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Federal Environment Agency

BIOFUELS IN THE TRANSPORT SECTOR IN AUSTRIA: 2005

Summary of information from the Republic of Austria
in accordance with Article 4(1) of Directive 2003/30/EC
for the reporting year 2004

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TABLE OF CONTENTS

1	INTRODUCTION	4
1.1	Legal framework	4
2	BIOFUELS	5
2.1	Definition of biofuels and other renewable fuels	5
2.2	Types of biofuels	5
3	INFORMATION ON BIOFUELS IN AUSTRIA	6
3.1	Measures to promote the use of biofuels in the transport sector	6
3.1.1	Tax exemption	6
3.1.2	Substitution requirement.....	6
3.2	National resources for the production of biomass	6
3.2.1	Biodiesel	6
3.2.2	Ethanol.....	7
3.2.3	Biogas	7
3.2.4	Solid biomass.....	7
3.3	Sales of fuel in Austria in 2004	8
4	QUANTITIES OF BIOFUELS	9
5	REFERENCES	10

1 INTRODUCTION

1.1 Legal framework

According to the White Paper "European transport policy for 2010: time to decide", the European Commission expects CO₂ emissions from transport to rise by 50% between 1990 and 2010, to around 1 113 billion tonnes. The constantly expanding transport sector accounts for more than 30% of total energy consumption in the European Union. The White Paper calls for dependence on oil (currently 98%) in the transport sector to be reduced by using alternative fuels such as biofuels.

To this end, the Directive on the promotion of the use of biofuels or other renewable fuels for transport (Directive 2003/30/EC) was adopted by the European Parliament and the Council on 8 May 2003. The purpose of the Directive is to promote the use of biofuels or other renewable fuels to replace diesel or petrol for transport purposes in each Member State, with a view to contributing to objectives such as meeting climate change commitments, environmentally friendly security of supply and promoting renewable energy sources.

Member States should ensure that a minimum proportion of biofuels and other renewable fuels is placed on their markets, and must set national indicative targets to that effect.

The reference value for these targets is 2%, calculated on the basis of the energy content of all petrol and diesel for transport purposes placed on the Member States' markets by 31 December 2005. The reference value will be increased by 31 December 2010 to 5.75 % of all petrol and diesel.

In accordance with Article 4(1), the following information must be reported to the Commission each year:

- the measures taken to promote the use of biofuels or other renewable fuels to replace diesel or petrol for transport purposes;
- the national resources allocated to the production of biomass for energy uses other than transport;
- the total sales of transport fuel and the share of biofuels, pure or blended, and other renewable fuels placed on the market for the preceding year. Where appropriate, Member States must report on any exceptional conditions in the supply of crude oil or oil products that have affected the marketing of biofuels and other renewable fuels.

2 BIOFUELS

The Austrian Fuels Ordinance of 1999, which, in the revised version of 4 November 2004 (BGBl. II, No 417/2004), transposes the Directive into national law, contains the following analogous definitions:

2.1 Definition of biofuels and other renewable fuels

"Biofuels" means liquid or gaseous fuels produced from biomass and intended for the operation of vehicle combustion engines.

"Biomass" means biodegradable fractions of products, waste or residues from agriculture and forestry (including vegetal and animal substances) and related industries, as well as the biodegradable fraction of industrial and municipal waste.

"Other renewable fuels" means renewable fuels other than biofuels, which originate from renewable, non-fossil energy sources such as wind, solar, geothermal, wave, tidal or hydropower and which are intended for use in vehicle combustion engines.

2.2 Types of biofuels

As a minimum, the following products come under the term "biofuels" in accordance with the draft report on the amendment of the Fuels Ordinance, provided that they are used as fuels or a fuel component for the operation of vehicle combustion engines:

- "**Bioethanol**" is an ethanol produced from biomass and/or biodegradable fractions of waste;
- "**Fatty acid methyl ester**" (FAME, biodiesel) is a methyl ester produced from vegetable or animal oil or fat;
- "**Biogas**" is a gas produced from biomass and/or biodegradable fractions of waste by means of pyrolysis or fermentation;
- "**Biomethanol**" is a methanol produced from biomass and/or biodegradable fractions of waste;
- "**Biodimethylether**" is a dimethylether produced from biomass;
- "**Bio-ETBE (ethyl-tertio-butyl-ether)**" is an ETBE produced on the basis of bioethanol with 47% by volume calculated as biofuel;
- "**Bio-MTBE (methyl-tertio-butyl-ether)**" is an MTBE produced on the basis of biomethanol with 36 % by volume calculated as biofuel;
- "**Synthetic biofuels**" are synthetic hydrocarbons or mixtures thereof which have been produced from biomass;
- "**Biohydrogen**" is a hydrogen produced from biomass and/or biodegradable fractions of waste;
- "**Pure vegetable oil**" is oil produced from oil plants through pressing, extraction or comparable procedures, crude or refined but chemically unmodified.

3 INFORMATION ON BIOFUELS IN AUSTRIA

3.1 Measures to promote the use of biofuels in the transport sector

3.1.1 Tax exemption

The **Mineral Oil Tax Law** (BGBl. I No 180/2004) was amended by the Tax Amendment Law of 30 December 2004. The following rates of tax were laid down for fuels:

Petrol:

- from 31 December 2004 to 1 October 2007
 - with a sulphur content not exceeding 10 mg/kg: €417
 - with a sulphur content in excess of 10 mg/kg: €432
- after 30 September 2007
 - containing a minimum 44 l of biogenic substances and with a sulphur content not exceeding 10 mg/kg: €412
 - otherwise: €445

Diesel:

- from 31 December 2004 to 1 October 2005
 - with a sulphur content not exceeding 10 mg/kg: €302
 - with a sulphur content in excess of 10 mg/kg: €317
- after 30 September 2005
 - containing a minimum 44 l of biogenic substances and with a sulphur content not exceeding 10 mg/kg: €297
 - otherwise: €325

Biofuels:

Pure biofuels are completely exempt from mineral oil tax.

3.1.2 Substitution requirement

The Biofuels Directive was transposed into national law by the revised Fuels Ordinance of 4 November 2004 (BGBl. II, No 417/2004). Accordingly, from 1 October 2005, those subject to the substitution requirement must place on the market a proportion of 2.5% biofuels or other renewable fuels calculated on the basis of the total energy content of the petrol and diesel placed on the market in the transport sector each year by those subject to mineral oil tax in Austria. This proportion should increase to 4.3% from 1 October 2007 and to 5.75% (the Directive's objective for 2010) from 1 October 2008.

Persons subject to the substitution requirement are those who place petrol and diesel fuels on the market for the first time in Austria or bring such fuels into Austria other than in a vehicle fuel tank.

3.2 National resources for the production of biomass

3.2.1 Biodiesel

There are currently nine large-scale and three pilot biodiesel plants in operation in Austria. The total capacity amounts to more than 100 000 tonnes per year. In

addition, the biodiesel plant in Linz/Aschbach has a capacity of 10 000 tonnes per year but is not currently in operation.

In 2004, 55 000 tonnes of biodiesel were produced in Austria, according to information from the producers. From this quantity, however, approximately 90% was sold abroad, as the price which can be obtained for biodiesel in Italy and Germany is currently higher than that in Austria.

3.2.2 Ethanol

There is currently no large-scale production of bioethanol in Austria.

3.2.3 Biogas

In 2004, an estimated 69-104 million cubic metres of biogas were produced in around 200 agricultural installations in Austria. In addition, 62 waste and 134 sludge treatment plants produce approximately 170 million cubic meters of biogas. In total, more than 200 million cubic meters of biogas are produced each year in Austria, almost 100% of which, however, is currently converted directly into electricity by the producers. However, some producers are very interested in using biogas as a fuel for transport.

3.2.4 Solid biomass

Owing to the multiple uses of solid biomass, in particular for residential heating and electricity in Austria, we have to rely on a statistical assessment. The current statistics give a figure of 65 840 TJ for solid biomass in 2002, which is 6.7% of gross domestic consumption.

It can be assumed that energy use from solid biomass in 2004 was not stagnant. However, no exact data on the energy use of solid biomass in 2004 are currently available.

3.3 Sales of fuel in Austria in 2004

The quantity of fuel sold is ascertained by the Federal Ministry for Economic Affairs and Labour in accordance with the Oil Stockholding and Registration Law on the basis of a notification requirement. In addition to the quantities of fuel sold in 2004, the comparable figures for 2001 and 2003 are given.

Table 1: National sales of mineral oil products in the transport sector in Austria¹

Type of fuel	Total national sales 2001 (tonnes)	Total national sales 2002 (tonnes)	Total national sales 2003 (tonnes)	Total national sales 2004 (tonnes)
Unleaded normal petrol (91<=RON<95)	599 831	603 783	597 989	563 869
Unleaded petrol (95<=RON<98)“Super“	1 311 286	1 444 538	1 530 973	1 492 409
Unleaded petrol (98<=RON)“Super Plus“	87 038	93 445	93 519	77 039
Diesel	4 674 751	5 175 368	5 741 610	5 935 601

¹ Source: Ministry for Economic Affairs and Labour (2004)

4 QUANTITIES OF BIOFUELS

The quantities of biofuels required for 2005 and 2006 can be estimated from the fuel consumption prognosis and an analysis of the Austrian transport fleet. The quantity is calculated on the basis of the energy content of the fuels. It was assumed that the mileage would remain constant when biofuels are used, which can only be represented by maintaining the total energy quantity.

Fluctuations in fuel consumption resulting from the different energy contents of biofuels were taken into account in the calculation.

As already described in Part 3.1.2, from 1 October 2005, those subject to the substitution requirement must replace 2.5% of the energy content of petrol and diesel used in the transport sector with biofuels. This would be equivalent to around 54 000 tonnes of biodiesel for the remaining 3 months of 2005. It can be assumed that in 2005 and 2006, the substitution requirement will be almost exclusively met with biodiesel.

The estimated amount of biodiesel required for the 2006 calendar year, assuming that a further 2.5% is substituted, is around 223 000 tonnes.

5 REFERENCES

Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport.

Order of the Federal Minister for the Environment, Youth and the Family on fuel quality (1999 Fuels Ordinance).

Federal law aligning mineral oil tax with Community law (1995 Mineral Oil Tax Law).