

REPORT TO THE EUROPEAN COMMISSION ON DIRECTIVE 2003/30/EC (COVERING THE YEAR 2003)

Introduction

The object of this report is to ensure compliance with the reporting obligations referred to in Article 4(1) of Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport. The following topics will be examined:

1. Dutch views on renewable transport fuels.
2. The national target for the Netherlands (Article 4(1)).
3. The measures taken to promote the use of biofuels or other renewable fuels to replace diesel and petrol for transport purposes (Article 4(1)).
4. The national resources allocated to the production of biomass for energy uses other than transport (Article 4(1)).
5. The total sales of transport fuels and the share of biofuels, pure or blended, and other renewable fuels placed on the market for the preceding year (2003) (Article 4(1)).

1. Dutch views on renewable transport fuels

In a recently published memorandum on traffic emissions, the Dutch Government set out its views on climate-neutral fuels as follows.

Climate-neutral fuels – fuels which, when viewed across the entire chain, do not cause CO₂ emissions into the atmosphere – have the potential to restore CO₂ emissions to a sustainable level. The transition to climate-neutral fuels must be thought of in terms of energy chains. An energy chain is the juxtaposition of an energy source, a resulting fuel and an energy converter (motor) (see Figure 1). The policy must be geared towards ensuring the sustainability of energy chains as a whole. The placing on the market of a particular fuel (e.g. hydrogen) or a particular engine technology (e.g. fuel cells) does not automatically give rise to sustainable mobility.

A sustainable level of CO₂ emissions can only be achieved through the combination of several energy chains. A scenario study carried out by the National Institute of Public Health and Environmental Hygiene (*Rijksinstituut voor Volksgezondheid en Milieuhygiëne - RIVM*)¹ shows that there is no unique recipe when it comes to finding a complete and definitive solution. Accordingly, the Netherlands is not opting for one specific energy chain as a final scenario, but will seek to promote final objectives (such as CO₂ emissions across the chain) and employ instruments designed to facilitate this aim. It is not yet clear, however, which energy chains will ultimately prove to be the most efficient. This is something that will depend on future costs, the availability of energy sources and developments in the field of engine technology.

It is likely that biofuels as well as sustainably produced hydrogen and electricity will form an integral part of future energy provision in the transport sector. The switchover to new energy chains will require changes and investment on a huge scale, and will be extremely time-consuming. There is therefore a need for intermediary technologies which do not necessarily have to be climate-neutral *per se*, but which will nevertheless facilitate a gradual shift towards

¹ Brink, R.M.M. van den (2003), *Scenario's voor duurzame energie in verkeer en vervoer* (Scenarios for sustainable energy in the traffic and transport sectors). Assessment of various sustainability criteria. Bilthoven: National Institute of Public Health and the Environment.

climate-neutral technologies. This raises the prospect of hybrid cars - hydrogen from fossil sources (such as natural gas) and GTL diesel (gas-to-liquid diesel). GTL diesel is seen as a step along the way to climate-neutral BTL diesel (biomass-to-liquid diesel), which is produced from biomass. The Netherlands is strongly in favour of promoting further investigation into these developments.

Through the application of a single type of climate-neutral fuel, viz. biofuels, a start can be made in the short term. All biofuels are biological in origin, such as bioethanol for petrol cars and biodiesel for diesel cars. The use of biofuels represents an important step on the way to climate-neutral fuels. The large-scale introduction of other climate-neutral energy carriers, such as sustainably produced hydrogen, will not be possible in the short term.

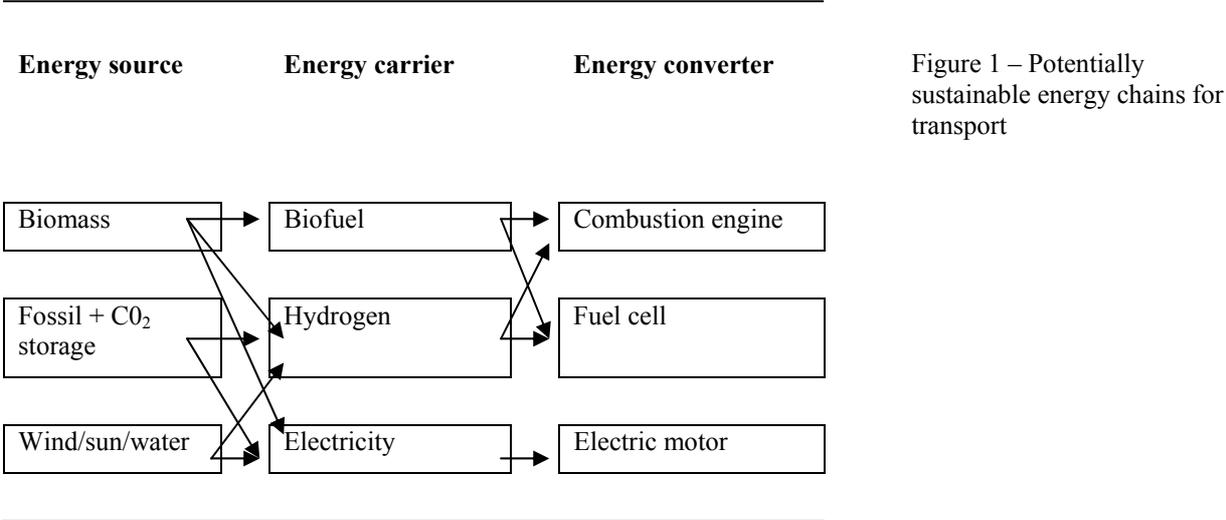


Figure 1 – Potentially sustainable energy chains for transport

Biofuels have the potential to reduce significantly CO₂ levels in the transport sector. The CO₂ reduction levels associated with the current generation of biofuels range from 50% to 70%.² The expectations are that the application of new technology will lead to improvements in the CO₂ efficiency of these so-called second-generation biofuels. At the moment biofuel costs are still high. However, investment in biofuels is an important step in the transition process towards sustainable mobility. Furthermore, the position as regards second-generation fuel costs is expected to improve eventually.

For the Netherlands, the starting points for the introduction of biofuels are the following:

1. The aim is to achieve a significant reduction in CO₂ levels (well-to-wheel) in the transport sector. At the outset of the promotional exercise, the Netherlands is considering imposing a 50% well-to-wheel CO₂ reduction; eventually the CO₂ performance will need to improve still further.
2. In order to be assured of the necessary investment, the market will need to receive guarantees from the Government that the latter will stick to the chosen policy over the long term. The formulation of the biofuel policy will be structured in such a way as to ensure the rapid introduction of the second generation of biofuels under optimum conditions, while at the same time avoiding lock-in-effects (e.g. prolonged reliance on

² This involves a well-to-wheel comparison of CO₂ emissions from, on the one hand, a fossil energy chain and, on the other, a biomass-based energy chain (see Ecofys, 2003; Biofuels in the Dutch market: a fact-finding study). Well-to-wheel studies enable all energy chain emissions to be mapped, such as extraction, agriculture, fertiliser, distribution, refining, tank storage and exhaust emissions.

biofuels with low CO₂ performance levels). These lock-in effects do not apply in the case of bioethanol, since the existing bioethanol production process can be converted into a production process for the next generation of bioethanol. Furthermore, the present generation of bioethanol is an excellent raw material for the chemicals industry.

3. Preferably, the biofuels should be produced under the following basic conditions:
 - Negative shifts to biodiversity must be avoided.
 - Competition affecting food production must not be permitted in areas where land for food production is in short supply.
 - There must be no technical problems involving vehicle engines.
4. As far as possible, the introduction of biofuels must be consistent with the situation pertaining in other EU Member States. Consequently, exports from the Netherlands will be a possibility.
5. The planning process will need to take account of the time required for the achievement of biofuel production capacity levels. Targets must be set on the basis of an assessment as to what is feasible in the Netherlands.

2. The national target for the Netherlands

In order to make biofuels sufficiently attractive in economic terms, either a commitment will need to be made to the entire market or, alternatively, financial compensation will have to be paid in respect of the additional costs incurred. In the Netherlands, however, a commitment to the market is not possible in the short term. In principle, therefore, the Netherlands is opting for financial stimulation.

The provision of incentives with effect from 2005 is not feasible on the grounds that further investigations must be carried out into the correct way of incentivising the use of biofuels (the Netherlands does not, after all, have a tradition involving biofuels) and also on the grounds that business and industry are not yet in a position to launch the introduction of biofuels as early as 2005.

From 2006 the Netherlands is adopting a biofuel target percentage of 2% of the energy content of petrol and diesel. To this end, the Dutch Government is doing all it can to introduce incentive arrangements for biofuels with effect from 2006. The requisite investigations and preparations, including the funding of incentive measures, have already been set in train. In 2005 details will be made available of the results achieved in the areas of research, preparation and funding.

The 2% biofuels target includes niche markets (e.g. the use of pure vegetable oil, pure biodiesel and mixtures of 85% ethanol with 15% petrol). In addition to reducing CO₂ emissions, another important objective is to embark on an innovatory approach to the use of biofuels in the transport sector.

In order to incentivise the development of the so-called second-generation biofuels (e.g. biomass-to-liquid diesel and ethanol from cellulose), steps need to be taken to ensure the eventual imposition of sustainability requirements in respect of biofuels (sustainability criteria, which still need to be drawn up (internationally), should relate, inter alia, to CO₂ reduction and the maintenance of biodiversity). With a view to assessing biofuels in terms of their sustainability, an examination should be carried out to determine whether it would be possible to establish an (international) certification system. The possibility of providing incentives for the development of new technologies should also be examined.

Viewed over the long term (post-2010), it is desirable that we should continue to build on the current Directive (2003/30/EC). The Netherlands is committed to ensuring the incorporation in this Directive of requirements governing the CO₂ efficiency of biofuels. Over the longer term, efforts will be made to ensure the placing on the market of biofuels offering enhanced CO₂ efficiency. Moreover, EU harmonisation on an enhanced scale seems a logical next step.

The Directive stipulates a reference value of 2%, on the basis of energy content, in respect of the proportion of biofuels, by 31 December 2005. Derogations from this indicative value may be permitted on the basis of substantiated arguments. The Netherlands has two arguments justifying derogations from the indicative value of 2% in 2005. One of these arguments is mentioned specifically in the Directive itself (limited national potential for production of biofuels from biomass (Article 4(1)(a)). The arguments are discussed below. On the basis of the evidence, the Netherlands has been found, notwithstanding, to be in compliance with the Directive.

Arguments in favour of derogations from the indicative value

1. At present, the Netherlands' potential for producing biofuels from biomass is virtually nil. The Netherlands does not have the production facilities needed for the manufacture of biofuels. Consequently, on the basis of the first argument propounded in the Directive (Article 4(1)(a), a deviating target value can be determined. However, various Dutch market participants have indicated that, once the Dutch Government has made clear how it intends to implement the Directive, they will immediately take steps to build up production potential. It is assumed that this will take about a year and a half.

2. In addition to the argument set out above, the Netherlands can adduce a second argument in favour of allowing a derogation from the indicative target value referred to in the Directive (possible on the basis of Article 4(1)). Over and above the minimum requirements set out in the Directive, the Netherlands wants to look more closely at the possibility of imposing minimum sustainability requirements (including CO₂ reduction). Furthermore, the Netherlands would like to structure the execution of the incentive measures in such a way as to provide a strong incentive for the development of the so-called second-generation biofuels. When we speak of second-generation biofuels, we are referring, inter alia, to biomass-to-liquid diesel and ethanol from cellulose. Compared with the old biofuels, this new generation of biofuels offers the following advantages:

- => Greater CO₂ reduction (circa 90%);
- => less competition with food production (on account of other raw materials being used, e.g. residual flows);
- => higher yield per hectare;
- => lower costs.

In the event of biofuel sustainability requirements being imposed with effect from 2006, these requirements should be set at such a level as to enable the present generation of biofuels (including bioethanol and biodiesel) to comply with that level. Little by little, the requirements will need to be tightened; alternatively, biofuels offering improved sustainability performance may be eligible for higher compensation. In order to facilitate the imposition of biofuel sustainability requirements, it is desirable that a system of certification should be developed.

The necessary time will need to be allocated for the elaboration of the implementing arrangements associated with possible ways of imposing sustainability requirements and providing incentives for the second generation of biofuels (including prevention of lock-in of the first generation). Consequently, the possibility of biofuel incentives being introduced before 2006 is ruled out.

3. Measures taken to promote the use of biofuels or other renewable fuels to replace diesel and petrol for transport purposes

From 2006 the Netherlands is adopting a target percentage of 2% of the energy content of petrol and diesel. To this end, the Netherlands is doing all it can to introduce incentive arrangements for biofuels with effect from 2006. The incentive measures will be structured in such a way as to ensure that not more than 2% of the energy input associated with the quantity of diesel and petrol used for road transport purposes is replaced. The incentives may be geared both to the blending of biofuels with petrol and diesel and to the use of pure biofuels in niche markets. The exact method of implementation will be announced in 2005.

4. National resources allocated to the production of biomass for energy uses other than transport

In the Netherlands no national resources are allocated for the production of biomass. The production of biomass takes place if the basic economic conditions for such production exist. With a view to improving the basic economic conditions for the production of electricity and heat from biomass, resources are being deployed within the generic body of instruments for sustainable (renewable) energy. These instruments consist of:

=> a tax bonus on the energy tax (up to 1 January 2005);

=> a tax bonus on investment in renewable energy and energy saving (Energy Investment Deduction scheme (*Energie Investeringsaftrek* – EIA));

=> production subsidy for renewable electricity (Environmental Quality of Electricity Production (*Milieukwaliteit van de ElektriciteitsProductie* – MEP));

=> incentive programmes for research, development and renewable energy and energy saving applications.

The production of energy from biomass is an integral component of these instruments.

5. Total sales of transport fuel and share of biofuels, pure or blended, and other renewable fuels placed on the market for the preceding year (2003)

In recent years, sales of petrol and diesel in the road haulage sector have been reasonably stable. The official figures issued by the Central Statistics Office (*Centraal Bureau voor de Statistiek* – CBS)) are set out in the table below. The official data for 2003 are not yet known. It is being assumed, however, that petrol and diesel consumption in 2003 is very slightly up on 2002 consumption levels.

Apart from a number of small-scale demonstration projects (involving some 4 million litres of biodiesel and pure vegetable oil), no biofuels are being placed on the market in the Netherlands.

Table 1 – Overview of sales of petrol and diesel in the road haulage sector (source: CBS, June 2004)

	Sales and consumption in millions litres		Sales and consumption in PJ	
	Sales		Sales	
	Motor spirit	Gas oil / diesel	Motor spirit	Gas oil / diesel
Period Covered	<i>millions litres</i>		<i>PJ</i>	
2000	5 347	6 483	175.3	232.5
2001	5 481	6 611	179.7	237.1
2002	5 579	6 848	182.9	245.6