 metres.*
- *2 vu is a truck plus trailer with a length of about 24 metres.*

✉ Documentation of energy consumption over the past 12 months, or from a representative period of operation stated as kWh, e.g., via invoices or meter readings.

✉ Calculations showing annual energy consumption per wash or vehicle unit or 12 meters of train/airplane.

[14] Aqua Consult: Förstudie Bilvårdsanläggningar.
[15] Information from producer of washing machines and wastewater treatment.

### Background to requirement

Nordic Ecolabelling wishes to focus on the energy consumption of the wash installation and urges the licensee to be more aware of the installation's energy consumption and opportunities to reduce it. Therefore, up to 4 points may be achieved for energy consumption that are lower than the mandatory requirement in O14.

#### P6 Self-generated electricity (max. 3 p)

For self-generated electricity* from solar PV panels up to 3 points can be obtained. Points are given according to the table below showing % of total annual electricity demand of the wash installation covered by solar PV panels.

| Points | % of electricity demand covered by solar PV cells |
|---|---|
| 1 | ≥ 10% |
| 2 | ≥ 15% |
| 3 | ≥ 25% |

** Self-generated electricity: The solar PV panels must be on the building, or in the immediate vicinity, of the wash installation.*

✉ Documentation of self-generated electricity over the past 12 months, or from a representative period of operation, e.g., meter reading of produced electricity. If the solar PV panels are recently installed, a confirmation of the planned annual electricity production from the supplier can be used.

✉ Calculation showing % of the annual electricity consumption relative to electricity from solar PV panels.

### Background to requirement

The wash installation can achieve points by producing its own electricity via solar PV panels. PV is an abbreviation for PhotoVoltaic, which is materials and devices that convert sunlight into electrical energy. The self-generated electricity is set relative to the total electricity demand, and not the total energy demand, since solar PV replaces shares in the electricity demand and no other form of energy.

The solar PV panels must be on the building, or in the immediate vicinity of the wash installation. To achieve points, the energy must go into the operation of the wash installation. To achieve points, the electricity must be used for operating the wash installation. In periods of surplus electricity, the electricity can be used elsewhere on the premises or be sold to the grid owner.

## 4.9 Steam wash

In this generation 4 of the criteria Nordic Ecolabelling consider including stationary steam wash. Steam wash general use less water and care products than traditional wash. This section includes the areas of requirements that Nordic Ecolabelling consider relevant for stationary steam wash. We appreciate input during consultation regarding both if stationary steam wash should be included and if so relevant requirements and level of requirements.

Please note that the below requirements for stationary steam wash are only areas that Nordic Ecolabelling consider if stationary steam wash are to be included in the criteria and are not complete or fully finished requirements.

- **Steam wash installation**

  Steam wash must be stationary, meaning that mobile steam wash is not allowed.

  The transport must be placed on the mat (instead of placing mats on the sides of the transport) during washing.

- **Washing of mats and cloths**

  Mats and cloths that have been used during the steam washing must be washed in a washing machine at the location of the steam wash installation. Wastewater from the washing machine is to be cleaned by a water treatment solution tailored to the washing volume. A sludge and oil separator with sand filter is to be included in the water treatment solution.

- **Effluents from the wash installation**

  Wastewater from washing machine after water treatment must fulfil requirement O6.

- **Water consumption**

  Tap water consumed per wash must maximum be 7 litres.

  Points will be given for water consumption that is lower than the limit value. See requirement O18 for a summary of the points.

- **Fossil fuel**

  The steam wash installations may not use fossil fuel* as a direct energy source.

  **Purchased electricity and district heating is counted as no-fossil.*

- **Energy consumption**

  Energy consumption* per wash must not be higher than 3.0 kWh.

  The energy consumption shall include all energy used related to the steam wash installation e.g., energy used for the steam machines, washing machines, wastewater treatment, heating, lighting, automatic doors, ventilation, etc. Also, outdoor energy demands related to the wash installation shall be included, for example de-icing facilities.

  Energy consumption is to be measured and logged monthly.

  Points will be given for energy consumption that is lower than the limit value. Points will also be given for self-generated electricity** from solar PV cells. See requirement O18 for a summary of the points.

  * *Energy consumption shall include both electricity and heat related to the steam wash installation and shall be calculated as an annual average. In other words, the total yearly energy consumption must be divided by the total numbers of washes per year.*

  ** *Self-generated electricity: The solar PV cells must be on the building, or in the vicinity, of the steam wash installation.*

- **Chemical products**

  Requirements in section 4.6 must be fulfilled.

- **Other requirements**

  The requirements in O1, O15, O16 and section 6 must be fulfilled.

## 4.10 Special requirements

### O15 Sludge and oil emptying

Waste from the eventual sludge and oil separator(s) and other contaminants from the water treatment unit must be collected by a contractor and hereafter processed by a facility. When emptying the sludge and oil, it must be guaranteed by the collection contractor that the sludge tanker truck is not contaminated with heavy metals or bacteria because tanks and containers in the water treatment units with re-circulated water, must be filled with clean water.

Both the collection contractor and the process facility must be approved by the authorities to handle this type of waste.

✉ Declaration signed by the collection contractor, that the sludge tanker truck is not contaminated with heavy metals or bacteria before the sludge and oil is emptied, see Appendix 5.

✉ Name of the contractor that collect waste from the sludge and oil separator(s) and other contaminants from the water treatment unit, see Appendix 5.

✉ Name and location of the facility that process the waste from the sludge and oil separator(s) and other contaminants from the water treatment unit, see Appendix 5.

✉ Documentation that both the collection contractor and the process facility are approved by the authorities to handle this type of waste, e.g., link to authorities list of approved contractors and facilities.

#### Background to requirement

To reduce the risk of tanks and containers in water treatment units with re-circulated water being contaminated with bacteria or heavy metals from sludge tanker trucks when emptying sludge and oil, the company that owns the sludge tanker truck must guarantee that the truck is not contaminated with heavy metals or bacteria.

It is important that sludge, oil, and other contaminants separated from the water treatment equipment, is processed in an environmentally appropriate way. This means that the collection contractors and the facilities that will be processing the waste must be officially licensed to do so. If the final processing of the waste is not correct/satisfactory, this undermines the purpose of water treatment at the wash installation since the environmental problem and environmental impact is simply shifted from the wash installation to the waste processing facility.

### O16 Emptying system for toilets

*Basic licencees are exempted from this requirement.*

The requirement applies to wash installations for buses, trucks, trains, other rail transport and airplanes.

If the wash installation is intended to wash buses, trucks, trains, other rail transport and airplanes with toilets, there must be an emptying system in place that ensures the toilet waste is not emptied in a way that can contaminate the re-circulated water.

If there are no facilities for emptying toilets, the customer must be informed that their toilet cannot be emptied at the installation due to the dangers of spreading infections.

✉ Description of the emptying system for toilets and description of how customers are informed if there is no emptying system available.

### Background to requirement

To reduce the risk of the re-circulated water being contaminated with bacteria from toilets in buses, motorhomes, trains, or other rail transport there must be an emptying system in place that ensures toilet emptying without cross contamination. If there are no facilities for emptying toilets, the customer must be informed that their toilet cannot be emptied at the installation due to the dangers of spreading infections.

#### O17 Special vehicles

*Basic licencees are exempted from this requirement.*

When vehicles requiring special hygiene are washed, such as vehicles covered by EC 852/2004, only tap water may be used, i.e., no re-circulated water. However, the total effluent values per vehicle must be met. If the plant washes both vehicles that demand extra hygiene and vehicles that may be washed with re-circulated water, the plant shall be equipped with a so-called double system. Double system means that the plant can temporarily be switched over to using tap water only.

✉ Declaration on how the vehicles requiring special hygiene are washed.

### Background to requirement

Regulation (EC) No 852/2004 on the hygiene of foodstuffs aims to provide a higher level of protection for human life and health. Under the regulation, vehicles used for transporting food must be kept clean and in good condition, such that food is protected from contamination.

Since re-circulated water from vehicle wash installations is more prone to anaerobic conditions and thus blooms of algae and bacteria, only tap water is to be used to wash vehicles that require special hygiene levels.

## 4.11 Summary of points

#### O18 Summary of points

**Automated or combined automated and manual wash installations** must achieve at least **4 points** to be Nordic Swan Ecolabelled.

**Manual wash installations** must achieve at least **3 points** to be Nordic Swan Ecolabelled.

Points are given for the following requirements:

**P1:** Measurement of phthalates in effluents (1 p)

**P2:** Water consumption (max. 3 p)

**P3:** Technology for analysing amount of needed care products (3 p)

**P4:** Reuse of packaging or direct refilling of chemicals from tank truck (2 p)

**P5:** Energy consumption (max. 4 p)

**P6:** Self-generated electricity (max. 3 p)

**Basic licence**

For basic licencees there is no requirement concerning total points, but the basic licencee must document the number of points achieved with regard to water consumption (O7 and P2).

✉ Overview and calculation of points.

### Background to requirement

Point score requirements are set to make the criteria more flexible and to reward installations that have a better performance or introduce extra environmental measures.

Basic licence holders, who cannot achieve points on the requirements P1, P2, P3, P4, P5 and P6 must still report on how many points are achieved in terms of water consumption (O7 and P2).

For newly built installations and refurbished installations that receive a licence outside the sampling period 1st of November – 30th of April, it must be documented in the next sampling period that the installation qualifies for enough points.

A maximum of 14 points can be achieved for automatic installations or combined automated and manual wash installations, a minimum of 7 points must be achieved. Manual installations can achieve a maximum of 12 points, a minimum of 5 points must be achieved.

## 4.12 Licence maintenance

The purpose of the licence maintenance is to ensure that fundamental quality assurance is dealt with appropriately.

### O19 Responsible person

The licence holder/basic licence holder must appoint one person who has the main responsibility for the application process and for annual follow-up of the licence, and who ensures fulfilment of the Nordic Ecolabelling requirements during the validity period of the licence. The company must inform Nordic Ecolabelling if the responsible person is changed.

✉ Contact information (name, job title, phone number and e-mail) for the responsible person.

### Background to requirement

A responsible person is required to ensure that Nordic Ecolabelling's requirements are fulfilled throughout the entire validity period of the licence and to ensure that the annual follow-up and reporting is completed. The company may comprise several departments but should appoint just one person to be responsible for the licence and in 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. 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 about the Nordic Swan Ecolabel to their successor, is thus vital.

## O20 Procedures and instructions for operation and maintenance

Each wash installation shall have documented procedures and instructions to ensure that the Nordic Ecolabelling criteria are fulfilled regarding:

- General operation and maintenance of the wash installation including emptying of the sludge and oil separator(s) according to a predefined frequency. The emptying frequency must be based on an evaluation of the capacity of the wash installation and increased according to needs.
- Daily checks on the washing and water treatment units, including checking that the water treatment equipment is functional and operates when the wash installation is in use. The wash installation must not be used when the water treatment unit is out of service.
- Self-assessments and record-keeping in accordance with a self-assessment programme comprising figures for water consumption and number of transport washes on a monthly basis.
- Technical service to ensure regular checks and service of the washing and water treatment units. Servicing records must be retained and kept readily available.
- Reporting to Nordic Ecolabelling unforeseen non-conformities and planned changes that is covered by the Nordic Swan Ecolabel's requirements (for example change of chemical products).
- Satisfactory protection against the transmission of Legionella, E. coli and other pathogens.
- Measures such as sterilisation or disinfection. This should be considered if the device or parts of the device have been significantly changed or opened for maintenance purposes in a way that might have allowed or might potentially allow infection to occur.

✉ Declaration according to the requirement.

### Background to requirement

Many washing machines and water treatment units are so technically advanced that they require operation and maintenance of both the washing function and water treatment to be conducted in line with the supplier's instructions.

Experience shows that this is a critical point for both the washing results and the quantity of effluents from the wash installations.

In addition to the often technical operational and maintenance instructions that come with washing and water treatment equipment for wash installations, there must be instructions in place that are tailored to the staff who are responsible for day-to-day operations. The instructions must be easy to understand and cover both the washing machine and the water treatment equipment including emptying of the sludge and oil separator(s).

The instructions shall/should state which actions/measures the staff are responsible for and which actions require the services of the relevant supplier. It must be made clear what procedures are in place to deal with non-conformities and changes, as well as operational stoppages, and how these are reported to Nordic Ecolabelling. The instructions shall also specify how often the system should be emptied and what indicates the need for emptying. It is of special importance that the sludge and oil separator(s) is emptied frequently to ensure a proper operation of the wash installation and the water treatment unit.

### O21 Training

To ensure satisfactory operation of the installation, it is important that employees and personnel involved in daily operations have received training in how to run the installation correctly.

✉ Description of staff training given to employees that operate the wash installation including information about training topics and frequency.

#### Background to requirement

Many washing machines and water treatment units are so technically advanced that they require operation and maintenance of both the washing function and water treatment to be conducted in line with the supplier's instructions. It is essential to ensure that employees involved in the daily operations have received proper training to fulfil their obligations. This is essential for both the washing results and the quantity of effluents from the wash installations.

### O22 Storage and handling of chemical products

Chemical products are to be stored securely and in line with the requirements in the safety data sheets.

The chemical products must be contained separately, for example in a bund that keeps the chemicals separate. The bund must be able to contain the volume of the largest container plus 10% of the sum of the other stored volumes.

When employees are handling chemical products, it is important that they use personal protective equipment according to the recommendations in the safety data sheets.

✉ A description of the way in which chemical products are stored and the way in which the drain in the floor of the chemical room is constructed.

✉ Description of personal protective equipment available at the wash installation to handle chemical products.

### Background to requirement

Chemical products must be stored in a way that contains discharges and allows spills to be channelled via the water treatment unit. In the event of major unexpected discharge, it must be possible to collect the chemical products, for example in the water treatment system's tanks or on an adjacent floor. Alternatively, the chemical products must be contained separately, for example in a bund that is able to contain the volume of the largest container plus 10% of the sum of the other stored volumes. Floor drains in storage rooms for chemical products must be connected to the water treatment system for the wash installation.

It is important that employees who are handling chemical products use personal protective equipment according to the recommendations in the safety data sheets.

## O23 Information on use of customers' own products/degreasers

*Wash installations for trains and other rail transport and airplanes are exempted from this requirement.*

The customers must be informed that use of their own products/degreasers is not permitted. This regards both manual and automatic wash installations.

🔍 Checked on site.

### Background to requirement

The customers must be informed that use of their own degreasers is not permitted. The water treatment system is tailored to a particular type of chemical products, so the use of other product types will disrupt the treatment process.

It is difficult to control whether the customers use own products, so it is important to inform about that this is not permitted. Use of own products is not applicable for trains, other rail transport and airplanes.

## O24 Customer complaints

The licensee must guarantee that the quality of the cleaning in the wash installations does not deteriorate during the validity period of the license. Therefore, the licensee must have a system for handling and archiving customer complaints.

✉ Send in your company's routine for handling and archiving customer complaints. Note that the original routine must be in a Nordic language or English.

### Background to requirement

After being washed in the installation the vehicles shall be as clean as if it had been washed in some other wash installation that uses equivalent methods of washing.

The definition of a "clean car/bus etc." is not easy since it is often a case of subjective judgements. The Nordic Swan Ecolabelled care products have already

proven that they have satisfactory performance but, when washing in the wash installation, the whole picture must be considered.

In the absence of reliable and standardised testing methods for performance, the business must itself evaluate how the wash installation is just as good as other installations.

Nordic Ecolabelling requires that the company has implemented a customer complaint handling system to monitor the quality of the cleaning in the wash installation. To document your company's customer complaint handling, you must send in your company's routine describing these activities. The routine should be dated and signed and will normally be part of your company's quality management system.

If your company does not have a routine for customer complaint handling, it is possible to send in a description of how your company perform these activities. During the on-site visit, Nordic Ecolabelling will check that the customer complaint handling is implemented in your company as described. The customer complaints archive will also be checked during the visit.

### O25 Customer information

Customers must be informed about the fact that they are using a Nordic Swan Ecolabelled wash installation and what that entails.

✉ Description of how the customers are informed.

#### Background to requirement

As part of the motivation for customers to use a Nordic Swan Ecolabelled wash installation, it is important to inform the customers of the fact that the installation is ecolabelled and what that implies when it comes to environmental impact.

### O26 Annual follow-up

The environmental requirements listed below shall be followed up by the person responsible for the Nordic Swan Ecolabel licence, and the information shall be compiled in an annual report and then submitted to Nordic Ecolabelling by the 30th of April each year. The following information must be sent in:

- The annual average of water consumption calculated as number of litres per wash or per vehicle unit or per 12 metres of train, other rail transport or airplanes (please refer O7).
- Number of washed vehicles for a year.
- Overview of all chemical products i.e., all care products, all cleaning products for cleaning of the wash installation itself and all water treatment products (please refer O8).
- Energy consumption per wash/vehicle unit/12 meters of train/airplane (please refer O14).
- Date for last emptying of sludge and oil from the water treatment system.

- Effluents calculated per wash or per vehicle unit or per 12 metres of train other rail transport or airplanes for ∑ Pb, Ni, Cr plus Cd, Zn, Cu, Sb, DEHP and oil (please refer O6).

  A licence holder which uses a basic licence is exempted from this requirement, but basic licence holders and licensees who are not linked to a basic licence, must perform these effluent calculations based on effluent samples taken once a year during the period 1st of November – 30th of April.

  For basic licence holders, effluent samples are to be taken once a year from the reference installation that is included in the basic licence and in addition 10% of installations that make use of the basic licence, with the latter amounting to a minimum of one installation and a maximum of four installations per year.

✉ Annual report submitted to Nordic Ecolabelling by the 30th of April each year.

### Background to requirement

To monitor that all environmental requirements for the wash installation, are in line with the Nordic Swan Ecolabel requirements, information about the water consumption, energy consumption, effluents of ∑ Pb, Ni, Cr plus Cd, Zn, Cu, Sb, DEHP and oil and an overview of all chemical products used and the dates for sludge and oil emptying, must be compiled and sent to Nordic Ecolabelling annually by end of April.

A licence holder that is using a basic licence is exempted from the effluent requirement, as it is seen as sufficient that the basic licence holder is taking samples from the reference installation that is included in the basic licence and from 10% of the installations that make use of the basic license.

# 5 Changes compared to previous generation

**Figure 1 Overview of changes to criteria for Wash installations for vehicles generation 4 compared with previous generation 3.**

| Requirement generation 4 | Requirement generation 3 | Same requirement | Change | New requirement | Comment |
|---|---|---|---|---|---|
| O1 | O1 | X | | | Slight adjustment. |
| O2 | O2 | X | | | Slight adjustment. |
| O3 | O3 | X | | | - |
| O4 | O4 | X | | | - |
| O5 | O5 | X | | | - |
| O6 | O6 | | X | | Max level of effluent tightened.<br>DEHP and Sb added.<br>Same level for all countries. |
| O7 | O7 | | X | | Max water consumption tightened.<br>Geographic zones instead of countries.<br>Separate levels for buses and trucks. |
| O8 | O8 | | X | | The amount of Nordic Swan Ecolabelled care products and |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | cleaning products for cleaning of the wash installation is tightened to 100%. |
| O9 | O9 | X | | | - |
| - | O10-O23 | | | | Deleted because all care products and cleaning products for cleaning of the wash installation must now be Nordic Swan Ecolabelled. |
| O10 | O35 | X | | | - |
| O11 | - | | | X | - |
| - | O24 | X | | | Deleted because all care products and cleaning products for cleaning of the wash installation must now be Nordic Swan Ecolabelled. |
| O12 | (P5) | | | X | - |
| O13 | | | | X | - |
| O14 | (P2, P3, P4) | | | X | - |
| - | O25 | | | | Deleted, insteadO14. |
| O15 | O26 | | X | | Now documentation that both the collection contractor and the process facility are approved by the authorities to handle this type of waste are needed. |
| O16 | O27 | X | | | - |
| O17 | O28 | X | | | - |
| O18 | Section 1.6 | | X | | Points requirements and numbers of points needed changed. |
| O19 | O31 | | X | | Now only regarding responsible person for annual follow-up and fulfilment of requirements. |
| O20 | O32 | | X | | Several updates. |
| O21 | O33 | X | | | - |
| O22 | O34 | | X | | Design of packaging has been deleted. Personal protective equipment according to safety data sheets has been added. |
| O23 | O36 | X | | | - |
| O24 | O37 and O29 | | X | | Now system for handling and archiving customer complaints, instead of quality as other wash installation that uses equivalent methods of washing. |
| O25 | O41 | X | | | - |
| O26 | O43 and O29 | | X | | Now also energy consumption and date for last emptying of sludge and oil must be included in the annual follow-up. |
| - | O30, O38-O40 and O42 | | | | Deleted. |
| P1 | | X | | | DEHP now under O6. |
| P2 | | | | X | - |
| P3 | | | | X | - |
| P4 | | | | X | - |
| P5 | | | | X | - |

| | | | | | |
|---|---|---|---|---|---|
| P6 | | | | X | - |

# *Criteria version history*

*Nordic Ecolabelling adopted version X.X of the criteria for XX on DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR.*