



biofuel cities

A European Partnership



Guide to sustainable biofuels procurement for transport





Before reading this guide ...

- **Preference for alternative eco-mobility options**

Use of transport fuel should only take place if all eco-mobility options, such as train, car sharing, cycling, walking etc. have been explored, cannot be used and the transport is essential.

- **Biofuels are not *the* solution but fossil fuels are the problem**

While the use of biofuels can reduce CO₂ emissions significantly, the cultivation, processing and conversion of raw materials into usable fuels causes significant impacts on the environment. However, biofuels can be an important part of the solution and a serious alternative to fossil fuels, that have more severe environmental and social impacts.

- **Sustainable biofuels are currently difficult to verify**

At present, it is very difficult for public authorities to verify the sustainability of biofuels (e.g. CO₂ reduction targets). Although certification schemes are rapidly developing, few schemes (e.g. Nordic Swan¹⁾ currently exist, and reliably tracing biofuels is very difficult. International and European certification schemes (e.g. CEN standard) for sustainable biofuels are unlikely to be operational before 2011.

- **Local sustainable biofuel production is recommended**

Local production of biofuels from waste (e.g. organic waste, sewage water, waste cooking oil, etc.) can be a way of producing biofuels sustainably. According to a Swedish study²⁾, more than 12% of the Swedish transport fleet could be substituted by biogas from waste alone.

- **Few examples of sustainable biofuels procurement exist**

Biofuels in transport is a relatively new field. Hence, despite several examples of cities implementing biofuelled transport (e.g. Madrid, Cottbus, Slupsk, La Spezia, Vitoria etc.), only a few actually procured sustainable biofuels. They are advanced and it remains to be seen how similar approaches would work in other cities/countries. However, the widespread adoption of sustainable biofuels procurement will not only depend on solid certification and progressing research and technologies but most importantly on public demand of biofuelled transport.

- **Subject of this guidance**

This guidance is about the procurement of sustainable biofuels. Sustainable purchasing criteria for tenders are therefore provided for biofuels only.

However, as implementing biofuelled transport is necessarily associated with other issues such as infrastructure, vehicles, transport services etc. the guide also shows where references to biofuels, in general, can be included in tenders (e.g. direct purchase of fuels and vehicles, purchase of transport services, such as public transport, or waste collection vehicles). The guide also offers recommendations for overcoming challenges related to implementing biofuelled transport in general, by offering recommendations on other issues, such as costs, availability of vehicles, type of biofuels etc.

¹⁾ www.svanen.nu/eng

²⁾ Avfall Sverige, "Den svenska biogaspotentialen från inhemska råvaror" RAPPORT 2008:02 ISSN 1103-4092



Why a guide to sustainable procurement of biofuels?

The transport sector generates nearly one third of the CO₂ emissions in the European Union (EU), and emissions are increasing. To boost the introduction of biofuels in the transport sector, the EU has set a target that 10% of all fuels, based on energy content, should be renewable by 2020.

Consideration must be given how this target can be reached in a sustainable manner, weighing up important issues such as climate protection, security of energy supply, biodiversity, socio-economic benefits and standards, to mention a few key issues.

Public sector demand can be an important driver to increase the number of cleaner vehicles on the market. Every year, about 110,000 passenger cars, 35,000 trucks and 17,000 buses are purchased by public authorities in the EU. The public sector alone accounts for almost one third of the European market for buses. Public sector purchases can also help to solve the chicken and egg problem for biofuels, no available vehicles and no available fuel.

In October 2008, the European Parliament endorsed a proposal from the European Commission that requires all public and private authorities, who contract for public transport, to consider the environmental impact of the vehicles they purchase in addition to their price³⁾.

The purpose of this publication is to provide guidance for public authorities and other actors intending to purchase and use sustainable biofuels for transport. It highlights the current discussion on sustainable biofuels and provides advice for other challenges related to implementing biofuelled transport.

Some of the ambitious criteria for sustainable biofuel procurement are inspired by practical experiences from cities such as Stockholm, Rotterdam, Lille and Graz. Other local governments are interested to learn more and may follow suit.

Main challenges for public purchasers

- **Sustainability concerns** (See section A)

Public opinion is concerned that biofuels cause rising food prices and need arable or protected land to grow food crops for fuels.

- **Infrastructure needed** (See section B)

Public authorities need to consider the infrastructure needed for biofuel transport, including a distribution network, fuel stations, vehicles etc.

- **Availability** (See section B)

Vehicle manufacturers will not invest in developing vehicles that run on biofuels unless it is financially attractive and practical. If large volumes of biofuelled vehicles are required by public authorities this could contribute to making the development of biofuel vehicles viable for manufacturers.

- **Affordability** (See section B)

Even if sustainable and available, biofuel powered transport might not be affordable for all public authorities and smart solutions have to be found (see next page).

- **Which biofuel?** (See section C.2.)

Choosing which biofuel to use will depend on the market availability of the different types of biofuel, however a number of other factors should also be taken into account. For instance, biodiesel has a much higher carbon footprint than bio-ethanol, however, where biodiesel (e.g. from waste cooking oil) is sourced locally, and ethanol globally, the overall figures are likely to be quite different (See chapter E and F.3. for more information on the impact of biofuels).

- **Sustainable biofuels procurement** (See section C.3. & D)

Addressing and verifying sustainability considerations in the public tendering process for biofuels is one of the main challenges for procurers wishing to purchase sustainable biofuels.

³⁾ Proposal for a Directive on the promotion of clean and energy efficient road transport vehicles.
See online at: http://ec.europa.eu/transport/clean/promotion/doc/com_2007_0817_en.pdf



A. Background on (sustainable) biofuels

Biofuels can be defined as any kind of fuel made from biomass, or from the waste they produce. Biofuels include ethanol, biodiesel, and biogas. Generally, a distinction is made between first-generation biofuels and second-generation biofuels.

Recent developments in EU Policy on Biofuels

May 2003: The European Union (EU) Biofuels Directive^[4] was adopted. It aims to promote the use in transport of fuels made from biomass, as well as other renewable fuels. The Directive sets a reference value of 5.75 % for the market share of biofuels in 2010 (petrol and diesel market).

March 2007: EU leaders committed to using 20 % renewables in the EU's energy mix and 10 % biofuels in vehicle fuel by 2020. This was decided on, despite a realisation that the previous target of 5.75 % biofuels is unlikely to be achieved by 2010^[5].

January 2008: The Commission presented its review^[6] of the 2003 Biofuels Directive, as part of a broader Directive proposal on renewable energy. The proposal confirms the 10 % target for 2020 and provides “sustainability criteria” to prevent mass investment in cheaper, but environmentally harmful biofuels:

Biofuels must deliver greenhouse gas savings of at least 35 % compared to fossil fuels.

Crops used for biofuels planted in protected areas, i.e. “highly biodiverse” grasslands, forests and wetlands, after 1 January 2008, will not be included in the 10 % target. [Note: This information is subject to changes as long as the directive is not formally adopted]

^[4] Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels and other renewable fuels for transport

^[5] European Commission Report on the progress made in the use of biofuels and other renewable fuels in the Member States of the European Union Brussels, 10.1.2007 COM(2006) 845 final

^[6] “Proposal for a Directive of the European Parliament and of the Council on the promotion of renewable energy sources”, see online at: www.euractiv.com/en/energy/new-eu-renewables-law-takes-shape/article-168998

Switzerland's restrictive biofuels approach

Switzerland has adopted (effective from 1 July 2008) an amended mineral oil tax legislation.

Minimum sustainability criteria must be met to obtain tax incentives. To meet these criteria the fuel must:

- generate at least 40 % less greenhouse gases than equivalent fossil fuels from cultivation to consumption;
- not generate a significantly greater environmental impact than equivalent fossil fuels from cultivation to consumption;
- not endanger rainforest conservation and biological diversity during feedstock cultivation; and
- working conditions throughout the supply chain must comply with ILO core conventions.

Website:

http://www.ezv.admin.ch/zollinfo_firmen/steuern_abgaben/00382/02516/index.html?lang=de



September 2008: The European Parliament expressed its view on the binding 10 % target for renewables in transport fuels by 2020. The proposed directive has shifted the focus away from agro-fuels and provides for a “major” mid-term review in 2014. Furthermore, the text specifies that at least 20% of the 2015 target and 40 % of the 2020 goal must be met by “non-food and feed-competing” second-generation biofuels or from cars running on green electricity and hydrogen.

A.1. First generation biofuels

In general, first generation biofuels are fuels made from biomass based on agricultural feedstock. Examples of feedstock for production of ethanol are corn, sugar beets, wheat and sugar cane. Different types of biodiesel/FAME (for common abbreviations see Table 1) are made from rapeseed, sunflower, soy beans etc. Biogas is methane produced in water treatment plants or from waste. Fossil fuel natural gas also consists of methane and therefore biogas could be used in natural gas vehicles or it could be injected into existing natural gas grids.

A.2. Second generation biofuels

Most actors in the biofuels industry agree that the long-term success of biofuels will depend on the development of second generation biofuels. Although no set definition of second generation biofuels exists, in general terms these are biofuels that have a high greenhouse gas emission reduction potential and have no adverse effects on food prices, biodiversity and labour circumstances. For example, these biofuels are made from non-food cellulose feedstock such as waste wood, straw and cellulose based waste (see Table 2).

Second generation biofuels are among others produced by gasification of biomass for production of synthesis gas. The synthesis gas can be turned into synthetic diesel (Fischer-Tropsch-diesel), methanol, ethanol, DME (DiMethyl Ether) and hydrogen. The whole process is called Biomass-to-liquids (BTL). The second generation of ethanol can also be made from chemical treatment of cellulose to extract sugar to make ethanol. Hydrated biooils, for instance, is a new product that can replace diesel. It is based on different types of vegetable oil and waste animal fat. Production has already started in Finland and Sweden.

It is difficult to say when second generation biofuels will be broadly available at a competitive price. BTL and cellulose-based ethanol can be expected to enter the large-scale market sometime after 2015.

Table 1: Common abbreviations

Abbreviations	
FAME	Fatty Methyl Ester, Biodiesel
E85	85 % ethanol, 15 % petrol
ED95	95 % ethanol, 5 % ignition improver
CNG	Compressed Natural Gas (methane)
Biogas	Bio-methane
PPO	Pure Plant Oil
BTL	Biomass-To-Liquid
DME	DiMethyl Ether
FT-diesel	Synthetic diesel – Fischer-Tropsch
GHG	Greenhouse gases

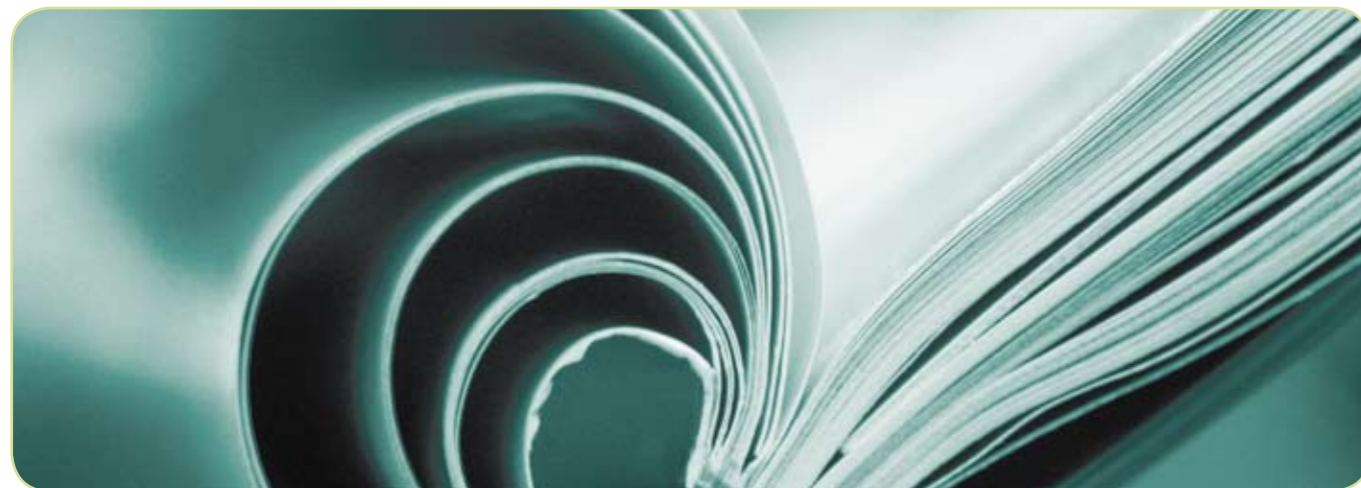


A.3. Key issues related to sustainable biofuels

In general, sustainable purchasing criteria for biofuels need to take into account the whole life balance of biofuels to be a serious alternative to fossil fuels. Sustainability criteria address the following issues:

- Reducing greenhouse gas emissions resulting from production, transport and use of biofuel.**
 Procurement should consider the greenhouse gas emissions potential of different types of biofuels and encourage the investigation of regional biofuel resources to reduce the need for further transport emissions. It is important to consider the emissions of greenhouse gases from biofuels throughout the entire life cycle: crop production, fuel production, transport, distribution and use.
- Minimising negative ecological impact of biofuels**
 Biofuel production has the potential to impact negatively on biodiversity, especially if rain forests and protected areas are destroyed in order to grow biofuel crops. Procurers could also consider the ecological impacts of the agricultural practices used to grow the feedstock, such as chemical use.
- Minimising negative social impact of biofuels**
 Procurers should consider the potential negative social impacts of biofuels. For example there is some concern that fuel crops will replace food crops which will lead to higher food prices. Purchasing criteria should also consider the working conditions of workers throughout the supply chain.
- Minimising negative economic impacts**
 Minimising negative economic impacts should involve evaluating the costs of biofuels compared to fossil fuels and considering the impact of procuring biofuels on sustainable local developments e.g. job creation, infrastructure development – the ease of vehicle adaptation.

The potential for fuel production by-products to be used in other areas, such as fodder or production of electricity, should also be taken into account.



A. Availability and affordability of biofuelled transport

Cost and availability considerations

- Fuels:** Biofuels are generally available today, albeit not yet on a wide scale, in all EU27 countries. Instead of purchasing on the open market, some local authorities produce their own fuels locally – particularly biogas (see below) – which is an excellent example of a local model of sustainable biofuels implementation.
- Infrastructure:** Considering the fuel itself is not enough, however. The distribution infrastructure and suitable pump technology have to be in place when biofuels are introduced. It is in general the same pump technologies as for petrol, diesel and natural gas but the materials have to be resistant to ethanol, biodiesel etc. It can also be necessary to organise training for your personnel (driving, maintenance, refuelling etc).
- Vehicle costs:** Whereas it is difficult to determine the price of biofuels compared to conventional fuels due to the different tax situation in each country, it is easier to compare biofuelled with conventional cars: for instance, an ethanol car costs from 0-1000 Euro more than a conventional car, and a biogas car costs between 1500-2500 Euro more than a conventional car.
- Taxation:** Biofuels and biofuel-based vehicles may receive tax concessions. This will depend on national taxation schemes, but can significantly affect the overall price.

In overall terms, without a clear demand for biofuel-based transportation, the supply of appropriate fuels, vehicles and infrastructure is likely to remain low, and costs high – public sector demand can make a significant difference here.



Smart solutions around cost-effective biofuels procurement

- Joint procurement of biofuels**
 Joint procurement, meaning several stakeholders purchasing together, can:
 - Reduce administrative costs.
 - Speed up the market introduction of new technologies close to a market breakthrough.
 - Lower the price of the fuel and/or vehicles by bulk buying.
 - Give smaller stakeholders a chance to obtain biofuelled vehicles.
 - Easier ensure maintenance agreements for biofuelled vehicles in the whole country.
- Long term contracts or agreements on transfer to new operators**
 If the contract period for transport services using biofuels is short (e.g. only two years), it is difficult for the operator to get a return on the investment in this time span. The result can be that distributors or operators offer biofuels, but minimise their risk through high prices. The same goes for fuel and fuel stations. A solution can be to use long-term contracts, up to 5–7 years, providing a more attractive business opportunity.
 The contract can also be set up in such a way that operators are guaranteed that the vehicles and the fuel station would be taken over by the new contractor if they lose the bid in the next procurement round.
- Producing biofuels locally**
 Several local governments in Europe have been successful in locally producing biogas for transport purposes. Biogas, for instance, can be produced through sewage water or organic waste treatment as has been done in the cities of Stockholm (Sweden) and Lille (France). As another waste-to-energy solution Graz (Austria) collects waste cooking oil to make its own biodiesel.
- Leasing option**
 In cases where procuring vehicles is not feasible, leasing vehicles is another option that public authorities could consider.
- Used-vehicles market**
 As the market for biofuels grows, biofuelled vehicles may be found on the used-vehicles market at reduced prices.
- City twinning**
 Twinning can be particularly useful to share knowledge and practical experiences between experienced and less experienced cities. Co-operation can also take place in the form of technology transfer and in terms of vehicle transfer through second-hand market opportunities. An initiative such as this offers a less experienced city the opportunity to gain insight from its more experienced partner city.



C. Public purchasing of biofuels – first steps

C.1. Adopt a comprehensive policy/strategy

Before the public procurement tendering process commences, it is strongly advised to undertake a series of preparatory activities.

Actions that public authorities should consider undertaking are as follows:

- Identify clear long-term targets**
 Set up a clear policy on sustainable public transport which includes quantifiable targets, for example “That the municipality of NN public transport fleet run entirely on biofuels by the year X”.
- Define clean vehicles and sustainable biofuels**
 The definition should include preferred fuels, maximum exhaust emission levels of certain substances and which type of vehicles it covers. There is no standardised European definition as yet, however, Sweden and the City of Rotterdam, for example, have both developed definitions for clean vehicles and set targets for the use of biofuels (see example in the margin). A definition of “clean vehicles” is also necessary to be able to provide local incentives (see section E) which in turn are necessary to encourage initial market uptake.
- Publicise political consensus on biofuels**
 Publicising your organisation’s political commitment to biofuels to market players and potential bidders will send them a clear signal.
- Raise awareness of biofuels**
 Organising well co-ordinated awareness raising initiatives will demonstrate the local political support for biofuels and might encourage other public and private purchasers to consider purchasing biofuels.

Example of a local definition of clean transport:

“The municipality of NN has decided that all municipal transportation services shall be performed with biofuels. Today, the definition of biofuels in the municipality of NN includes ethanol, biogas and biodiesel (FAME)^[1]. The vehicles have to meet the emission requirements of Euro 4^[2]”.

^[1] Biodiesel is also known as FAME (Fatty Acid Methyl Ester). It is made from animal fats, vegetable oils or recycled restaurant greases.

^[2] Euro 4 is a European emission standard defining the acceptable limits for exhaust emissions of any new vehicles sold in EU member states. (see Directive 98/69/EC & 2002/80/EC – entry into force: 2005)



- **Pre-procurement engagement with local stakeholders**

Entering into (competitive) dialogue with relevant stakeholders (private and public fleet owners, vehicle leasing companies, car importers/producers, fuel companies, etc.) can help the market better prepare for upcoming tenders. This will assist the public authority to gain a better picture of issues such as supply (fuel and vehicles) and infrastructure needs.

C.2. Choosing the best biofuel for your situation?

The most appropriate type of biofuel for use by a city or in a region depends on local and regional circumstances and conditions. Factors influencing the choice of biofuels include market availability, preferences (local production) and sustainability considerations (see impact of specific biofuels in section F.2.). To analyse current and future market prospects, the following questions could be asked:

- Are biofuels already available on the local or regional market?
- Is it better, for instance, to start with natural gas engines and adapt to biogas later?
- What kinds of biofuel-adapted vehicles are available?
- For which type of fleet can biofuels be used (light vehicles, trucks, buses, etc)?
- Are there tax reductions for certain biofuels?
- Is a long-term warranty available? Is the existing vehicle warranty still valid when using certain biofuels?

C.3. Include sustainability criteria in tenders

When tackling sustainability issues in tender documents (see sections D.1. & A.3.), the sustainability criteria must not distort competition unreasonably or discriminate against products and suppliers from other EU Member States.

The following examples show where requirements for clean vehicles and sustainable biofuels can be included in the contract.

- **Technical specifications**

The technical specifications are obligatory minimum criteria. Only bids that fulfil all the technical specifications will be evaluated. Including sustainability considerations in the technical specifications is a direct and reliable way to ensure the bid delivers clean vehicles and sustainable biofuels. It is transparent and also limits potential discretion or manipulation by the contracting body. Depending on the verification scheme chosen, more ambitious sustainability criteria can be incorporated.

Example:

- The offered vehicles must be adapted to run on sustainable biodiesel.
- Biofuels must lead to at least 50% of CO₂ savings compared to conventional fossil fuels.
- Raw materials to produce biofuels from protected land areas are excluded.
- Biofuels are not allowed to generate a significantly greater environmental impact than fossil fuel from cultivation to consumption.



- **Contract performance clauses**

Including sustainability criteria as part of the contract performance clauses obliges the contractor to respect these when performing the contract. The contract conditions have to be advertised in the request for tender.

Examples:

- Clean waste collection services – request that the service (or part of it) be carried out by means of biofuelled transportation.
- Fuel station supplier – ask for proof of biofuels production in conformity with ILO (International Labour Organisation) core conventions.
- Clean buses supply process – require training on sustainable biofuels for public transport staff.
- Energy-efficient shipping of biofuels.

- **Award criteria**

If a contracting authority decides to select the “most economically advantageous offer” rather than the “most economic offer”, bids can be evaluated on aspects other than price, including sustainability considerations. The sustainability award criteria must have a clear link to the subject matter. Fulfilling award criteria is optional.

Example for tender on clean transport service:

- Award points could be given for every additional 5% of biofuels on top of the biofuels percentage required in the technical specifications (minimum requirements).
- Award points are given to economic operators (tenderers) that offer training on sustainable biofuels (need to submit a clear concept).

C.4. Verify compliance with tender criteria

- It is important from a legal perspective to define how compliance with the sustainability criteria will be verified. The contracting authority must accept all appropriate means of proof that the offer meets the technical specifications it requires, including a technical dossier of the manufacturer or a test report from a recognised body. Different verification schemes will be needed for vehicles or fuels.

Examples of proof of compliance are:

- Vehicle certificates that show the vehicle is adapted to a biofuel.
- Third-party verification, including ecolabels.
- Technical dossiers or test results from the supplier.
- Self-declaration from the supplier that the criteria are met.

C.5. Contract follow-up

All the contract conditions and the obligatory specifications need to be covered in follow-up actions. Resources should be set aside for the work, both from the contracting authority and the winning contractor. Regular meetings are a common method for follow-up.

The contract can also be set up in such a way that the operators are guaranteed that the vehicles and the fuel station would be taken over by the new contractor if they lose the bid in the next procurement round.





D. Concrete examples of tender criteria

D.1. Purchasing sustainable biofuels

Procuring **sustainable** biofuels means including environmental criteria (e.g. climate protection, environmental impacts), social criteria (e.g. decent working conditions, exclusion of child labour) and aspects of cost-efficiency (e.g. new employment opportunities) in procurement documentation (see section C.3.).

Implementation notes:

- From a legal perspective, the safest way to incorporate sustainability into biofuels tenders is to include sustainability criteria in contract performance clauses (see previous chapter). However, provided it is clearly indicated right from the beginning and a strong link to the subject matter is kept, contracting authorities can also consider including these criteria in other sections of the tender such as award criteria.
- It might be useful to include a reference to the European Union's "sustainability index" regarding, for instance, minimum CO₂ savings (see section A).
- When focussing on the ecological impact of biofuels, the contracting authority could also define an absolute threshold value for the amount of CO₂ that may be released to the atmosphere during the life-cycle of the biofuel. As a means of verification reference could be made to the criteria of the Nordic Swan Ecolabel for sustainable biofuels (see online at: www.svanen.nu/eng).
- Another possibility could be to impose restrictions on the total energy used at the production stage. Again, as means of verification reference could be made to the criteria of the Nordic Swan (see online at: www.svanen.nu/eng).



Examples of sustainable biofuels tackling CLIMATE CHANGE

a) "Biofuels must deliver CO₂ savings of at least 35 %^[9] compared to fossil fuels"

Verification: Either a technical dossier from the company itself, or through third party verification. Relevant labels are also deemed to comply as means of compliance.

Examples of additional documentation to demonstrate proof of compliance with the requirement:

- The supplier shall, throughout the timeframe of the contract, report the emissions of greenhouse gases and energy consumption from growing, producing, transporting and distributing the fuel. This shall be done annually. (Verification as above).
- The supplier shall also annually report on efforts to minimise the greenhouse gas emissions from the whole chain of production. (Verification as above).
- Throughout the timeframe of the contract, the supplier shall report annually on the work to decrease negative effects on biodiversity, reduce emissions to air, water and land and use of water for the whole chain of production. (Verification as above).

Implementation notes:

- Methods for calculating the CO₂ emissions of biofuels can, for instance, be found in the proposal for a Renewables Directive COM/2008 19 final at "Annex VII – Rules for calculating the greenhouse gas impact of biofuels, other bioliquids and their fossil fuel comparators."
- Emission savings could also be included in technical specifications for sustainable biofuels procurement. As an award criterion, additional points could be given to the supplier that offers higher CO₂ savings.

Examples of sustainable biofuels procurement criteria addressing SOCIAL ASPECTS

b) "The origin of the biofuels must be traceable"

Verification: Either a report from the company itself, or third party verification. Evidence of affiliation to relevant multi-stakeholder initiatives or equivalent will be considered as independent certification.

Examples of additional proofs of compliance with the requirement:

- The supplier shall annually, throughout the timeframe of the contract, describe the origin of the fuels supplied. The company name, address and contact information of the person/s responsible for the entire production chain must be reported.

Implementation notes:

- When asking for the traceability of crops and/or certified sustainable farming, the Nordic Swan label may be deemed to comply with the criteria. (see online at: www.svanen.nu/eng)

Table 2: Typical values for biofuels if produced with no net carbon emissions from land use change

Biofuel production pathway	Typical CO ₂ savings compared to fossil fuels
Wheat ethanol (lignite (coal) as process fuel in combine heat and power (CHP) plant)	21 %
Palm oil biodiesel (process not specified)	32 %
Rape seed biodiesel	44 %
Wheat ethanol (natural gas as process fuel in conventional boiler)	45 %
Sugar beet ethanol	48 %
Corn ethanol, Community produced (natural gas as process fuel in CHP plant)	56 %
Palm oil biodiesel (process with no methane emissions to air at oil mill)	57 %
Pure vegetable oil from rape seed	57 %
Sunflower biodiesel	58 %
Wheat ethanol (straw as process fuel in CHP plant)	69 %
Sugar cane ethanol	74 %
Biogas from municipal organic waste as compressed natural gas	81 %
Waste vegetable or animal oil biodiesel	83 %
Biogas from wet manure as compressed natural gas	86 %
Biogas from dry manure as compressed natural gas	88 %

Source: Proposal of the Renewables Directive COM/2008 19 final, "Annex VII – Rules for calculating the greenhouse gas impact of biofuels, other bioliquids and their fossil fuel comparators", online at: http://ec.europa.eu/energy/climate_actions/doc/2008_res_directive_en.pdf

^[9] The threshold of 35 % is mentioned under art. 15 of the proposal of the Renewables Directive COM/2008 19 final, where it states: "The greenhouse gas emission saving from the use of biofuels and other bioliquids taken into account for the purposes referred to in paragraph 1 shall be at least 35 %." An ambitious purchaser could also ask for 50 % of GHG savings compared to conventional fuels.

- Initially, the suppliers may need to be permitted to report unknown biofuel origins and carbon savings, in recognition of the difficulty of obtaining such information. During the contract period, reporting must become increasingly detailed.

Core Conventions of the International Labour Organisation (ILO)

Freedom of association:

- 1) Freedom of Association and Protection of the Right to Organise (No. 87)
- 2) Right to Organise and Collective Bargaining (No. 98)
- 3) Forced Labour (No. 29)
- 4) Abolition of Forced Labour (No. 105)

Equality:

- 5) Discrimination (Employment and Occupation) (No. 111)
- 6) Equal Remuneration (No. 100)

Elimination of child labour:

- 7) Minimum Age (No. 138)
- 8) Worst Forms of Child Labour (No. 182)

> Labour standards are simply the rules that govern how people are treated in a working environment. Taking account of the spirit of labour standards does not necessarily mean applying complex legal formulae to every situation; it can be as simple as ensuring that basic rules of good sense and good governance have been taken into account.

More information: www.ilo.org/public/english/standards/norm/index.htm

c) “The biofuels must be produced under decent working conditions”

Verification: Independent certification that the biofuels are produced in accordance with the ILO core conventions (see table on the right). Evidence of affiliation with relevant multi-stakeholder initiatives or equivalent will be considered as independent certification. Relevant labels are also deemed as proof of compliance.

If no independent evidence is available, a comprehensive declaration of honour that the standards of the International Labour Organisation (ILO) are respected will be accepted. A standard template for this declaration is provided in the tender documents. Any relevant supporting documents should be included with the bidding documents.

If neither an independent certification nor a declaration of honour is available, the tenderer should provide a commitment that the bidding company and its subcontractors are carrying out targeted measures to progress towards the ILO Core Conventions. A standard template for this declaration is provided in the tender documents. Any relevant supporting documents should be included with the bidding documents.

Examples of additional proofs of compliance:

- The supplier shall, throughout the timeframe of the contract, report annually on how working conditions according to the Core Conventions of the ILO are fulfilled for the procured fuels along the whole chain of production.



Examples of sustainable biofuels procurement criteria tackling LAND USE

d) “Production of biofuels on land, such as “highly biodiverse” grasslands, forests and wetlands that until 1 January 2008^[10], was protected cannot be used for biofuel production”

Verification: Either a report from the company itself, or third party verification. Evidence of affiliation to relevant multi-stakeholder initiatives or equivalent will be considered as independent certification.

Implementation notes:

This could also be included as a technical specification.

D.2. Clean passenger cars

Subject matter:	Clean light vehicles for a municipal fleet or a taxi fleet. They can be leased or purchased.
Specifications:	The vehicles must be adapted to [a biofuel] and the vehicle warranty shall be valid. The vehicle must meet the Euro 4 emission standard and have a particle filter if it is fitted with a diesel engine. The supplier must offer training to the personnel that will use and maintain the vehicles.
Verification:	Certificate from the vehicle supplier which proves that the vehicle is adapted to biofuels.

D.3. Heavy duty vehicles adapted to biofuels

Subject matter:	Heavy vehicles adapted to biofuels.
Technical specifications:	The truck must be adapted to run on [biogas/biodiesel/ethanol]. The buses must be adapted to run on [biogas/biodiesel/ethanol]. The vehicle must meet the EURO 5 emission standard The supplier must offer training to the personnel that will use and maintain the vehicles.
Verification:	Certificate from the vehicle manufacturer which shows that the vehicle is adapted to biofuels. Verification of the training criterion could be documentation outlining a plan for training of personnel.

^[10] See proposal for Renewables Directive, supra FN5

^[11] “Euro 5” is a European emission standards defining the acceptable limits for exhaust emissions of for light passenger and commercial vehicles sold in EU member states. (see Directive 2007/715/EC – entry into force: 2008/9)

Biofuel pumps at public fuel stations

One way to encourage fuel distributors to invest in a fuel station for biofuels is to include the requirement for this in the tender, i.e. by including a pump for a type of biofuel the bidder will gain the whole fuel contract. This is also an efficient way to get biofuel pumps at public fuel stations.

Example:

Technical specifications:

Petrol, diesel and [applicable biofuel] must be offered at the same refuelling facility.

The biofuel offered must meet fuel quality standards according the Fuel Quality Directive valid in the EU or in an EU member state.

Verifications: The fuel supplier must prove that the fuel meets EU standards.

Note:

Distributors very often do not accept filling tanks below 100,000 litres.

D.4. Biofuel refuelling equipment

The technical specifications must ensure that the pump equipment can meet quality and safety standards. The tender must also include the tank size.

Subject matter:	Fuel pump adapted to biofuels.
Technical specifications:	The fuel pump must be adapted for [ethanol (E85, ED95), biodiesel (FAME) or pure plant oil biofuel (PPO)] and meet the quality and safety standards set by national/local authorities.
Verification:	Certificate from the supplier that proves that the fuel pump meets the requirements for the biofuel.

D.5. Biofuels in transport services

Procurement of transport services includes, for example, public transport, school transport, goods transport, food transport and taxi services. As there are few companies today that can offer only biofuelled services it will be difficult to use mandatory product requirements. Instead contract performance clauses can be used in order to stimulate an increased use of biofuels during the time of the contract. A preference in favour of biofuels can also be given by including relevant award criteria.

Subject matter:	Contract of transport services with a certain amount of biofuels used.
Award criteria:	The tender will be awarded to the economically most advantageous offer, and the offers will be evaluated according to the following scheme: 10 points (out of 100) – 1 point is awarded for every X%* of the transport services that will be propelled by biofuels. * The percentage depends on the size of the service fleet. Numbers of vehicles might be used instead of percentages.
Verification:	A list of the vehicles in the fleet that will be propelled by biofuels. Vehicle certificates that show the number of vehicles adapted to biofuels.
Contract performance clauses:	10 % biofuels shall be introduced in the transport service during the time of the contract.
Verification:	Fuel statistics from the operator.
Information about the social and environmental effects of the production of biofuels used in the service should be reported once every six months (see examples of questions under C.3.). A standard template to help complete the report is provided in the tender documents.	
Verification:	Reports from the fuel producer and fuel statistics every six months.



E. Suggestions for complementary activities

Experiences from cities that have introduced biofuels show that incentives are important tools to speed up the introduction of both biofuel compatible vehicles and biofuels. The most common types of national incentives are lower fuel taxes, lower vehicle tax or funding for clean vehicles and biofuel pumps. Increasingly, reduced CO₂ emissions will also feature and diverse incentives can be linked to this.

F. Good practice and further information

Global standard of principles and criteria for sustainable biofuels

The École Polytechnique Fédérale de Lausanne (EPFL) is leading an international initiative aimed at developing a global standard on sustainable biofuels. The 'Roundtable on Sustainable Biofuels' (RSB) brings together farmers, companies, non-governmental organisations, experts, governments, and inter-governmental agencies with the aim of achieving global, multi-stakeholder consensus around the principles and criteria of sustainable biofuels production. The RBS is officially accepted as Technical Liaison at the European Committee for Standardization (CEN), and thus feeding in to the CEN-process to come to a standard for sustainable biofuels.

The Roundtable on Sustainable Biofuels recently announced Version Zero of their Sustainability Standard. This document is available on their website at:

<http://cgse.epfl.ch/jahia/site/cgse/op/edit/pid/65660>

Useful incentives at the regional or local level include:

- free parking or priority parking for "clean" vehicles
- no congestion charge
- free entrance or access to low emission zones
- local or national funding of vehicles
- test fleets (these provide the opportunity for interested companies to try clean vehicles and fuels for a short period)
- Special "priority" lanes for clean taxis



Good examples of locally produced biofuels:

B100 buses in Graz – used cooking oil fuels public buses

The Grazer Stadtwerke Verkehrsbetriebe AG (GVB - Public Transport Company of Graz) fleet includes 61 trams and 142 buses. Since 2005 all city buses have been running on 100% Biodiesel FAME EN14214, produced from used frying oil. GVB introduced a mandatory requirement that all new city buses must be capable of using RFOME (recovered fuel oil methyl ester such as biodiesel from used frying oil). Further information is available on the GVB website – www.gvb.at.

Labelling of sustainable biofuels

The Nordic Swan Ecolabel Scheme certifies sustainable biofuels. The label is only awarded to fuels that consist of 50% or more biofuel. The ecolabel criteria take into account energy efficiency and greenhouse gas emissions over the whole production chain. The producer must also report on land used for the growing of feedstock, and the effect on air quality when used, particularly relating to public health. The distributor of the fuel must show that the producer of the fuel is complying with social standards such as the ILO conventions. Further information is available on the Nordic Swan Ecolabel website – www.svanen.nu.

Ensuring sustainable biofuels – the UK Renewable Fuels Agency (RFA)

The RFA has been set up by the UK Government to implement the Renewable Transport Fuel Obligation (RTFO), which came into force on 15 April 2008. The RTFO will oblige fossil fuel suppliers to ensure that by 2010 biofuels account for 5% by volume of the fuel supplied in UK refuelling stations. The suppliers of biofuels have to report monthly to the RFA on carbon emissions and sustainability issues of the fuel they distribute. Further information is available on the RFA website – www.dft.gov.uk/rfa/.

Swedish Environmental Management Council (MSR) – Guidance for sustainable procurement

The MSR contributes to sustainable development by offering companies and public organisations guidance in the field of Green Public Procurement (GPP). They have developed concrete guidelines to support the procurement of clean vehicles. Further information is available on the MSR website – www.msr.se/en/.

EU projects dealing with biofuels procurement

BIOGASMAX – www.biogasmax.eu

The objective of the BIOGASMAX project is to address urban challenges related to air and water pollution, as well as waste management. BIOGASMAX focuses on monitoring the economic and environmental impact of biofuels for transport.

PROCURA – www.procura-fleets.eu

PROCURA is developing joint procurement models, fleet scan tools and manuals to facilitate the acquisition and maintenance of alternative fuelled vehicles (AFV) vehicles for private and public fleets. This project is at a relatively early stage and therefore conclusions on the sustainable procurement of biofuels are not yet available.

Note:

The EU has only recently embarked on projects involving the procurement of biofuels. Therefore some of the following projects only deal in part with the procurement of clean fuels.



BEST – www.best-europe.org

The project 'Bioethanol for Sustainable Transport' deals with the introduction and market penetration of bioethanol as a vehicle fuel and the introduction and wider use of flexible fuel vehicles and ethanol cars on the market.

SU:GRE – www.sugre.info

SU:GRE (Sustainable Green Fleets) promotes alternative propulsion and mainly focuses on fleets including nonland transport. The main objective is to promote and support the conversion of fleets to alternative propulsion (ranging from biofuels, methane as fuel to hybrid systems comprised of combustion engines and electric propulsion systems) and the energy efficient usage of them.

RECODRIVE – www.recodrive.eu

RECODRIVE ("Rewarding and Recognition Schemes for Energy Conserving Driving, Vehicle procurement and maintenance") is a project which aims to merge existing ecodriving initiatives with good fleet management and logistics optimisation practice to push fuel saving in fleets beyond 10%. The project includes procurement of vehicles (including fuel efficient biofuel enabled vehicles) and rewarding staff who are involved in improving the fuel economy of the fleet.

Trendsetter Europe – www.trendsetter-europe.org

The European project Trendsetter involves 54 individual projects, all of which aim to; improve mobility, quality of life, air quality, and reduce noise and traffic congestion. Five European cities, the cities of Graz, Lille, Pecs, Prague and Stockholm are participating in this project. In the case of Stockholm, the project focuses on the national joint procurement of clean vehicles.

COMPRO – www.compro-eu.org

COMPRO addresses the common procurement of clean public service transport vehicles at a European scale. It will involve the identification of common standards for the procurement of public transport vehicles and aims to significantly reduce the prices of such vehicles on the open market. Although the project focuses on natural gas and hybrid vehicles, the information can also be used for biogas and (biofuel) hybrid vehicles.

Good examples of joint procurement of ethanol powered transport

- The City of Stockholm successfully organised a nation-wide buyer's consortium for ethanol powered transport. The consortium included other Swedish municipalities, organisations and private purchasers. The joint technology procurement of ethanol-powered vehicles also led to the development of a new vehicle operating on bio-ethanol.

More information is available at www.miljobilar.stockholm.se

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Biofuel Cities European platform

Within the Biofuel Cities project, a neutral stakeholder platform is developed to examine the application of biofuels and developments relevant to this topic.

The purpose of Biofuel Cities is to develop a European Partnership that investigates the broadscale use of new and innovative biofuel technologies. Biofuel Cities covers the complete chain from feedstock to biofuels production, distribution and utilisation in vehicle fleets.

The aims are to:

- (a) **build a European Partnership** in which biofuel end-users, suppliers, and those actors setting the frameworks for biofuel applications are given the opportunity to form new partnerships for projects and to engage in exchange and networking;
- (b) **independently assess biofuel projects**, both research & development and demonstration-orientated projects, as well as local sustainable mobility policies, in order to guide industrial and commercial stakeholders, local governments, the European Commission and others on the implementation of biofuels and energy-efficient vehicles;
- (c) **support biofuel stakeholders** through information, events, tools and publications, as well as guidance on biofuel policies and applications.

Technical Guidance on Biofuels

For more information about technical aspects of biofuels, have a look at the technical guidance for the application of biofuels (available from the publications section on www.biofuel-cities.eu)