

**Report to the European Commission for 2006 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**

**Prepared by the Ministry of Economic Affairs with the cooperation of the Ministry of  
Agriculture and Rural Development, the Ministry of Finance, the Ministry of  
Science and Higher Education, the Ministry of Regional Development, the  
Ministry of the Environment and the Ministry of Transport**

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**Report to the European Commission for 2006 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**

This Report fulfils Poland's obligation imposed on Member States by 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*.

The Report implements Art. 32 and Art. 36.3 of the *Biocomponents and Liquid Biofuels Act* of 25 August 2006 (Dz. U. (Journal of Laws) No 169, Item 1199 and 2007 No 35, Item 217 and No 99, Item 666), transposing the Directive into Polish law.

The Report covers the following subjects:

- I. Measures taken to promote the use of biofuels or other renewable fuels for transport;
- II. National resources allocated to the production of biomass for energy uses other than transport;
- III. The quantity and types of liquid fuels and liquid biofuels placed on the market, and of liquid biofuels produced by farmers for their own use
- IV. National Indicative Targets and their achievement

**I. Measures taken to promote the use of biofuels or other renewable fuels for transport**

**I. 1. New legal provisions concerning the functioning of the market for biocomponents and biofuels**

Poland is gradually increasing its biofuel marketing potential. As early as in 2005, there were no obstacles to the addition of 5% of fatty acid methyl esters to diesel fuels (bioethanol has been used as an additive to petrol since 1994). In 2006, entry into force of Minister of Economic Affairs Regulation of 8 September 2006 *on liquid biofuel quality requirements* (Dz. U. No 166, Item 1182), created the conditions for placing two biofuels on the market:

- fatty acid methyl esters used as direct fuel,
- diesel containing 20% of such esters.

In addition, to create improved conditions for the development of the biocomponents and biofuels market, on 25 August 2006 the Sejm of the Republic of Poland adopted a package of two Acts: the *Biocomponents and Liquid Biofuels Act* (Dz. U. No 169, Item 1199 and 2007 No 35, Item 217 and No 99, Item 666) and the *Fuel Quality Monitoring and Control Act* (Dz. U. No 169, Item 1200). The two Acts ensured full transposition of Directive 2003/30/EC into Polish law. Their most important provisions include:

- Enabling farmers to produce liquid biofuels for their own use. Farmers are now able to produce for their own use all kinds of liquid fuels used as direct fuel; in addition, the provision of security for excise duty will no longer be required in the case of pure vegetable oils and esters. The *Fuel Quality Monitoring and Control Act* requires liquid biofuels produced by farmers for their own use to meet only minimum quality requirements, essential for reasons of environmental protection. The annual own use production quota is 100 litres per hectare of arable land owned by the farmer.
- The introduction as from 1 January 2008 of a requirement to ensure specified biocomponent participation in the transport fuels market. This requirement has been imposed on businesses producing liquid fuels or liquid biofuels and purchasing them intra-Community, for subsequent sale or for their own use. Such businesses are defined as entities implementing the National Indicative Target.
- The introduction of the concept of “captive fleet” into Polish law, defined as a group of at least 10 vehicles, agricultural tractors or off-road machines, or a group of locomotives or ships fitted with engines able to burn liquid biofuels, owned or used by individuals engaged in business, legal entities or organisations without a legal personality. The introduction of this concept has made it possible to use a wide range of liquid biofuels with high biocomponent content, other than those granted marketing authorisation, in vehicles and machines forming part of “captive fleets”.

## **I. 2. Promotion of the use of biocomponents in liquid fuels and liquid biofuels**

Poland currently promotes the use of biocomponents by offering financial incentives, above all through a system of tax exemptions and tax reliefs offered on the basis of successive Minister of Finance Regulations.

Incentives in the form of exemptions from excise duty for fuels containing biocomponents, which applied (since 1 May 2004) under Minister of Finance Regulation of 26 April 2004 *on*

*Exemptions from Excise Duty* (Dz. U. 2006, No 72, Item 500 as amended) were reduced following the entry into force of Minister of Finance Regulation of 22 December 2006 *amending the Regulation on Exemptions from Excise Duty* (Dz. U. No 243, Item 1766) on 1 January 2007. The introduction of the new provisions was dictated by the need to bring national regulations into line with European Union law and resulted in weakening the support mechanism for biocomponents added to diesel (by reducing the level of exemption from excise duty for liquid fuels containing biocomponents and for liquid biofuels). Under the provisions in force since 1 January 2007 the following are exempt from excise duty:

- 1) biocomponents intended for use in liquid fuels and liquid biofuels, meeting the relevant quality requirements;
- 2) The following fuels, meeting the relevant quality requirements and containing over 2 % of biocomponents:
  - a) petrol – 1.50 PLN on each litre of biocomponents added to it,
  - b) diesel – 1.00 PLN on each litre of biocomponents added to it;
- 3) biocomponents used as direct fuel and meeting the quality requirements specified in separate regulations – 1,680 PLN/1000 l.

The European Commission, to which the above solutions were notified as forming state aid, found them (in its decision of 8 March 2007) to comply with the Treaty on the European Union.

Preferential excise duty treatment will increase under the Act of 11 May 2007, *amending the Excise Duty Act and certain other Acts* (Dz. U. No 99, Item 666), which includes amongst its provisions the following reductions of excise duty rates for the products listed below:

- 1) For products made by blending petrol with biocomponents and containing over 2% of biocomponents, excise duty charged on the petrol (1,565 PLN/1000 l) shall be reduced by 1.565 PLN for each litre of biocomponents added to the petrol, subject to the minimum excise duty payable being 10.00 PLN/1000 l,
- 2) For products made by blending diesel with biocomponents and containing over 2% of biocomponents, excise duty charged on the diesel (1,048 PLN/1000 l) shall be reduced by 1.048 PLN for each litre of biocomponents added to the diesel, subject to the minimum excise duty payable being 10.00 PLN/1000 l,

3) For biocomponents used as direct fuel in internal combustion engines – 10 PLN/1000 l.

The above solutions shall be implemented as from the date of publication of European Commission decision confirming compliance of the state aid envisaged by them with the common market.

In addition, it must be emphasised that in 2006 exemptions from excise duty arising out of the use of biocomponents in fuels amounted to 261.99 million PLN. This amount represents the relief on sales of petrol containing bioethanol, including bioethanol contained in ethyl-tertio-butyl-ether (ETBE) and diesel containing fatty acid methyl esters.

Additional support for biocomponents and liquid biofuels production will also be provided under the Long-Term Biofuel Promotion Project 2008-2014. This Project implements Art. 37 of the *Biocomponents and Biofuels Act*. The solutions it proposes will improve the cost effectiveness of the process as a whole, from the cultivation of crops, the production of biocomponents and the manufacture of liquid biofuels and liquid fuels blended with biocomponents up to the end use of the biofuels. They should also ensure a stable operating environment for all participants of the biocomponents and liquid biofuels market, essential to the formation of long-term business plans and to the ability of businesses to raise capital for new investments.

In developing the programme, the authors were guided by the principle of effective removal of all barriers to the development of a biocomponents and liquid biofuels market, bearing in mind the benefits it would bring in terms of increased energy security, improved environmental conditions thanks to reduced pollutant emission levels, in particular those of carbon dioxide, and revitalisation of rural areas through increased cultivation of energy (non-food) crops and the associated job creation. These benefits more than compensate for the adverse aspects of the promotion of biocomponents, such as the temporary reduction in central budget revenues.

The Programme envisages that fiscal solutions will continue to play a major role in ensuring cost-effectiveness of biocomponents and liquid biofuels production. In addition to excise duty relief at a rate close to the maximum allowed by Council Directive 2003/96/EC of 27 October 2003 on *restructuring the Community framework for the taxation of energy products and electricity* (and the associated significant reduction of excise duty on biocomponents used as direct fuel), corporation tax relief is also planned (the Sejm is currently preparing a Draft Act *amending the Corporation Tax Act*, which introduces corporation tax relief for biocomponent

manufacturers). The proposed system is intended to ensure stability of the tax relief and exemption system throughout the Programme period. Other financial support instruments offered by the programme include: removing biocomponents used as direct fuel from the list of products subject to fuel duty, a system of subsidies for farmers cultivating energy crops for use in biocomponent manufacture, investment support out of EU funds and a reduction of air pollution charges for entities using liquid biofuels in their vehicles.

The Programme further envisages the introduction of preferential treatment for public transport operating in conurbations, holiday resorts and nature conservation areas, which will apply solely to vehicles using environmentally friendly fuels (liquid biofuels as well as CNG and LPG) or fitted with electric or hybrid engines. An incentive to the use of biofuels, which will also apply to private individuals, will be a reduction of parking charges.

Solutions planned for implementation during the Programme period include the introduction of preferential treatment of public procurement purchases of vehicles and machinery fitted with engines able to use liquid biofuels. A very significant provision is the requirement that government departments gradually replace their vehicle fleets with vehicles able to use liquid biofuels.

An important component of the Programme is the proposed education and information work which will include, amongst other measures, the introduction of liquid biofuels as a subject in curricula at all teaching levels, conducting broad information campaigns addressed to all vehicle users and actions to encourage and motivate vehicle manufacturers to adapt their vehicles to the use of biofuels.

### **I. 3. Financial support for research relating to biofuels**

Poland supports research into biofuels by financing research projects and subsidising research and research and development projects.

#### *Research projects relating to biofuels*

In 2006, work continued on the 11 research projects listed below. Their total cost was 1,872,800 PLN.

1. The use of biofuels as reburning fuel for reducing NO<sub>x</sub> emission from industrial furnaces by primary methods

2. A method and equipment for the measurement of rapeseed ester content of biofuels used in diesel engines
3. A study of the properties of solid biofuels obtained from secondary wood waste
4. Assessment of the potential of vegetable oils (liquid biofuels) in heat sources for power generation and of their impact on shaping the natural environment
5. The use of microfungi in recycling waste glycerin from biofuel production
6. Analysis of selected performance parameters of turbocharged diesel engines running on biofuels
7. Waste glycerol from biofuel production as a substrate in the biosynthesis of citric acid by *Yarrowia lipolytica*
8. Biofuel production waste (glycerol) as raw material in the biosynthesis of polyhydroxy acids
9. Studies of the combustion of vegetable oil-based liquid biofuels used in heating plants, their methanolysis products and flammable liquid waste in a diaphragm air heater
10. A biofuel production technology based on processing the permeates from membrane filtration of whey
11. Sewage sludge recycling in the intensification of ecological cultivation of energy crops, for use as ecobiofuels and in the phytoremediation of degraded soils and eutrophised waters.

#### Research and development projects relating to biofuels

In 2006, work continued on the 4 research and development projects listed below. Their total cost was 2,496,290 PLN.

1. The potential of winter rape mutants with modified fatty acid composition for the cultivation of biofuel crops
2. A thermal conversion technology for biomass and municipal waste conversion into gas fuel, based on the concept of a two-stage gasification reactor
3. Hybrid geothermal heat and power stations using biomass and low-enthalpy geothermal sources
4. A technology for biomass gasification and cocombustion of the resultant gas and coal.

## **II. National resources allocated to the production of biomass for energy uses other than transport**

An effective method of providing a stimulus to the development of renewables-based power generation is financial support of investments in this area. This is particularly beneficial in the initial stages of introduction of new technologies, acting as a start-up mechanism. Poland has a long tradition of financial support for investment in renewable energy sources, with the support coming mainly from:

- the National Environmental Protection and Water Management Fund and provincial, district and commune environmental protection and water management funds. These funds are accumulated out of environmental charges and fines, including substitution charges and fines associated with the operation of the Renewable Energy Certificates (“Green Certificates”) system. Under the terms of the *Environmental Protection Act* of 27 April 2001 (Dz. U. 2006 No 129, Item 902 as amended), these funds are intended to support the use of renewable energy sources and assist in the introduction of more environmentally friendly energy sources.
- The EcoFund Foundation, whose funds are generated by debt-for-environment swap activities.

The provision of state aid for renewable energy sources is governed by Council of Ministers Regulation of 27 April 2004 *specifying the requirements for the provision of state aid for investments in renewable energy sources* (Dz. U. No 98, Item 996 as amended).

The document *Poland’s Energy Policy up to 2025* assigns renewable energy sources the proper role in power generation by stating that the most important actions to be taken to ensure the development of biomass use in power generation include:

- ensuring the stability of renewables support mechanisms, thus creating conditions for safe investment in renewables. The document further envisages continuous monitoring of the support mechanisms, and their improvement as necessary. Any changes of these mechanisms will be introduced with appropriate advance notice, in order to ensure stable investment conditions,
- the use of biomass for heat and power generation. In Polish conditions, biomass-based technologies will represent the principal renewables development option. At the same

time, the use of biomass for power generation purposes must not lead to the creation of wood shortages for the timber, paper and pulp and wood fibreboard industries (Minister of Economic Affairs Resolution of 19 December 2005 *specifying the scope of the obligation to obtain and redeem certificates of origin, to pay substitution charges and to purchase heat and power generated from renewable energy sources* (Dz. U. No 261, Item 2187) introduced mechanisms supporting the use of non-timber biomass). It is expected that a large proportion of this biomass will originate from energy crops, but also from industrial and municipal waste, and from sources other than plant and animal products. In addition, greater use of renewables will result in job creation in areas of high unemployment by stimulating the development of agricultural production, growth of employment and the development of industries and services serving the needs of the renewable energy sector.

The provisions of the *Energy Policy* document will be supported by renewables promotion mechanisms. The principal legislative instrument regulating energy companies' activities aimed at the increased use of renewables is the Energy Act of 10 April 1997 (Dz. U. 2003, No 153 Item 1504 as amended). It identifies the principal support mechanism, which consists in the obligation imposed on energy companies selling electricity to end users to obtain and present for redemption to the Energy Regulator a specified number of Certificates of Origin of energy generated from, renewable energy sources, or to pay a substitution charge.

The support system introduced in Poland in the form of Green Certificates is a market mechanism conducive to optimum development and competition. Separating Certificates of Origin of electricity generated from renewable energy sources from the physical electricity itself made it possible for the property rights arising out of the Certificates to be traded on the Warsaw Commodity Exchange as from 1 October 2005.

Another important element, complementing the mechanisms described above, is the financial support from EU funds. The new EU Cohesion Policy 2007 – 2013 places particular emphasis on sustainable approaches to the use of energy, including energy from renewable sources. Support for power generation from renewables will be obtainable under Priority X of the Infrastructure and Environment Operational Programme, “Environmentally Friendly Energy Infrastructure”, as well as under regional operational programmes. This support is complemented by renewables support under the Rural Areas Development Programme.

**III. The quantity and types of liquid fuels and liquid biofuels placed on the market, and of liquid biofuels produced by farmers for their own use**

**III. 1. The quantity of transport fuels and the percentage share of biofuels placed on the market in 2000-2006**

Analyses of the use of petrol and diesel, carried out by the Central Statistical Office, the Ministry of Finance and the Energy Market Agency show the percentage share of biofuels in transport fuels in 2000-2006 to be as follows:

Year	Transport use (MT)				Percentage share based on energy content
	Petrol	Diesel	Bioethanol	Esters	
2000	4841	2343	40.6	0	0.35%
2001	4484	2562	52.4	0	0.46%
2002	4109	2940	65.3	0	0.57%
2003	3941	3606	60.1	0	0.49%
2004	4011	4303	38.3	0	0.29%
2005	3915	5075	42.8	17.1	0.47%
2006*	4048	6042	84.3	44.9	0.92%

\*Estimate

**III. 2. The number of registered undertakings manufacturing, storing or marketing biocomponents**

Under the terms of Art. 4.1 of the *Biocomponents and Liquid Biofuels Act*, the manufacture, storage and marketing of biocomponents are regulated activities within the meaning of the Freedom of Economic Activity regulations and must be entered in the Manufacturers Register.

Data supplied by the Agricultural Market Agency suggest that as at 15 May 2007, the Manufacturers Register contained entries for:

- 1) 18 bioethanol producers, declaring a production capacity of 506 MT of bioethanol,
- 2) 55 methyl ester producers, declaring a production capacity of approximately 627 MT of ester.

### **III. 3 The number of registered farmers producing liquid biofuels for their own use, and the type and quantity of liquid biofuels produced by them**

Under the terms of Art. 13.1 of the *Biocomponents and Liquid Biofuels Act*, farmers may produce biofuels for their own use subject to their registration in the Register of Farmers Producing Liquid Biofuels for Their Own Use, maintained by the Agricultural Market Agency. As at 24 May 2007, no entries had been made in the Register.

### **III. 4 Bioethanol production**

In 2006, approximately 106.8 million litres of bioethanol (84.3 MT) were placed on the market, while petrol consumption increased by over 170 million litres from the previous year's levels. The use of bioethanol in petrol in 1994-2005 and preliminary data for 2006 are shown in the table below.

Year	Petrol consumption <sup>1)</sup> - Mm <sup>3</sup>	Of which bioethanol Mm <sup>3</sup>	% share of volume
1994	7 325	27.0	0.37
1995	8 332	63.0	0.76
1996	6 174	100.9	1.63
1997	6 691	110.6	1.65
1998	6 672	99.8	1.50
1999	7 770	83.2	1.07
2000	6 808	51.4	0.75
2001	6 233	66.4	1.07
2002	5 645	82.8	1.47
2003	5 453	76.2	1.40
2004	5 564	48.5	0.87
2005	5 151	54.2	1.05
2006	5 326	106.8	2.01

### **III. 5 Ester production**

In 2006, ester production was approximately 103.4 million litres (91.0 MT). Since a large part of the output was sold abroad, Poland consumed only 51.0 million litres (44.9 MT), while diesel consumption rose by approximately 1 161 million litres from the previous year's level. The use of methyl esters in diesel in 2005 and preliminary data for 2006 are shown in the table below.

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<sup>1)</sup> Petrol consumption converted using petrol density = 0.760 kg/l

Year	Diesel consumption <sup>2)</sup> , Mm <sup>3</sup>	Of which methyl esters, Mm <sup>3</sup>	% share of volume
2005	6 092	19.4	0.32
2006	7 253	51.0	0.70

#### **IV. National Indicative Targets and their achievement**

##### **IV. 1. National Indicative Targets**

Before the entry into force of the *Biocomponents and Liquid Biofuels Act*, National Indicative Targets were set (on the basis of Art. 3.1a of Directive 2003/30/EC *on the promotion of the use of biofuels or other renewable fuels for transport*) by the Minister of Economic Affairs in consultation with interested Ministers. National Indicative Targets set in this manner (based on the energy content of transport fuels) were:

- 2005 – 0.50%,
- 2006 – 1.50%,
- 2007 – 2.30%.

Entry into force of the *Biocomponents and Liquid Biofuels Act* changed the manner in which National Indicative Targets are set. Pursuant to Art. 24.1 of the Act, every three years, by 15 June of the current year, the Council of Ministers issues a Regulation setting the National Indicative Target for the coming 6 years, taking into account the availability of raw materials and production capacity, the potential of the fuel industry and the relevant European Union regulations. The Regulation *on National Indicative Targets for 2008-2013* adopted by the Council of Minister in June 2007 sets the following National Indicative Targets:

- 2008 – 3.45%,
- 2009 – 4.60%,
- 2010 – 5.75%,
- 2011 – 6.20%,
- 2012 – 6.65%,
- 2013 – 7.10%.

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<sup>2)</sup> Diesel consumption converted using diesel density = 0.833 kg/l

These targets arise out of Poland's obligations as member of the European Union. In 2008 – 2010, they will increase linearly from the target of 2.3% set for 2007 to the target of 5.75% set in Directive 2003/30/EC for 2010. Thereafter, in 2011 – 2013, National Indicative Targets will continue to increase linearly, but at a slower rate. It is considered that the rate of increase of National Indicative Targets during that period (and up to 2020) will make it possible to reach 10% in 2020. As outlined in the European Union Communication on Energy Policy for Europe, and confirmed by the conclusions of the spring session of the European Council of 8-9 March 2007, the share of biocomponents in the transport fuels market in each Member State is to reach a minimum level of 10% in 2020 (this is a binding target).

#### **IV. 2. The achievement of National Indicative Targets**

The National Indicative Target for 2005 was achieved virtually in full. On the other hand, the achievement of the target of 0.92% for 2006 was affected by a number of factors, including the uncertainty and anticipation associated with the preparation of new market regulating instruments and with the fledgling nature of the production and logistics infrastructure. In addition, the achievement of the National Indicative Target was to some extent affected by the delayed entry into force of Minister of Economic Affairs Regulation of 8 September 2006 *on liquid biofuel quality requirements*, due to the unforeseen lengthening of the process of notification of the Regulation to the European Commission (the Regulation made it possible to place on the market two kinds of liquid biofuel: fatty acid methyl esters used as direct fuel and diesel containing 20 % of methyl esters).

It is expected that in 2007 the share of biofuels in the transport fuel market will be much below the National Indicative Target for that year. Entry into force of Minister of Finance Regulation of 22 December 2006 *amending the Regulation on Exemptions from Excise Duty* on 1 January 2007, at a time when there were no other biofuel market support mechanisms, impaired the production of diesel containing biocomponents and of biocomponents used as direct fuel. Compensation paid to producers of liquid fuels containing biocomponents and liquid biofuels, reflecting the cost of the addition, was reduced. At the same time, it must be emphasised that the amount of support will be increased on the entry into force of the Act of 11 May 2007 *amending the Excise Duty Act and certain other Acts*, which contains solutions favouring the development of the biocomponents and liquid biofuels market, and on the

expected adoption by the Council of Ministers of the *Log-term Biofuel Promotion Programme 2008-2014* and the full implementation of the measures envisaged by it.

It is expected that in 2008 and subsequent years National Indicative Targets will be achieved in full, in spite of this year's underachievement. This will be due to the entry into force, as from 1 January 2008, of the obligation to ensure that biocomponents achieve a specified share of the transport fuel market, arising out of the *Biocomponents and Liquid Biofuels Act*. The resultant mechanism will play a significant role in promoting the growth of biocomponent and liquid biofuel use.