First national report on the implementation of Directive 2003/30/EC of 8 May 2005 on the promotion of the use of biofuels or other renewable fuels for transport

Preliminary comments

Every Member State must submit a report to the Commission, by 1 July each year, pursuant to Article 4(1) of Directive 2003/30/EC of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport. The following is the first report for the Federal Republic of Germany for 2003.

Germany is aiming at a target of at least 2% for biofuels in total fuel consumption. The prospects are good. In 2003, the share of biofuels in total fuel consumption in Germany was 1.4% (see paragraph 7).

1. Measures to promote the use of biofuels or other renewable fuels

1.1 Tax benefit

In Germany, the Mineral Oil Duty Act was amended on 1 January 2004 to allow for full exemption from duty of biofuels and heating oils produced from biomass until 2009. This means that not only biogenic fuels in pure form, as hitherto, are exempt, but also fractions of biofuels and heating oils which are produced from biomass and blended with fossil fuels and heating oils. This measure was based on Article 16 of Council Directive 2003/96/EC of 27 October 2003.

Since the beginning of 2004, rapeseed methyl ester (RME/biodiesel) has been blended with fossil diesel. However, biodiesel continues to be chiefly used as a pure fuel. Small amounts of ETBE are made from imported bioethanol for blending with petrol.

1.2 Research, development and demonstration activities

1.2.1 Rape oil

For some years, pure rape oil has been used as fuel in around 4 000 converted cars. However, the use of vegetable oils in tractors has not been widely investigated. To increase their use, it needs to be shown that is technically feasible to use rape oil in agricultural vehicles. In this context, Germany has supported a number of projects on the development of off-road vehicles. Eight individual projects are being conducted in the framework of the "100 tractors' demonstration project" to investigate the practical suitability of pure vegetable oil for use in converted agricultural tractors. Other projects are the "Situation regarding the use of vegetable oils in internal combustion engines" being conducted by the Institute for Energy and Environmental Technology of the University of Rostock, and the "Engine trials with blends of rape oil and diesel", which is being conducted by the Federal State Agency for Agricultural Machinery and Construction of the University of Hohenheim. A project entitled "Quality assurance in the decentralised production of vegetable oil for the non-food sector" will also start shortly.

1.2.2 Biodiesel

The development of biodiesel technology in Germany has largely been in the hands of the industries concerned. The Federal Government has provided funding for supporting projects. For example, a former brandy distillery was converted to production using biodiesel in order to develop the necessary technical requirements and to flag up alternatives in this sector. There is particular interest in the environmental evaluation of biodiesel. The IFEU Institute in Heidelberg carried out an "Environmental comparison between RME and rape oil" in the framework of two projects. To reduce exhaust emissions when using biodiesel, a project was carried out to develop a rapeseed methyl ester biodiesel sensor. The sensor, which has now been developed, enables vehicles which use biodiesel to comply with the EURO 4 exhaust standard which applies from 2005. At the end of the 1990s, the "Effects of the use of rapeseed methyl ester (RME) on the lubricity of low-sulphur diesel fuels corresponding to DIN EN 590 (new)" were investigated by the University of Rostock as part of a research project. In view of the blending of biodiesel and fossil diesel fuel which has now started in Germany, this is of particular interest.

1.2.3 Bioethanol

To analyse the German bioethanol market and the possibilities of using bioethanol in the fuel sector, a project entitled "Use of ethanol and methanol from renewable raw materials in the chemical-technical sector and the fuel sector with particular regard to agricultural alcohol" was completed in 2002. Following on from this, a project entitled "Energy and environmental evaluation of the production of ethanol from renewable raw materials with particular regard to new processes and technologies" is currently in progress. The project makes a close comparison with bioethanol imported from Brazil, especially as regards climate change.

1.2.4 BTL fuels – Sun fuels

Synthetic fuels produced from biomass have been arousing interest in recent years. They promise various benefits:

- no new engines or new filling station infrastructure required;
- use of the entire plant when energy crops are used for raw material;
- good emission values on combustion in engines.

The Federal Government is supporting, in connection with this, a project entitled "Secondary energy sources from biomass – Analysis" which is being carried out by the Institute for Energy Consumption Technology and Chemical Engineering (IEC) of the Technical University Bergakademie Freiberg. A further project is currently in preparation which is intended to investigate a new gasification process for the production of BTL fuels on a pilot scale and to clarify questions relating to environmental and economic evaluation.

1.3 The Federal Government's strategy on alternative fuels and drives

Under the leadership of the Federal Ministry for Transport, Construction and Housing and in association with the industries concerned, the Federal Government is currently developing a long-term strategy for the promotion of alternative fuels and drive technologies in the framework of the national sustainability strategy. Biofuels are an essential component of this. The work is intended to be completed this year.

1.4 Public relations

In recent years, extensive public relations activities in respect of biofuels, in particular rapeseed methyl ester, have been carried out in Germany. Particular mention should be made of the activities of the Union for the Promotion of Oil and Protein Crops (UFOP) as well as the Association on Quality Management for Biodiesel (AGQM).

The attention of agricultural target groups and interested consumers has been drawn to biodiesel and its benefits at trade fairs, specialized and consumer events as well as through press contacts and a whole range of different brochures. The brochures published include information for users, lists of filling stations, and reports on the use of biodiesel. Additional public relations activities have also been launched.

Interest groups and associations such as the Agricultural Working Group on Biofuels (LAB) and the Economic Association for Sugar have also published small brochures and leaflets drawing attention to bioethanol as a fuel blending component.

Daimler-Chrysler and Volkswagen in particular are conducting public relations activities on BTL Fuels.

The Agency on Renewable Raw Materials (FNR) has dealt with the subject, in particular with regard to research, in press communications and publications as well as at various events which have an impact on the public. Last year, a special publication highlighted the possibilities and potential of different fuels in Central Europe.

1.5 Administrative law

On 19 May 2004, the Federal Cabinet adopted the draft Order amending the Tenth Order on the Implementation of the Federal Emissions Protection Act (Order on the constitution and designation of the qualities of fuels - 10. BImSchV). Among other things, this Order for the first time lays down the quality requirements for biodiesel as fuel. Rules for blending bioethanol with petrol and biodiesel with diesel fuel are laid down in accordance with 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.

2. Using resources to produce biomass for uses outside of the transport sector

2.1 Use of biomass resources

About 62% of the renewable energy produced in 2003 was from biomass. Of the total bioenergy produced in 2003, 82% was for heating, 7.8% for electricity production and 10.2% for fuels. Wood has been mainly used until now in Germany for the production of heat and electricity from solid biomass. It is mostly old wood which is used for electricity production. About 2 000 biogas plants are currently in operation in Germany, primarily for the production of electricity. The raw material used is mainly slurry and other animal by-products together with biogenic residues and waste from the food industry and restaurant sector. Energy crops are increasingly being used.

2.2 Using resources as part of measures to promote the use of biomass for energy applications other than transport

2.2.1 Research, development and demonstration

In 2003, the Federal Government allocated a total of €7.5 million for bioenergy research and development projects. This funding mainly went to heat and electricity produced from bioenergy. There was also funding by the federal states but the amounts are not known.

2.3.2 Renewable Energy Act

The Renewable Energy Act (EEG) entered into force on 1 April 2000. Its aim is to promote the development of renewable sources of energy for the production of electricity to help prevent climate change and to contribute to environmental protection and sustainable development and to double the share of renewable energy sources in electricity production by 2010.

The EEA justifies a minimum price rule by obliging the nearest network operators to accept electricity produced from renewable sources and provide compensation for it. The minimum compensation for electricity from biomass is set according to the level of installed electrical capacity and is ensured for a maximum period of twenty years. Since 1 January 2002, the minimum compensation has been reduced by 1% a year for new plant brought into operation. The compensation rates for electricity from biomass for plants put into service in 2004 are 9.9 ct/kWh for plants up to 500 kWel, 8.9 ct/kWh up to 5 MWel and 8.4 ct/kWh up to 20 MWel. The EEA has made a substantial contribution

to the considerable increase in the number of plants producing electricity from biomass in Germany in recent years. While installed electrical capacity in 1999 can be estimated at 448 Megawatt, it rose to more than four times this figure by 2003 (about 1 945 Megawatt). Electricity produced from biomass increased during this period from an estimated 1 170 GWh to 5 140 GWh. The construction of additional electricity production capacity was mainly in the field of biogas cogeneration plants and wood-fired heating plants.

2.3.3 Market incentive programme for renewable energy sources

Since 1999, the aim of the programme to promote measures for the use of renewable energy sources has been to strengthen the market penetration of technologies which use renewable energy sources. Support is given in particular to solar collector systems, plants which burn solid biomass, small biogas systems, deep geothermal systems and small hydroelectric plants. The support is intended to provide investment incentives for private users and, to some extent, for public law applicants. The support takes the form of subsidies or low-interest loans, sometimes with partial remission of the debt for early redemption. The rates are reviewed each year to be able to adjust them to market developments, if necessary. The support guidelines were last adjusted on 1 January 2004.

With regard to the use of biomass for energy production, particular support is given to heating systems which use solid biomass. The positive market development of smaller, automatically-fed firing plants for solid biomass (heating systems using wood pellets and wood chips) is largely thanks to the programme. The support given is currently €60 per kW of installed nominal heating capacity up to a nominal capacity of 100kW. Up to the end of 2003, grants amounting to €43.76 million were paid out for 25 814 biomass plants with a nominal heating capacity of up to 100kW. In addition, 807 biogas plants and 412 larger biomass plants were supported with low-interest loans, some with the remaining debt waived (cut-off date 28.2.2004).

3. Sales of biofuels and other renewable fuels in Germany in 2003

In 2003, only **biodiesel** was of any substantial importance on the German market. Biodiesel started to be used back in 1993. Since then, its use has substantially increased each year. In addition, very small volumes of **pure vegetable oil** were used in a small number of about 4 000 cars. This is because only pure biofuels were exempt from duty

under the German Mineral Oil Duty Act as it stood until 31.12.2003. Biogenic blended fractions (bioethanol, ETBE) in fuels have only been exempt from mineral oil duty since 01.01.2004. It will therefore not be possible to ascertain and evaluate the quantitative impact of extending the exemption from duty on mineral oil until the report for 2005 is drawn up.

Consumption of fuels in Germany in 2003

	'000 tonnes	% of total fuel consumption
Total fuel consumption	55 450	100
Petrol consumption	27 400	42
Diesel consumption	28 050	58
of which, biogenic fuels:		
biodiesel	800	1.4
rape oil	5	0
bioethanol	0	0
biogas	0	0

Source: Federal Statistics Office, Special series 14, No 9.3, internal calculations.

The figures for sales of biogenic fuels are estimated up to the end of 2003 on the basis of surveys of the industries concerned. It was not possible to obtain exact figures by 01.01.2004 from the statistics for mineral oil duty as pure biogenic fuels were not subject to duty. From 2004 onwards, precise figures will be gathered in the framework of the German Mineral Oil Duty Act.

Other renewable fuels were not important in 2003 in market terms.

By proxy

Honecker