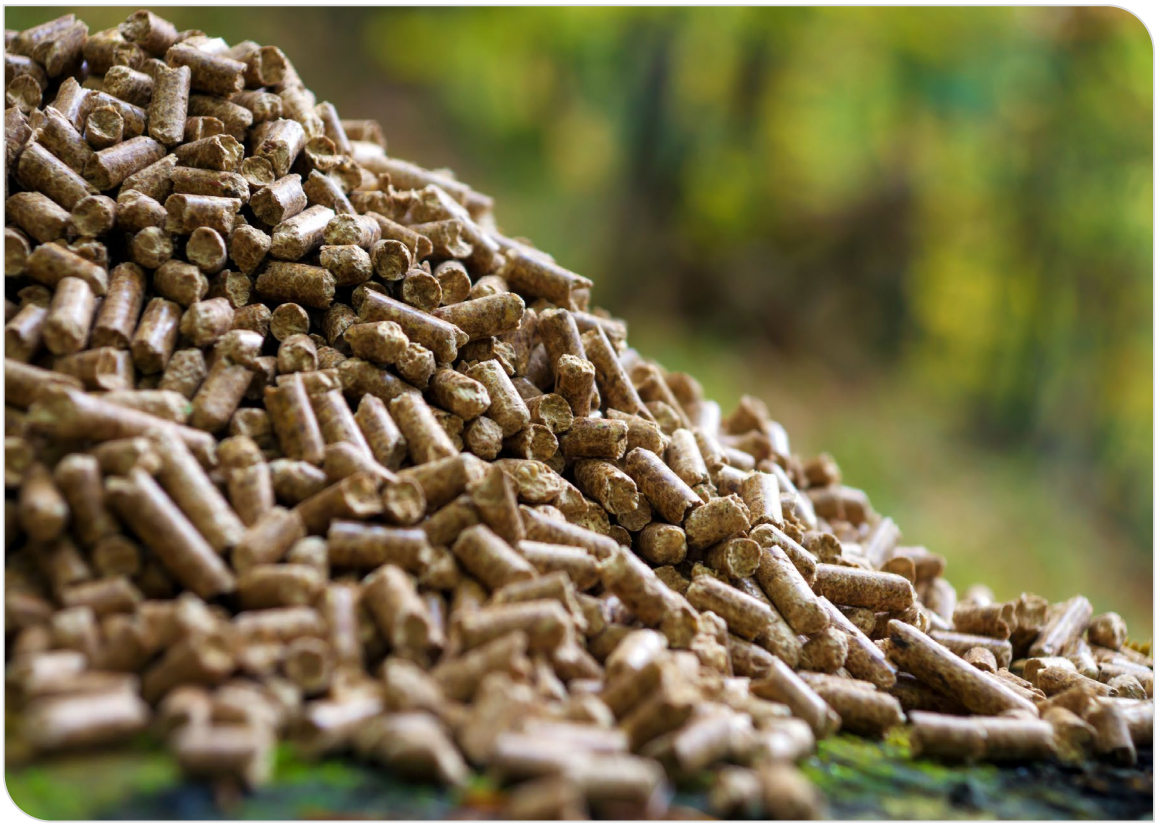
Nordic Ecolabelling of

Solid fuels and firelighting products



Version 3.5 • 06 March 2017 - 30 September 2026

Nordic Ecolabelling

Content

O87 Solid fuels and firelighting products, version 3.5, 03 December 2024

This document is a translation of an original in Danish. In case of dispute, the original document should be taken as authoritative.

Contact info

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:

Denmark
Ecolabelling Denmark
info@ecolabel.dk
www.ecolabel.dk

Finland
Ecolabelling Finland
joutsen@ecolabel.fi
https://joutsenmerkki.fi/

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What is a Nordic Swan Ecolabelled solid fuel or firelighting product?

Nordic Swan Ecolabelled solid fuels – pellets, wood briquettes, wood chips, firewood, barbecue charcoal/briquettes and firelighting products - consist of renewable material from sustainably produced, controlled sources. The energy consumption during the production is limited in order to ensure energy efficiency and reduce climate impact. The energy requirement thus includes stringent requirements concerning the use of fossil fuels, as these are highly significant for emissions of greenhouse gases in a life cycle perspective for solid fuels. Stringent requirements for quality properties ensure good combustion properties.

Nordic Swan Ecolabelled solid fuels and firelighting products:

- consist of renewable materials – e.g. wood, herbaceous crops and fruit biomass
- consist of sustainably produced raw materials – to conserve the earth's resources
- meet stringent requirements for energy consumption – to reduce climate impact
- meet stringent quality requirements – to ensure good combustion properties

Why choose The Nordic Swan Ecolabel?

- Solid fuels and firelighting products 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 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 solid fuels or firelighting products 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 Ecolabel licence can also be seen as a mark of quality.

What can carry The Nordic Swan Ecolabel?

The product group comprises the following solid fuels for consumer and industrial use: pellets, wood briquettes, wood chips, firewood, charcoal/briquettes and firelighting products.

The material in the products is made from renewable raw materials. The product group also includes composite products that combine functions of the above-

mentioned product types (e.g. products that serve both as a solid fuel and firelighting product). However, these products must demonstrate that they comply with all of The Nordic Swan Ecolabel's requirements within the different product types that the product has combined.

Liquid fuels for transport, heating and industrial production may not be Nordic Ecolabelled according to these criteria, but may be Nordic Ecolabelled according to the criteria for biofuels. Nor does the product group include liquid firelighting products defined by the EN 1860:3:2003 standard, matches, smoking wood chips and disposable barbecue grills.

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 contact information, see first in this document.

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.

Licence 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 first in this document 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

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

- Brand/trading name(s).
- Description of the product(s) (volume/weight/number per package/bulk) in the application. Primary packaging and any use of individual packaging must also be included in the description.
- Raw materials used in the solid fuel and firelighting products must be described (tree species, name/species for other raw materials, oil, wax, stearin, adhesives, binders/fillers or other raw materials), type of raw material (virgin or chemically untreated wood residues), origin of the raw materials and the percentage contained in the product.
- Description of manufacturing process of the product.
- Subcontractors must be described with company name, production location, contact person and the production processes used.

Individual packaging: refers to packaging around each individual solid fuel, e.g. plastic cover around each separate firelighting product. The individual packaging and the solid fuel constitute a unit.

Primary packaging: refers to the purchase packaging for the consumer, e.g. the packaging that holds 15 kg of pellets or 5 kg barbecue charcoal, and what the consumer encounters in sales.

✉ Description of the points above. Appendix 1 may be used. A flow chart is recommended to explain the production process.

2 Resources

O2 Material composition

Pellets, wood briquettes, wood chips and firewood must comply with the definition in accordance with the EN ISO 17225 part 1-5:2014 standard.

Barbecue charcoal and briquettes must comply with the definition in accordance with the EN 1860-2:2005 standard.

Firelighting products must comply with the definition in accordance with the EN 1860-3:2003 standard.

100% by weight of the material composition of solid fuels must be produced from renewable raw materials.

The requirement covers all use of binding agents/fillers and oils, wax and stearin in barbecue charcoal/-briquettes and firelighting products. Small quantities of any non-renewable impurities/additives are permitted, however, as stipulated in EN ISO 17225 part 1-5:2014, EN 1860-2:2005 and EN1860-3:2003. The requirement does not cover individual, primary and transport packaging.

Renewable raw materials in pellets, wood briquettes, wood chips, firewood, barbecue charcoal/briquettes and firelighting products must comply with the requirements for type of raw material stipulated in Table 1 below.

Renewable raw materials are defined as biological materials that are constantly replenished by natural processes.

This includes the degradable part of products, waste and residues from agriculture (both vegetable and animal), sustainable forestry operations and similar industries and the biodegradable fraction of industrial waste and municipal waste.

Peat is defined as a non-renewable material.

Table 1: Requirements for class and types of raw materials

	Pellets and wood briquettes	**Wood chips and firewood**	**Barbecue charcoal/briquettes**	**Firelighting products**
Class	A1 according to EN ISO 17225 part 2 and 3:2014	A1/A2 according to EN ISO 17225 part 4 and 5:2014	-	-
Type of renewable raw material according to EN ISO 17225 part 1:2014	1.1.3 Stemwood 1.2.1 Chemically untreated wood residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.1.4 Logging residues 1.2.1 Chemically untreated wood residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.2.1 Chemically untreated wood residues 3.1.2 Stone/kernel fruits 3.2.1 Chemically untreated fruit residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.2.1 Chemically untreated wood by-products and residues 2.1 Herbaceous biomass from agriculture and horticulture 2.2.1 Chemically untreated herbaceous residues 3.1 Orchard and horticulture fruit 3.2.1 Chemically untreated fruit residues
Type of renewable raw material in bio-oil				Renewable raw material (compare with the definition above)

For specification of the classification and types of renewable raw materials permitted in Nordic Ecolabelled solid fuels and firelighting products, see Glossary and definitions.

✉ Description of the renewable materials and declaration from the manufacturer of pellets, wood briquettes, wood chips, firewood, barbecue charcoal/briquettes and firelighting products, specifying the amount of raw material, as a percentage, contained in the product. Appendix 1 may be used.

✉ Declaration from the manufacturer of pellets, wood briquettes, wood chips, firewood, barbecue charcoal/briquettes and firelighting products that the requirement for definition, class and type of raw materials has been met. Appendix 2 may be used.

2.1 Wood

The requirement for wood applies to all types of solid fuels and firelighting products that contain wood, including wood boards in firelighting products.

Wood raw materials from the tree species (salix/poplar/hybrid asp) used in solid fuels and firelighting products grown as energy forest on arable land are exempt requirements O4, but must meet the requirements O3 and O6.

Wood in pulp and fluff pulp has to comply with requirement O7.

O3 Tree species that may not be used in Nordic Ecolabelled solid fuels and firelighting products

Species of trees on The Nordic Swan Ecolabel list of protected tree species* may not be used in Nordic Ecolabelled solid fuels and firelighting products. The requirement only applies to virgin wood species and not tree species defined as wood residues from the wood processing industry classified as 1.2.1 (chemically untreated wood residues) according to EN ISO 17225-1:2014.

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

✉ Declaration from applicant/manufacturer that the requirement to tree species not permitted to be used in Nordic Ecolabelled solid fuels are met. Appendix 3 may be used.

O4 Wood raw material

The applicant must state the name (species name in Latin, Scandinavian or English language) of the wood raw material used in The Nordic Swan Ecolabelled solid fuel or firelighting product.

Chain of Custody certification

Pellets, wood briquettes, wood chips, firewood and firelighting products:

Suppliers of wood raw materials must have Chain of Custody certification under the FSC/PEFC schemes.

Subcontractors (e.g. a local sawmill carpenter) who does not have a chain of custody certification can in certain cases be exempted from the above requirement. The premise is that the subcontractor can guarantee that the specific wood raw material is purchased from a FSC/PEFC Chain for Custody certified supplier, and that the wood material fulfils the Swan requirements.

Barbecue charcoal/briquettes:

Manufacturers of barbecue charcoal and manufacturers of barbecue briquettes must have Chain of Custody certification under the FSC/PEFC schemes.

Certified wood raw material

On an annual basis;

Pellets and wood briquettes

A minimum of 95% of the wood raw material used in Nordic Ecolabelled pellets or briquettes must be wood residues from the wood processing industry classified as 1.2.1 (chemically untreated wood residues) according to EN ISO 17225-1:2014.

A minimum of 50% of wood raw materials used in The Nordic Swan Ecolabelled pellets or briquettes must be certified as sustainably forested under the FSC or PEFC schemes.

The remaining percentage of wood raw materials must be FSC Controlled Wood or wood from PEFC Controlled Sources.

Wood chips, firewood and firelighting products:

A minimum of 70% of wood raw materials used in The Nordic Swan Ecolabelled solid fuel (virgin and/or recycled material) must be certified as sustainably forested under the FSC or PEFC schemes.

The remaining percentage of wood raw materials must be FSC Controlled Wood or wood from PEFC Controlled Sources.

Barbecue charcoal/briquettes:

100% of wood raw materials that are used in Nordic Ecolabelled barbecue charcoal/briquettes must be certified as sustainably forested under the FSC or

PEFC schemes. Wood raw materials must be traceable through FSC transfer method or PEFC physical separation method.

Certified wood raw materials (FSC and PEFC) must be accounted/recorded from the manufacturer's Chain of Custody account to the Nordic Swan Ecolabelled product/production line.

✉ Name (species name in Latin, Scandinavian or English language)) of the wood raw materials that are used in Nordic Ecolabelled solid fuel or firelighting product.

Pellets, wood briquettes, wood chips, firewood and firelighting products:

✉ Suppliers of wood raw materials are required to present a valid FSC/PEFC Chain of Custody certificate that covers all wood raw materials used in Nordic Ecolabelled pellets, wood briquettes, wood chips, firewood or firelighting products.

✉ Applicants/manufacturers of pellets, wood briquettes, wood chips, firewood and firelighting products are required to document that the requirement to the quantity of certified wood raw material in pellets, wood briquettes, wood chips, firewood and firelighting products is met.

✉ In cases where the applicant does not have FSC/PEFC Chain of Custody certified supplier, the supplier must present; an invoices for the specific wood, documentation showing that the supplier is FSC/PEFC Chain of Custody certified together with the suppliers Chain of Custody certificated. The Chain of Custody certificate has to comply with the data on the invoice. The volume of purchased certified wood raw material must appear on the invoice. The applicants must have an agreement with the wood supplier, which describes how the supplier guarantees that the delivered certified wood matches the information on the invoice. The agreement shall also specify that the wood supplier is required to notify the applicant if the wood supplier is replaced. Nordic Ecolabelling may request further information.

Barbecue charcoal and barbecue briquettes:

✉ Manufacturers of barbecue charcoal and manufacturers of barbecue briquettes are required to present a valid FSC/PEFC Chain of Custody certificate that covers all wood raw materials used in Nordic Ecolabelled barbecue charcoal/briquettes.

✉ Manufacturers of barbecue charcoal and manufacturers of barbecue briquettes are required to document that the quantity of certified wood raw material is met by the applicant’s/manufacture’s Chain of Custody bookkeeping balance sheet.

2.2 Solid and liquid renewable raw materials other than wood in barbecue charcoal/briquettes and firelighting products and the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land

The requirements apply to solid and liquid renewable raw materials other than wood in barbecue charcoal/briquettes and firelighting products, for example, soy oil, palm oil, sugar cane, bio oil, coir and pulp. The requirement also includes wood materials from the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land, that can be used for example wood chips.

O5 Renewable raw materials from soy- and palm oil, palm kernel oil and their derivatives and sugar cane

Renewable raw materials from soy- and palm oil, palm kernel oil and their derivatives and sugar cane must not be used in Nordic Ecolabelled barbecue charcoal/briquettes and firelighting products.

✉ There is no specific documentation requirements, as this is documented in requirement O1.

O6 Traceability and verification of renewable raw materials in barbecue charcoal/briquettes and firelighting products and the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land

Renewable raw materials other than soy- and palm oil, sugar cane and wood raw materials must meet the following requirements:

The requirement also includes the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land, that can be used for example wood chips.

1. State name (in Latin and a Nordic language) and geographical origin (country/state and region/province/municipality) and suppliers of the renewable raw material used. Appendix 4 may be used.
2. There must also be a written procedure in place for the purchase of renewable raw materials to also ensure that all renewable raw materials come from legal sources. The raw materials must not be sourced from:
    - protected areas or areas under preparation as protected areas
    - areas where ownership or usage rights are unclear
    - illegally harvested crops

Nordic Ecolabelling may require further documentation in the event of uncertainty about the raw materials origin.

If the renewable raw material comprises of waste or residual products, there must be traceability to the production/process from which the waste or residue derived.

See "Terms and definitions" at the end of the criteria for a definition of waste and residual products.

✉ Name (in Latin and a Nordic language) and geographical origin (country/state and region/province/municipality) of the renewable raw materials used. Appendix 4 can be used for documentation purposes.

✉ Description of the system for traceability of renewable raw materials.

✉ A written procedure from the producer/supplier of the renewable raw material and the manufacturer of the charcoal/-briquettes and firelighting products, describing how the requirement is fulfilled. A requirement for a certificate of traceability from subcontractors may be used as part of the procedure.

O7 Cellulose-based pulp or fluff in firelighting products

The requirement includes cellulose-based pulp and fluff in the firelighting product. The requirement also covers individual packaging, but not primary packaging.

The cellulose-based pulp/fluff must fulfil the requirements R1-R6, R8-R10 and R12-R18 in the Basic Module for Nordic Swan Ecolabelling of Paper Products, version 2.

For the requirements concerning energy consumption and emissions in fluff production, the following limits and reference values apply:

Energy:

- Pel (total) ≤ 1,25
- Pfuel (total) ≤ 1,25
- The reference value for cellulose-based pulp is given in the Basic Module for Nordic Swan Ecolabelling of Paper Products.
- The reference value for fluff is: Elref. = 900 kWh/ADT and fuel: Fuelref. = 6000 kWh/ADT.
- Supplement to the reference value for air-laid production is: Elref. = 1000 kWh/ADT and for fuel: Fuelref. = 1000 kWh/ADT.

CO_2:

- For fluff and air-laid the limit for emissions of CO_2 is 450 kg CO2/ADT.

The application tool My Swan Account must be used. Contact Nordic Ecolabelling for a password.

✉ Documentation from the producer of cellulose-based pulp or fluff that the requirement are met. If documentation for the pulp has already been sent to Nordic Ecolabelling, state the name of the pulp/fluff.

2.3 Requirements for working conditions in the production of barbeque charcoal/briquettes

O8 Working conditions

The license holder must have a written procedure (a code of conduct) that shows how the license holder works to ensure that the following UN conventions and the UN Global Compact are complied with by all producers/suppliers of barbecue charcoal and briquettes:

- UN Children's Convention, Article 32.
- UN Convention (61/295) concerning the rights of indigenous peoples.

UN:s Global Compact[1] consists of 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 (IL 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 shall ensure that all producers/suppliers of charcoal and briquettes are aware of the code of conduct, and urging that these apply the code of conduct.

✉ The licensee must submit a written procedure (a code of conduct) that shows how the license holder works to ensure that the following UN conventions and the UN Global Compact are complied with by all producers/suppliers of barbecue charcoal and briquettes in the supply chain.

✉ Description of how the licensee’s procedure (code of conduct) is communicated to all producers/suppliers of barbecue charcoal and briquettes in the supply chain.

2.4 Chemicals

The chemical requirements cover all constituent substances, chemicals and chemical products that are added to the solid fuels or used in the production of solid fuels.

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

Here, manufacture is defined as all manufacturing/processing activities conducted by the manufacturer of solid fuels or by its subcontractors.

The requirements relate to oil, grease, wax, stearin, adhesives, binders, dyes, etc.

The requirements do not cover:

- Auxiliary chemicals used during manufacture, such as lubricants, cleaning chemicals and so on.
- Refining processes, i.e. refining of vegetable oils.
- Production of paper and paper products.
- Individual, product and transport packaging.

The requirements apply to all constituent substances in the chemical product, but not impurities (compare with the definition below) unless otherwise stated in specific requirements.

Constituent substances are taken to be any substances in the chemical product, including additives in the ingredients (e.g. preservatives and stabilisers), but not impurities. Substances known to be degradation products from the constituent substances (such as formaldehyde and arylamine) are also considered to be constituent substances.

Impurities are defined as residual products from the production, including the raw material production, that can be found in the final chemical product in concentrations below 100 ppm (0.01% by weight, 100 mg/kg). Impurities in the raw material at concentrations of more than 1% are always regarded as constituent substances.

Examples of impurities are residual reagents, residual monomers, catalysts, bi-products and residual cleaning products from the production equipment and carry-overs from other production lines.

O9 Chemical products

Chemical products that are used in the production of solid fuels and firelighting products may not be classified in accordance with Table 2 below.

Exception:

- Fatty acids (methyl ester) are exempted from the requirement for classifications H400 and H411.
- Auxiliary chemicals used for activation of thickeners classified with H412 must be combined with maximum 0.5% by weight in the finished firelighting product.

Table 2: List of non-permitted classifications of chemical products used in the manufacture of solid fuels, in accordance with the CLP Regulation No. 1272/2008, or later.

CLP Regulation 1272/2008			
Hazard classification	**Code for hazard classification and category**	**Hazard statement**	**Signal word**
Harmful to aquatic organisms: Acute hazard and may cause long-lasting harmful effects	Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Aquatic Chronic 3 Aquatic Chronic 4	H400 H410 H411 H412 H413	Warning Warning - - -
Hazardous to the ozone layer	Ozone	H420	Warning
Carcinogenic	Carc. 1A or 1B Carc. 2	H350*H351*	Hazard Warning

Germ cell mutagenicity	Muta. 1A or 1B Muta. 2	H340* H341*	Hazard Warning
Reproductive toxicity	Repr. 1A or 1B Repr. 2 Lact.	H360** H361** H362	Hazard Warning -
Acute toxicity	Acute tox. 1 or 2 Acute tox. 1 or 2 Acute tox. 1 or 2 Acute tox. 3 Acute tox. 3 Acute tox. 3 Acute tox. 4 Acute tox. 4 Acute tox. 4	H300 H310 H330 H301 H311 H331 H302 H312 H332	Hazard Hazard Hazard Hazard Hazard Hazard Warning Warning Warning

* *Including all combinations of specified exposure route.*

** *Including all combinations of stated specific effect.*

✉ Declaration from the manufacturer/supplier of the chemical product that the requirement has been fulfilled. Appendix 5 may be used.

O10 CMR classification of constituent substances

Chemical products used in the manufacture of solid fuels must not contain substances that are classified with any of the following hazard codes and hazard designations or combinations thereof, as set out in Table 3 below.

Table 3: List of non-permitted classifications for the constituent substances in the chemical products used in the manufacture of solid fuels, in accordance with CLP Regulation (EC) No 1272/2008, or later.

CLP Regulation 1272/2008		
Hazard class	**Code for hazard class and category**	**Hazard designation**
Carcinogenic*	Danger, Carc. 1A or 1B Warning, Carc. 2	H350 H351
Mutagenic*	Danger, Muta. 1A or 1B Warning, Muta. 2	H340 H341
Reprotoxic*	Danger, Repr. 1A or 1B Warning, Repr. 2 -, Lact	H360 H361 H362

* *Including all combinations of specified exposure route.*

✉ Declaration from the chemical manufacturer/supplier that the requirement has been fulfilled. Appendix 6 may be used.

3 Energy consumption

The requirement for energy consumption includes the manufacturer's own production of pellets, wood briquettes, wood chips, firewood and barbeque charcoal/briquettes and possible energy used for drying/cooking/distilling of raw materials at external suppliers. The requirement for how much energy the producer can use to dry the raw material depends on the moisture content in the purchased raw materials.

The manufacturer shall initially outline its energy flows in the relevant processes. In production of various products, allocation can be used if the energy flows cannot be separated. This should generally be based on weight, for example, per. tonnes of product. Allocation method must be approved by Nordic Ecolabelling.

O11 Fossil energy sources

Energy from fossil sources* shall only be used for starting the process of drying/boiling/distilling of raw materials for the production of pellets, wood briquettes, wood chips, firewood and barbeque charcoal/briquettes, The fossil share may not exceed 10% of the total annual energy consumption for starting the process of drying/boiling/distilling of raw materials for the production of pellets, wood briquettes, wood chips, firewood and barbeque charcoal/briquettes.

** Fossil fuels are stored solar energy that has been in the ground for millions of years. The fuels were formed from plant and animal matter that has been subjected to massive pressure. Fossil fuels include oil, coal and natural gas. Nordic Ecolabelling categorises peat as a fossil fuel in these criteria due to the high emission factor for carbon dioxide when peat is burned.*

✉ Calculation and documentation showing compliance with the requirement.

O12 Energy consumption in the production of pellets, wood briquettes and barbecue charcoal and briquettes

Requirements for energy consumption for drying/boiling/distillation of raw materials in the production of pellets, wood briquettes and barbecue charcoal or barbecue briquettes are listed below in Table 4 and Table 5. The requirement only covers consumption of renewable energy. Any consumption of fossil energy sources used in requirement O11 shall not be included in the calculations.

The requirement does not include the electricity, which is used to drive machines in the drying/cooking/distillation process, for example, pressing and packaging.

Electricity cannot be used as an energy source for drying/cooking/distillation unless the electricity is self-produced from renewable sources.

With self-produced thought that the producer owns power generation unit.

If using external produced excess heat/waste heat: The fossil share may not exceed 10% of the annually energy mix.

Pellets and wood briquettes:

Energy consumption for drying/boiling raw materials in the production of pellets or wood briquettes must not exceed the figures in the table below (kWh/tonne pellets/wood briquettes):

If raw materials with varying moisture content are used, the energy requirement must be calculated as a weighted annual average of the raw materials used.

Table 4: Energy consumption kWh/tonnes of pellets or wood briquettes

Moisture content of raw materials	**>55%**	**50%**	**40%**	**30%**	**20%**	**10%**
	kWh/tonne	**kWh/tonne**	**kWh/tonne**	**kWh/tonne**	**kWh/tonne**	**kWh/tonne**
Direct dryers	1100	900	600	386	225	113
Steam dryers	825	675	450	289	169	84

Barbecue charcoal and briquettes:

Energy consumption for drying and distillation of raw materials in the production of barbecue charcoal or barbecue briquettes (moisture content max. 8%) must not exceed the figures in the table below (kWh/tonne barbecue charcoal or barbecue briquettes):

The amount of wood needed to produce 1 tonne of barbecue charcoal may not exceed 3000 kg (density oven dry wood).

Table 5: Energy consumption kWh/tonne barbecue charcoal or barbecue briquettes

Product type	kWh/tonne
Barbecue charcoal	4000
Barbecue briquettes	4600

Reference values for the energy content of fuels specified in Appendix 7 must be used.

✉ Calculation and documentation showing that the requirement is met.

4 Use and quality requirements

This chapter covers the requirements relating to quality and information for pellets, wood briquettes, wood chips, firewood, barbecue charcoal and briquettes and firelighting products.

O13 Quality specifications for pellets, wood briquettes and wood chips

Pellets, wood briquettes and wood chips must comply with the quality specifications and requirement limits listed in the table below. Products for testing taken from the manufacturer's warehouse, in compliance with the methodology specified in EN 14778; EN 14780; EN ISO 18135.

Table 6: Quality specifications for pellets, wood briquettes and wood chips

		Pellets	Wood briquettes	Wood chips	
Property	**Unit**	**A1**	**A1**	**A1/A2**	**Method of analysis**
Diameter	mm	6 ± 1 or 8 ± 1	In accordance with Figure 1, ISO 17225-3	-	ISO 17829
Length	mm	3,15 < L ≤ 40[1)]	According to Figure 1, ISO 17225-3	-	Pellets: ISO 17829 Briquettes: EN ISO 17225-3
Width W and Height H	mm	-	According to Figure 1, ISO 17225-3	-	ISO 17225-3
Particle density, DE	g/cm^3 as received	-	≥ 1.0	-	ISO 18847
Particle size distribution, P	mm	-	-	Either (P16S, P31S, P45S), in accordance with Table 1 in ISO 17227-1	ISO 17227-1
Moisture content, M	w % as received	≤ 10	M12 ≤ 12[2)]	M10 ≤ 10 M25 ≤ 25 M35 ≤ 35	ISO 18134
Ash content, A	w % dry	≤ 0.7	≤ 1.0	A1.0 ≤ 1.0 A1.5 ≤ 1.5	ISO 18122
Mechanical durability	w % as received	> 98.0[3)]	-	-	ISO 17831-1
Fines	w % as received	Bulk ≤ 1.0[4)] Big bags 0.5%[4)]	-	-	ISO 18846
Additives	w % as received	≤ 2 type and quantities must be specified[5)]	≤ 2 type and quantities must be specified[5)]	-	

Lower calorific value (energy content)	MJ/kg or kWh/kg as received	≥ 16,5 or ≥ 4.6	≥ 15,5 or ≥ 4,3	Minimum value must be specified[6)]	ISO 18125
Bulk density, BD	Kg/m^3 as received	600 ≤ BD ≥750	-	BD150 ≥ 150 BD200 ≥ 200 BD250 ≥ 250 BD300 ≥ 300	ISO 17828
Ash melting point temperature[7)]	C°	DT > 1200	-	-	CEN/TC 15370-1
Temperature	C°	≤ 40[8)]	-	-	
Nitrogen, N	w % dry	≤ 0.3	≤ 0.3	-	ISO 16948
Sulphur, S	w % dry	≤ 0.04	≤ 0.04	-	ISO 16994
Chlorine, Cl	w % dry	≤ 0.02	≤ 0.02	-	ISO 16994
Arsenic, As	mg/kg dry	≤ 1	≤ 1	-	ISO 16968
Cadmium, Cd	mg/kg dry	≤ 0.5	≤ 0.5	-	ISO 16968
Chromium, Cr	mg/kg dry	≤ 10	≤ 10	-	ISO 16968
Copper, Cu	mg/kg dry	≤ 10	≤ 10	-	ISO 16968
Lead, Pb	mg/kg dry	≤ 10	≤ 10	-	ISO 16968
Mercury, Hg	mg/kg dry	≤ 0.1	≤ 0.1	-	ISO 16968
Nickel, Ni	mg/kg dry	≤ 10	≤ 10	-	ISO 16968
Zinc, Zn	mg/kg dry	≤ 100	≤ 100	-	ISO 16968

1) Amount of pellets longer than 40 mm can be 1 w-%. Maximum length shall be < 45 mm.
2) Nordic Ecolabelling accepts an uncertainty of ±2%.
3) Wood pellets: Mechanical durability: at factory gate or when loading truck for deliveries to end-users. Not valid for briquettes.
4) Wood pellets: Fines: at factory gate in bulk transport (at the time of loading) and in small (up to 20 kg) and big bags (at time of packing) or sealed Big Bags or when delivering to end-user. Not valid for briquettes.
5) The amount of additives in production shall be limited to 1.8% by weight, the amount of post-production additives (e.g. coating oils) shall be limited to 0.2% by weight of the pellets.
6) See Appendix D, ISO EN 17225-1 for calculation.
7) Ash is produced at 815 °C.
8) At the last loading point for truck deliveries to end-user.

The requirements concerning test laboratories and test instructions are stated in Appendix 8.

✉ Full test report.

O14 Quality specifications for firewood

Firewood must comply with the quality specifications and requirement limits listed in the table below.

Table 7: Quality specifications for firewood

Property	**Unit**	
Wood species		**Must be indicated**
Diameter, D[1)]	cm	D2 ≤ 2 D5 2 < D ≤ 5 D15 5 < D ≤ 15 D15+ > 15 (actual value to be stated)
Moisture content[2)]	%, at time of delivery	≤ 20,0

Lower calorific value (energy content)	MJ/m^3 or kWh/ m^3 as received or stacked	Must be indicated
Rot, mould and dust		No visible rot, mould fungus or dust

1) At least 85% of the wood must be within the specific diameter class. For stoves, it is recommended to use firewood with a diameter less than 15 cm.
2) The moisture content must be determined using the weighing/drying method:

$$\text{Water content (M)} = \frac{\text{wet weight of wood (Ww)} - \text{ovendry weight of wood(Wo)}}{\text{wet weight of wood (Ww)}} \times 100\%$$

✉ Declaration from the manufacturer/distributor of the firewood showing that the requirement has been met. Appendix 9 may be used.

✉ A quality procedure to show how the requirement for quality specifications is routinely checked.

O15 Quality specifications for barbecue charcoal and barbecue briquettes

Requirements for quality specifications for barbeque charcoal/-briquettes:

- Barbecue charcoal and barbecue briquettes must be tested in accordance with the EN 1860-2:2005 and must meet the quality specifications listed in the table below.
- All quality specifications stated in the table below must be tested once a year by an independent testing laboratory. The samples must be taken from the manufacturer's warehouse.

Table 8: Quality specifications for barbecue charcoal and barbecue briquettes

Property	Barbecue charcoal	Barbecue briquettes
Fixed carbon	≥ 83%	≥ 68%
Ash content	Max. 4%	Max. 15%
Moisture content	Max. 8%	Max. 8%
Volatile components (dry barbecue briquettes)	-	Max. 20%
Granulation	Max. 10% > 80 mm Min. 80% > 20 mm Max. 7% between 0-10 mm	< 20 mm max. 10%
Binder	-	See*
Foreign substances	-	See**
* The gases that are emitted from binding agents when burned must not pose any risk to health when they come into contact with food. The binder must meet food quality standards.		
** Tests conducted in accordance with 6.5 (EN1860-2:2005) must show that a maximum of 0.4% of the volume is a substance that does not normally occur after the distillation process in the production of barbecue charcoal. The total of all detected inadmissible additions should not exceed 1% by volume, when tested in accordance with 6.5. Barbecue briquettes must not contain: Organic fossil material, e.g. stone coal, brown coal and petroleum coke, and inorganic materials, e.g. stone, sand, glass, slag and metal splinters.		

The requirements concerning test laboratories and test instructions are stated in Appendix 8.

✉ Complete test report, issued by independent test laboratory showing that the requirements for quality specifications listed in Table 8 are met

Annual reporting:

✉ Test Report, issued by independent test laboratory showing that the requirements for quality specifications listed in Table 8 are met. All reports must be available to Nordic Ecolabelling. If the annual report shows that the requirement is not met, the licensee should contact Nordic Ecolabelling.

O16 Production facilities for barbecue charcoal and barbecue briquettes

If the applicant is a manufacturer of barbecue briquettes only, all the following requirements for production facilities (both barbecue charcoal manufacturer and/or barbecue briquette manufacturer) must also be fulfilled and documented.

Requirements for production facilities:

- The production of barbecue charcoal and briquettes must take place at a permanent production facility with the infrastructure to support the operations (defined raw material warehouse, drying facility, distillation facility, packing facility and storage space).
- Production of charcoal must be in a continues and not periodic production system (charcoal miles, transportable retorts, oil drums or similar are to be considered as a periodic production system).
- The distillation process must take place in an automatic closed-loop production system, where the flue gasses from the distillation processes is collected and reused in the drying/distillation processes, before they are released into the air.
- All defined production facilities must be inspected at least once a year by an independent competent third party to ensure compliance with requirements O3, O4, O6 and O8 for raw materials/working conditions, requirements O11 and O12 for energy consumption and above requirements for production facilities.

✉ A report issued by an independent competent third party verifying compliance with The Nordic Swan Ecolabel's requirements O3, O4, O6 and O8 for raw materials/working conditions, and O11 and O12 for energy consumption and above requirements for production facilities. Audits must be performed annually and all reports must be available to Nordic Ecolabelling. If the annual report shows that the requirement is not met, the licensee should contact Nordic Ecolabelling.

O17 Quality specifications for firelighting products

Firelighting products must be tested and comply with EN 1860-3:2003.

The requirements concerning test laboratories and test instructions are stated in Appendix 8.

✉ Complete test report.

O18 Information to consumers about pellets, wood briquettes, wood chips and firewood

The following information must appear on the labels/packaging/delivery note of pellets, wood briquettes, wood chips or firewood:

- Tree species (species name)/names of renewable raw materials
- That the product complies with Class A1/A2 according to ISO 17255:2014 part 2, 3, 4 or 5
- Solid fuel dimensions
- The volume/weight/number of the sold/delivered Nordic Ecolabelled solid fuel
- Moisture content
- Ash content (does not apply to firewood)
- Calorific value (as received) in MJ/kg or kWh/kg

✉ Copy of the text on labels/packaging/delivery note.

O19 Information to consumers about barbecue charcoal and barbecue briquettes

The following information must appear on the labels or packaging of barbecue charcoal and barbecue briquettes:

- Tree species (species name)/names of renewable raw materials
- Weight of unit in kg
- Fixed carbon content
- Ash content
- Moisture/water content

✉ Copy of the text on labels/packaging/delivery note.

O20 Information to consumers about firelighting products

The following information must be included on the firelighting product's labels or packaging:

- Tree species (species name)/names of renewable raw materials
- Burning time
- Recommended number of firelighting units for lighting

✉ Copy of the text on labels/packaging/delivery note.

5 Quality and official requirements

The following procedures must be implemented to ensure that The Nordic Swan Ecolabel requirements are met.

If the manufacturer 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.

O21 Person responsible for The Nordic Swan Ecolabel

The company shall appoint an individual responsible for ensuring the fulfilment of Nordic Ecolabel requirements, and a contact person for communications with Nordic Ecolabelling.

✉ Organisational chart showing who is responsible for the above.

O22 Documentation

The licensee must be able to present a copy of the application and factual and calculation data supporting the documents submitted with the application (including test reports, documents from subcontractors and such like).

🔑 To be checked on site.

O23 Product quality

The licensee must guarantee that the quality of The Nordic Swan Ecolabelled solid fuel or firelighting product 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 Swan Ecolabelled product.

O24 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.

O25 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.

O26 Traceability

The licensee must have a traceability system for the production of the Nordic Swan Ecolabelled product.

✉ Description/procedures for how the requirement is to be met.

O27 Take-back system

The Nordic Ecolabelling's Criteria Group decided on the 9 October 2017 to remove this requirement.

O28 Laws and regulations

The licensee must ensure compliance with the applicable legislation on health and safety, environmental legislation and installation-specific terms/permits at all the production sites for the Nordic Swan Ecolabelled product.

✉ Signed application form.

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 af www.nordic-ecolabel.org/regulations/

Follow-up inspections

Nordic Ecolabelling may decide to check whether solid fuels 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 solid fuels 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 3.0 of the criteria for solid fuels and firelighting products on 3 March 2017. The criteria are valid until 31 March 2022.

On 18 October 2017, the adjusted requirement to radiation intensity in requirement 017 was removed from the criteria. Furthermore, the document is updated with a number of former interpretation requirements. The new version is called 3.1.

On 26 January 2021 Nordic Ecolabelling decided to prolong the criteria to 31 March 2024. The new version is called 3.2.

On the 9 October 2017 Nordic Ecolabelling’s Criteria Group decided to remove O27 Take-back system. The new version is called 3.3.

On 30 November 2021 Nordic Ecolabelling decided to prolong the criteria to 30 June 2025. The new version is called 3.4.

On 3. December 2024 Nordic Ecolabelling decided to prolong the criteria to 30 September 2026. The new version is called 3.5.

New criteria

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

- Requirements concerning renewable raw materials
- Requirements for energy consumption in the production of solid fuels and firelighting products
- Requirements for quality aspects

Terms and definitions

Term	Explanation or definition
Wood residues	Wood residues from the wood processing industry classified as 1.2.1 (chemically untreated wood residues) according to EN ISO 17225-1:2014. For example residues from debarking, sawing, size reduction, shaping and pressing.
CMR substances	CMR substances are substances that are known to be Carcinogenic, Mutagenic and/or Reprotoxic.
CO	Carbon monoxide.
Individual packaging	Individual packaging refers to packaging around each individual solid fuel, e.g. plastic cover around each separate firelighting product. The individual packaging and the solid fuel constitute a unit.
Renewable oil material	Renewable raw materials are biological materials that are constantly replenished by natural processes. This includes the degradable part of products, waste and residues from agriculture (both vegetable and animal), sustainable forestry operations and similar industries and the biodegradable fraction of industrial waste and municipal waste.
Fossil raw materials	Fossil raw materials were originally organic matter (primarily plants) that has been buried under the ground or beneath the ocean for many millions of years. They therefore contain large amounts of CO2 that is released when burned.
NOx	Nitrogen oxides.
OGC	Organic gaseous carbon.
PAH	Polycyclic aromatic hydrocarbons.
Primary packaging	Cardboard, paper and plastic foil are typical examples of primary packaging. Its purpose is to protect the products, display them (visual design) and provide space for consumer information.
PVC	Polyvinyl chloride.
Residual products/waste	Residues are products that do not constitute the main product and which the manufacturer is not intentionally trying to produce. Waste is any substance or object which the holder discards or intends or is required to discard. Raw materials that have been intentionally changed to enable them to be counted as waste (e.g. a waste material mixed with a non-waste material) do not comply with the requirement.
RPS	Relevance, Potential and Steerability: Tool used by Nordic Ecolabelling to analyse whether environmental problems are relevant, whether there is potential for improvement, and whether the licensee has the steerability to be able to achieve these environmental improvements.
VOC	Volatile organic compounds.
Transport packaging	Transport packaging refers to packaging for the handling and transport of a number of sales units or multipack consignments, e.g. pallets, boxes and bags made from paperboard and corrugated board.

Classification of origin and sources of raw materials that can be used I Nordic ecolabelled solid fuels and firelighting products (from EN ISO 17225-1:2014)

1. Woody biomass	1.1 Forest, plantations and other virgin wood	1.1.1 Whole trees without roots	1.1.1.1 Broadleaf
			1.1.1.2 Coniferous
			1.1.1.3 Short rotation coppice
			1.1.1.4 Bushes
			1.1.1.5 Blends and mixtures
		1.1.3 Stemwood	1.1.3.1 Broadleaft with bark
			1.1.3.2 Coniferous with bark
			1.1.3.3 Broadleaft without bark
			1.1.3.4 Coniferous without bark
			1.1.3.5 Blends and mixtures
		1.1.4 Logging residues	1.1.4.1 Fresh/Green, Broadleaf (including leaves) 1.1.4.2 Fresh/green, Coniferous (including needles) 1.1.4.3 Stored, Broadleaf 1.1.4.4 Stored, Coniferous 1.1.4.5 Blends and mixtures
	1.2 By-products and residues from wood processing industries	1.2.1 Chemically untreated wood by-products and residues	1.2.1.1 Broadleaft with bark
			1.2.1.2 Coniferous with bark
			1.2.1.3 Broadleaft without bark
			1.2.1.4 Coniferous without bark
			1.2.1.5 Blends and mixtures
2. Herbaceous biomass	2.1 Herbaceous biomass from agriculture and horticulture	2.1.1 Cereal crops	2.1.1.1 Whole plants
			2.1.1.2 Straw parts
			2.1.1.3 Grains or seeds
			2.1.1.4 Husks or shells
			2.1.1.5 Blends and mixtures
		2.1.2 Grasses	2.1.2.1 Whole plant
			2.1.2.2 Straw parts
			2.1.2.3 Seeds
			2.1.2.4 Shells
			2.1.2.5 Bamboo
			2.1.2.6 Blends and mixtures
		2.1.3 Oil seed crops	2.1.3.1 Whole plant
			2.1.3.2 Stalks and leaved
			2.1.3.3 Seeds
			2.1.3.4 Husks and shells
			2.1.3.5 Blends and mixtures
		2.1.4 Root crops	2.1.4.1 Whole plant
			2.1.4.2 Stalks and leaves
			2.1.4.3 Root
			2.1.4.4 Blends and mixtures
		2.1.5 Legume crops	2.1.5.1 Whole plant
			2.1.5.2 Stalks and leaves
			2.1.5.3 Fruit
			2.1.5.4 Pods
			2.1.5.5 Blends and mixtures
		2.1.6 Flowers	2.1.6.1 Whole plant
			2.1.6.2 Stalks and leaves

			2.1.6.3 Seeds
			2.1.6.4 Blends and mixtures
		2.1.7 Segregated herbaceous biomass from gardens, parks, roadside maintenance, vineyards and fruit orchards	
		2.1.8 Blends and mixtures	
	2.2 By-products and residues from food and herbaceous processing industry	2.2.1 Chemically untreated herbaceous residues	2.2.1.1 Cereal crops and grasses
			2.2.1.2 Oil seed crops
			2.2.1.3 Root crops
			2.2.1.4 Legume crops
			2.2.1.5 Flowers
			2.2.1.6 Blends and mixtures
3. Fruit biomass	3.1 Orchard and horticulture fruit	3.1.1 Berries	3.1.1.1 Whole berries
			3.1.1.2 Flesh
			3.1.1.3 Seeds
			3.1.1.4 Blends and mixtures
		3.1.2 Stone/kernel fruits	3.1.2.1 Whole fruit
			3.1.2.2 Flesh
			3.1.2.3 Stone/kernel/fruit fibre
			3.1.2.4 Blends and mixtures
		3.1.3 Nuts and acorns	3.1.3.1 Whole nuts
			3.1.3.2 Shells/husks
			3.1.3.3 Kernels
			3.1.3.4 Blends and mixtures
		3.1.4 Blends and mixtures	
	3.2 By-products and residues from food and fruit processing industry	3.2.1 Chemically untreated fruit residues	3.1.2.1 Berries
			3.2.1.2 Stone/kernel fruit/fruit fibre
			3.2.1.3 Crude olive cake
			3.2.1.4 Blends and mixtures

Appendix 1 Description of the solid fuel, material composition and production

Product: **Brand/trading name(s):**	**Volume/weight/number per package**	**Individual packaging:** **Materials:**	**Primary packaging:** **Materials:**	**Share of renewable materials (% by weight) in the solid fuel**

Individual packaging: refers to packaging around each individual solid fuel, e.g. plastic cover around each separate firelighting product. The individual packaging and the solid fuel constitute a unit.

Primary packaging: refers to the purchase packaging for the consumer, e.g. the packaging that holds 15 kg of pellets or 5 kg barbecue charcoal, and what the consumer encounters in sales.

Raw materials used in the solid fuel must be described (tree species, name/species for other raw materials, oil, wax, stearin, adhesives, binders/fillers or other raw materials), type of raw material (virgin or recycled material), origin of the raw materials and the percentage contained in the product:

Description of manufacturing process of the product:

Subcontractors must be described with company name, production location, contact person and the production processes used.

Applicant/manufacturer of the solid fuels or firelighting products signature

Place and date:	Company name/stamp:
Responsible person:	Signature of responsible person:
E-mail:	

Appendix 2 Definition, class and type of raw materials

Product: Brand/trading name(s):
Manufacturer:

Material composition (O2)

The following requirements are met: ___ Yes ___ No

- Pellets, wood briquettes, wood chips and firewood comply with the definition in accordance with the EN ISO 17225-1:2014 standard.
- Barbecue charcoal and briquettes must with the definition in accordance with the EN 1860-2:2005 standard.
- Firelighting products comply with the definition in accordance with the EN 1860-3:2003 standard.

The following requirements are met: ___ Yes ___ No

100% by weight of the material composition of solid fuels must be produced from renewable raw materials. The requirement covers all use of binding agents/fillers and oils, wax and stearin in barbecue charcoal/-briquettes and firelighting products.

Small quantities of any non-renewable impurities/additives are permitted, however, as stipulated in EN ISO 17225 part 1-5:2014, EN 1860-2:2005 and EN1860-3:2003. The requirement does not cover individual, primary and transport packaging.

The following requirements are met: ___ Yes ___ No

Renewable raw materials in pellets, wood briquettes, wood chips, firewood, barbecue charcoal/briquettes and firelighting products must comply with the requirements for type of raw material stipulated in Table 1 below.

Renewable raw materials are defined as biological materials that are constantly replenished by natural processes. This includes the degradable part of products, waste and residues from agriculture (both vegetable and animal), sustainable forestry operations and similar industries and the biodegradable fraction of industrial waste and municipal waste.

Peat is defined as a non-renewable material.

	Pellets and wood briquettes	**Wood chips and firewood**	**Barbecue charcoal/briquettes**	**Firelighting products**
Class	A1 according to EN ISO 17225 part 2 and 3:2014	A1/A2 according to EN ISO 17225 part 4 and 5:2014	-	-
Type of renewable raw material according to EN ISO 17225 part 1:2014	1.1.3 Stemwood 1.2.1 Chemically untreated wood residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.1.4 Logging residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.2.1 Chemically untreated wood residues	1.1.1 Whole trees without roots 1.1.3 Stemwood 1.2.1 Chemically untreated wood

		1.2.1 Chemically untreated wood residues	3.1.2 Stone/kernel fruits 3.2.1 Chemically untreated fruit residues	by-products and residues 2.1 Herbaceous biomass from agriculture and horticulture 2.2.1 Chemically untreated herbaceous residues 3.1 Orchard and horticulture fruit 3.2.1 Chemically untreated fruit residues
Type of renewable raw material in bio-oil				Renewable raw material (compare with the definition above)

For specification of the classification and types of renewable raw materials permitted in Nordic Ecolabelled solid fuels and firelighting products, see Glossary and definitions.

Manufacturer of the solid fuels or firelighting products signature

Place and date:	Company name/stamp:
Responsible person:	Signature of responsible person:
E-mail:	

Appendix 3 Declaration of tree species not permitted to be used in Nordic Swan Ecolabelled products

Name of The Nordic Swan Ecolabel applicant:
Produgt group/-type:
Version and date of the list of prohibited tree species used:

It is hereby declared that species of trees on The Nordic Swan Ecolabel list of protected tree species* is not used in Nordic Ecolabelled solid fuels and firelighting products. The requirement only applies to virgin wood species and not tree species defined as wood residues from the wood processing industry classified as 1.2.1 (chemically untreated wood residues) according to EN ISO 17225-1:2014.

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

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

Applicant/Manufacturer of the solid fuels signature

Place and date:	Company name/stamp:
Responsible person:	Signature of responsible person:
E-mail:	

Appendix 4 Traceability and verification of renewable raw materials in barbecue charcoal/-briquettes and firelighting products and the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land

Product (revewable raw material):
Manufacturer:
Supplier:

The requirement also includes the tree species (salix/poplar/hybrid asp) grown as energy forest on arable land, that can be used for example wood chips.

For documentation of renewable raw materials, provide the following in the table below:

- Name (Latin, Nordic or a English language) and geographical origin (country/state and region/province) of the renewable raw materials used

Renewable raw material (name)	**Volume**	**Geographical origin (country/state and region/province/municipality)**	**Possibly traceability system on the raw material**

Signature of the producer/supplier of the renewable raw materials:

Date:	Company name:
Person responsible:	Responible persons signature:
E-mail:	

Signature of the producer of the barberque charcoal/briquettes:

Date:	Company name:
Person responsible:	Responible persons signature:
E-mail:	

Appendix 5 Declaration for chemical products used in the manufacture of solid fuels or firelighting products

The product's name and area of use:
Producer/importer of the chemical product:

Classification of chemical products used in the manufacture of solid fuels at the factory/production centre or by suppliers (such as oil, grease, wax, stearin, adhesives, binders, dyes, etc.).

Are the chemical products classified in accordance with the table below? ___ Yes ___ No

If yes, state which chemical and its classification:

CLP Regulation 1272/2008			
Hazard classification	**Code for hazard classification and category**	**Hazard statement**	**Signal word**
Harmful to aquatic organisms: Acute hazard and may cause long-lasting harmful effects	Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Aquatic Chronic 3 Aquatic Chronic 4	H400 H410 H411 H412 H413	Warning Warning - - -
Hazardous to the ozone layer	Ozone	H420	Warning
Carcinogenic	Carc. 1A or 1B Carc. 2	H350* H351*	Hazard Warning
Germ cell mutagenicity	Muta. 1A or 1B Muta. 2	H340* H341*	Hazard Warning
Reproductive toxicity	Repr. 1A or 1B Repr. 2 Lact.	H360** H361** H362	Hazard Warning -
Acute toxicity	Acute tox. 1 or 2 Acute tox. 1 or 2 Acute tox. 1 or 2 Acute tox. 3 Acute tox. 3 Acute tox. 3 Acute tox. 4 Acute tox. 4 Acute tox. 4	H300 H310 H330 H301 H311 H331 H302 H312 H332	Hazard Hazard Hazard Hazard Hazard Hazard Warning Warning Warning

** Including all combinations of specified exposure route.*
*** Including all combinations of stated specific effect.*

Exception:

- Fatty acids (methyl ester) are exempted from the requirement for classifications H400 and H411
- Auxiliary chemicals used for activation of thickeners classified with H412 must be combined with maximum 0.5% by weight in the finished firelighting product.

The declaration is made to the best of the signatory's knowledge and according to the knowledge held at the time, based on tests and/or declarations from raw material producers/suppliers. Reservation is made for new developments and knowledge. If such new knowledge should come to light, the signatory is obliged to submit an updated declaration to Nordic Ecolabelling.

Signature of producer/supplier of the chemical product:

Date:	Company name:
Person responsible:	Responible persons signature:
E-mail:	

Appendix 6 Declaration for constituent substances in chemical products

The product's name and area of use:
Producer/importer of the chemical product:

Constituent substances are taken to be any substances in the chemical product, including additives in the ingredients (e.g. preservatives and stabilisers), but not impurities. Substances known to be degradation products from the constituent substances (such as formaldehyde and arylamine) are also considered to be constituent substances.

Impurities are defined as residual products from the production, including the raw material production, that can be found in the final chemical product in concentrations below 100 ppm (0.01% by weight, 100 mg/kg). Impurities in the raw material at concentrations of more than 1% are always regarded as constituent substances.

Examples of impurities are residual reagents, residual monomers, catalysts, bi-products and residual cleaning products from the production equipment and carry-overs from other production lines.

The declaration is made to the best of the signatory's knowledge and according to the knowledge held at the time, based on tests and/or declarations from raw material producers/suppliers. Reservation is made for new developments and knowledge. If such new knowledge should become known, the signatory is obliged to submit an updated declaration to Nordic Ecolabelling.

If the information concerning the composition of the raw materials is confidential, the information can be sent directly to the environmental labelling organisation.

Classification of constituent substances

Are the constituent substances classified in accordance with the table below?

___ Yes ___ No

If yes, state which substances, which classification and the amount:

CLP Regulation 1272/2008		
Hazard class	**Code for hazard class and category**	**Hazard designation**
Carcinogenic*	Danger, Carc. 1A or 1B Warning, Carc. 2	H350 H351
Mutagenic*	Danger, Muta. 1A or 1B Warning, Muta. 2	H340 H341
Reprotoxic*	Danger, Repr. 1A or 1B Warning, Repr. 2 -, Lact	H360 H361 H362

* Including all combinations of specified exposure route.

Signature of producer/supplier of the chemical product:

Date:	Company name:
Person responsible:	Responible persons signature:
E-mail:	

Appendix 7 Reference values for the energy content of fuels

The reference values listed below must be used for calculating the energy consumption:

	Densitet	LHV (dry matter)	
	Kg/m3	MJ/kg	kWh/kg
Natural gas		45,1	12,5
Diesel	832	43,1	12,0
Hard coal		26,5	7,4
Heating oil	970	40,5	11,3
Wood (oven dry)	300-680	19,2	5,3
Wood 30%	450-750	18,5	5,1

Ref: JEC (2014): Well-to-wheels Analysis of Future Automotive Fuels and Powertrains in the European Context WTT APPENDIX 1 Conversion factors and fuel properties

FAO (2015): Wood fuels handbook

Density of the most common tree species specified as kg per m_3 (this may vary from 10 - 20% on each side)

Tree species	Density in kg per m_3 (dry wood)
Hornbeam	640
Beech	580
Ash	570
Oak	570
Birch	540
Alder	440
Scots pine	430
Spruce	370
Coconut shell	430

Appendix 8 Analysis and test laboratories

Test of quality specifications must be performed by laboratories, accredited to the current standard and 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 9 Declaration of compliance with quality specifications for firewood

It is hereby declared that the Swan-labeled firewood comply with the quality specifications and requirement limits listed in the table below:

Property	Unit	
Wood species		**Must be indicated**
Diameter, D[1)]	cm	D2 ≤ 2 D5 2 < D ≤ 5 D15 5 < D ≤ 15 D15+ > 15 (actual value to be stated)
Moisture content[2)]	%, at time of delivery	≤ 20,0
Lower calorific value (energy content)	MJ/m^3 or kWh/ m^3 as received or stacked	Must be indicated
Rot, mould and dust		No visible rot, mould fungus or dust

1) At least 85% of the wood must be within the specific diameter class. For stoves, it is recommended to use firewood with a diameter less than 15 cm.
2) The moisture content must be determined using the weighing/drying method:

$$\text{Water content (M)} = \frac{\text{wet weight of wood (Ww)} - \text{ovendry weight of wood(Wo)}}{\text{wet weight of wood (Ww)}} \times 100\%$$

Manufacturer's/supplier's signature

Place and date:	Company name/stamp:
Responsible person:	Responible persons signature:
E-mail:	