Nordic Ecolabelling for

Liquid and gaseous fuels

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Consultation

Nordic Ecolabelling

Content

099 Liquid and gaseous fuels, version 4.0, 22 June 2022

This document in English is regarded as the original document. In case of dispute, the original document should be taken as authoritative.

Addresses

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the 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:

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What is a Nordic Swan Ecolabelled liquid and gaseous fuel?

Nordic Swan Ecolabelled liquid and gaseous fuels for transport, heating and industrial purpose meet strict requirements for raw materials. This will help to preserve biodiversity and soil resources. The requirements also contribute to reduced climate impact – seen from a life cycle perspective, a Nordic Swan Ecolabelled fuel has lower level of greenhouse gas emissions than the limits stipulated by EU regulations. Nordic Swan Ecolabelled biogas is made of 100% biogenic residue and waste, and thereby, it also promotes circular economy as turning waste into a valuable resource is a core principle of an efficient circular economy.

Nordic Swan Ecolabelled liquid and gaseous fuels:

- Are made of 100% **renewable raw materials**.
- Are not produced from primary food and feed crops.
- Meet strict requirements for use of responsible renewable resources.
- Do not contain problematic feedstocks, such as palm oil and soy oil as well as genetically modified plants.
- Gaseous fuels are made of 100% biogenic residue and waste.
- Meet strict requirements for greenhouse gas emissions.
- Comply with recognized fuel standards to ensure good combustion characteristics.

Why choose the Nordic Swan Ecolabel?

- Liquid and gaseous fuels 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 work and commitment to customers.

- The Nordic Swan Ecolabel clarifies the most important environmental impacts and thus shows how a company can cut emissions, resource consumption and waste management.

- Environmentally suitable operations prepare liquid and gaseous fuels for future environmental legislation.

- Nordic Ecolabelling can be seen as providing a business 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?

The product group comprises liquid and gaseous fuels for transport (road, sea, and air), heating and industrial purposes. The fuels are based on 100% renewable raw materials of which no food- and feed crops must be used. Gaseous fuels are in addition made from 100% biogenic residue and waste. Gasses fuels also include liquefied biogas (LBG) and bio-LPG (also called renewable propane or bio-propane).

Solid fuels cannot be Nordic Swan Ecolabelled according to these criteria but can be Nordic Swan Ecolabelled according to criteria for solid fuels. Nor does the product group include electricity, hydrogen, **electro fuels**, lubricating oils, or fire lighting products.

How to apply

Application and costs

For information about the application process and fees for this product group, please refer to the respective national web site. For addresses see page 3.

What is required?

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

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

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

✉ Enclose

Upload

State data in electronic application

Requirement checked on site

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

Licence validity

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

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

On-site inspection

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

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 3 for addresses. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website for further information.

1 Definitions

The first time a term is used in the document, it is written in **bold font** or with a reference to this definition list.

Biofuels	Biofuels are liquid and gaseous fuels made from biomass/bio waste and consumed in transport, heating, and industrial purposes.
Biogas	Gaseous fuels produced from biomass such as biomethane, compressed biogas (CBG), liquified biogas (LBG) or bio-LPG etc..
Bioliquids	Bioliquids are liquid fuels made from biomass and used to produce electricity, heating, or cooling.
Biomass	Biodegradable fraction of products, waste, and residues from biological origin from agriculture, including vegetal and animal substances, from forestry and related industries, including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin.
Bio-LPG	Bio-LPG is propane produced from renewable feedstocks; it is also called renewable propane and bio-propane.
Biomass fuels	Biomass fuels are solid or gaseous fuels made from biomass.
Biomethane	Biomethane is a biogas from which the carbon dioxide, hydrogen sulphide and water have been removed. As a result of the purification process, the biomethane has the same characteristics as natural gas and can be injected into the grid.
CBG	Compressed biogas.
Electro fuels	Electro fuels, also known as e-fuels or synthetic fuels, are a type of drop-in replacement fuel. They are manufactured using captured carbon dioxide or carbon monoxide, together with hydrogen obtained from sustainable electricity sources such as wind, solar and nuclear power.
FAME	A type of biodiesel. FAME=fatty acid methyl ester.
Food and feed crops	Food and feed crops according to the Renewable Energy Directive (2018/2001/EC) - means starch-rich crops, sugar crops or oil crops produced on agricultural land as a main crop excluding residues, waste or ligno-cellulosic material and intermediate crops, such as catch crops and cover crops, provided that the use of such intermediate crops does not trigger demand for additional land.
HVO	Hydrotreated vegetable oil is a synthetic diesel that can be produced from vegetable oils, such as rapeseed, forest processing by-products, and animal waste products.

ILUC (indirect land use change)	ILUC can occur when pasture or agricultural land previously destined for food and feed markets is diverted to biofuel production. In this case, food and feed demand still needs to be satisfied, which may lead to the extension of agriculture land into areas with high carbon stock such as forests, wetlands, and peatlands. This implies land use change (by changing such areas into agricultural land) and may cause the release of greenhouse gas emissions (CO2 stored in trees and soil) that negates emission savings from the use of biofuels instead of fossil fuels.
LBG	Liquefied biogas.
Non-food cellulosic material	Non-food cellulosic material according to the Renewable Energy Directive (2018/2001/EC) - means feedstock mainly composed of cellulose and hemicellulose, and having a lower lignin content than ligno-cellulosic material, including food and feed crop residues, such as straw, stover, husks and shells; grassy energy crops with a low starch content, such as ryegrass, switchgrass, miscanthus, giant cane; cover crops before and after main crops; ley crops; industrial residues, including from food and feed crops after vegetal oils, sugars, starches and protein have been extracted; and material from biowaste, where ley and cover crops are understood to be temporary, short-term sown pastures comprising grass-legume mixture with a low starch content to obtain fodder for livestock and improve soil fertility for obtaining higher yields of arable main crops.
REDII	Renewable Energy Directive (EU)2018/2001.
Renewable raw materials	Renewable raw materials are in these criteria the same as Biomass, see definition above.
Residues and waste	Residues and waste according to the Renewable Energy Directive (2018/2001/EC).

2 Requirements for liquid and gaseous fuels

This chapter contains requirements for liquid and gaseous fuels.

2.1 Product and product description

O1 Description of the product(s)

The applicant must submit the following information about the product(s):

- Brand/trading name(s).
- Description of product(s) included in the application, and what kind of transport/heating/industrial purposes the fuel is intended for.
- A description of the technology and the manufacturing process for the production of the renewable fuels (the description must include the entire production chain, from renewable feedstocks to the end product). Subcontractors must be described with company name, production location, contact person and the production processes used.
- A description of the supply chain for the fuel all the way to the filling station or point of delivery in the case of heating/industrial use. Any joint depot usage or collaboration with regard to deliveries of fuels to filling stations must also be described.
- If an applicant is a reseller of Nordic Swan Ecolabelled fuels, all filling stations and resellers that sell the Nordic Swan Ecolabelled products must be stated.

✉ Description of the points above. A flow chart is recommended to explain the production process.

2.2 Resources

This chapter contains requirements for raw materials and composition of raw materials in liquid and gaseous fuels.

O2 Material composition

Liquid fuels

Liquid fuels for transport (road, air, and sea), heat and industrial use must physically be based on 100% renewable raw materials.

However, any additives of non-renewable origin, that are added only for technical reasons, are allowed up to 10% by volume annually in the total amount of solid fuel.

*This means that fuels such as **HVO**100 and ED95 can fulfil the criteria, since the necessary additives do not exceed 10%. E85 does not fulfil the requirement since there may be more than 10% non-renewable additives. A product such as HVO97 (97% HVO and 3% diesel), would not fulfil the requirement since the fossil diesel is not necessary for technical reasons.*

Gaseous fuels

Gaseous fuels used for transport, heating and industrial purpose must be made from 100% renewable raw materials defined as residues or waste. Maximum 5% crops are allowed if they are defined as intermediate crops such as catch crops and cover crops.

However, any additives and gases that are added to the total amount up to 10% by volume to increase the calorific value of the **biogas** are allowed.

*Examples of gaseous fuels that are produced from renewable raw material are **biomethane**, compressed biogas (**CBG**), liquified biogas (**LBG**) or **bio-LPG**.*

For biogas/biomethane distributed through existing gas grids, it must be documented that the quantity of gas injected into the gas grid is equal to the quantity of gas extracted from the grid on an annual basis. This is validated by a certification or an external auditor.

For gaseous fuels distributed without gas grid, a mass balance-based traceability according to Appendix 1, is accepted. The quantity of purchased biogas, is equal to the quantity of biogas in the Nordic Swan Ecolabelled product. Trade in certificates, so called Book and claim[1] is not accepted.

✉ Liquid fuels: Calculation and documentation showing compliance with material composition.

✉ Biogas: A copy of a certificate or statement from an external auditor showing compliance with traceability requirements.

2.2.1 Requirements concerning vegetable and animal feedstocks

O3 Traceability and control of vegetable and animal feedstocks

According to **EU REDII** the licensee must:

- ensure that primary vegetable and animal feedstocks are traceable to the area of feedstock production (cultivation).
- ensure that vegetable and animal feedstocks defined as waste or residues are traceable to the point where waste and residues occur.

[1] Book and claim imply that there is no physical connection between the sustainability claim (biological origin) and the product (gas).

- ensure that feedstocks comply with the sustainability criteria laid down in article 29, paragraphs 2 to 7 of the Renewable Energy Directive (2018/2001/EC))

If imported renewable feedstocks are used, they must be certified by one of the European Commission's approved voluntary certification schemes[2] for documentation of the EU's sustainability criteria under the Renewable Energy Directive (2018/2001/EC).

If nationally produced renewable feedstocks are used, they must comply with the official regulations of each Nordic country for documentation of the EU's sustainability criteria under the Renewable Energy Directive (2018/2001/EC).

✉ Documentation/declaration from the body that has inspected and approved compliance with the Renewable Energy Directive (2018/2001/EC). Nordic Ecolabelling reserves the right to require the submission of further documentation in the event of uncertainty about whether the raw material originated in areas with a high biodiversity value or areas with a high carbon stock.

2.2.2 Wood

O4 Tree species with restricted use

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

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

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

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

- the tree species does not originate from an area/region where it is IUCN red listed, categorized as CR, EN or VU.
- the tree species does not originate from Intact Forest Landscape (IFL), defined in 2000: http://www.intactforests.org/world.map.html.
- the tree species must originate from FSC or PEFC certified forest/plantation and must be covered by a valid FSC/PEFC chain of custody certificate documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.
- tree species grown in plantation shall in addition originate from FSC or PEFC certified forest/plantation, established before 1994.

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

✉ Declaration from the applicant/manufacturer/supplier that tree species listed on a-d) are not used.
If species from the lists b), c) or d) is used:

✉ The applicant/manufacturer/supplier are required to present a valid FSC/PEFC Chain of Custody certificate that covers the specific tree species and

[2] https://energy.ec.europa.eu/topics/renewable-energy/biofuels/voluntary-schemes_en, accessed January 2022.

demonstrate that the tree is controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.

✉ The applicant/manufacturer/supplier are required to document full traceability back to the forest/certified forest unit thereby demonstrating that;

- the tree does not originate from an area/region where it is IUCN red listed, categorized as CR, EN or VU.
- the tree species does not originate from Intact Forest Landscape (IFL), defined in 2000 https://intactforests.org/world.webmap.html.
- for plantations the applicant/manufacturer/supplier are required to document that the tree species does not originate from FSC or PEFC certified plantations established after 1994.

O5 Wood raw material

The applicant must state the name (species name) of the wood raw material used in the Nordic Swan Ecolabelled liquid and gaseous fuels.

Chain of Custody certification

The supplier of wood raw materials must be Chain of Custody certified by the FSC/PEFC schemes.

Suppliers who only supply recycled materials for the Nordic Swan Ecolabelled liquid and gaseous fuels are exempted from the requirement concerning Chain of Custody certification. The definition of recycled material, see glossary/below.*

Certified wood raw material

A minimum of 70% by weight of all wood raw material (virgin/recycled material) used to produce the Nordic Ecolabelled liquid and gaseous fuels, must origin from forest managed according to sustainable forestry management principles that meet the requirements set out by FSC or PEFC chain of custody schemes and/or originate from recycled material.

The remaining proportion of wood raw material must be covered by the FSC/PEFC control schemes or be recycled material.

The requirement must be documented as purchased amount of wood annually.

* Recycled material defined according to ISO 14021 in the following two categories:

Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

Post-consumer material: Material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

Nordic Ecolabelling includes by-products from primary wood processing industries (sawdust, wood chips, shavings, bark, etc.) in its definition of recycled material.

✉ Name (species name) of the wood raw materials that are used in Nordic Swan Ecolabelled liquid or gaseous fuels.

✉ Valid FSC/PEFC Chain of Custody certificate from all suppliers/link to certificate holders valid certificate information in FSC/PEFC certificate database covering all wood raw material used in the Nordic Swan Ecolabelled liquid and gaseous fuels. (Exempted from this requirement are suppliers who only deliver recycled material).

✉ Documentation showing that the quantity of certified wood raw material or recycled material is met. This should be specified in e.g., invoices or delivery notes. In case of recycled material (not certified by FSC or PEFC) evidence shall be covered by EN 643 delivery notes.

O6 Raw materials not allowed to use in Nordic Swan Ecolabelled liquid and gaseous fuels

The following raw materials **must not** be used in Nordic Swan Ecolabelled liquid and gaseous fuels:

- Food- and feed crops must not be used in the production of liquid and gaseous fuels, see requirement O2.

*The requirement does not cover feedstock defined as **non-food cellulosic material** or **residues and waste** product generated form the cultivation of food- and feed crops.*

- Palm oil and soybean oils, including by-products, residues and waste fractions from palm and soybean oil industries (e.g., Palm Fatty Acid Distillate: PFAD, Palm Effluent Sludge: PES and soybean meal).

The requirement does not cover residues and waste products generated by households or commercial, industrial- or institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose.

✉ The applicant shall provide a declaration of compliance with the requirement concerning renewable feedstocks from palm oil and soybean oil. Appendix 2 may be used. Nordic Ecolabelling reserves the right to require further documentation in the event of uncertainty about fulfilment of the requirement.

✉ The applicant shall provide a declaration of compliance with the requirement concerning no use of food- or feed crops in the production of biofuels. Appendix 2 may be used.

O7 Genetically modified plants

Raw materials used in Nordic Swan Ecolabelled fuels must not be genetically modified*.

* *Genetically modified organisms are defined in EU Directive 2001/18.*

This requirement does not include residuals or waste defined according to the Renewable Energy Directive (2018/2001/EC), however not by-products, residues and waste fractions from palm and soybean oil industries (e.g., Palm Fatty Acid Distillate: PFAD, Palm Effluent Sludge: PES and soybean meal).

✉ Declaration from the raw material supplier of compliance with the requirement. Appendix 3 may be used.

2.3 Requirements for greenhouse gas emission savings

This chapter contains requirements for greenhouse gas emission savings for gaseous ang liquid fuels.

O8 Reduction of greenhouse gases

Gaseous fuels

The Nordic Swan Ecolabelled gaseous fuel must reduce greenhouse gas emissions in the entire production chain, from the production of feedstocks to the point of sale (for example the filling station) according to the table below:

Table 1: Reduction of greenhouse gases from gaseous fuels compared with corresponding fossil fuel.

	Denmark	Finland	Iceland	Norway	Sweden
Reduction of greenhouse gases	85%	75%	85%	90%	90%
Liquefied biogas (LBG)	80%	70%	80%	90%	90%

Liquid fuels

The Nordic Swan Ecolabelled liquid fuel must reduce greenhouse gas emissions in the entire production chain, from the production of feedstocks to the point of sale (for example the filling station) by 75% compared with the corresponding fossil fuel.

Calculations of greenhouse gas emission savings must follow the principles of Article 31 of the Renewable Energy Directive (2018/2001/EU) with specific guidelines given in Annex V. The fossil fuel comparator EF(t) shall be 94 g CO2eq/MJ.

The calculations must be performed by a competent and independent third party or by the applicant. Calculations performed by the applicant must be verified and approved by a competent and independent third party.

Rules and default values for calculating the reduction of greenhouse gas emissions must comply with the official regulations of each Nordic country or, if a biofuel component is certified according to one of the European Commission's voluntary certification schemes, compliance is required with these rules and default values*.

* *Default value (conversion factors): data that is required to convert the input values (stated in kg, kWh, etc.) into greenhouse gas emissions.*

✉ Calculation and documentation showing that the requirement is met. Calculations must be based on data from at least 12 months at the time of application. The data and calculations must be reviewed and approved by an independent third party.

2.4 Requirement for the biogas production plant

This chapter contains requirement for the biogas production plant regarding control of methane leakage.

O9 Control of methane leakage from biogas production plant

When producing biogas through anaerobic digestion of organic feedstock, the licensee must implement routines for measuring and reducing methane leakage from the biogas production plant and upgrading facility.

The routines must at least include:

- Systematic and regular leak detection at the facilities
- Quantification of methane leakage every third year.

✉ Description of routines for detection, measuring and reduction of methane leakage.

2.5 Requirements for working conditions

This chapter contains requirement for working conditions at feedstock- and fuel suppliers.

O10 Working conditions

The licensee must have a written Code of Conduct that explains how the licensee ensures compliance with the following UN conventions and the UN Global Compact at feedstock- and fuel suppliers:

- The UN Convention on the Rights of the Child, Article 32
- The UN Declaration (61/295) on the Rights of Indigenous Peoples UN's: Global Compact2, which comprises the following ten principles:
    - Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights
    - Principle 2: make sure that they are not complicit in human rights abuses
    - Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining (ILO Convention 87 and 98)
    - Principle 4: the elimination of all forms of forced and compulsory labour; (ILO Convention 29 and 105)
    - Principle 5: the effective abolition of child labour (ILO Convention 138 and 182)
    - Principle 6: the elimination of discrimination in respect of employment and occupation (ILO Convention 100 and 111)
    - Principle 7: Businesses should support a precautionary approach to environmental challenges
    - Principle 8: undertake initiatives to promote greater environmental responsibility
    - Principle 9: encourage the development and diffusion of environmentally friendly technologies
    - Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery

The licensee must ensure that all feedstock- and fuel suppliers are familiar with and comply with the Code of Conduct.

If raw materials and fuels are produced in countries in which these conventions are incorporated as part of the requirements of the authorities, no further documentation will be required beyond the signed application form for a license for Nordic Ecolabelling.

✉ Licensees must submit a written Code of Conduct that explains how the licensee ensures that its feedstock- and fuel suppliers comply with the requirements of the UN conventions and the UN Global Compact.

✉ A description of how the licensee's Code of Conduct is communicated to all its feedstock- and fuel suppliers.

2.6 Quality requirements for liquid and gaseous fuels

This chapter covers the quality requirements for liquid and gaseous fuels for transport (road, sea, and air), heating and industrial purposes.

O11 Quality specifications for liquid and gaseous fuels

The requirement applies to the end product.

Liquid fuels for road transport* must meet a relevant fuel standard and the fuel quality Directive (2009/30/EC) established by the EU.

** The fuel quality standard (2009/30/EC) also covers off-road machinery, such as forestry and agricultural machinery.*

Fuels for maritime shipping must meet the requirements of:

- ISO 8217:2017 standard, or
- FAME: ASTM D6751 or EN 14214:2012+A2:2019 or
- HVO: ASTM D975 or EN 15940:2016+A1:2018+AC:2019
- All fuels for maritime shipping must comply with the European Union's Sulphur Directive (2012/33/EC).

Fuels for air transport must meet the requirements of:

- ASTM D7566 standard or ASTM D1655

Liquid fuels for heating and industrial purposes must meet the requirements of the EN14214 (biodiesel) or the EN15376 (ethanol) standards.

Liquified Petroleum Gases (Bio-LPG) must meet the requirements of ISO 9162:2013[3] or ASTM 1835. Bio-LPG used in vehicles must meet EN589:2018.

Biogas for transport/heating/industrial use distributed on existing gas networks must be upgraded and meet the quality criteria of the national inspection authority for the gas grid, or the equivalent quality requirements from the body responsible for operating the natural gas grid system.

If a licensee can demonstrate that the end user of the liquid or gaseous fuel accepts a different fuel quality than those specified in the requirement, the licensee may, following approval by Nordic Ecolabelling, be allowed to use the Nordic Swan Ecolabel without meeting specified fuel standards. Biogas must at least be purified from; water, hydrogen sulphide, nitrogen, oxygen, ammonia, and siloxane particles.

The requirements concerning test laboratories and test instructions are stated in Appendix 4.

Liquid and gaseous fuels:

✉ The applicant must indicate which standard the liquid or gaseous fuel is compliant with.

✉ An analysis report and a declaration from the test laboratory verifying compliance with the fuel standard. Alternatively, a written statement from the end user of the fuel in which it is clearly stated that the end user accepts that the fuel does not need to comply with the above standards. Biogas must at least be purified from; water, hydrogen sulphide, nitrogen, oxygen, ammonia, and siloxane particles.

Biogas distributed on existing gas networks

✉ A declaration from the national inspection authority for the gas grid stating that the biogas is compliant with the gas quality requirements for the gas grid or from the body responsible for operating the natural gas grid system.

2.7 Licence maintenance

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

O12 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabelled fuel does not deteriorate during the validity period of the licence. Therefore, the licensee must keep an archive over customer complaints.

Note that the original routine must be in one Nordic language or in English.

[3] apply to international transfers of commercial propane and commercial butane.

✉ Upload your company's routine for handling and archiving customer complaints.

O13 Traceability

The licensee must be able to trace the Nordic Swan Ecolabelled products in the production. A manufactured/sold product should be able to trace back to the occasion (time and date) and the location (specific factory) and, in relevant cases, also which machine/production line where it was produced. In addition, it should be possible to connect the product with the actual raw material used.

You can upload your company's routine or a description of the actions to ensure traceability in your company.

✉ Please upload your routine or a description.

O14 Follow-up of license

The licensee shall ensure that the requirements of the criteria are met during the validity period of the license. At least once a year (within 6 months of closing the books) a review of operations shall be made covering at least the following areas:

- Material composition, requirement O2
- Reduction of greenhouse gasses, requirement O8

The review (report) must be audited and approved by independent third parties.

Nordic Ecolabelling may request reports from the internal reviews and examine a selection, or all, of the requirements. Information on a compliance check is given in advance.

✉ Documentation, verified and approved by independent third party, which verifies that the Nordic Swan Ecolabelled fuel complies with the material composition (requirement O2) as well as requirements for greenhouse gas emissions reduction (O8) in the last year.

Regulations for the Nordic Ecolabelling of products

When the Nordic Swan Ecolabel is used on products the licence number shall be included.

More information on graphical guidelines, regulations and fees can be found at www.nordic-ecolabel.org/regulations/

Criteria version history

Nordic Ecolabelling adopted generation 4.0 of the criteria for liquid and gaseous fuels on *DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR.*

Appendix 1 Guidelines for using mass balance

Documentation for compliance with requirement O2 material composition and O9 reduction of greenhouse gasses must be done on an annual basis using mass balance according to EU RED II (2018/2001/EU). Nordic Ecolabelling poses some additional requirements for mass balance:

- does not allow the use of trade in certificates, so called "Book and claim"[4],

In addition, it is:

- not allowed to mix with a number of components that do not meet requirements O4 (tree species) and requirements O6 (renewable raw materials not allowed to use in Nordic Swan Ecolabelled liquid and gaseous fuels), i.e. use of renewable raw materials from palm oil, soya oil and sugar cane. The requirement also includes by-products, residual and waste fractions from the palm and soybean oil industry (e.g., Palm Fatty Acid Distillate: PFAD, Palm Effluent Sludge: PES and Soybean).

If certificates (voluntary certification schemes) are used in combination with mass balance accounting, Nordic Ecolabel reserves the right to assess these certificates in relation to traceability, biodiversity and guidelines for certification given in Annex 7 of the criteria.

The licensee must have a system to account all purchased renewable components used for the Nordic Swan Ecolabelled fuel. The accounting system must be part of and meet the EU RED requirements to verification of compliance with the sustainability criteria for biofuels and bioliquids. The accounting system shall clearly state which parties are accounted to the Nordic Swan Ecolabelled fuel. An independent competent third party shall control and verify that:

- the accounting system is accurate and reliable in accordance with EU RED
- the accounting of renewable components included in the Nordic Swan Ecolabelled fuel is correct
- the Nordic Swan Ecolabelled fuel meets requirement O2 (material composition) and requirement O9 (reduction of greenhouse gases) based on the accounting system and deliveries accounted to the Nordic Swan Ecolabelled fuel
- the licensee can document that the volumes of renewable components match the volume of Nordic Swan ecolabelled fuel sold together with other sold volumes to other customers/customers' commitments[5]

[4] Biogas distributed on existing gas networks is exempted from this requirement, as this system uses a certified book and claim system.
[5] Customer commitments can be either customer agreement or promise to customers about a quantity and share of renewable raw materials or quantity of renewable raw materials with a promise for maximum value of climate gases (alternatively reduction of greenhouse gases).

Rules for use of the mass balance under the EU RED II (2018/2001/EU)**:**

Article 30: Verification of compliance with the sustainability and greenhouse gas emissions saving criteria.

Member States shall require economic operators to show that the sustainability and greenhouse gas emissions saving criteria laid down in Article 29(2) to (7) and (10) have been fulfilled. For those purposes, they shall require economic operators to use a mass balance system which:

(a) allows consignments of raw material or fuels with differing sustainability and greenhouse gas emissions saving characteristics to be mixed for instance in a container, processing or logistical facility, transmission and distribution infrastructure or site.

(b) allows consignments of raw material with differing energy content to be mixed for the purposes of further processing, provided that the size of consignments is adjusted according to their energy content.

(c) requires information about the sustainability and greenhouse gas emissions saving characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture, and

d) provides for the sum of all consignments withdrawn from the mixture to be described as having the same sustainability characteristics, in the same quantities, as the sum of all consignments added to the mixture and requires that this balance be achieved over an appropriate period of time.

The mass balance system shall ensure that each consignment is counted only once in point (a), (b) or (c) of the first subparagraph of Article 7(1) for the purposes of calculating the gross final consumption of energy from renewable sources and shall include information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

The mass balance system described in Article 30 (1) of Directive (EU) 2018/2001 describes a system in which the “sustainability characteristics” remain assigned to “physical consignments”. Sustainability characteristics are e.g.

- evidence showing compliance with the Directive“s sustainability criteria, and/or
- a statement that the raw materials used were obtained in a way that complies with the Directive“s land related sustainability criteria, and/or
- a greenhouse gas emission figure, and/or
- a description of the raw materials used while preserving product identity as well as their origin, and/or
- the statement “production has been awarded a certificate of type X from recognised voluntary scheme Y”, etc.
- where relevant, information on whether support has been provided for the production of that consignment, and if so, on the type of support scheme.

Sustainability characteristics would have to include information on the country of origin of the feedstock if several countries of origin can be specified for a specific consignment.

Please note that only actual GHG emission values are to be recorded/transmitted along the supply chain in the appropriate unit (i.e., dry matter basis for raw materials and intermediate products). Furthermore, actual values for each specific element must be reported (if appropriate). If (disaggregated) default values are applied, then it should simply be stated "(Disaggregated) default value applied" or similar.

Gas transmission and distribution infrastructure

Biogas is – if not consumed directly on-site for the purpose of electricity production – upgraded to biomethane (additional conversion step) and injected into the natural gas grid. The gas grid represents a 'mean of transport' and a 'storage facility' at the same time. Therefore, biomethane can be mixed in this transmission and distribution infrastructure (gas grid), provided the infrastructure is interconnected.

The physical input (injection) and output (withdrawal) of gas must be documented by economic operators as part of their mandatory mass balance records which are essential for the certification process.

Traders of biogas must establish their own accounting grid. All European member states have defined regions for which a specific accounting grid has to be established. A region could cover the whole country (e.g., Denmark), but can also be defined on a lower level (e.g., Italy) where a country is split into several regions. The accounting grid must contain all movements of biogas accounted and certified under the REDcert-EU scheme and is therefore essential for mass balancing. Market operators must grant full access to the accounting grid and all related documentation for auditors during a certification process prior to an audit.

A transfer of biogas from one country to another country via the gras grid is only possible if all countries involved (this includes transferring countries) are connected to the European gas grid. The current status of the European gas grid can be accessed via the 'system development map3' map published by the Gas Infrastructure Europe (GIE). If a market operator located in a country which is not connected to the European gas grid or is connected to an isolated gas grid ('island grid') wants to import biogas for the purpose of fulfilling the GHG quota obligation he must prove a physical transport of the gas by other means of transport to his location/the location of consumption or the injection point of the isolated grid.

In order to transfer natural or biogas via the grid into another country (maybe via additional countries) market operators possessing a consignment of gas are obliged to acquire sufficient and corresponding grid capacities for all affected transfer points by an authorized gas capacity trading platform (e.g., PRISMA[6]). Thus, commercial transactions of biogas between market operators via the gas

[6] see https://www.prisma-capacity.eu/ (visited February 2022)

grid must be covered by a sufficient transfer capacity corresponding in time and volume and are part of the mass balance documentation.

Where national biogas register is already established (e.g., Denmark) they shall be used for the purpose of identifying and tracking of particular consignments, too. As these registers are not fully harmonized nor available all over Europe Auditors are requested to respect the specific situation in a particular country.

Gas losses during the production and upgrading of biomethane as well as during the transmission and distribution must be taken into account for GHG emissions savings calculation where e.g., a standard industry factor can be applied for this purpose.

European Commission has in a communication informed about rules for mass balance which are[7]:

It is in relation to the final product that compliance with the requirements of the Directive need to be shown. To show this, claims will need to be made about the raw material and/or intermediate products used. The method by which a connection is made between information or claims concerning raw materials or intermediate products and claims concerning final products is known as the chain of custody. The chain of custody would normally include all the stages from the feedstock production up until the release of the fuels for consumption. The method laid down in the Directive for the chain of custody is the mass balance method[8].

The voluntary scheme should require verification of the mass balance system to be performed simultaneously with verification of correctness in respecting the scheme's criteria. This should include the verification of any evidence or systems used for the purpose of complying with the requirements of the mass balance system.

The mass balance system means[9] a system in which 'sustainability characteristics' remain assigned to 'consignments'. Sustainability characteristics could include for example:

- evidence showing compliance with the Directive's sustainability criteria, and/or
- a statement that the raw materials used were obtained in a way that complies with the Directive's land related sustainability criteria, and/or
- a greenhouse gas emission figure, and/or
- a description of the raw material used[10], and/or
- the statement 'production has been awarded a certificate of type X from recognised voluntary scheme Y', etc.

[7] European Commission. 2010. Communication from the Commission on voluntary schemes and default values in the EU biofuels and bioliquids sustainability scheme (2010/C 160/01)
[8] Article 18(1).
[9] According to Article 18(1).
[10] e.g. to claim a default value

When consignments with different (or no) sustainability characteristics are mixed[11], the separate sizes[12] and sustainability characteristics of each consignment remain assigned to the mixture[13]. If a mixture is split up, any consignment taken out of it can be assigned any of the sets of sustainability characteristics[14] (accompanied with sizes) as long as the combination of all consignments taken out of the mixture has the same sizes for each of the sets of sustainability characteristics that were in the mixture.

A 'mixture' can have any form where consignments would normally be in contact, such as in a container, processing or logistical facility or site (defined as a geographical location with precise boundaries within which products can be mixed).

The balance in the system can be continuous in time, in which case a 'deficit', i.e., that at any point in time more sustainable material has been withdrawn than has been added, is required not to occur. Alternatively, the balance could be achieved over an appropriate period of time and regularly verified. In both cases it is necessary for appropriate arrangements to be in place to ensure that the balance is respected

[11] When consignments with the same sustainability characteristics are mixed only the size of the consignment is adjusted accordingly. Sustainability characteristics are likely to be the same where the same feedstocks are used, and use is made of 'default values' or 'regional actual values'.
[12] Where a processing step or losses are involved, appropriate conversion factors should be used to adjust the size of a consignment accordingly.
[13] Thus, if the characteristics include different figures on greenhouse gas emissions they remain separate; these figures cannot be averaged for the purpose of showing compliance with the sustainability requirements.
[14] This means that when a 'sustainability characteristic' would be the description of the feedstock, e.g., 'rapeseed', this characteristic can be different from what the consignment physically contains, e.g. a mix of rapeseed and sunflower oil.

Appendix 2 Declaration of raw materials not allowed to use in Nordic Swan Ecolabelled liquid and gaseous fuels

Applicant name:

It is hereby declared that:

a) raw materials defined as food- and feed crops is not used in the production of liquid and gaseous fuels.

The requirement does not cover feedstock defined as non-food cellulosic material or residues and waste product generated form the cultivation of food- and feed crops.

And

b) palm oil and soybean oils, including by-products, residues and waste fractions from palm and soybean oil industries (e.g., Palm Fatty Acid Distillate: PFAD, Palm Effluent Sludge: PES and soybean meal) is not used in the production of liquid and gaseous fuels.

The requirement does not cover residues and waste products generated by households or commercial, industrial- or institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose.

Applicant's signature:

Date:	Company Name:
Responsible person:	Responsible persons signature:

Appendix 3 Declaration of GMO raw materials

Name of feedstock:
Name of supplier:

It is hereby declared that raw materials used in Nordic Swan Ecolabelled fuels is not genetically modified*.

* *Genetically modified organisms are defined in EU Directive 2001/18.*

This requirement does not include residuals or waste defined according to the Renewable Energy Directive (2018/2001/EC), however not by-products, residues and waste fractions from palm and soybean oil industries (e.g., Palm Fatty Acid Distillate: PFAD, Palm Effluent Sludge: PES and soybean meal).

Applicant's signature:

Date:	Company Name:
Responsible person:	Responsible persons signature:

Appendix 4 Analysis and test laboratories

General requirements for test and analysis laboratories

Tests must be carried out in a correct and competent way. The analysis laboratory/test institute must be impartial and professional.

If accreditation is not separately required, the test and/or analysis laboratory must comply with the general requirements of the EN ISO 17025 standard for the quality control of test and calibration laboratories or have official GLP status.

The applicant's laboratory can be approved if it is accredited and complies with the requirements of the standard EN ISO 17025.

When testing quality and performance properties, the applicant's own laboratory can be approved even if it is not accredited. The following applies:

- The laboratory has a certified quality system (ISO 9001) which includes testing, and
- The laboratory can show that the test results obtained are similar to the results from an accredited test laboratory through initial tests performed as parallel tests. Parallel tests must as a minimum be performed when test standards are updates, and
- The laboratory performs the tests in accordance with an established plan for the current test standard and documents the selection of products in a product series for worst case tests, and
- An independent inspection body shall, on the basis of test reports, confirm that the manufacturer's test results are consistent with the results of an accredited laboratory. This can, for example, be evaluated as part of an inspection of the laboratory's quality system carried out by the inspection body for certification of the quality system.