Nordic Ecolabelling of

Liquid and gaseous fuels



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Consultation proposal

Nordic Ecolabelling

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099 Liquid and gaseous fuels, generation 3.0, 07 February 2017

This document is a translation of an original in Danish. 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 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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It may be quoted from provided that Nordic Ecolabelling is stated as the source.

What is a Nordic Ecolabelled liquid or gaseous fuel?

Nordic Ecolabelled liquid and gaseous fuels for transport (road, sea and air) contain at least 60% renewable resources derived from sustainably produced and controlled sources. Up to 10% of the total fuel mix may be so-called first generation biofuels. Biogas and liquid fuels for heating and industrial use are required to contain 100% renewable resources to be Nordic Swan Ecolabelled. In the case of liquid fuels, the fuel is required to physically comply with the share of renewable resources all the way to the filling station (the pump). The use of mass balance is permitted for biogas that is distributed through the existing gas grid. The use of problematic feedstocks, such as palm oil, soy oil and sugarcane and unconventional fossil fuel sources, such as crude oil from tar sands, is not permitted in Nordic Swan Ecolabelled fuels. From a life cycle perspective, a Nordic Swan Ecolabelled fuel has low greenhouse gas emission levels that are stricter than the limits stipulated by EU regulations. Nordic Ecolabelled liquid and gaseous fuels live up to recognised fuel standards in order to guarantee good combustion characteristics.

Nordic Swan Ecolabelled liquid and gaseous fuels:

- Contain a high share of renewable energy - e.g. forest and agricultural crops or residues and waste products, such as straw, manure and household waste
- Contain sustainably produced feedstocks - to conserve the earth's resources and biodiversity
- From a life cycle perspective, have low greenhouse gas emissions - to reduce the impacts of climate change
- Comply with recognised fuel standards - ensuring they have good combustion characteristics

Why choose the Nordic Ecolabel?

- Liquid and gaseous fuels may use the Nordic Ecolabel trademark for marketing. The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a simple way of communicating environmental work and commitment to customers.
- The Nordic 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 Ecolabel not only covers environmental issues but also quality require¬ments, since the environment and quality often go hand in hand.

This means that a Nordic Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Ecolabel?

The product group comprises liquid and gaseous fuels for transport (road, sea and air), heating and industrial purposes. The material in the fuels consists of renewable energy or blends of renewable energy sources and fossil fuels.

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 electriciry, hydrogen, lubricating oils orfirelighting products.

How to apply

Application and costs

For information about the application process and fees for this productgroup, please refer to the respective national web site. For addresses see page 2.

What is required?

The application must consist of an application form/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

🔑 The 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.

License validity

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

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

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 2 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 Production 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 purposes the fuel is intended for. It must also be described whether the finished fuel is only sold on the market in its pure form or whether it also may be included as a component in a composite product.
- 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 supplier chain for both the renewable fuels and fossil fuels all the way to the filling station. 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 liquid fuels for transport, 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 Resources

O2 Material composition

Fuels for transport (road, air and sea)

Fuels for transport (road, air and sea) must be based on at least 60% biofuels from renewable raw materials. Up to 10% of the total fuel-mix may be so-called first generation biofuels.

Exception:

- Ethanol is excempted from the requirement to reduce the proportion of renewable raw materials from first generation technology.

Biogas and liquid fuels used for heating and industrial purposes

Biogas and liquid fuels that are used for heating and industrial purposes must be made from 100% renewable feedstocks. Up to 10% of the renewable raw materials may be so-called first generation biofuels. Any additives and gases that are added to the total amount up to 10% by volume to increase the calorific value of the biogas must not be included.

In the case of liquid fuels, the fuel is required to physically comply with the share of renewable raw materials all the way to the filling station (the pump).

Certified traceability is required for gaseous fuels distributed through existing gas grids. A documented traceability scheme reviewed by an external auditor is alternatively acceptable.

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. An external audit must also be conducted annually to verify that the total purchased quantity of biogas is equal to the quantity of biogas in the Nordic Swan Ecolabelled gas that is sold.

The volume of renewable raw materials in the Nordic Swan Ecolabelled fuel must be documented annually using a mass balance system as required by the Renewable Energy Directive (2009/28/EC) and the guidelines set out in Appendix 1.

The applicant must declare all relevant feedstocks used to produce the fuel.

The definition of first generation and advanced biofuels can be found under "Terms and definitions".

For a liquid fuel, a 2% reclassification is accepted in total for all filling stations under one licence a year.

✉ Calculation and documentation showing compliance with material composition and traceability requirements.

✉ The applicant must declare all relevant feedstocks that are used to produce the Nordic Swan Ecolabelled liquid or gaseous fuels.

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

2.1 Requirements concerning vegetable and animal feedstocks

O3 Traceability and control of vegetable and animal feedstocks

The licensee must:

- ensure that vegetable feedstocks are traceable
- ensure that the feedstock does not originate in areas with high bio-diversity value (as defined in detail in Article 17, paragraph 3 of the Renewable Energy Directive (2009/28/EC))
- ensure that the feedstock does not originate in areas with a high carbon stock (as defined in Article 17, paragraphs 4 and 5 of the Renewable Energy Directive (2009/28/EC))

If imported renewable feedstocks are used, they must be certified by one of the European Commission's approved voluntary certification schemes[1] for documentation of the EU's sustainability criteria under the Renewable Energy Directive (2009/28/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 (2009/28/EC).

The requirement does not cover by-products or waste defined in the ILUC Directive (EU) 2015/1513.

[1] https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes, accessed 18 November 2016

✉ Copies of relevant certificates or other documentation showing compliance with the requirements. Documentation/declaration from the body that has inspected and approved compliance with the Renewable Energy Directive (2009/28/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.

O4 Tree species that may not be used in Nordic Swan Ecolabelled liquid and gaseous fuels

Species of trees on the Nordic Swan Ecolabel list of protected tree species* may not be used in Nordic Swan Ecolabelled liquid and gaseous fuels. The requirement only applies to virgin forest species and not species defined as recycled material, see requirements O5.

*The complete list of protected tree species is available for viewing at: www.nordic-ecolabel.org/wood/

✉ Declaration from applicant/manufacturer of compliance with the requirement for tree species that may not be used in Nordic Swan Ecolabelled liquid and gaseous fuels. Appendix 2 may be used.

O5 Wood raw material

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

Chain of Custody certification

Suppliers of wood raw materials must have Chain of Custody certification under 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% of wood raw materials used in the Nordic Swan Ecolabelled liquid or gaseous fuels (virgin and/or recycled material) must be certified as sustainably forested under the FSC or PEFC schemes or be recycled material*.

The remaining percentage of wood raw materials must be covered by the FSC/PEFC compliance schemes or be recycled material.

The requirement must be documented as annual purchases of wood.

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

"Pre-consumer" is defined as material that is reclaimed from the waste stream during a manufacturing process. Re-use of materials, that are processed or crushed, or waste, that has been produced in a process and can be reclaimed in the same manufacturing process that generated it, is not considered to be pre-consumer reclaimed material.

"Post-consumer" is defined as material 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. This includes materials from the distribution chain.

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

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

✉ A valid FSC/PEFC Chain of Custody certificate from all suppliers that covers all wood raw materials used in the Nordic Swan Ecolabelled liquid and gaseous fuels. (Suppliers who only supply recycled materials are exempted from this requirement).

✉ Declaration of compliance with the requirement for the percentage of certified material or recycled material.

O6 Renewable raw materials not alloved to use in Swan labelled liquid and gaseous fuels

Renewable raw materials from palmoil, soybean oils and sucar cane must not be used in Nordic Swan labelled liquid and gaseous fuels. The requirement also includes by-products, residues and waste fractions from palm and soybean oil industries (e.g. Palm Fatty Acid Distillate: PFAD 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, soybean oil and sugar cane. Appendix 3 may be used. Nordic Ecolabelling reserves the right to require further documentation in the event of uncertainty about fulfilment of the requirement.

O7 Genetically modified plants

Raw materials from pesticide-tolerant and insect-resistant genetically modified plants are not permitted to use in a Nordic Ecolabelled fuel.

This requirement does not include residuals or waste defined according to the RES (2009/28/EC), however not by-products, residues and waste fractions from palm and soybean oil industries (e.g. Palm Fatty Acid Distillate: PFAD and soybean meal).

✉ Declaration from the raw material supplier of compliance with the requirement. Appendix 4 may be used.

2.2 Requirement concerning fossil fuels

O8 Unconventional fossil fuels

Fossil components in the Nordic Swan Ecolabelled liquid or gaseous fuel must not be based on tar sand, shale oil, shale gas or coal.

The requirement does not cover gas distributed in existing gas grids.

See Terms and definitions for a definition of unconventional fossil fuel sources.

✉ Both the applicant and supplier of fossil fuels shall provide declarations of compliance with the requirement concerning unconventional fossil fuels. Appendix 5 may be used.

3 Requirements for greenhouse gas emission savings

O9 Reduction of greenhouse gases

The renewable amount of the Nordic Swan Ecolabelled fuel must reduce greenhouse gas emissions in the entire production chain, from the production of feedstocks to the filling station, by 70% for advanced biofuels and 75% for first generation biofuels compared with the corresponding fossil fuels.

Calculations of greenhouse gas emission savings must comply with Articles 17-19 of the Renewable Energy Directive and its Appendix V.

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.

If the Nordic Swan Ecolabelled fuel is a blend of several components or components from different suppliers, the greenhouse gas emissions must be a weighted average of the constituent renewable components.

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.*

✉ Present data for greenhouse gas emission savings for the Nordic Swan Ecolabelled mix of renewable fuel components, including the GHG performance of the components in the last six-month period at the time of application. The data must be reviewed and approved by an independent third party.

4 Requirements for working conditions

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. This requirement applies to both renewable and fossil components in the Nordic Swan Ecolabelled fuel:

- 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 Compact[2], 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)

[2] http://www.unglobalcompact.org

- 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.

✉ 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 of its feedstock- and fuel suppliers.

5 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 final product.

Liquid fuels for road transport* must meet the relevant fuel standards and fuel quality standard (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 shipping must meet the requirements of the ISO 8217:2012 standard and the European Union's Sulphur Directive (2012/33/EC).

Fuels for air transport must meet the requirements of the ASTM D7566 standard.

Liquid fuels for heating and industrial purposes must meet the requirements of the EN 14214 (biodiesel) or the EN15376 (ethanol) standards.

If a licensee can demonstrate that the end user of the fuel (e.g. bus company, shipping company, airline, car pool, etc. with their own pumps) accepts this, the licensee may, following approval by Nordic Ecolabelling, be allowed to use the Nordic Swan Ecolabel without meeting specified fuel standards.

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

The requirements concerning test laboratories and test instructions are stated in Appendix 6.

Liquid fuels:

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

✉ An analysis report and an attestation statement from a 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 for transport/heating/industrial purposes:

✉ Biogas for transport/heating/industrial purposes: A declaration from the national regulatory authority stating that the gas is compliant with the gas quality requirements of the regulatory authority or the system operators.

6 Quality and official requirements

To ensure that the Nordic Swan Ecolabel requirements are met, the following procedures must be implemented. If the manufacturer/licensee has a certified environmental management system in accordance with ISO 14 001 or EMAS in which the following procedures are implemented, it is sufficient for the accredited auditor to confirm that the requirements are being implemented. This does not apply, however, to requirement O19.

O12 Person responsible for the Nordic Swan Ecolabel

The company shall appoint individuals who are responsible for ensuring compliance with the requirements of the Nordic Swan Ecolabel, for marketing and for finance, and a contact person for communications with Nordic Ecolabelling.

✉ Organisational chart showing who is responsible for the above.

O13 Documentation

The licensee must archive the documentation that is sent in with the application or, in a similar way, store the information in the Nordic Swan Ecolabelling data systems.

🔑 This is checked on site as necessary.

O14 Product quality

The licensee must guarantee that the quality of the Nordic Swan Ecolabelled liquid or gaseous fuel is maintained throughout the validity period of the licence.

🔑 Claims archive. On-site inspection.

O15 Planned changes

Written notice of planned product and marketing changes that affect the Nordic Swan Ecolabelling requirements must be given to Nordic Ecolabelling.

✉ Procedures detailing how planned product and marketing changes are dealt with.

O16 Unforeseen non-conformities

Unforeseen non-conformities that affect the Nordic Swan Ecolabel requirements must be reported in writing to Nordic Ecolabelling and logged.

✉ Procedures showing how unforeseen non-conformities are handled.

O17 Traceability

The licensee must have a traceability system for the production of the Nordic Swan Ecolabelled liquid and gaseous fuels.

☒ Procedures explaining how the requirement is met.

O18 Laws and regulations

The licence holder must guarantee adherence to relevant laws and regulations at all production sites for the Nordic Swan Ecolabelled products. For example, concerning safety, working environment, environmental legislation and plant-specific conditions and concessions.

☒ Duly signed application form.

O19 Annual report on material composition, mass balancing and greenhouse gas emission savings

Compliance of the Nordic Swan Ecolabelled products with the material composition and mass balancing (requirement O2) and greenhouse gas savings (requirement O9) must be reported annually. The reports must be audited and approved by independent third parties.

☒ Annually report material composition andmass balance data and greenhouse gas savings data for the Nordic Swan Ecolabelled fuels, including the GHG performance of the constituent components over the past year. The data must be audited and approved by an independent third party.

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.ecolabel.dk/retningslinjer

Follow-up inspections

Nordic Ecolabelling may decide to check whether liquid or gaseous fuel fulfils Nordic Ecolabel requirements during the licence period. This may involve a site visit, random sampling or similar test.

The licence may be revoked if it is evident that the liquid or gaseous fuel does not meet the requirements.

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

History of the criteria

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

New criteria

As part of any future evaluation of the criteria, it will be relevant to consider the following:

- Requirements concerning renewable energy sources
- Requirements concerning greenhouse gas emissions
- Requirements for energy consumption in the production of solid fuels
- Requirements for quality aspects

Terms and definitions

Term	Explanation or definition
1. generation biofuels	Commercially produced with conventional technology. Basic Commodities are seed, grain or whole plants such as maize, sugar cane, oilseed rape, wheat, sunflower or palm oil. These plants were originally selected as human and animal feeds. The most common first generation biofuels are bioethanol, biodielsel, vegetable oils and biogas. Definitions follows ILUC Directive (EU) 2015/1513.
Advanced biofuels	Defined in the ILUC Directive (EU) 2015/1513.
Residues and waste fractions	All material and all objects that fall within the definition under the RED (2009/28 / EC) and ILUC Directive (EU) 2015/1513. Nordic Miljmærkning do not allow the use of residues and waste fractions from the palm and soy oil industry (for example, Palm Fatty Acid DESTILLAT: PFAD and soybean meal), see requirements 06.
Biodiesel	Biodiesel is a fatty acid methyl ester (FAME). It is produced from a reaction between an alcohol and vegetable or animal fats and oils. Methanol (wood alcohol) is the most frequently used alcohol although ethanol can also be used. A by-product of biodiesel production is glycerine.
Biogas	Biogas is composed of about 2/3 methane (CH_4), 1/3 carbon dioxide (CO_2), and hydrogen sulphide (H_2S) and a tiny amount of hydrogen (H_2) and is formed by the decomposition of animal manure and other organic industrial or household waste in anaerobic (i.e. oxygen-free) tanks, where it is heated. Biogas can be used for the production of heat and electricity.
Biomass	The analysis applies a broad definition; all forms of biomass, including vegetable biomass (e.g. straw, wood, algae), animal biomass (e.g. livestock manure), waste water, sewage sludge and other biodegradable waste.
CO_2-eq	Carbon dioxide equivalent or CO_2 equivalent are conversion factors for comparison of the impact of different greenhouse gases on the greenhouse gas effect. It is a calculation to find how many tonnes of CO_2 are needed to have the same effect as a tonne of another gas over a given time frame (see GWP below). That figure is the CO_2 equivalent of the gas.

Fossil fuels	Fuels produced from fossil raw materials such as oil, natural gas and coal.
Fuel component	E85 is an example of a product which consists of two fuel components - a fossil component of 15% and deb bio-based component of 85%.
LNG	Liquefied Natural Gas.
CNG	Compressed Natural Gas.
LPG	Liquefied Petroleum Gas.
Greenhouse gases	Atmospheric gases that allow sunlight to pass through the atmosphere, but captures the Earth's heat radiation and returns a part of it. Greenhouse gases in the atmosphere is so crucial to the average temperature. There are a number of gases that contribute to this heating, including CO2, CH4 and N2O.
GWP	Global Warming Potential: GWP is an index that attempts to quantify the relative impacts of different greenhouse gases on global warming. GWP is measured over a specific period of time, generally 20, 100 or 500 years. GWP is expressed as a factor of carbon dioxide (whose GWP is standardised to 1). For example, methane has a GWP of 86 over 20 years, which means that if the same mass of methane and carbon dioxide was added to the atmosphere, methane would trap 86 times more heat than carbon dioxide in the next 20 years.
ILUC	Indirect Land Use Change is about the indirect consequences of using biomass to produce energy. Indirect effects are triggered, for example, if the amount of timber from the area is reduced and another location (possibly in another country) in the supply chain has to be used to maintain the supply of timber.
Reclassification	Reclassification is when the wrong product is delivered to a filling station.
RED	Renewable Energy Directive (RED) (2009/28/EU).
LUC	Land Use Change is about the direct consequences of extracting biomass from a specific area to produce energy. Direct effects are, for example, a reduction in the carbon stock in the area.
RME	Rapeseed Methyl Ester.
Unconventional fossil raw materials	Unconventional fossil raw materials are defined as raw materials are expensive to produce, since these geological interest are difficult to access. Under this definition, this includes bitumen or crude oil from tar sands, extra heavy oil and crude oil or pyrolysis oil from shale.

	Energy Research Architecture (ERA) define also liquid fuels produced from coal (Coal two Liquied, CTL) and natural gas (Gas to Liquied, GTL) as unconventional ingredients[3].
WtW	Well-to-Wheel is a specific life-cycle analysis that assesses the path of a fuel from its production (Well) through to its combustion or deployment (Wheel). The focus is on the flow of the energy through the system. WtW basically assesses the energy consumption but also analyses the resulting emissions as well as the costs and benefits from welfare and economic points of view.
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.
FQD	Fuel Quality Directive (FQD) 98/70 EC).
Drop-in fuel	A biofuel product that can be directly blended with conventional fuels (diesel and gasoline) in any ratio.
FAME	Fatty Acid Methyl Ether – a biodiesel product that can be blended with diesel. FAME does not have the same chemical properties as diesel, which places restrictions on the amount that different diesel engines can tolerate.
Renewable raw materials	Renewable raw materials are biological materials that are reproduced continuously in nature. It includes the biodegradable fraction of products, vegetable waste and residues from agriculture, sustainable forestry and similar industries, as well as animal waste and the biodegradable fraction of industrial and municipal waste.
Fischer-Tropsch	A catalytic process that converts syngas into diesel oil.

[3] ERA (Energy Research Architecture): The impact of fossil fuels, greenhouse gas emissions, environmental consequences and socio-economic effects, 2009

Appendix 1 Guidelines for using mass balance

Documentation for the share of renewable raw materials in the Nordic Eco-labelled fuel must be done on an annual basis using the mass balance under the RED (2009/28/EC). Nordic Ecolabelling does not allow:

- trading with certificates, eg. "Book and claim"
- allocation between renewable and fossil

Apart from that there is:

- prohibiting the use of a variety of tree species specified in requirement O4.
- ban on the use of renewable raw materials from palm oil, soybean oil and sugar cane. The requirement also includes by-products, residues and waste fractions from the palm and soy oil industry (for example, Palm Fatty Acid Destillat: PFAD and soybean meal), requirements O6.

If certificates (voluntary certification schemes) is 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.

Rules for use of the mass balance under the RED (2009/28/EC):

According to the mass balance method of verifying compliance, there is a physical link between the production of biofuels and bioliquids meeting the sustainability criteria and the consumption of biofuels and bioliquids in the Community, providing an appropriate balance between supply and demand and ensuring a price premium that is greater than in systems where there is no such link. Economic operators shall show that the sustainability criteria set out in Article 17(2) to (5) have been fulfilled. For that purpose they shall require economic operators to use a mass balance system which:

(a) allows consignments of raw material or biofuel with differing sustainability characteristics to be mixed;

(b) requires information about the sustainability characteristics and sizes of the consignments referred to in point (a) to remain assigned to the mixture; and

(c) 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.[4]

European Commission has in a commuication informed about rules for mass balance which are[5]:

[4] Renewable Energy Directive (RED, 2009/28/EC)
[5] 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)

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[6].

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[7] 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[8], and/or
- the statement 'production has been awarded a certificate of type X from recognised voluntary scheme Y', etc.

When consignments with different (or no) sustainability characteristics are mixed[9], the separate sizes[10] and sustainability characteristics of each consignment remain assigned to the mixture[11]. If a mixture is split up, any consignment taken out of it can be assigned any of the sets of sustainability characteristics[12] (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).

[6] Article 18(1).
[7] According to Article 18(1).
[8] e.g. to claim a default value
[9] 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'.
[10] Where a processing step or losses are involved, appropriate conversion factors should be used to adjust the size of a consignment accordingly
[11] 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.
[12] 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.

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

Appendix 2 Declaration of tree species not permitted to be used in Nordic Ecolabelled liquid og gaseous fuels

Name of the Nordic Ecolabel applicant:
Product grop/-type:
Version and date of the list of prohibited tree species used:

It is hereby declared that tree species listed in the list of prohibited tree species (Nordic Ecolabelling - Prohibited Wood) is not used in the Swan-labelled product. The requirement only applies to virgin forest species and not species defined as recycled material,*

The list of prohibited tree species is located on the website: www.nordic-ecolabel.org/wood/

Nordic Ecolabelling may request further information if in doubt about specific tree species.

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

"Pre-consumer" is defined as material that is reclaimed from the waste stream during a manufacturing process. Re-use of materials, that are processed or crushed, or waste, that has been produced in a process and can be reclaimed in the same manufacturing process that generated it, is not considered to be pre-consumer reclaimed material.

"Post-consumer" is defined as material 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. This includes materials from the distribution chain.

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

Applicant / manufacturer / supplier's signature:

Date:	Company Name:
Responsible person:	Telephon number:
E-mail:	

Appendix 3 Declaration for renewable raw materials not alloved to use in Nordic Ecolabelled liquid and gaseous fuels

Applicant's name:

It is hereby declared that renewable raw materials from palmoil, soybean oils and sucar cane is not used in Nordic Ecolabelled liquid or gaseous fuels. The requirement also includes by-products, residues and waste fractions from palm and soybean oil industries (e.g. Palm Fatty Acid Distillate: PFAD 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.

Applicant's signature:

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

Appendix 4 Declaration of genetically modified plants not alloved to use in Nordic Ecolabelled liquid and gaseous fuels

Name of the feedstock:
Name of the supplier:

It is hereby declared that raw materials from pesticide-tolerant and insect-resistant genetically modified plants is not used in the Nordic Ecolabelled liquid or gaseous fuels.

This requirement does not include residuals or waste defined according to the RES (2009/28/EC), however not by-products, residues and waste fractions from palm and soybean oil industries (e.g. Palm Fatty Acid Distillate: PFAD and soybean meal).

Applicant's signature:

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

Appendix 5 Declaration for unconventional fossil fuels

The declaration shall be signed both by the applicant and producer/supplier of the share of fossil fuel.

Producer/supplier of fossil fuel:

It is hereby declared that the specified fossil components in the Nordic Swan Ecolabelled liquid or gaseous fuel is not be based on tar sand, shale oil, shale gas or coal.

The requirement does not cover gas distributed in existing gas grids.

Producer/supplier's signature:

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

Applicant of the Nordic Ecolabelled liquid or gaseous fuel:

It is hereby declared that the specified fossil components in requirement 08 (Unconventional fossil fuels) are not present in the Nordic Ecolabelled fue.

The requirement does not cover gas distributed in existing gas grids.

Applicant's signature:

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

Appendix 6 Analysis and test laboratories

Test of quality specifications must be performed by laboratories that fulfil the general requirements in standard EN ISO/IEC 17025 or have official GLP status. A non-accredited laboratory may perform tests if the laboratory has applied for accreditation according to the current testing method, but has not yet been granted approval, or if accreditation is not available for the technical specification or proposed standard. In such case, the laboratory must prove that it is an independent, competent laboratory.

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

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

Appendix 7 Directions for raw material standards and certification schemes

Nordic Ecolabelling sets requirements on the standards to which feedstock is certified. These requirements are described below. Each individual raw material standard or certification scheme is reviewed by Nordic Ecolabelling as to fulfilment of the requirements. When a raw material standard is revised, it is re-reviewed.

Requirements on raw material standards

- The standard must balance economic, ecological and social interests and comply with the Rio Declaration's forestry principles, Agenda 21 and the Forest Principles, and respect relevant international conventions and agreements.
- The standard must contain absolute requirements and promote and contribute towards sustainable cultivation of raw materials. Nordic Ecolabelling places special emphasis on the standard including effective requirements to protect the forest from illegal felling and that the requirements protect the biodiversity of the forest.
- The standard must be available to the general public. The standard must have been developed in an open process in which stakeholders with ecological, economic and social interests have been invited to participate.

The requirements related to standards are formulated as process requirements. The basis is that if stakeholders agree on the economic, social and environmental aspects of the forestry standard, this safeguards an acceptable requirement level.

If a standard is developed or approved by stakeholders with ecological, economic and social interests, the standard may maintain an acceptable standard. Accordingly, Nordic Ecolabelling requires that the standard balances these three interests and that representatives from all three areas are invited to participate in development of the standard.

The standard must set absolute requirements that must be fulfilled for the certification of the forestry. This ensures that the forest management fulfils an acceptable level regards the environment. When Nordic Ecolabelling requires that the standard shall "promote and contribute towards sustainable cultivation", the standard must be assessed and revised regularly to initiate process improvement and successively reduce environmental impact.

Requirements on certification system

- The certification system must be open, have significant national or international credibility and be able to verify that the requirements in the forestry standard are fulfilled.

Requirements on certification body

- The certification body must be independent, credible and capable of verifying that the requirements of the standard have been fulfilled. The certification body must also be able to communicate the results and to facilitate the effective implementation of the standard.

The purpose of certification is to ensure that the requirements regarding raw material standards are fulfilled. The certification system must be designed to verify that the requirements of the forest standard are fulfilled. The method used for certification must be repeatable and applicable to forestry. Certification must be in respect to a specific raw material standard. The forest must be inspected prior to certification.

Requirements on Chain of Custody (CoC) certification

- Chain of Custody certification must be issued by an accredited, competent third party (as for forest certification).
- The system shall stipulate requirements regarding the chain of custody that assure traceability, documentation and controls throughout the production chain.

Documentation

Copy of raw material standard, name, address and telephone number to the organization who has worked out the standard and audit rapports.

References to persons who represents stakeholders with ecological, economic and social interests who have been invited to participate.

Nordic Ecolabelling may request further documents to examine whether the requirements of the forestry standard and certification system in question can be approved.