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**Report to the European Commission for 2007 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  
Infrastructure**

**Poland, September 2008**

**Document adopted by the Council of Ministers on 16 September 2008**

## **Report to the European Commission for 2007 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 has been drawn up to fulfil Poland's obligation 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.

It implements Article 32 of the Biocomponents and Liquid Biofuels Act of 25 August 2006 (Journal of Laws No 169, item 1199; 2007, No 35, item 217, and No 99, item 666), which transposes the aforementioned Directive into Polish law.

The report covers the following subjects:

- I. Measures taken to promote the use of liquid 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. The level and achievement of National Indicative Targets.

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

#### **I. 1. Legal provisions concerning the functioning of the market for biocomponents and biofuels**

The potential for marketing biocomponents in Poland is gradually increasing. As early as in 2005, there were no obstacles to adding up to 5% of fatty acid methyl esters to diesel fuels (bioethanol has been used as an additive in petrol since 1994). In 2006, the entry into force of the Regulation of the Minister for Economic Affairs of 8 September 2006 on quality

requirements for liquid biofuels (Journal of Laws No 166, item 1182), created the conditions for placing two types of biofuel on the market:

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

Work is in hand on a draft regulation of the Minister for Economic Affairs under which a liquid biofuel composed of 85% bioethanol and 15% petrol (blend E85) can be placed on the market.

In addition, to create improved conditions for the development of the biocomponents and biofuels market, the Sejm adopted on 25 August 2006 a package of two laws: the Biocomponents and Liquid Biofuels Act (Journal of Laws No 169, item 1199; 2007, No 35, item 217, and No 99, item 666) and the Fuel Quality Monitoring and Control Act (Journal of Laws No 169, item 1200). These two laws 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 can now produce for their own use all kinds of liquid biofuels used as direct fuel, and the lodging of security for excise duty will no longer be required in the case of pure vegetable oils and esters. Under the Fuel Quality Monitoring and Control Act, liquid biofuels produced by farmers for their own use must meet only minimum quality requirements that are essential for reasons of environmental protection. The annual limit on own-use production is 100 litres per hectare of the utilised agricultural area 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 which produce liquid fuels or liquid biofuels and importing them or purchasing them within the Community, for subsequent sale or for their own use. Such businesses are defined as entities implementing the National Indicative Target.
- The introduction into Polish law of the concept of “captive fleet”, 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 persons or organisational units without legal personality. The introduction of this concept has made it possible to use a wide range of liquid biofuels

with a high biocomponent content, other than those granted marketing authorisation, in vehicles and machines which are 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 regulations of the Minister for Finance.

Incentives in the form of exemptions from excise duty for fuels containing biocomponents, which have applied (since 1 May 2004) under the Regulation of the Minister for Finance of 26 April 2004 on exemptions from excise duty (Journal of Laws 2006, No 72, item 500, as amended) were reduced following the entry into force of the Regulation of the Minister for Finance of 22 December 2006 amending the Regulation on exemptions from excise duty (Journal of Laws No 243, item 1766) on 1 January 2007. The introduction of these provisions was dictated by the need to bring national regulations into line with EU legislation and resulted in a weakening of 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 – PLN 1.50 on each litre of biocomponents added to it,
  - b) diesel – PLN 1.00 on each litre of biocomponents added to it;
- 3) biocomponents used as direct fuel and meeting the quality requirements specified in separate regulations – PLN 1 680 per 1 000 l.

The European Commission, to which the above arrangements were notified as constituting State aid, found (in its decision of 8 March 2007) that they were compatible with

the EC Treaty. It should be pointed out here that, in 2007, the aforementioned excise duty exemptions granted for using biocomponents in fuels amounted to PLN 24.3 million.

Preferential excise duty treatment will be enhanced as a result of the Act of 11 May 2007 amending the Excise Duty Act and certain other Acts (Journal of Laws No 99, item 666), which lays down, amongst other things, that excise duty rates will be as follows for the products specified below:

- 1) For products made by blending petrol with biocomponents and containing over 2% biocomponents, the excise duty charged on the petrol (PLN 1 565 per 1 000 l) shall be reduced by PLN 1.565 for each litre of biocomponents added to the petrol, subject to the minimum excise duty payable being PLN 10.00 per 1 000 l;
- 2) For products made by blending diesel with biocomponents and containing over 2% biocomponents, the excise duty charged on the diesel (PLN 1 048 per 1 000 l) shall be reduced by PLN 1.048 for each litre of biocomponents added to the diesel, subject to the minimum excise duty payable being PLN 10.00 per 1 000 l;
- 3) For biocomponents intended for use as direct fuel in internal combustion engines, the rate will be PLN 10 per 1 000 l.

Moreover, in the aforementioned Act of 11 May 2007 biocomponents used as direct fuel were excluded from the group of products subject to the fuel charge referred to in the Act of 27 October 1994 on toll motorways and the National Roads Fund (Journal of Laws 2004, No 256, item 2571, as amended).

On the other hand, the Act of 23 August 2007 amending the Corporate Income Tax Act (Journal of Laws 165, item 1169) introduced a provision, in accordance with which biocomponent producers may, during the tax years 2007-14, deduct from their tax an amount equating to 19% of the amount by which the cost of producing biocomponents exceeds the cost of producing liquid fuels of the same calorific value (tax that cannot be deducted in the tax year in question may be deducted in subsequent tax years).

As the above-mentioned provisions of the two acts (i.e. the Act amending the Excise Duty Act and amending certain other acts and the Act amending the Corporate Income Tax Act) cannot be put into practice unless a favourable decision is received from the European Commission regarding the compatibility with the common market of the State aid they

provide for, substantial work is being done to ensure swift completion of the notification process for this legislation.

Additional support for biocomponents and liquid biofuels production will also be provided under the Long-Term Biofuel Promotion 2008-14 project which has been drawn up in implementation of Article 37 of the Biocomponents and Biofuels Act. The arrangements it contains will improve the cost effectiveness of the process as a whole, from the cultivation of the agricultural raw materials through the production of biocomponents and the manufacture of liquid biofuels and liquid fuels blended with biocomponents, and ending with the use of the biofuels. They should also ensure a stable operating environment for all entities connected with the biocomponents and liquid biofuels market, which is essential for formulating long-term business plans and to the ability of businesses to raise capital for new investments.

When developing the programme, the authors were guided by the principle of effectively removing all barriers to the development of a biocomponents and liquid biofuels market, bearing in mind the benefits such development will bring in terms of increased energy security, improved environmental conditions thanks to reduced pollutant emission levels, in particular those of carbon dioxide, and a 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 depletion of State budget revenues.

The programme envisages that fiscal arrangements will continue to play a very significant role in ensuring the cost-effectiveness of biocomponent and liquid biofuel 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, as is exclusion from the group of products subject to fuel duty of biocomponents used as direct fuel (as mentioned above). The system adopted is intended to ensure stability as regards tax relief and exemptions throughout the programme's lifetime. Other financial support instruments included in the programme include: a system of subsidies for farmers cultivating energy crops for use in biocomponent manufacture, investment support from EU funds and a reduction of air pollution charges for entities using liquid biofuels in their vehicles.

The programme introduces preferential treatment for public transport operating in conurbations, resorts and nature conservation areas for which only vehicles using environmentally friendly fuels (liquid biofuels as well as CNG and LPG) or fitted with electric or hybrid engines are used. Reductions in parking charges will serve as an incentive to use biofuels, and this will also apply to natural persons.

Arrangements to be implemented under the programme include the introduction of preferential treatment in the context of public procurement for purchases of vehicles and machinery fitted with engines capable of using liquid biofuels. Another very significant provision is the requirement that government departments gradually replace their vehicle fleets with vehicles capable of using liquid biofuels.

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

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

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

#### Research projects relating to biofuels

In 2007, work continued on the six research projects listed below. Their total cost was PLN 942 000.

1. Development of a method of using microfungi in the recycling of waste glycerine from biofuel production.
2. Waste glycerol from biofuel production as a substrate for the biosynthesis of citric acid by *Yarrowia lipolytica*;
3. Biosynthesis of polyhydroxy acids using biofuel production waste (glycerol) as a raw material;

4. Study of the effect of renewable fuels on the performance of compression ignition engines;
5. Recycling of sewage sludge in the intensification of the organic cultivation of energy crops used as eco-biofuels and in the phytoremediation of degraded land and eutrophised waters;
6. Development of a biofuel production technology based on the processing of permeates from the membrane filtration of whey.

*Development projects relating to biofuels*

In 2007, work continued on the seven development projects listed below. Their total cost was PLN 7 061 900.

1. Development and preparation for production of a new ester biofuel named Glicerol, using glycerine;
2. Research into the genetic variability of energy grass crops of the genus *Miscanthus* and their interaction with the environment with regard to yields of biomass as a raw material for biofuels;
3. Use of crude rapeseed oil as fuel in diesel engines fitted to tractors and agricultural vehicles;
4. Study of calorific and emission-related properties of waste biomass as a fuel for power boilers;
5. Modernisation of the fuel-feed system of aircraft piston engines to enable them to operate using ethanol fuel;
6. Study and optimisation of the operation of PEM fuel cells fitted with a hydrogen fuel regeneration system in the electrolyser;
7. Efficient systems for producing biomass on agricultural land and converting it into liquid and gaseous fuels.

## **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 for investments in this area. This is particularly beneficial in the initial stages of the introduction of new technologies, acting as a start-up mechanism. Poland has a long tradition of financial support for investment in renewable energy sources (RES), with the support coming mainly from:

- the National Environmental Protection and Water Management Fund and provincial, district and municipal environmental protection and water management funds. Environmental charges and fines, including substitution charges and fines associated with the operation of the “green certificates” system, accrue to these funds. Under the terms of the Environmental Protection Act of 27 April 2001 (Journal of Laws 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 Polish debt-for-environment swap activities (however, in view of the imminent ending of this programme, applications for funding for projects could be accepted only until 30 June 2008).

The provision of State aid for renewable energy sources is governed by the Regulation of the Minister for the Environment of 16 January 2008 specifying the conditions for the provision of State aid for projects involving investment in renewable energy sources (Journal of Laws No 14, item 89).

The document entitled “Poland’s Energy Policy up to 2025” gives renewable energy sources an appropriate role in power generation by stating that the most important actions to be taken to develop biomass use in power generation include:

- ensuring the stability of renewables support mechanisms, thus creating conditions for safe investments in RES. The document further envisages continuous monitoring of the support mechanisms, and their improvement as necessary. Any changes to these

mechanisms will be introduced with appropriate advance notice, in order to ensure stable investment conditions.

- In Polish conditions, the use of biomass to produce electricity and heat will represent the principal renewables development option; although 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 (to this end, the use of forest biomass at large power plants, in particular facilities where co-firing is used, has been limited). 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 production. In addition, greater use of renewable energy sources 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 increasing the use of renewable energy sources is the Energy Law Act of 10 April 1997 (Journal of Laws 2006, No 89, item 625, as amended). It identifies the principal support mechanism, namely the obligation on energy companies selling electricity to end users to obtain and present to the President of the Energy Regulatory Office for redemption a specified number of certificates of origin for electricity generated from renewable energy sources, or to pay a substitution charge.

The mixed support system introduced in Poland makes use of market mechanisms that are conducive to development, including a quota system based on "green certificates", an obligation to purchase energy produced from renewable sources, excise duty exemptions for electricity produced from such sources, simplified arrangements regarding connection and balancing in respect of certain types of renewable energy sources, and support from special-purpose funds, as mentioned above.

Another important element, complementing the mechanisms described above, is financial support from EU funds. The new EU Cohesion Policy for 2007–13 places particular emphasis on a balanced approach to the use of energy, including energy from renewable sources. Support for power generation from renewable sources will be obtainable under Priority IX of the Infrastructure and Environment Operational Programme, "Environmentally Friendly Energy Infrastructure and Energy Efficiency", as well as under regional operational

programmes. These actions are complemented by support for renewable energy sources under the Rural Development Programme.

### **III. 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. Quantity of transport fuels and percentage share of biocomponents placed on the market in the period 2000-2007**

An analysis of the data compiled by the Central Statistical Office, the Ministry of Finance, the Energy Regulatory Office and the Energy Market Agency on petrol and diesel consumption shows the percentage share of biocomponents in fuel consumption in transport in the 2000-2006 period to be as follows:

Year	Consumption in transport ('000 tonnes)				Share in terms of calorific value
	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%
2007	3997	7212	70.8	37.3	0.68%

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\* The data presented in this chapter concerning the quantity of biocomponents, liquid biofuels and liquid fuels have been converted on the basis of the average densities specified in the Regulation of the Minister for the Economy of 27 December 2007 concerning the calorific value of individual biocomponents and liquid biofuels (Journal of Laws 2008, No 3, item 12).

### **III. 2. Number of registered undertakings manufacturing, storing or marketing biocomponents**

Under Article 4(1) of the Biocomponents and Liquid Biofuels Act, economic activity comprising the manufacture, storage or marketing of biocomponents is a regulated activity within the meaning of the rules on the freedom to carry out economic activity and must be entered in the register of manufacturers.

Data supplied by the Agricultural Market Agency suggest that, as at 31 December 2007, the register of manufacturers contained entries for:

1. 14 bioethanol producers, declaring an annual production capacity of 458 000 tonnes of bioethanol,
2. 37 methyl ester producers, declaring an annual production capacity of 534 000 tonnes of ester.

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

Under Article 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 own use, maintained by the Agricultural Market Agency.

The data compiled by the Agricultural Market Agency shows that, as at 31 December 2007, two farmers were registered in the register of farmers producing methyl esters for own use, declaring an annual production capacity of around 84.5 tonnes of methyl esters. However, those farmers did not start producing liquid biofuels in 2007.

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

The data supplied by the President of the Energy Regulatory Office show that, in 2007, biocomponent producers produced about 118.9 million litres of bioethanol

(94 100 tonnes). About 89 600 litres (70 800 tonnes) of bioethanol came onto the fuel market. The use of bioethanol in petrol in the 1994-2007 period is shown in the table below.

Year	Petrol consumption - '000 m <sup>3</sup>	of which bioethanol – '000 m <sup>3</sup>	% share of volume
1994	7325	27.0	0.37
1995	8332	63.0	0.76
1996	6174	100.9	1.63
1997	6691	110.6	1.65
1998	6672	99.8	1.50
1999	7770	83.2	1.07
2000	6808	51.4	0.75
2001	6233	66.4	1.07
2002	5645	82.8	1.47
2003	5453	76.2	1.40
2003	5564	48.5	0.87
2005	5151	54.2	1.05
2006	5326	106.8	2.01
2007	5434	89.6	1.65

In 2007, bioethanol producers sold about 79.5 million litres (62 800 tonnes) of bioethanol to national producers, i.e. 10.1 million litres (8 000 tonnes) less than was placed on the fuel market in liquid fuels and liquid biofuels. The difference was most probably made up by imports or intra-Community purchases. It should be pointed out that, in the first quarter of 2008, producers sold about 23.4 million litres (18 500 tonnes) of bioethanol to national producers, whereas about 49.1 million litres (38 800 tonnes) came onto the market, making a difference of as much as 25.7 million litres (20 300 tonnes). The data presented indicate a considerable increase in the proportion of bioethanol that is imported or purchased elsewhere within the Community.

### III. 5. Ester production

The data supplied by the President of the Energy Regulatory Office shows that, in 2007, biocomponent producers produced about 49.8 million litres (43 800 tonnes) of esters. About 42.5 million litres (37 300 tonnes) of bioethanol came onto the fuel market. The use of methyl esters in diesel fuel and as direct fuel in the period 2005-07 is shown in the table below.

Year	Diesel consumption – '000 m <sup>3</sup>	of which methyl esters – '000 m <sup>3</sup>	% share of volume
2005	6092	19.4	0.32
2006	7253	51.0	0.70
2007	8700	42.5	0.49

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

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

Before the Biocomponents and Liquid Biofuels Act entered into force, National Indicative Targets were set (pursuant to Article 3(1)(a) of Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport) by the Minister responsible for economic affairs after consulting other interested ministers. The National Indicative Targets set in this manner (on the basis of the calorific value of fuels used for transport) were:

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

The manner in which National Indicative Targets are set changed with the entry into force of the Biocomponents and Liquid Biofuels Act. Pursuant to Article 24(1) of the Act, the Council of Ministers issues a Regulation every three years, by 15 June of the year in question, setting the National Indicative Targets for the next six years, taking into account the

availability of raw materials and production capacity, the potential of the fuel industry and the relevant European Union legislation. The Regulation of the Council of Ministers of 15 June 2007 on National Indicative Targets for 2008-2013 (Journal of Laws No 110, item 757) sets the following National Indicative Targets:

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

The National Indicative Targets presented above reflect obligations stemming from Poland's membership of the European Union. In the period 2008-10, they will increase linearly from the target of 2.3% set for 2007 to the target of 5.75% specified in Directive 2003/30/EC for 2010.

Thereafter, in the 2011-13 period, National Indicative Targets will continue to increase linearly, albeit at a slower rate. It is assumed that the rate of increase of the National Indicative Targets during that period (and up to 2020) will make it possible to reach 10% in 2020.

As outlined in the European Commission's Communication entitled "Energy Policy for Europe", and confirmed by the conclusions of the European Council's spring meeting on 8-9 March 2007, the share of biocomponents in the transport fuels market in each Member State is to reach a level of 10% in 2020.

This is a binding target which was also incorporated into the proposal for directive of the European Parliament and Council on the promotion of the use of energy from renewable sources that was presented in January 2008.

#### **IV.2. Achievement of the National Indicative Target**

The share of biocomponents in the market for fuel used for transport in 2007 fell far short of the National Indicative Target for 2007. The entry into force on 1 January 2007 of the Regulation of the Minister for Finance of 22 December 2006 amending the Regulation on exemptions from excise duty, at a time when there were no other biofuel market support

mechanisms, impaired the development of the production of diesel containing biocomponents and of biocomponents for use as direct fuel. The compensation paid to producers of liquid fuels containing biocomponents and of liquid biofuels, to take account of the cost of adding biocomponents, was reduced, and this was reflected in an underachievement of the National Indicative Targets in 2007.

It is expected that, in 2008 and subsequent years, the National Indicative Targets will be achieved in full. This is due to the introduction, on 1 January 2008, of the obligation imposed by the Biocomponents and Liquid Biofuels Act to ensure that biocomponents achieve a specified share of the transport fuel market, a mechanism which will play an essential role in promoting an increase in biocomponent and liquid biofuel use. An increase in the use of biofuels for transport is already evident in the first quarter of 2008, during which (as indicated by the data presented in the quarterly report of the President of the Energy Regulatory Office) the level of achievement of the National Indicative Targets was close to 3%.

An important factor determining whether it is possible to fully achieve the National Indicative Targets will be the conclusion of the notification procedure and the obtaining of a favourable decision from the European Commission on the arrangements contained in the Act amending the Excise Duty Act and amending certain other acts and in the Act amending the Corporate Income Tax Act.