

Nordic Ecolabelling of
Biofuel pellets



Version 2.1 • 13 December 2007 – 31 December 2014



Nordic Ecolabelling

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This document is a translation of an original in Swedish.

In case of dispute, the original document should be taken as authoritative.

Addresses

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

Denmark

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What are Nordic Ecolabelled biofuel pellets?

The Nordic Ecolabelling of pellets includes requirements on manufacturing methods, transportation and storage. The aim is to identify the top-grade quality from an environmental perspective. The quality of the pellets shall mean that they are easy to use and thus meet the end-users' wishes when converting to a renewable energy source that reduces the emission of greenhouse gases. In addition, the energy required to manufacture the pellets is limited to ensure the energy efficiency. Finally the combustion shall not entail a risk to health or the environment.

It is possible to Nordic Ecolabel biofuel pellets intended primarily for private use in small to medium-scale burners. These boilers and stoves are often used in built-up areas.

To minimise the effects of emissions on health and the environment, combustion must be optimised. This means that the pellets must be of a consistent, non-perishable grade, and that the size of the pellets must be suitable for the fireplace. Physical properties, such as density, size and moisture content, must not vary too greatly.

Why choose the Nordic Ecolabel?

- The manufacturer and reseller may use the Nordic Ecolabel trademark, the Swan, for marketing. The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way to communicate that a biofuel is among the best on the market from an environmental viewpoint, that it has been tested by a third-party laboratory, and which manufacturers are successively developing biofuels for heat sources suitable for a sustainable society.
- Nordic Ecolabelling enables manufacturers to reach a growing number of professional and domestic users who wish to reduce their impact on the environment. The use of Nordic Ecolabelled boilers and stoves together with Nordic Ecolabelled fuel pellets minimises impact on the environment when heating residential housing and other premises.
- Environmental issues are complex and it is difficult to compare the various parameters. For a long time, municipalities and other users have sought an aid that provides credible evaluations. The Nordic Ecolabel leads the way.

What can carry the Nordic Ecolabel?

These criteria enable the Nordic Ecolabelling of biofuel pellets that are suitable for use in boilers and stoves for private use. The boilers can however be so large that they are suitable for heating a small apartment block, school or similar. Nordic Ecolabelled boilers or stoves provide the optimum conditions for combustion.

Nordic Ecolabelled fuel pellets are made of pure wood.

How to apply

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

Icons in the text

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

- ☒ Submit the documents to the ecolabelling body.
- ℙ Requirement checked on site at the manufacturer's premises.
- ☑ Submit procedure in environmental and quality management system.

Who can apply for a licence?

Manufacturers, importers and resellers can apply for a licence. The manufacturer must always sign the application. The application shall specify the grade that the manufacturer intends to Nordic Ecolabel, i.e. pellet class, size and density.

Application

The application shall be sent to Nordic Ecolabelling in the country in which the biofuel pellets are manufactured, if in a Nordic country. See page 2 for addresses. In other cases, the application shall be sent to Nordic Ecolabelling in the country in which the pellets are sold. The documents required for application are an application form and documentation demonstrating fulfilment of the requirements (specified in the criteria).

There is also an electronic checklist (www.svanen.se) to facilitate this procedure.

On-site inspection

As part of the application procedure, Nordic Ecolabelling inspects the plant at which the biofuel pellets are manufactured. This inspection covers, among other things, the relevant sections of the quality assurance process and documented procedures. In addition, documents supporting the application must be available at the manufacturer's premises.

Costs

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the revenues produced by the pellets carrying the Nordic Ecolabel.

Enquiries

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

1 **Manufacture**

1.1 **Environmental and quality control**

R1 Nordic Ecolabel licence administrator

The company shall appoint an administrator at the manufacturing plant who is responsible for ensuring the fulfilment of Nordic Ecolabel requirements, and a contact person for communications with Nordic Ecolabelling.

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

R2 Documentation

The manufacturer must be able to present a copy of the application, and factual and calculation data supporting the documents submitted on application (including test reports, documents from suppliers and suchlike).

🔍 Checked on site.

R3 Fuel pellet grade

The manufacturer must guarantee that the quality of Nordic Ecolabelled fuel pellets taken from a specified test point (see R18) is maintained throughout the validity period of the licence.

📖 Procedures for collating and, where necessary, dealing with claims and complaints regarding the quality of the Nordic Ecolabelled fuel.

R4 Planned changes

Written notice must be given to Nordic Ecolabelling of planned changes that may lead to non-fulfilment of Nordic Ecolabel requirements.

📖 Procedures detailing how planned changes are handled.

R5 Unplanned nonconformities

Unplanned nonconformities that may lead to non-fulfilment of Nordic Ecolabel requirements must be reported to Nordic Ecolabelling in writing and journalled.

📖 Procedures detailing how unplanned nonconformities are handled.

R6 Traceability

Purchased raw materials and pellets in production must be traceable.

📖 Description of/procedures for the fulfilment of the requirement.
Documentation relating to purchased raw materials and arrivals dates to the plant must be available at the plant.

1.2 Regulatory requirements

R7 Take-back system

Relevant national regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Nordic countries in which the Nordic Ecolabelled fuel pellets are marketed.

An explanation about the directions in each Nordic country can be found in Appendix 1.

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

R8 Laws and regulations

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

- ☒ Declaration in Appendix 2.

1.3 Raw materials

R9 Wood raw material

The raw materials must fulfil the current classification according to CEN/ TS 14961 class 1.2.1.1 "Chemically untreated wood residues, wood without bark" or according to 1.1.2. "Forest and plantation wood, stemwood".

Residues from wood processing that contain adhesives or other contaminants may not be used.

However, residues of processed wood may be used if pure wood elements have been bonded and the wood product contains less than 1 kg adhesive per 100 kg.

Chippings from municipal waste must not be used.

- ☒ Declaration in Appendix 3.

R10 Origin of wood raw materials

If virgin raw materials are used to manufacture the pellets, the pellets manufacturer must ensure that raw materials do not originate from forest environments meriting protection due to their high biological and/or social value. Nordic Ecolabelling may revoke a licence if it is found that wood raw materials are derived from forest environments of this type.

- ☒ Declaration in Appendix 4. Nordic Ecolabelling may request further documentation if there is any cause to suspect that virgin wood raw materials are derived from forest environments meriting protection due to their high biological and/or social value.

R11 Proportion of certified wood raw material

If virgin wood raw material is used at least 70% per annum of the raw material from virgin wood must come from certified forests. Certified forestry is forestry managed in compliance with standards fulfilling Nordic Ecolabelling requirements on sustainable forestry (see Appendix 8).

- ☒ Declaration in Appendix 4.

R12 Handling of the chip raw material

The manufacturer shall lay down requirements as to how suppliers handle the chip raw material to eliminate the risk of contamination.

Such requirements shall include instructions on the nature of the surface for storing the raw material as well as transportation and unloading.

The manufacturer must also visit the raw material supplier and document the visit in a report.

- ρ The manufacturer's requirements must be documented. Documented reports from visits to suppliers must be kept at the manufacturing plant.
- ☒ Description of the requirements that the manufacturer sets of suppliers of chip material.

R13 Additives

The use of additives is prohibited.

Exceptions: Nordic Ecolabelling may approve the use of additives if the following items are fulfilled:

- Chemically untreated biomass is used (as per CEN/TS 14961).
- The quantity of additives does not exceed 2% w/w.
- The levels of heavy metals- and the halogen content in the pellets with additives are equivalent to those in pure wood.

The manufacturer shall also demonstrate that neither emissions nor ash content are influenced from a health or environmental perspective.

Exceptions can not be given for such additives, which according to the directives of waste, can not be burned in local fireplaces.

- ☒ • Declaration in Appendix 5 if no additives are used.
- If additives are used, certification from an accredited laboratory is required as well as a laboratory test report containing emission and ash content analyses.

A laboratory that is accredited to measure emissions and perform chemical analyses shall evaluate the influence on emissions and ash contents. If the country of origin lacks an accredited laboratory, a competent, independent laboratory shall be chosen. Such a laboratory shall fulfil the requirements of EN ISO/IEC 170 25 or have official GLP status.

1.4 Energy consumption

R14 Energy consumption during manufacture

The manufacture of the pellets must not consume more than 1200 kWh of primary energy per ton of pellets.

An estimate of energy consumption shall be made. The annual average energy consumption per ton of pellets shall be specified. The different energy sources shall be specified separately.

The requirement covers the following processes: barking, chipping, drying, grinding, boiling, pressing, cooling and screening, and any intermediate stages such as electricity consumption for conveyor belts. If virgin wood chips are purchased from a supplier, the energy used by the supplier for barking and chipping shall be included in the calculation of energy consumption.

Transportation, premises and packing are exempt. The energy consumed by premises includes heating and lighting.

The standard values in the table shall be used. If national values (production country) which to be used, shall values which are used for reporting for the specific country, according to the air and climate conventions to the Commission, be used.

Standard values for fuels

| | Unit | Calorific value |
|--|-------------------------|-----------------|
| EO2-5 | GJ/m ³ | 38.16 |
| | MWh/m ³ | 10.6 |
| Natural gas | GJ/1000 m ³ | 39.74 |
| | MWh/1000 m ³ | 11.04 |
| Coal | GJ/ton | 27.21 |
| | MWh/ton | 7.56 |
| Peat | GJ/toe | 41.87 |
| Milled peat/peat 1toe =14,54 m ³ | GJ/m ³ | 2.88 |
| | MWh/m ³ | 0.8 |
| Peat | MWh/m ³ | 1.1 |
| Wood fuel | GJ/toe | 41.87 |
| | MWh/m ³ | 11.63 |

Reporting by The Environmental Protection Agency in Sweden according to the air and climate conventions.

- ☒ An estimate of energy consumption. The requirement is also checked on site. If electricity is used, the consumption in kWhel shall be multiplied by 2.5 to give the equivalent primary energy. See Appendix 6.

R15 Fuels influencing the greenhouse effect

Fuels that are used during pellets production must produce a maximum greenhouse gas contribution of 100 kg CO₂ per ton of pellets. The requirement covers the following processes: boiling and drying. The following factors shall be used in the estimation.

The standard values in the table shall be used. If national values (production country) which to be used, shall values which are used for reporting for the specific country, according to the air and climate conventions to the Commission, be used.

Emission factors for carbon dioxide

| Fuel | CO ₂ (g/MJ fuel) | CO ₂ (g/kWh fuel) |
|-------------|-----------------------------|------------------------------|
| EO2-5 | 76.2 | 274 |
| Natural gas | 56.5 | 203 |
| Coal | 93 | 335 |
| Peat | 97.1 | 350 |
| Sawdust | 0 | 0 |
| Wood log | 0 | 0 |

Standard values used by The Environmental Protection Agency in Sweden for reporting according to the air and climate conventions to the Commission

- An estimate of the influence on the greenhouse effect. See Appendix 5. Requirement also checked on site.

R16 Follow-up of energy consumption

The energy consumption shall be followed up on an annual basis, collated and documented. The various types of energy shall be followed up individually and reported as a figure per tonne of pellets.

The standard values in table R14 shall be used. If national values (production country) which to be used, shall values which are used for reporting for the specific country, according to the air and climate conventions to the Commission, be used.

- A summary using Appendix 6 shall be kept by the licensee. Requirement also checked on site.

1.5 Manufacturer's continual assessment of fuel pellet grade

Sampling for continual assessment

Sampling shall be conducted in accordance with the CEN standard, see section.

R17 Annual third-party inspection

The manufacturer is responsible for ensuring that quality is checked once each winter.

An independent, competent, third-party laboratory shall be engaged

Sampling shall be performed at the manufacturer's warehouse by a third party. All parameters in the specification must be tested, see R21. The specified methods shall be used and the results shall be processed and documented.

- ☒ The results of fuel pellet grade tests at inspections shall be documented, processed and collated. The results of the annual test must be submitted to the national body administrating the license. Requirement also checked on site.

R18 Daily inspection

The manufacturer is responsible for conducting daily inspections. Sampling shall be performed at least once each 8-hour shift, and may be preformed by the manufacturer. Samples shall be taken from the production line.

The following parameters must be tested:

- Mechanical durability
- Fines content
- Dimensions
- Density
- Moisture content

The methods specified under R21 must be used.

Alternative test methods may be used if the manufacturer can describe the differences between the method in question and the specified method. Also the manufacturer must judge that pellet grade is not affected by this choice of an alternative method.

- ⌚ The results of fuel pellet grade tests from daily inspections shall be documented, processed and collated. Requirement checked on site.

1.6 Delivery of biofuel pellets to the consumer

R19 Delivery to the consumer

To ensure that fuel delivered loose in bulk is not mechanically degraded, the manufacture must establish requirements for the transport vehicles and emptying of the pellets.

- ⌚ The manufacturer's instructions must be documented. Requirement checked on site.

- ☒ Documentation of requirements regarding vehicles and emptying.

R20 Packaging

Packaging must not contain chlorine-based plastics.

- ☒ Declaration in Appendix 7.

2 Grade specification of pellets in storage

2.1 Choosing a laboratory

Prior to application, testing shall be conducted by a third party. An accredited laboratory for the method in question must be chosen. If the country of origin lacks an accredited laboratory, a competent, independent laboratory shall be chosen. Such a laboratory shall fulfil the requirements of EN ISO/IEC 170 25 or have official GLP status.

2.2 Sampling for application

Samples for testing all limit values shall be taken from the manufacturer's stock. Sampling shall be performed as specified by CEN/TS 14778-1, 2; 14779; 14780. The time and date of sampling shall be specified in the test report. The size of the test sample must be specified for each test method.

R21 Grade specification

The following parameters must be tested and fulfilled. Samples shall be taken from the manufacturer's stocks.

| Physical properties/ Dimensions | Unit | Limit value | Test method |
|--|-------------------|--------------------------------------|-------------------|
| Size class I (CEN D06) Length in manufacturer's stock* Diameter Ø | mm mm | max 5 x Ø ≤ 6 ± 0.5 | |
| Size class II (CEN D08) Length in manufacturer's stock* Diameter Ø | mm mm | max 5 x Ø ≤ 8 ± 0.5 | |
| Bulk density | kg/m ³ | a) 630 < x ≤ 700 b) 700 < x ≤ 780 | CEN/TS 15 103 |
| Fines content < 3.15 mm | % by weight | ≤ 1 | CEN/TS 15 149-1 |
| Mechanical durability | % by weight | ≥ 97.5 | CEN/TS 15 210-1 |
| Energy density | MJ/kg kWh/kg | ≥ 17.1 ≥ 4.75 | CEN/TS 14 918 |
| Moisture content | % by weight | ≤ 10.0 % | CEN/TS 14 774-1,2 |
| Ash content of dry matter | % by weight | ≤ 0.5 | CEN/TS 14 775 |
| Ash melting behaviour | °C | IT ≥ 1300 HT ≥ 1400 | CEN/TS 15 370-1 |

* A maximum 20% (w/w) of pellets may have a length of 7.5 x Ø

| Chemical composition | Unit | Limit value | Test method |
|-----------------------|-------------|-------------|---------------|
| Total sulphur content | % by weight | ≤ 0.04 | CEN/TS 15 289 |
| Chlorine | % by weight | ≤ 0.02 | CEN/TS 15 289 |
| Nitrogen | % by weight | ≤ 0.3 | CEN/TS 15 104 |

☒ A comprehensive test report from the accredited laboratory must be submitted for all parameters. The accredited laboratory must certify that the fuel grade fulfils the specification of requirements.

3 Customer information

R22 Delivery specification

A delivery note shall be provided with each delivery. If pellets are sold in bags the etiquette shall be placed on the bag. In addition to information on the manufacturer and carrier, the delivery note shall specify:

- Dimension (size class I or II)
- Calorific value (Nordic Ecolabel limit value or measured value*)
- Ash content (Nordic Ecolabel limit value shall be used)
- Moisture content (Nordic Ecolabel limit value may be used)
- Density (class a or b)
- Information on raw materials and any additives (pure wood, and details of any additives)
- Finally, information confirming that the product is Nordic Ecolabelled shall be submitted.

** If the pellets have a higher calorific value and the manufacturer can guarantee the customer that this is the case, the manufacturer may label the pellets with this information.*

- ☒ Specified curve must be used for design of label, see appendix 10.

R23 Storage of loose fuel pellets by the consumer

If the pellets are supplied loose in bulk, the manufacturer must inform the customer of the best storage solution for the biofuel pellets to minimise pellet degradation during handling. If there is a trade recommendation, it is suitable to follow this.

In addition, the customer must be notified of the importance of a well-ventilated store.

- ☒ Example of store facility design instructions.

Marketing

The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region. Nordic Ecolabelled fuel pellets may be marketed using the Nordic Ecolabel so long as the associated licence is valid.

The label must be positioned so that there is no doubt as to what the label refers. More information on marketing can be found in "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later version.

R24 Marketing

Marketing of the Nordic Ecolabelled fuel shall comply with "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later version.

- ☒ Declaration in Appendix 7.

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



Licence number

Each licence has a unique licence number that must be displayed along with the label. The biofuel pellets consignment shall also be marked with the manufacturer's name or company logo.

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

Sales in other Nordic countries

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

- Form for registration in other Nordic countries.

Registration is free of charge but an annual fee shall be paid in accordance with the national regulations.

Follow-up inspections

Nordic Ecolabelled biofuel pellets may be checked by an independent test institute on instruction from Nordic Ecolabelling. Samples may be taken without prior notice from the manufacturer's stocks or from a purchased sack of fuel pellets.

Whenever possible, the same laboratory that conducted testing prior to application shall perform the follow-up inspection.

If the follow-up inspection reveals that the fuel does not fulfil requirements, the procedure will be repeated on a second random fuel sample. Non-fulfilment of this requirement may result in the withdrawal of the licence.

Nordic Ecolabelling is liable for the cost of the follow-up inspection if the results from the first sample fulfil the requirements. The licensee is liable for the costs if the results do not meet requirements.

How long is a licence valid?

Nordic Ecolabelling adopted the criteria for biofuel pellets Version 2.0 on 13 December 2007. The criteria are valid until 31 December 2012.

On 15 November 2011, the Secretariat Manager's Meeting decided to prolong the validity until 31 December 2014. The new version is called 2.1.

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.

New criteria

In a future review of these criteria, the following issues should be carefully examined and, if necessary, updated:

- The limits on energy consumption will be reviewed and the possibility to further limit energy use evaluated. The goal is to reduce energy consumption to at least 900 kWh per ton pellets. In addition, the influence on the greenhouse effect shall be followed up.
- The relations between calorific value and energy demand for production.
- Emissions to air from the pellets in storage. The working environment at the plant and results of storage in a residential building should be evaluated.
- The need to include different quality specifications depending of production process, which should lead to one quality for boiled pellets and one for pellets processed through pressure.
- The need to include waterabsorption as an parameter in the quality specification.
- Possibilities to extend the productgroup with fuels as wood briquets.
- The possibility to use other biomass than wood.
- Emissions from the combustion of the pellets.
- Possibilities to include requirements about a carbondioxid declaration enclosed with the Nordic Ecolabelled pellets.

Definitions

The raw materials generally used for biofuel pellets are sawdust or planer shavings from sawmills. Such raw material is denoted wood chips in this document. Virgin wood raw material may also be used extensively. The wood is chipped and ground before pelleting. Such raw material is denoted virgin wood raw material.

Fuel is defined according to Commission Decision of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. This includes energy sources such as coal, peat, oil and natural gas.

If energy from other production is used in the manufacturing process, allocation may be performed in accordance with normal practice.

Appendix 1 Producer obligations to fulfil requirements on the management of used packaging

The European Union directive on packaging and packaging waste (last amended 2004/12/EC, 11 February 2004) was adopted in 1994. The fundamental premise of the directive is that the entity that gives rise to environmental impact should also pay for this. The aim is to reduce the quantity of waste from packaging through recycling. The way in which the directive has been implemented differs between the Nordic countries. Accordingly, what is permitted in each country is described below.

A company must ensure that:

- a collection system is provided so that the consumer of a good can return the used packaging.
- consumers receive the information they need about the return, collection or recovery system.
- the collected packaging is dealt with in an appropriate manner.

Denmark: In Denmark, all businesses are required to meet municipal waste regulations. Municipalities may have different systems for waste management. Waste management fees are raised by taxes.

If a pellets producer wishes to register in Denmark, the reseller is required to fulfil the municipal waste regulations. The Danish secretariat may contact the municipality to check that the business complies with this requirement.

Finland: Companies are invited to join PYR. By paying a fee to PYR, the company fulfils its producer responsibility.

In this way, the company's responsibility is passed on to the material recovery companies. The fees finance the management of recycling stations at which consumers can deposit packaging for recovery. www.pyr.fi

Norway: Through a trade agreement with the Norwegian Environmental Protection Authority, companies have been established with the responsibility of organising the collection and recycling of used packaging. The costs of this system are covered by fees paid by Norwegian companies. The fee paid by a company depends on the amount of packaging it uses. The collection of fees is administrated by Grønt Punkt (formerly Materialretur). www.grontpunkt.no

Sweden: To meet regulatory requirements, trade and industry have joined forces to establish the recycling companies Plastkretsen, Returkartong and Metallkretsen. REPA is the common service organisation and finance company for the system providing the collection of packaging made of plastic, paper/cardboard, corrugated cardboard and metal. www.repa.se

Companies are invited to join REPA. By paying a fee to REPA, the company fulfils its producer responsibility. In this way, the company's responsibility is passed on to the material recovery companies. The fees finance the management of recycling stations at which consumers can deposit packaging for recovery.

Appendix 2 Declaration on manufacturing regulations (R8)

We hereby certify that pellet production fulfils regulations in force regarding safety, work environment, environmental legislation, plant-specific conditions and concessions in the country in which the biofuel pellets are manufactured.

Details of local regulatory authorities:

| | |
|-------------------|-----------------------------|
| Location and date | Company name (manufacturer) |
| Administered by | Phone |

Appendix 3 Declaration on wood raw materials (R9)

We hereby certify that the Nordic Ecolabelled pellets are manufactured from wood raw materials of class 1.2.1.1 “Chemically untreated wood residues, wood without bark” or according to 1.1.2 “ Forest and plantation wood, stemwood” according to the current CEN standard.

Chippings from municipal waste are not used.

Residues from wood processing that contain adhesives or other contaminants are not used.

Residues of processed wood are used. The residues comprise bonded pure wood elements containing less than 1 kg adhesive per 100 kg. The pellets are therefore analysed for nitrogen content in conjunction with the application and annually during the licence period. (See also the requirements under R21.)

| | |
|-------------------|-----------------------------|
| Location and date | Company name (manufacturer) |
| Administered by | Phone |

Appendix 4 Specification of virgin wood raw materials (R10, R11)

| |
|------------------------|
| Supplier: |
| Product: |
| Manufacturer/supplier: |

For the documentation of virgin wood raw material:

- Type of wood and geographical origin (country/state and region/province/district) (applies to R10):
- Copy of certificate of forest certification (applies to R11).
- Quantity (%) of timber from certified forests used in the product (applies to R11):

The following table can be used if a supplier supplies more than one product:

| Wood raw material | Type of wood | Geographical origin | Forest standard | Quantity (%) of timber from certified forests |
|-------------------|--------------|---------------------|-----------------|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Signature of supplier:

| | |
|-------------------|--------------|
| Location and date | Company name |
| Administered by | Phone |

Appendix 5 Declaration on additives (R13)

We hereby certify that no additives have been added to the ecolabelled biofuel pellets.

| | |
|-------------------|-----------------------------|
| Location and date | Company name (manufacturer) |
| Administered by | Phone |

Appendix 6 Supporting document for the follow-up of energy consumption (R14, R15, R16)

Declaration of energy source for the manufacturing process

The following source(s) of energy is/are used:

| | | Energy source consumed per ton of pellets | Energy consumption per ton of pellets (as primary energy)) | | Carbon dioxide emissions from factory per ton of pellets |
|-----------------------------|----------------|---|--|------------------------------|--|
| | | | MJ/ton pellets | kWh/ton pellets | kg CO ₂ /ton pellets |
| Preparation of raw material | barking | <i>kWh electricity</i> | | <i>kWh electricity x 2.5</i> | |
| | grinding | <i>kWh electricity</i> | | <i>kWh electricity x 2.5</i> | |
| | beating | <i>kWh electricity</i> | | <i>kWh electricity x 2.5</i> | |
| | miscellaneous | | | | |
| On-site heat production | dryer start up | | | | |
| | drying | | | | |
| | boiling | | | | |
| Heat from other processes | drying | | | | |
| | miscellaneous | | | | |
| Pelleting | pressing | | | <i>kWh electricity x 2.5</i> | |
| | cooling | | | <i>kWh electricity x 2.5</i> | |
| | screening | | | <i>kWh electricity x 2.5</i> | |
| | miscellaneous | | | | |
| Total | | | | | |

The standard values in the table shall be used. If national values (production country) which to be used, shall values which are used for reporting for the specific country, according to the air and climate conventions to the Commission, be used.

Specify which standard values which has been used and which country and responsible authority which has used the values form reports to the Commission. Attach a table including the standard values used.

If excess energy is taken from other production, allocation is permitted. Allocation shall be done according to EPDs for power and heat production according to Environmental Product Declaration. This shall be documented in a separate report.

| | |
|-------------------|-----------------------------|
| Location and date | Company name (manufacturer) |
| Administered by | Phone |

Appendix 7 Declaration on packaging material requirements (R20)

We hereby certify that product packaging does not contain chlorine-based plastics.

| | |
|-------------------|-----------------------------|
| Location and date | Company name (manufacturer) |
| Administered by | Phone |

Appendix 8 Marketing of Nordic Ecolabelled biofuel pellets (R24)

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

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

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled biofuel pellets of the criteria for the Nordic Ecolabelling of biofuel pellets and "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later.

| | |
|-------------------|---------|
| Location and date | Company |
|-------------------|---------|

Signature, contact person

| | |
|----------------------------|-------|
| Clarification of signature | Phone |
|----------------------------|-------|

Signature, marketing manager

| | |
|----------------------------|-------|
| Clarification of signature | Phone |
|----------------------------|-------|

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

Appendix 9 Guidelines for forest certification

Certified wood used shall be certified by a third party in accordance with current forestry standards that fulfil the requirements on standards and certification systems. The following requirements apply to standards, certification systems and certification bodies approved by Nordic Ecolabelling.

Standards

The standard must balance economic, ecological and social interests and comply with the UN Rio Declaration, Agenda 21 and the Statement of Forest Principles, and respect applicable international conventions and agreements.

The standard must contain absolute requirements. It must encourage and promote sustainable forestry.

The standard must be generally available. The standard must have been developed in an open process in which stakeholders with ecological, economic and social interests have been invited to participate.

Certification system

The certification system must be open, have wide-spread national or international credibility and be able to verify that the requirements in the forestry standard (see above) are fulfilled.

Certification body

The certification body must be independent and recognised. It must be able to verify that the requirements in the standard are met, able to communicate the results and be suitable for the efficient application of the standard.

Nordic Ecolabelling may request further documents to assess whether the requirements regarding standards and certification systems are met.

Appendix 9 Curve for etiquette

An ecolabelled product



Manufacturer:

Diameter: 6 mm 8 mm

Density: $630 < X \leq 700 \text{ kg/m}^3$

$700 < X \leq 780 \text{ kg/m}^3$

Calorific value: MJ/kg

Ash content of dry matter: ≤ 5 weight %.

Moisture content: ≤ 9 weight %:

Raw material information:

Carrier: