

The Swedish Society for Nature Conservation
Criteria for Good Environmental Choice labelling

Goods Transport 2005



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Foreword

Good environmental choice labelling of goods transport activities is one of the tools used by the Swedish Society for Nature Conservation to advance the development of a sustainable society. Requirements for renewable energy and emissions to air are always set in relation to transport value.

Goals

- To accelerate the development of transport activities that are more environment-friendly and resource-efficient.
- To reduce harmful emissions from transport activities.
- To accelerate the transition to renewable fuels.
- To reduce the use of environmentally destructive substances in the maintenance of vehicles, vessels, trains, etc.

Criteria

The criteria for the Good Environmental Choice of good transport activities apply from 01-10-2005 until the next version comes into force, no earlier than 01-07-2007.

All forms of good transport activities can be labelled, including international ones. In the agreement with the Swedish Society for Nature Conservation, goods transport activities are defined as the Product. The product is the transport activity that moves goods using one or more kinds of vehicle, vessel, aircraft, etc.

Anyone wishing to use the Good Environmental Choice label or refer to the label must satisfy all obligatory requirements and enter into a licensing agreement with the Swedish Society for Nature Conservation.

The licensee must observe the following environmental legislation in each country.

The criteria comprise requirements in respect of:
The production of fuel and electricity
Transport activities, operations
Maintenance work

PRODUCTION

The Swedish Society for Nature Conservation can define standard values that an applicant may use in its application. If an applicant's own values are stated, the source and measurement method must be explained.

Transport activity

The scope and any limitation of each transport service must be defined. If a transport activity involves both passengers and goods, the environmental impact must be allocated and reported for each transport service.

The requirements for distribution must be applied if a least 75 per cent of the transport activities take place in densely populated areas.

The requirements for mixed goods relate to shipments with a total weight of less than one (1) tonne.

Energy consumption

The requirements for the use of non-renewable energy and emissions to air (except particles) apply for the whole life cycle.

The fuels and any electricity used must be specified and reported throughout the entire production chain. Calculation of the total transport activity must be based on the average annual impact, unless the Product has a different time demarcation.

The production chain includes one or more stages of production and distribution of the fuel. For electricity production, the building and demolition of power stations must also be included, Total energy consumption must be reported for each stage, as well as the proportion of non-renewable energy. The total volume of energy used to operate the load carriers must be specified, as well as the proportion of non-renewable energy contained in the fuel.

The total use of non-renewable energy may not exceed:

- 1) 0.1 kWh/tonne/kilometre or
- 2) 0.5 kWh/tonne/kilometre for distribution or
- 3) 0.6 kWh/v/km for mixed goods.

For load carriers powered by electricity, at least 30 per cent of the total volume of electricity used must bear the Good Environmental Choice label or equivalent.

Emissions

Emissions of nitrogen oxides and non-methane hydrocarbons (NMHC) must be reported for all stages of the production chain, including distribution. For electricity production, the building and demolition of power stations must also be included. Emissions from the operation of vehicles must comply with the certification provisions within the EU.

Nitrogen oxides and sulphur oxides must be calculated as NO₂ and SO₂, and they must be measured in accordance with the prevailing certification provisions within the EU. NO_x and SO_x must be weighted 1:1

Emissions from the production chain and operations may not exceed:

Nitrogen oxides and sulphur oxides:

- 4) 0.2 g/tonne/kilometre or
- 5) 0.65 g/tonne/kilometre for distribution or
- 6) 3.5 g/v/km for mixed goods.

Non-methane hydrocarbons, NMHC. Can be reported as HC:

- 7) 0.01 g/tonne/kilometre or
- 8) 0.03 g/tonne/kilometre for distribution or
- 9) 3.5 g/v/km for mixed goods.

Emissions of particles from vehicles must be reported in accordance with normal filter measurement or equivalent. Emissions of particles must be reported in grams/tonne/km. If there is information about size distribution, this must also be reported.

Table 1: Summary of energy and emission requirements.

	Operation and life cycle values			Operation only
	Non-renewable energy	NO _x +SO _x	NMHC	Particles
	kWh/tonne/km	g/tonne/km	g/tonne/km	specified
Basic requirement	0.1	0.2	0.01	reported
Distribution	0.5	0.65	0.03	reported
	kWh/v/km	g/km	g/v/km	specified
Mixed goods	0.6	3.5	3.5	reported

ENVIRONMENTAL WORK

The licensee must have an environmental policy that has been adopted by company management, in which the company commits to developing its business to reduce the negative impact on the environment and health. The company must designate someone to assume responsibility for environmental work.

MAINTENANCE PLAN

The licensee must also report the consumption and use of environmentally destructive substances in the maintenance of load carriers. The report must be produced in accordance with the Swedish Society for Nature Conservation's template for each transport category, and also include a plan for how the principle of product choice must be applied.

INSPECTION

Companies with a licence for Good Environmental Choice labelling must undergo an annual inspection and be able to prove that all requirements are being satisfied. The license agreement includes the terms specified in the criteria and in the license application.

The licensee must maintain financial systems and routines in proper order so that it is possible to check that the criteria are being observed.

The inspection must be conducted in the form of an audit of the parts of the business affected by the criteria. The information must be checked by an authorised auditor approved by the Swedish Society for Nature Conservation.

Explanations

PRODUCTION

The transport activity for various transport systems is measured in tonnes per kilometre, t/km. Tonnes per kilometre means the total number of kilometres that the goods on a vehicle are transported. Vehicles can be, for example, a truck, a ship or an aircraft. If it is to be possible to compare emissions from the various transport systems, we must consider how much transport activity they undertake. Emissions from a ship are certainly higher than emissions from a truck, but the ship will usually transport more goods per kilometre.

Certain ferries and aircraft, and to some extent buses, trains and cars, transport both passengers and goods. The total environmental impact of a transport activity is measured in various ways. The compensation method can be used when a passenger transport system has income from goods transport that also exceeds 10 per cent of total income. For ferry traffic this means that energy consumption and emissions are calculated on the basis of the criteria that apply for a pure cargo vessel with the same goods capacity. In the calculation the ferry load is compensated by the fact that much of the vessel's dead weight is due to the space for passenger transport. Examples of such calculations are contained in KFB 1994:9. For air traffic involving planes in combined traffic, the goods constitute a smaller element of turnover and weight. In these transport systems it is not the transport prices that determine how the transport medium is designed or how the service is structured. In these cases the marginal calculation method can be used. This means that the extra energy and the extra emissions resulting from the plane being loaded with goods must be included when calculating energy consumption.

Life cycle perspective

In order to be able to compare the environmental impact of different transport activities, the whole fuel chain must be analysed. The fuel used in the transport activities must therefore be reported from a life cycle perspective. All emissions from plants that produce the fuel must be reported (cf. Brandberg, etc.).

When fuels are manufactured and transported, non-renewable energy is used. Such auxiliary energy must be included when calculating the fuel's energy content. This is expressed in the form of a so-called yield ratio. A high yield ratio means that you obtain a lot of fuel and energy from the volume of non-renewable energy that you use. When fuels such as petrol, electricity and ethanol are

manufactured, heat is also produced. If the heat is used, for example in a district heating system, not all of the energy that was included in the process has to have a negative impact on the calculations. Primary energy must be placed in proportion to the energy distribution between the fuel produced and the heat or other commercial by-products.

Emissions

These criteria do not include methane in the hydrocarbon requirement that limits the harmful emissions. The reason is that methane is a stable molecule that is not harmful to health. Methane is a greenhouse gas that is instead limited by the requirement for energy consumption. Hydrocarbons are usually measured as HC, but if measurements are available the applicant may use the values for NMHC.

ENVIRONMENTAL WORK

The maintenance of load carriers often uses products that contain toxic chemicals, even though there are perfectly good alternatives that are better from an environmental perspective. These include, for example, lubricants, detergents and degreasing agents.

According to the principle of product choice (chap. 2, section 6 of the Environmental Code), anyone who sells or uses chemical products, bio-technical organisms or products that have been treated with such products, is obliged to replace them if there is any equivalent product that has less of an impact on the environment.

The requirement in these criteria is that the licensee must report his maintenance work based on a number of important, selected aspects and submit a plan describing how it will be improved.

Terms and abbreviations

Biogas – extracted from methane gas. Can be treated to create methane gas and used to drive vehicles using the same technology as fossil gas.

Vehicle – vehicle that transports goods, e.g. ship, train, cycle courier or truck.

Fossil gas – sometimes called natural gas. Contributes towards the greenhouse effect when used.

Renewable fuels – fuels produced from renewable energy sources, e.g. ethanol, RME, hydrogen and biogas. However, the refinement process often requires non-renewable energy.

HA oils – oil waste from refineries, with high contents of carcinogenic, toxic, polyaromatic hydrocarbons. Used in tyres (1 litre per car tyre) as a softening agent instead of being treated as environmentally hazardous waste. When the tyre wears, the toxins are passed into nature.

HC/THC – total hydrocarbons. Measurements of hydrocarbons from vehicles often report the total volume of hydrocarbons, as most hydrocarbons react in the same way. There are exceptions, such as alcohols and aldehydes.

Non-renewable energy – fossil-based energy and nuclear energy. Fossil-based energy can come from natural gas (fossil gas), peat, petrol, diesel, Fischer-Tropsch diesel, oil, coal, waste, etc.

kWh – kilowatt hour, a measurement of energy content.
1 kWh = 3.60 MJ.

MJ – megajoule, a measurement of energy content, like kWh. 1 MJ = 0.278 kWh.

NMHC – Non Methane Hydro Carbons. The total volume of hydrocarbon compounds excluding methane.

NO_x – nitrogen oxides. Released into the atmosphere primarily as nitrogen oxide (NO) from the combustion of fossil fuels. NO is converted, oxidised, in an initial stage into nitrogen dioxide (NO₂), which is far more toxic and also contributes, together with VOC, towards the creation of ground-level ozone. High contents of ozone cause damage to people, plants and animals. In a second stage, NO₂ is converted into nitrate/nitric acid, which leads to acidification.

PM 10 – measure of the volume of particles that can be inhaled, representing particles smaller than 10 µm.

ppm – measurement of the volume of a substance per volume of air (parts per million).

Standard values - values defined by the Swedish Society for Nature Conservation within various areas. Can be specified for fuels, production methods, vehicles, systems, etc.

Tonne/kilometre – total number of kilometres that every tonne of goods is transported.

Wagonload traffic – rail transport with a full, sealed wagon that travels from sender to recipient.

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The Swedish Society for Nature Conservation identifies threats to the environment and draws up solutions. We create opinions and exert pressure on those in power in the fields of politics and business. Become a member! Phone +46 (0)8-702 65 00 or contact your local branch of the Swedish Society for Nature Conservation.