

## **SECOND ACT AMENDING THE MINERAL OIL TAX ACT**

Final reading in the Bundestag on 07.06.02

Endorsed by the Bundesrat on 21.06.02

**Article 1b. The following Section 2a is added after Section 2:**

**"Section 2a**

**Tax relief for biofuels**

**(1) The rates of taxation according to Section 2 Para. 1 and Section 3 Para. 1 are reduced until 31 December 2008 to the extent that the mineral oils listed can be demonstrated to contain biofuels.**

**(2) Biofuels are energy products made exclusively from biomass as defined in the Biomass Ordinance of 21 June 2001 (Federal Law Gazette I, p. 1234), excluding the substances specified in Section 2 Para. 3 Sentence 1 No. 1 and 2 of the Biomass Ordinance. Energy products made in part of biomass as defined in Sentence 1 are regarded as biofuels to the extent of this part. Vegetable oil methyl esters are regarded as biofuels.**

**(3) The Federal Ministry of Finance, in cooperation with the Federal Ministry of Consumer Protection, Food and Agriculture, the Federal Ministry of Economics and Technology and the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety, must submit a report to the Bundestag every two years, starting on 31 March 2004, concerning the introduction of biofuels on the market and the development of the price of biomass and crude petroleum, as well as fuel prices, and must, if necessary, include in this report a proposal for adjusting the tax relief for biofuels to reflect the market situation."**

## **Explanatory Memorandum**

### *General*

Biofuels have not yet captured a significant share of the market. They are subject to mineral oil tax, either because of their own hydrocarbon content, or because of the need to mix them with mineral oil. There is a need to accelerate the introduction of biofuels on the market, not only from the point of view of environmental and climate protection, but also on grounds of the long-term security of supplies and the avoidance of potential international conflicts over fossil fuels. The exemption of biofuels from mineral oil tax is the decisive instrument in this context. Biofuels not only reduce dependence on oil imports, their use simultaneously reduces climate-damaging emissions and, if the biomass is cultivated in an environmentally compatible manner, increases biodiversity. Moreover, it could give rise to new approaches in the maintenance of nature and countryside conservation areas. If biomass is used for the production of biofuels, political measures can and should be taken in an attempt to avoid the cultivation of pesticide and fertiliser-intensive monocultures. At the same time, tax exemption for biomass-based fuels offers a major opportunity for creating new jobs in farming and plant construction. This would increase the volume of tax revenue and social insurance contributions, while also saving social transfer benefits.

The cost of biofuels can be expected to drop substantially during the period of tax exemption. At the same time, it can be assumed that the price of crude petroleum will rise in the long term. Consequently, a tax reduction that guarantees the competitiveness of biofuels will essentially suffice to regulate succession.

The scope of application of the law also covers biogas as a fuel, which is produced and fed into the gas network at a different point than the location at which its energy is used.

### *Beneficial effects of avoiding CO<sub>2</sub> emissions*

The Commission Green Paper "Towards a European Strategy for the Security of Energy Supply" formulated the objective of replacing 20 per cent of conventional fuels used in the road traffic sector by alternative fuels in order not only to improve the security of supplies, but also to reduce the emission of greenhouse gases, particularly carbon dioxide. The carbon dioxide emissions of fossil diesel fuel amount to roughly 3.2 tonnes per 1,000 litres (including emissions from production, transport, etc.). In contrast, the combustion of biofuels generally has no effect on the carbon dioxide balance,

because the only carbon released is that previously extracted chemically from the environment and incorporated by the plants used to produce the biofuel during their growth process. However, additional carbon dioxide emissions do occur during cultivation of the plants and conversion of the starting materials into biofuels. The avoidance of these emissions depends on the plants used, the technical process employed to produce biofuels and the cultivation methods applied. Above all, there is the possibility of utilising the residues resulting from the processing and combustion of biofuels (e.g. oil cake after pressing, ash from biomass gasification, residues from fermenting biomass into bioethanol).

The method of biomass esterification ("biodiesel") is capable of saving between 2 and 2.5 tonnes of carbon dioxide per 1,000 litres. The savings on carbon dioxide are far greater still if natural vegetable oils are used. Vegetable oils are already exempt from tax. This law deals with the tax exemption of biofuels that are still taxed. They have a higher potential per hectare of cultivated area, especially if it is assumed that the entire plant will be used. Agricultural residues and wood from forest thinning activities can also be used. In addition, if the energy of the plants is used, there is no need to fall back on food plants or to wait for the plants to be fully ripe before they can be harvested. This reduces fertiliser requirements and the extraction of nitrogen from the soil by the plants. Consequently, biofuels can make a substantial contribution to reducing carbon dioxide.

#### *Beneficial effects of petroleum substitution on the security of supplies*

The substitution of petroleum is of great economic and strategic importance. Worldwide petroleum production outside the OPEC is on the decline. As a result, there will be a major increase in political dependence on the OPEC in the coming years. Biofuels can reduce dependence on global price increases and politically motivated restrictions on supplies. Looking ahead, biofuels can be produced on a large scale on the European market, thus substantially increasing the security of fuel supplies.

#### *Employment*

The increased production of starting materials for biofuels will make a contribution to the multifunctionality of farming and provide a new boost for the rural economy by opening up new sources of income and creating jobs. The production of biofuels is relatively labour-intensive, especially in rural areas during the harvest season and operation of the biofuel plants. Various studies forecast a job-creating effect of 16 to 26 employees

per 1,000 tonnes of petroleum units per year. Extrapolating this figure, if biofuel accounted for roughly one per cent of the total consumption of fossil fuels in the EU, this would create between 45,000 and 75,000 new jobs, mainly in rural areas. Taking the production of biodiesel as an example, the effect in terms of employment would be fifty times that of producing the same amount of conventional diesel fuel in a refinery.

#### *Tax policy*

Today, biofuels are only competitive on the fuel market if they are not subject to the full mineral oil tax. Tax relief is necessary for as long as it contributes to establishing economic profitability. Partial taxation can be introduced as biofuels become better able to compete with fossil fuels.

#### *Environmental protection considerations*

Numerous studies concerning the energy and environmental efficiency of alternative fuels have been conducted since the early 1980s. The studies confirm that the energy balance is positive. One unit of fossil fuel energy can be used to produce between two and three units of fuel from renewable raw materials. This helps reduce emissions of greenhouse gases. In addition to the positive effects on carbon dioxide emissions, however, the cultivation of crops for biofuels, the conversion of the starting materials and the subsequent utilisation of the biofuels do entail a number of environmental burdens. These can partly be avoided by means of environmentally friendly cultivation methods.

#### *Nature conservation considerations*

To maintain biodiversity in nature and countryside conservation areas, especially moor areas, the surplus biomass must be siphoned off. Use of this biomass for biofuel production would put utilisation on an economic footing. This would create jobs in nature conservation areas and ensure the budget-independent financing of countryside maintenance measures.

#### *Motor vehicle emissions*

As a rule, biofuels generate less "traditional" motor vehicle emissions (CO, NO<sub>x</sub>, SO<sub>2</sub>, volatile organic compounds, particles) than conventional fuels. They contain virtually no sulphur. Progress in engine design will initially reduce the extent of these benefits.

Some biofuels can be used better than fuels of fossil origin in optimised engines, or are better for use in fuel cell systems. Biofuels could offer a good opportunity for introducing fuel cells with their far-reaching advantages (also in terms of emissions) into the mobility market in the foreseeable future.

#### *Forestry*

The potential for producing biofuels on the basis of lignocellulose conversion or the thermochemical conversion of biomass can be expanded considerably if conventional forestry, forestry with short felling cycles, and other lignocellulose plants (e.g. sweet sorghum or Miscanthus) provide a substantial proportion of the starting materials. Plants of this kind have little impact on the environment because they are not cultivated by intensive farming and little recourse is thus taken to fertilisers, pesticides, herbicides and irrigation.

#### *Technological development*

In the political sphere, the utilisation of biofuels is also being advanced by the EU. From the point of view of economics, the limited nature of oil resources and the global increase in demand for mobility will lead to higher oil prices in the medium to long term. Anyone who proves to be a technological market leader in the field of alternative fuels, will find that enormous markets are waiting. Like the Renewable Energies Act in the electricity market, the present law creates a basis for the technological development of biofuels and a leading role for Germany in a market for future technology. Technological developments can be expected on three levels at once: in the cultivation of vegetable raw materials (e.g. cultivation of crops), in conversion into biofuels (e.g. generation of synthesis gas from biomass) and in propulsion technology (e.g. fuel cell).

Germany's market lead in the field of generating electricity from renewable energy sources, and the associated technological innovations, have led to worldwide technology transfers and are continuing to do so. There will be a similar trend in connection with the development of biofuels.

#### *Prospects for acceding countries*

The demand for biofuels will help create a market for innovative agritechnical products. This new market will present new opportunities for countries acceding to the EU, some of which have a strong agricultural sector. This will also lessen of the expected pressure

of competition on Germany's farmers from the farmers in the acceding countries. They, in turn, would have a new market open to them.

Article 1 No. 1b supplements Arts. 2 and 3 of the German Mineral Oil Tax Act. A flexible ruling is reached for motor fuels, not for heating fuels, that makes it possible to market any mixture of biofuel with fossil fuel and to reduce the mineral oil tax burden of the mixture by the proportion of the tax arising from the biofuel content. As a result, the exemption from mineral oil tax now also applies to fuels made from biomass that consist of hydrocarbons, or have been mixed with fuels of fossil origin, or have become part of a fuel that is not of purely biogenic origin in the framework of a chemical process.

However, they also include, among others, methanol, petrol, diesel, kerosene and other fuels, insofar as they are manufactured synthetically from biomass. Reference is always made to the Biomass Ordinance regarding the definition of the term "biomass".

Energy products manufactured partly from biomass, particularly methyl tertiary-butyl ether, ethyl tertiary-butyl ether and corresponding fuels, are subject to a special regulation that ensures that the biogenic components used in their manufacture can enjoy tax relief.

This law will not affect the status quo regarding vegetable oil methyl esters ("biodiesel") and vegetable oils used as pure fuel. Vegetable oil methyl esters, which regularly contain a small percentage of fossil constituents, are to be regarded entirely as biofuels. If they are mixed with fossil fuels, they are likewise not subject to mineral oil tax on the basis of this law.

The degree of tax relief for biofuels should be adapted to developments on the petroleum market and the prices for biomass and fuels. The Bundestag will receive proposals on this subject based on a report that is to be compiled at regular intervals.