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Fifth report to the European Commission

under Article 4(1) of 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

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Introduction

This report is presented pursuant to Article 4(1) of 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, which is worded as follows:

“Member States shall report to the Commission, before 1 July each year, on:

- 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, and
- 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 shall 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.

In their first report following the entry into force of this Directive, Member States shall indicate the level of their national indicative targets for the first phase. In the report covering the year 2006, Member States shall indicate their national indicative targets for the second phase.

In these reports, differentiation of the national targets, as compared to the reference values referred to in Article 3(1)(b), shall be motivated and could be based on the following elements:

- a) objective factors such as the limited national potential for production of biofuels from biomass;
- b) the amount of resources allocated to the production of biomass for energy uses other than transport and the specific technical or climatic characteristics of the national market for transport fuels;
- c) national policies allocating comparable resources to the production of other transport fuels based on renewable energy sources and consistent with the objectives of this Directive”.

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

Legislative framework of the internal market for the promotion of the use of biofuels in 2007

The placing of biofuels on the motor fuels market is still governed by:

> Act No 98/2004 Coll. on excise duty on mineral oil, as amended (entry into force: 1 May 2004); The version of this Act currently in force contains the following provisions:

- under Section 19(6), the operator of a tax warehouse which is an undertaking for the production of mineral oil specified in Section 6(1)(a) and (d) may, on the basis of a licence to produce blends, produce in the presence of an authorised representative of a customs office mineral oil which is a blend of:
 - a) mineral oil of CN codes 2710 11 41, 2710 11 45 or 2710 11 49 with up to 15% of a biogenous substance specified in Section 4(7)(c), if the biogenous substance was produced by the tax warehouse operator concerned,
 - b) mineral oil of CN codes 2710 19 41, 2710 19 45 or 2710 19 49 and a biogenous substance specified in Section 4(7)(a).
- Under Section 6(5), a mineral oil:
 - a) specified in Section 19(6)(a) is subject to duty in accordance with paragraph 1(a), reduced by 48% of the percentage of a biogenous substance specified in Section 4(7)(c) that is contained in the blend, subject to a limit of 7.2%,
 - b) specified in Section 19(6)(b) is subject to duty in accordance with paragraph 1(d), reduced by the percentage of a biogenous substance specified in Section 4(7)(c) that is contained in the blend, subject to a limit of 5%,
- Under Section 6(1), the rates of duty are set as follows:
 - a) petrol of CN codes 2710 11 41, 2710 11 45 and 2710 11 49
SKK 15 500 per 1 000 litres,
 - b) gas oil of CN codes 2710 19 41, 2710 19 45 and 2710 19 49, except as provided for in Section 7(1)
SKK 14 500 per 1 000 litres,

Under Section 4(7), biogenous substances are:

- a) vegetable fats and oils, including those which have been chemically modified, listed in Chapter 15 of the Customs Tariff, and esters produced therefrom, provided that the proportion of hydrocarbons they contain does not exceed 5% vol.,
 - b) ethyl tertiary butyl ether produced from ethanol of CN code 2207 20 00 which is not of synthetic origin.
- > Government Regulation No 246/2006 Coll. on the minimum quantity of fuels produced from renewable sources in the petrol and diesel fuels placed on the market in the Slovak Republic (entry into force: 1 May 2006). Producers and vendors are obliged to offer, in

petrol and diesel fuels for transport purposes, minimum quantities of biofuels (or other renewable fuels), expressed:

- until 31 December 2006 by a reference value of 2%, calculated on the basis of the energy content of the total quantity of petrol and diesel fuel placed on the market,
- from 1 January 2007 to 31 December 2009 by a reference value of 2%, calculated on the basis of the energy content of the total quantity of petrol and diesel fuel placed on the market,
- from 1 January 2010 to 31 December 2010 by a reference value of 5.75%, calculated on the basis of the energy content of the total quantity of petrol and diesel fuel placed on the market.

Notification of State aid for the implementation of the biofuels programme in 2007

As part of the notification procedure, the European Commission adopted a decision (written notification of 19 July 2007) authorising State aid N 360/2006 – Slovak Republic. Advantageous tax treatment for utilisation of fuels from renewables pursuant to Directive 2003/96/EC (Biofuels).

Under the key measures of the authorised aid scheme:

- exemption from excise duty for blends of petrol with ETBE and diesel with esters, the reduced rates of excise duty on such blended fuels being set at 7.2% and 5% respectively;
- the reduced rate of excise duty on biofuels to be granted only to companies which operate as tax warehouses;
- this measure to be applied for a period of six years (from the date of entry into force of the Act on excise duty on mineral oils) under the conditions specified and the reduced rates of excise duty are to be provided from State funds, and this measure is designed to support companies which manufacture biofuels and offer them for sale on the Slovak market.

Practical implementation of the biofuels programme in 2007

Implementation of the biofuels programme continued in 2007 via the “grower/breeder – processor - biocomponent and motor fuels manufacturer - distributor - consumer/customer” chain of economic operators, as

- the blending of esters with diesel of a quality conforming to STN EN 590:2004, and the placing on the domestic market of imported diesel fuel with the addition of esters in conformity with quality standard EN 590;
- the blending of ETBE (ethyl tertiary butyl ether) with petrol of a quality conforming to STN EN 228:2004 and the subsequent placing of this product on the market.

When evaluating the status of the implementation of Directive 2003/30/EC, the Ministry of the Economy used data which had long been maintained by the State Material Reserves Administration and the Ministry of Transport, Posts and Telecommunication, in line with the initiative for making greater use of existing statistical administrative sources.

The Ministry uses data collected as part of activities of a permanent nature performed by national administrative bodies as follows:

- the State Material Reserves Administration (under Act No 170/2001 Coll.), up to 30 days following the end of the calendar quarter in question,
- the Ministry of the Environment (pursuant to Ministry of the Environment Decree No 488/2006 Coll., amending Ministry of the Environment Decree No53/2004 Coll.), up to the end of May following the end of the calendar year,
- the Transport Research Institute in Žilina (“Environmental monitoring and analysis” carried out for the Ministry of Transport, Posts and Telecommunications) up to the end of May following the end of the calendar year.

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

The total energy potential of biomass for uses other than transport is more than 100 PJ, and the highest growth in biomass use has been recorded in heat production in the heating sector. Biomass offers excellent prospects as regards heat production for heating purposes, especially in central heating systems, though less so in households, in the form of pellets, briquettes, wood chips and straw. In the years to come, biomass will also offer good prospects as an energy source for electricity production.

Given the size of this potential, renewable energy sources (RES) offer the best prospects. The demand for energy biomass is currently covered in particular by the production of forest biomass.

Slovakia's total annual potential for the production of forest biomass suitable for use as an energy source will reach about 2 432 000 tonnes by 2010, equating to an energy value of 26.8 PJ. After 2010, the forest biomass balance may increase in real terms as a result of increased wood production and 45 400 ha of trees being grown for energy use.

Stands of quick-growing woody plants for energy use and annual and perennial energy crops offer good prospects as a source of fuel biomass. Energy stands may be planted on land unsuitable for conventional agricultural and forestry production, soils temporarily excluded from agricultural production, contaminated soils suitable only for non-food production and industrial wasteland.

The wood-processing industry, which produces more than 1 800 000 tonnes of waste a year, is another source of wood suitable for energy production. The total energy potential of the wood-processing industry is about 22.0 PJ. This includes 1 360 000 tonnes of solid waste with an energy potential of 16.4 PJ. The biggest waste producers are large timber-processing firms which do, however, most often use this waste for energy production purposes.

Agricultural biomass offers other promising sources of renewable energy. There is more than 2 030 000 tonnes of agricultural biomass suitable for combustion, equating to an energy value of more than 28 PJ. Of the theoretical amount of energy from biomass it is possible to use 10-30% for heating, electricity and hot service water. It would be possible to use 10-20% of the biomass commercially in the form of fuel (marketed as straw bales, briquettes and pellets), mainly by means of selling fuel and thermal energy for communal networks.

Support programmes

In April 2007, the Slovak Government approved a framework of support for increased household use of biomass, financed from the State budget. This framework will be developed in more detail in the Programme for increased household use of biomass and solar energy, which the Slovak Ministry of Economic Affairs approved in September. Grants will be awarded subject to certain criteria being met. The overall amount of funding earmarked per year will be SKK 100 million (about EUR 3 million). The first stage of this measure, up to 2011, will focus on plans for promoting the use of biomass. During this period, it is necessary to assess the effectiveness of the measure and, if need be, modify it.

In addition to this national support measure, there are other projects using biomass to produce electricity and heat which have received financial support through the EU structural funds. Almost EUR 10 million has been allocated to biomass projects that fall within the remit of the Ministry of Economic Affairs. The Slovak Republic wishes to continue to avail itself of such support in the future.

3. 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

The domestic market for motor fuels in the Slovak Republic since the entry into force of the Government Regulation on biofuels

In 2006, the Slovak domestic market for motor fuels (including alternative motor fuels), equating in energy terms to about 80.668 PJ (1 PJ = 10^{15} joules), was clearly marked by the predominance of conventional fossil fuels (petrol and diesel), which in practice accounted for over 97% of the total. The reference value for the share of alternative motor fuels (biofuels, LPG, CNG) in the total figures for energy in 2006 is about 2.3% (the respective shares, having regard to the energy content of the fuels, being about 0.69% for biofuels, about 1.33% for LPG and about 0.28% for CNG).

In 2007, the Slovak domestic market for motor fuels (including alternative motor fuels), equating in energy terms to about 88.559 PJ, was clearly marked by the predominance of conventional fossil fuels (petrol and diesel), which in practice accounted for almost 96% of the total. The reference value for the share of alternative motor fuels (biofuels, LPG, CNG) in the total figures for energy in 2007 is about 4.03% (the respective shares, having regard to the energy content of the fuels, being about 2.49% for biofuels, about 1.26% for LPG and about 0.28% for CNG).

The biofuels programme was implemented in 2006 and 2007 as follows:

- blending of esters with diesel, conforming in terms of quality to standard STN EN 590 (2004 version), and placing on the domestic market of imported diesel blended with esters, conforming in terms of quality to standard EN 590 (2004 version);
- blending of ETBE (ethyl tertiary butyl ether) with petrol, conforming in terms of quality with standard STN EN 228 (2004 version), and the subsequent placing of the product on the domestic market.

First-generation biofuels have been placed on the Slovak motor fuels market as low-percentage blends of biocomponents with hydrocarbon fuels and have been distributed via existing infrastructure (distribution system and points of sale). Replacing part of the fossil fuel with biofuel is the simplest method, as it can be used in all types of motor vehicles (the customer does not need to be informed about the presence of biofuel in the resulting motor fuel).

The obligation to place biofuels on the domestic market (in the form of obligatory placing) was established for 2007 by means of a reference value of 2%. This means that economic operators are obliged to place biofuels on the market in a quantity corresponding to the reference value, calculated on the basis of the energy content of the total quantity of motor fuels covered by their business activities in 2007.

Implementation of the biofuels programme is shown in the following table:

Commodity	2006		2007	
petrol, (t; m ³)	642 000	856 000	637 000	849 333
petrol, (toe)	686 940	-	681 590	-
ETBE, (t; m ³)	1 190	1608	37 000	50 000
ETBE, (toe)	336	-	10 434	-
ETBE content of blend (%)	-	*)	-	5,89
reference values (ETBE share (%) of energy content of petrol)	*)	-	1,53	-
diesel, (t; m ³)	1 168 000	1 390 476	1 303 000	1 551 190
diesel, (toe)	1 208 880	-	1 348 605	-
esters, (t; m ³)	15 790	17 943	52 000	59 091
esters, (toe)	12 821	-	42 224	-
ester content of blend (% vol.)	-	*)	-	3.81
reference values (esters as % of energy content of petrol)	*)	-	3.13	-
petrol + diesel combined (toe)	1 895 820		2 030 195	
Total reference values	1.041 *)	-	2.59	-
Biofuels share (%) of energy content				

Source:

**State Material Reserves
Administration (SSHR SR) -**

data for petrol and diesel (for 2006 and 2007); data for esters and ETBE (for 2007).

Conversion factors used for fuel energy content:

1 tonne of petrol = 1.070 toe; 1 tonne of diesel = 1.035 toe; 1 tonne of ester = 0.812 toe;
1 tonne of bioethanol = 0.600 toe; 1 tonne of ETBE = 0.282 toe (as the product of 0.47 x 0.600)

Mean density data used for converting mass to volumetric data:

The density of petrol is	750 kg/m ³	(0.75 l/m ³)
The density of diesel is	840 kg/m ³	(0.84 l/m ³)
The density of ETBE is	740 kg/m ³	(0.74 l/m ³)
The density of esters is	880 kg/m ³	(0.88 l/m ³)

Notes relating to the table(*):

The implementation of the biofuels programme in 2006 is quantified in terms of achievement of the relative reference value of 1.333%, calculated from the date of entry into force of the Government Regulation on biofuels (i.e. eight twelfths of 2%).

- the actual value achieved during the eight-month period is about 1.041% of the energy content of the total quantity of petrol and diesel fuel placed on the domestic market during that period (the value achieved in 2006 reflects the introduction in practice of mandatory placing in the context of placing biofuels on the domestic market in accordance with Directive 98/70/EC relating to the quality of petrol and diesel fuels, as amended by Directive 2003/17/EC);

- the statistics for the quantities of biocomponents (esters, ETBE) marketed relate to a period of eight calendar months, i.e. from the date of entry into force of the Biofuels Regulation (though the practical implementation of the Biofuels Programme did not begin until the second half of 2006); the blending of esters with diesel fuel, and/or the importation of such blended fuel, began in August 2006, whereas the production of ETBE from bioethanol came on stream at Slovnaft Bratislava at the end of 2006, and the blending of ETBE with petrol did not officially begin until December 2006.

Implementation of the biofuels programme is measured in terms of the achievement of the reference value for biofuels (2%). The actual value achieved in 2007 is 2.59% in relation to the energy content of the total quantity of petrol and diesel fuel. The level of achievement of the reference value in 2007 reflects the introduction in practice of mandatory placing in the context of placing biofuels on the domestic market, in accordance with Directive 98/70/EC relating to the quality of petrol and diesel fuels, as amended by Directive 2003/17/EC.

Conclusion

As practical implementation of the biofuels programme in the Slovak Republic did not begin until the second half of 2006, under EU rules it will take as much as three years (in practice, until the first half of 2009) to develop a significant domestic market, even if biofuel (biocomponent) production capacity is simultaneously expanded by an appropriate amount.

In April 2008, the Slovak Government discussed a paper entitled “Draft concept for increased use of biofuels in transport in the Slovak Republic” and adopted Resolution No 220/2008. It will take some time for the Slovak Republic to transpose and to prepare for the implementation of the key changes resulting from the climate and energy package presented by the European Commission. In this paper, the Ministry therefore proposed certain measures aimed at increasing biofuel use for the transitional period to 2012, in the form of legislative targets, technical standards and research and development. On the basis of the findings of the evaluation of the implementation of the biofuels programme in 2007, it is proposed, for instance, to:

- increase the reference value for biofuels for 2009 to 3.40%, whilst leaving the value for 2010 unchanged at 5.75%;

- draw up proposals for notification relating to adjustments to excise duty on fuel blends containing biofuels, and the Ministry of Finance (after assessing the impact on the State budget and in accordance with the relevant EU directives) will decide whether it will incorporate them into the laws on excise duties on mineral oil and alcohol.

It emerges from an analysis of the current situation in the Slovak Republic and the prospects for fulfilling the target reference values for biofuels that:

- 1) following the introduction of petrol containing bioethanol conforming to quality standard STN EN 228:2004, the reference value for biofuels in terms of energy content will rise from the current 2.59% to 3.3%, i.e. together with the type B5 diesel that has been introduced.
- 2) CEN (European Committee for Standardization), in cooperation with engine manufacturers, is testing diesel fuel containing up to 7% by volume of MERO/FAME. If the engine trials and the type approval of such fuel for compression-ignition engines are successful, the CEN will adopt an EN (European quality standard) for this type of motor fuel and the Slovak Republic (Slovak Standards Institute - SÚTN) will subsequently take over the standard in translation as STN EN 590. This process could be completed in 2009. By introducing this motor fuel (B 7) and placing it on the Slovak market, it will be possible to achieve a biofuel energy content value of 4.6%.
- 3) The European Commission and its working groups are examining the possibility of increasing the biocomponent content of fossil fuels to a maximum of 10% by volume. After 2013 the aim is clearly to introduce second-generation biofuels will be introduced without the need for design changes to existing engines.
- 4) A simulation of the calculation of the biocomponent content for the portfolio – motor fuels conforming to quality standard STN EN 228 and EN 590 following the adoption of the new specification by the CEN and motor vehicle manufacturers for petrol with a maximum content of 7% by volume for MERO and 3% by volume for second-generation biofuels, i.e. with the equivalent of B10. This showed that it will be possible to achieve a biocomponent share of 6.2% in terms of energy content after 2011 (compared with the target value of 5.75% of energy content at the end of 2010). The European Commission is clearly proposing that further increases in the proportion of biocomponents in fuels be achieved by introducing second-generation biofuels and not by means of a linear increase in the proportion of MERO in petrol.
- 5) The European Commission is proposing to increase the proportion of biocomponents in motor fuels to 10% in energy content terms by 2020 by introducing biomass-based second-generation biofuels so as to considerably cut the competing use of food crops for energy purposes. The main competitive advantage of second-generation biofuels is that they produce 70% less greenhouse gas emissions than fossil fuels. This is the way to reduce CO₂ emissions by 20% by 2020.