



**Proposal for the Swan Labelling of
Biofuel Pellets**

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Nordic Ecolabelling

In November 1989, the Nordic Council of Ministers adopted a measure to implement an official voluntary ecolabelling scheme, the Swan. The organizations/companies listed below administer the Swan ecolabelling schemes on assignment from their national governments.

For further information, please visit the respective Web sites:

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Quotations may be made provided that Nordic Ecolabelling is stated as the source.

Swan Labelling of Biofuel Pellets

For review, 08.02.05

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What are Swan-labelled biofuel pellets?

To Swan label biofuel pellets is to take an overall approach to environmental measures. Requirements are set of manufacturing methods, transportation and storage. The aim is to identify the top-grade alternative from an environmental perspective.

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

The majority of requirements aim to reduce emissions resulting from combustion due to the likely event of individuals being present in the surroundings and open to exposure from the fumes.

Why choose the Swan label?

- The manufacturer and reseller may use the Swan trademark for marketing. The Swan label is a very well-known and well-reputed trademark in the Nordic region.
- The Swan label 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.
- Swan labelling enables manufacturers to reach a growing number of professional and domestic users who wish to reduce their impact on the environment. The use of Swan-labelled boilers and stoves together with Swan-labelled 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 after an aid that provides credible evaluations. The Swan leads the way.

Current fuel pellet grades

These criteria apply to biofuel pellets that are suitable for use in Swan-labelled boilers and stoves. These are primarily intended for private use, but the boilers may be sufficiently large to heat a small apartment block, school or similar. Swan-labelled biofuel pellets can also be used in burners that are not Swan labelled.




Pure wood is the primary raw material in Swan-labelled fuel pellets. Other raw materials will be considered in coming revisions of these criteria.

How to apply

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

Icons in the text

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:

-  Submit the documents to the ecolabelling body.
-  Requirement checked on site.
-  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 ecolabel, and the moisture content of the biofuel pellets.

Application

The application shall be sent to Nordic Ecolabelling in the country in which the biofuel pellets are sold. See page 2 for addresses. The application documents comprise an application form and documentation demonstrating fulfilment of the requirements (specified in the criteria).

There is also an electronic checklist (on www.svanen.nu) 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 on site.

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 fuel carrying the Swan label.

Enquiries

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

What are the requirements of Swan labelling?

To be awarded a Swan licence, all requirements must be fulfilled.

1 Manufacture

1.1 Environmental and quality control

R1 Swan licence officer

The company shall appoint an officer responsible for ensuring the fulfilment of Swan 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).

Documentation specified under requirements **R12-R18**.

☺ Checked on site.

R3 Fuel pellet grade

The licensee must guarantee that the quality of the Swan-labelled fuel pellets 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 Swan-labelled fuel.

R4 Planned changes

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

☺ Procedures detailing how planned changes are handled.

R5 Unplanned nonconformities

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

☺ Procedures detailing how unplanned nonconformities are handled.

R6 Traceability

The licensee must have a traceability system for the production of the Swan-labelled fuel pellets.

☺ Description of/procedures for the fulfilment of the requirement.

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 Swan-labelled fuel pellets are marketed.

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

R8 Laws and regulations

The licensee must guarantee adherence to safety regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Swan-labelled fuel is manufactured.

☒ Declaration in Appendix 1.

1.3 Raw materials

R9 Biofuel pellets for private consumers

Ecolabelled biofuel pellets must be made of pure wood. The biofuel pellets must not contain waste, with the exception of the following waste as defined by Commission Decision of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes (2001/118/EC):

- Chapter 3: Wastes from wood processing, etc. 03:0105 other sawdust, shavings, cuttings, wood, particle board and veneer.

The inclusion of hazardous substances, as defined in the wastes directive, is prohibited.

Wood that has an adhesive content exceeding 1% by weight may not be used. Adhesive refers to phenol resorcinol, polyvinyl acetate, urea formaldehyde, polyurethane and melamine urea formaldehyde adhesives.

- Chapter 20: Municipal waste 20:0138 separated, collected wood (untreated).

☒ Declaration in Appendix 2.

R10 Raw material deliveries

The manufacturer shall collate documentation on raw material deliveries.

☺ Checked on site.

R11 Additives

The use of additives is prohibited.

Nordic Ecolabelling may approve the use of additives if the manufacturer demonstrates that emissions are not affected. A laboratory that is accredited to measure emissions from fuel pellet boilers and stoves shall in this case evaluate the influence on emissions.

The maximum permitted quantity of additives is 2% w/w. The levels of heavy metals must be equivalent to those in pure wood.

Declaration in Appendix 3.

R12 Handling of the raw material

The manufacturer must set requirements for how suppliers handle the raw material. Such requirements shall include instructions on the nature of the surface for storing the raw material as well as transportation and unloading.

The manufacturer's requirements must be documented.

R13 Visits to suppliers

The manufacturer shall visit the supplier of raw materials. Such visits shall be documented in reports.

Documented reports from visits to suppliers.

1.4 Energy consumption during manufacture**R14 Drying process**

Coal, oil, peat and electricity are prohibited from use as the energy source for the drying process.

Oil may however be used when starting up dryers.

If excess energy is taken from other production, allocation is permitted.

Declaration in Appendix 4. Requirement also checked on site.

R15 Pelleting

The plant's annual electricity consumption shall be documented and summarised. Electricity consumption is calculated per tonne of pellets produced.

An estimate of energy consumption. Requirement also checked on site.

R16 Follow-up of energy consumption

Energy consumption shall be followed up on an annual basis, collated and documented.

Requirements checked on site.

1.5 Manufacturer's continual assessment of fuel pellet grade

Sampling

Sampling shall be conducted in accordance with the CEN standard.

R17 Biannual inspection

The manufacturer is responsible for ensuring that biannual inspections are conducted; once during winter months and once during summer months.

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

All parameters in the specification must be tested. The specified methods must be used. The results shall be processed and documented.

- The results of fuel pellet grade tests at biannual inspections shall be documented, processed and collated. Requirements checked on site.

R18 Daily inspection

The manufacturer is responsible for conducting daily inspections. Samples shall be taken each 8 hour work shift. The manufacturer may take the samples. The following parameters shall be tested.

- Mechanical durability.
- Fines content.
- Dimensions.
- Moisture content.

The specified methods must be used.

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

1.6 Delivery of biofuel pellets to the consumer

R19 Delivery to the consumer

Swan-labelled pellets shall be delivered in a way that fulfils the manufacturer's delivery specification. The manufacturer shall state the limit values in the specification, based on the test methods given in the requirement specification table. See **R23**.

To fulfil requirements for biofuel pellets delivered loose in bulk, the manufacture must establish requirements for the transport vehicles and handling of the pellets.

- The manufacturer's requirements must be documented. The requirement will be checked on site.

R20 Packaging

Packaging may not contain chlorine-based plastics. A technical data sheet for the plastics used must be provided.

Declaration in Appendix 5.

2 Grade specification of pellets in storage

Choosing a laboratory

Testing to be performed prior to application shall be carried out 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.

Sampling for application

Samples for testing all limit values shall be taken from the manufacturers stock. Sampling shall be conducted in accordance with the CEN standard. The time and date of sampling shall be specified in the test report.

R21 Grade specification

The following parameters must be tested and fulfilled.

Physical properties	Unit	Limit value	Test method
Dimensions			TS 14 961
Grade I Length in manufacturer's stock Diameter \emptyset	mm	max. 5 x \emptyset 6 \pm 0.5	
Grade II Length in manufacturer's stock Diameter \emptyset	mm	max. 5 x \emptyset 8 \pm 0.5	
Bulk density	kg/m ³	630 - 700	TS 14 xxx
Fines content < 3.15 mm	% by weight	\leq 2	TS 14 588
Mechanical durability.	% by weight	97.5	TS 14 xxx
Energy density	MJ/kg kWh/kg	\geq 16.9 \geq 4.7	TS 14 xxx
Moisture content	% by weight	a) 6-9 % b) 3-8 %	TS 14 774-1
Ash content of dry matter	% by weight	\leq 0.5	TS 14 775
Ash melting behaviour	$^{\circ}$ C	IT \geq 1400	ISO 540*

*NB! Initial temperature (IT) tested on ash produced at 550 $^{\circ}$ C.

Chemical composition	Unit	Limit value	Test method
Total sulphur content	% by weight	≤ 0.04	TS
Chlorine	% by weight	≤ 0.02	TS

☒ 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. In addition to information on the manufacturer and carrier, the delivery note shall specify:

- Dimensions
- Calorific value
- Ash content
- Moisture content
- Raw material information

Finally, information must be provided that the product is Swan labelled and that an independent laboratory has checked that further parameters are fulfilled.

☒ Example of delivery specification.

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 prevent pellet degradation during handling.

☒ Example of store facility design instructions.

R24 Information on optimum grade for different burners

The customer must be furnished with information on which grade of pellet is suitable for their facilities. This information must also specify that:

The customer should select the same grade and moisture content for future deliveries.

If not, the burner's settings should be adjusted.

☒ Example of the required information.

Marketing

The Swan label is a very well-known and well-reputed trademark in the Nordic region. Swan-labelled fuel pellets may be marketed using the Swan label 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 and so that it is clear that the pellets are ecolabelled.

More information on marketing can be found in " Regulations for Nordic Ecolabelling".

Design of the Swan label

Design of the Swan label:



123 456

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 the design of the label can be found in " Regulations for Nordic Ecolabelling".

Sales in other Nordic countries

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

- Form for sales 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

Swan-labelled biofuel pellets may be checked by an independent test institute on instruction from Nordic Ecolabelling. Samples may be taken without prior notice from the manufacturers 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 XX on DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR.

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.

Appendix 1

Declaration of fulfilment of manufacturing regulations

We hereby certify that fuel 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)

Principal

Phone number

Appendix 2

Declaration of fulfilment of raw material requirements

We hereby certify that the ecolabelled biofuel pellets are manufactured from pure wood and do not contain waste, with the exception of the following waste as defined by Commission Decision of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes (2001/118/EC):

- Chapter 3: Wastes from wood processing, etc. 03:0105 other sawdust, shavings, cuttings, wood, particle board and veneer.
- The inclusion of hazardous substances, as defined in the wastes directive, is prohibited.
- Wood that has an adhesive content exceeding 1% by weight may not be used. Adhesive refers to phenol resorcinol, polyvinyl acetate, urea formaldehyde, polyurethane and melamine urea formaldehyde adhesives.
- Chapter 20: Municipal waste 20:0138 separated, collected wood (untreated).

Location and date

Company name (manufacturer)

Principal

Phone number

Appendix 3

Declaration of fulfilment of additive requirements

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

Location and date

Company name (manufacturer)

Principal

Phone number

Appendix 4

Declaration of fulfilment of energy source requirements

Declaration of energy source for the drying process

The following energy sources are used for the drying process:

		Energy source	Energy content	
			<i>MJ</i>	<i>kWh</i>
On-site heat production	Dryer start-up			
	Drying			
Excess heat from other processes	Drying			

If excess energy is taken from other production, allocation is permitted. This shall be documented in a separate report.

Location and date

Company name (manufacturer)

Principal

Phone number

Appendix 5

Declaration of fulfilment of packaging material requirements

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

Date

Company name (manufacturer)

Principal

Phone number