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**NATIONAL REPORT ON THE IMPLEMENTATION  
OF DIRECTIVE 2003/30/EC OF 8 MAY 2003 ON THE PROMOTION OF THE  
USE OF BIOFUELS OR OTHER RENEWABLE FUELS FOR TRANSPORT  
FOR THE YEAR 2006**

**LITHUANIA**

# **REPORT ON MEASURES PROMOTING THE USE OF BIOFUELS FOR TRANSPORT AND OTHER RENEWABLE RESOURCES**

(Implementation of the provisions of Directive 2003/30/EC of the European Parliament and of the Council on the promotion of the use of biofuels or other renewable fuels for transport)

**Country - LITHUANIA  
2006**

## **Introduction**

This report provides information about the implementation of the provisions 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 (hereinafter referred to as “Directive 2003/30/EC”) in Lithuania in 2006.

## **National legal basis**

The provisions of Directive 2003/30/EC have been transposed into the Republic of Lithuania Law on biofuel, biofuels for transport and bio-oils (adopted by the Parliament of the Republic of Lithuania on 5 February 2004, Official Gazette 2004, No 28-870).

To implement the provisions of Directive 2003/30/EC and the Republic of Lithuania Law on biofuel, biofuels for transport and bio-oils, a number of national legal acts were adopted in 2005. The Report for 2005 on the measures promoting the use of biofuels and other renewable resources for transport submitted to the European Commission contains data on the legal acts governing the production, consumption and promotion of biofuels for transport in Lithuania which were in force at the time (mandatory mixing of biofuels for transport and mineral fuels, financial promotion measures in place, such as excise duty reductions for energy products, payments for energy crops, etc.).

This Report contains information on the national legislation related to the production, use and development of biofuels that entered into force or were adopted in 2006.

**1.** The Rules for trade in petroleum products, biofuel, bio-oil and other flammable liquid products in the Republic of Lithuania, approved by Order of the Minister of the Economy of the Republic of Lithuania, as amended by Order No 4-345 of the Minister of the Economy of 15 September 2006, laying down the amount of bioadditives in mineral fuels:

- 95 RON motor petrol must be produced using the additive bio-ethyl tertiary butyl ether (hereinafter referred to as “bio-ETBE”), the content of which in the mixture with petrol must be at least 7% by volume, but not more than 15% by volume. In all cases, the bioethanol content in ETBE must be 47% by volume. If 95 RON motor petrol has been produced without adding bio-ETBE, or imported or brought and sold or consumed in the country, it must contain 5% bioethanol;

- diesel fuel must contain 5% fatty acid methyl ester (FAME) produced from vegetable oils or fats of animal origin.

## **2. Financial promotion measures:**

**2.1.** On 15 December 2005, the Parliament of the Republic of Lithuania adopted the Law supplementing and amending Article 25 of the Law on excise duty (Official Gazette 2005, No 153-5633), providing for excise relief (application of a zero excise rate) for dehydrated ethyl alcohol. The adoption of this law created more favourable economic conditions for the production of biofuels for transport, with subsequent adoption of relevant secondary legislation implementing the provisions of the law:

**2.2.** The Procedure for the application of excise relief to dehydrated ethyl alcohol used in the production of bio-ethyl tertiary butyl ether in accordance with the procedure laid down by the Republic of Lithuania Law on biofuel, biofuels for transport and bio-oils, as approved by Order No 1K-046 of the Minister for Finance of 6 February 2006 (Official Gazette 2006, No 16-569);

**2.3.** The Rules on issuing permits to acquire (use) dehydrated ethyl alcohol exempt from excise duties and used in the production of bio-ethyl tertiary butyl ether, as approved by Order No VA-18 of the Head of the State Tax Inspectorate under the Ministry of Finance of the Republic of Lithuania of 21 February 2006 (Official Gazette 2006, No 25-862);

**2.4.** Law on environmental pollution tax (Official Gazette 2002, No 13-474; 2005, No 47-1560) (in force since 1 January 2006), providing for:

an exemption from the environment pollution tax from mobile pollution sources for natural and legal entities polluting through vehicles using biofuels meeting the established standards and having produced documents of proof that such biofuels have indeed been used;

- natural and legal entities having produced documents of proof of biofuel consumption in respect of emissions into the air, resulting from the use of biofuels, are exempted from the environment pollution tax from stationary sources of pollution.

**2.5.** The Rules for financing the development of the production of biofuels for transport (2006, No 42-1530) are approved annually by order of the Minister for Agriculture, providing for promotion of the development of biofuel production by facilitating the use of agricultural produce for non-food applications.

**2.6.** In September 2006, the Government of the Republic of Lithuania approved the updated Description of the procedure for the promotion of generation and purchasing of electric power produced using renewable energy resources (Official Gazette 2001, No 104-3713; 2006, No 100-3862), laying down the general criteria, conditions and requirements for generation and purchasing of electric power produced using renewable energy resources: it promotes electric power generation in wind, biomass and solar power plants and hydropower plants of a capacity of less than 10 MW.

### **3. National programmes and strategies**

**3.1.** The Government of the Republic of Lithuania approved the National Energy Consumption Efficiency Programme for 2006-2010 (Official Gazette 2006, No 54-1956). The Programme provides for organisational, legal, economic and other measures for increasing the efficiency of energy resources (including indigenous and renewable resources) and energy consumption.

**3.2.** The National Energy Strategy approved by the Resolution of the Parliament of the Republic of Lithuania of 18 January 2007 (Official Gazette 2007, No 11-430) was updated in 2006. The Strategy sets out key provisions of the State and their implementation directions for 2025.

**3.3.** The Programme for the Promotion of Biofuel Production and Use for 2004-2010 was adopted by Resolution of the Government of the Republic of Lithuania (Official Gazette 2004, No 133-4786) with the purpose of ensuring the development of the production and use of biofuels from raw materials originating in the Republic of Lithuania.

### **Indigenous resources for the production of biofuels for transport (for transport needs)**

The main raw material for the production of biofuels for transport in Lithuania is oilseed rape (raw material for the production of biodiesel) and cereal grains (raw material for the production of bioethanol).

In 2006, oilseed rape crops covered an area of 148 000 ha, yielding 168 000 tonnes , triticale crops (for the production of bioethanol) covered an area of 56 000 ha, yielding 120 000 tonnes .

To promote production of biofuels for transport, compensation is granted for raw materials sold for the production of biofuels for transport: for cereal grains - 114 LTL/tonne, for rapeseed (grains) - 160 LTL/tonne.

In 2006, LTL 13.66 million was allocated from the national budget for compensatory payments.

Beneficiaries included producers of rapeseed oil used for the production of rapeseed methyl ester, producers of rapeseed methyl (ethyl) ester and producers of dehydrated ethanol.

In 2006, biofuels for transport were produced by two undertakings:

Biofuture AB purchased 49 700 tonnes of cereal grain and produced 14 400 tonnes of bioethanol (used for mixtures with mineral fuels and in bio-ETBE production);

Rapsoila UAB purchased 24 100 tonnes of rapeseed and produced 10 300 tonnes of biodiesel (FAME).

Table 1 contains information on the production, export and sales of biofuels for transport by the Lithuanian undertakings on the domestic market in 2005-2006 (source - data supplied by the undertakings).

### **Production, sale and export of biofuels for transport ('000 tonnes) in 2005-2006**

Table 1

Product	Production		Domestic sales		Exports	
	2005	2006	2005	2006	2005	2006
Bioethanol for the production of motor engine fuel	7.2	14.4	0.9	8.1	6.0	6.3
Biodiesel (FAME)	7.0	10.3	3.2	9.9	4.4	-

According to the data provided by the Department of Statistics under the Government of the Republic of Lithuania (hereinafter referred to as “the Department of Statistics”), in 2006, Lithuania:

- imported 2 600 tonnes bioethanol and 6 100 tonnes of biodiesel;
- produced 14 700 tonnes of bio-ETBE (containing 47% bioethanol);
- consumed domestically the total of 1 531 200 tonnes of fuel, including:
  - 1 328 700 tonnes of fuel for land transport (as against 1 233 000 tonnes in 2005), including biofuels for transport and liquefied petroleum gas (211 100 tonnes).

Table 2 provides data on fuel consumption for transport in 2006 (in '000 tonnes) and their relative share (percentage) by fuel type and energy value.

### **Fuel consumption for transport in 2006**

Table 2

Type of fuel	Thousand tonnes	Thousand tonnes in petroleum equivalent	Energy value of fuels (relative share, percent)
Bioethanol used in production of mixtures with motor petrol	2.7	1.7	0.15
Bioethanol used in production of bio-ETBE (bio-ETBE used in production of mixtures with motor petrol)	6.6	4.2	0.37
Biodiesel fuel used in production of mixtures with diesel	15.9	13.8	1.2
<b>Pure biofuels for transport used in mixtures in</b>	<b>25.2</b>	<b>19.7</b>	<b>1.72</b>

<b>production of mixtures, total</b>			
Motor petrol (without bioadditives)	350.0	3 67.5	32.09
Diesel fuel (without bioadditives)	742.4	758.0	66.19
<b>Fuels (without bioadditives), total</b>	<b>1092.4</b>	<b>1125.5</b>	<b>98.28</b>
<b>Fuel consumption for transport, total</b>	<b>1117.6</b>	<b>1145.2</b>	<b>100</b>

Conclusion: the relative share of biofuels for transport in the total domestic consumption of fuels for transport comprised:

in 2005 - 0.72%;

in 2006 - 1.72%.

### **Indigenous renewable and waste resources used for biofuel production (energy generation)**

Lithuania's potential for producing energy using biofuel is quite large.

Around 1 million tonnes of municipal waste is produced in Lithuania every year. Biodegradable waste amounts to around 0.5 million tonnes per year in the total flow of municipal waste. It may be used for energy production, once separated from other types of municipal waste and processed in biogas reactors.

Around 6 million m<sup>3</sup> of forest is felled annually in Lithuania, with around 3.7 million m<sup>3</sup> of firewood and wood waste used for fuel. It is mostly firewood (parts of trunks not suitable for processing, sawmill waste). First steps have been made to start using forest felling waste for boiler-house fuel.

In 2006, Lithuania had:

- two cogeneration plants using wood waste, with a total installed capacity of 13.5 MW;
- seven biogas power plants, including five cogeneration plants (able to generate both heat and power) and two heat-only generation plants. The total installed capacity of biogas power plants is about 17.1 MW (heat generation plant - about 15.0 MW, power plant - about 2.1 MW).

At present, there are 200 boiler-houses (of over 0.3 MW capacity) using biofuel (wood, wood waste and straw). The total installed capacity of the boiler-houses is about 500 MW.

Further, financial support is allocated for the construction and upgrading of facilities using renewable energy resources for energy generation. Funding from the European Union's Structural Funds is used for this purpose. Over the period 2004-2006, LTL 57 million were allocated for the construction and upgrading of biofuel boiler-houses and generation plants, with another LTL 127 million earmarked for the construction of new biofuel boiler-houses and cogeneration plants during the period 2007-2013. Additional funds are planned to be allocated for the upgrading of existing plant and for the construction of municipal waste incineration stations.

Table 3 contains data on Lithuania's domestic biomass resources (for energy generation) in 2006 (source - Department of Statistics).

### **Domestic biomass resources (for energy generation) in 2006**

Table 3

<b>Biomass</b>	<b>Unit of measurement</b>	<b>Domestic resources</b>
Fuel peat	thousand tonnes	47.0
Peat blocks	thousand tonnes	28.7
Firewood and timber waste	thousand m <sup>3</sup>	3715.1
Biogas	million m <sup>3</sup>	4.1

## Projections for the use of renewable energy resources for 2010

Increasing the use of renewable energy resources has become a priority energy policy area. Energy supply must be secure, economically acceptable and environmentally friendly. The use of renewable energy resources has contributed to increasing the security of energy supply, reducing the amount of imported fuel. Climate change problems are being addressed. Promotion of the use of these energy resources is one of the key Lithuanian energy policy goals, laid down in the Republic of Lithuania Law on energy and laws governing individual energy sectors, the National Energy Strategy, the National Energy Consumption Efficiency Programme and the Programme for Promotion of Biofuel Production and Use for 2004-2010.

1. The following key objectives have been provided for in the Programme for Promotion of Biofuel Production and Use for 2004-2010:

- increasing the generation of electric power using biogas, wood and straw to 0.204 TWh per annum by 2010,
- increasing the total energy generation to 10.31 TWh per annum;
- encouraging the cultivation and preparation of raw materials for biofuel;
- promoting the use of biofuel;
- promoting research into biofuel production and use;
- introducing measures for training, information and consulting on biofuel issues.

2. The National Energy Consumption Efficiency Programme has laid down the objectives for the sector of indigenous and renewable energy resources for 2010:

To achieve by 2010:

- that renewable energy resources account for up to 12% in the total primary energy balance (*compared to. 8% in 2004, 8.8% in 2005, and, according to preliminary data, 9.2% in 2006*);
- that electric power generation using these resources accounts for 7.7% of the total electric power consumption;
- that by 31 December 2010 biofuels for transport comprise at least 5.75% of the total energy quantity of the petrol and diesel for transport available in the domestic market.

As one of the measures, the Programme provides for drafting and implementing legislation and regulatory and technical documents, promoting the development and introduction of energy efficiency measures, production and use of indigenous and renewable energy resources (including biofuels for transport), development and introduction of instruments for the use of these resources.

3. In 2006, the National Energy Strategy (hereinafter referred to as “the NES”) was updated, setting out key provisions of the Lithuanian energy policy and directions for their implementation for 2025.

The NES pays considerable attention to the development of indigenous and renewable energy resources, planning that:

- in 2010, 7.7% of the electric power consumed will be generated using renewable energy resources: wind farms will generate about 320 GWh of electric power, with hydropower plants contributing 452 GWh, biomass power plants - 220 GWh and solar and geothermal power plants - 3.2 GWh.

- by 2010, a municipal waste incineration plant will be built in Vilnius, with others to follow in other major Lithuanian cities.

- by 2010, the share of biofuels for transport in the domestic market of fuels for transport will be increased to 5.75%. This requires appropriate expansion of rapeseed and other oil crop areas and of biodiesel production and full support to bioethanol production, applying state-of-the-art technologies and using as diverse raw materials as possible.

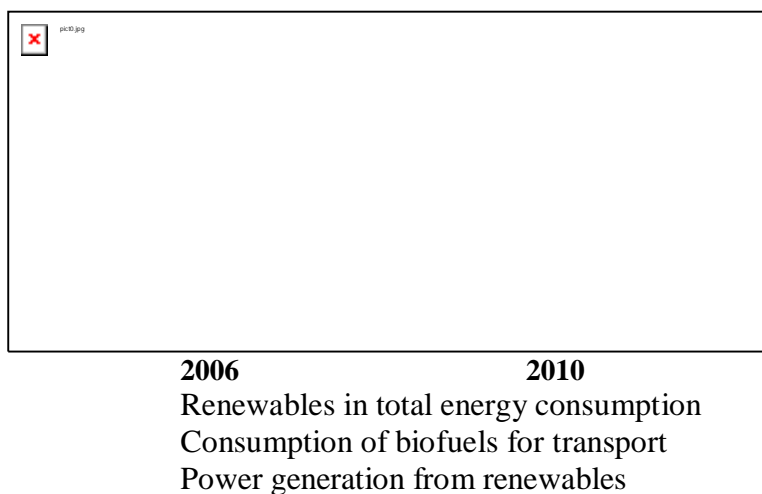
The potential for energy generation using biofuel:

About 10-15% of the country's agricultural crop areas could be used for the cultivation of plants intended for energy purposes. By 2010, oilseed rape (raw material for the production of biodiesel) crop areas are expected to cover about 290 000 ha, with those of cereal grains (raw material for the production of bioethanol) to cover about 250 000 ha.

The wood potential existing in the country has been nearly exhausted, while the wood waste potential for energy generation is insufficiently utilised, with energy crop areas planned to be expanded. Using forest cutting waste has started, with the resources potentially available for this use amounting to about 1 million m<sup>3</sup>. The main reserves for increasing forest biofuel resources lie in forest cutting waste and the development of young stands, energy forest planting, felling of low-value woods, tree and bush clearing on roadsides, tracks, etc. and better use of the natural wood mortality. The exploitation of the mentioned wood resources (removal and use of wood waste) needs to be encouraged through economic measures.

The diagram below shows the domestic consumption of renewable energy resources in 2006 (preliminary data) and the projection for 2010.

### Projection of consumption of renewable energy resources (in percent)



Promoting the use of renewable energy resources is an important initiative of businesses and researchers. Increasing the use of these resources encounters technological problems, the use of some types of renewable energy resources is limited due to their collection and transportation, e.g., forest waste, straw. The level of renewable energy resource production technologies is lagging behind.

In 2006, in order to tackle these and other problems, to raise the level of research and development and to increase the level of coordination of this activity, representatives of the business and academic community set up the National Technology Platform for Production and Use of Biomass and Biofuels. The activities of this platform will encourage cooperation between business entities and associated structures and research institutions, in order to achieve the desired progress in the sector of biomass and biofuel production and use. The initiator and organiser of this Technology Platform was the Lithuanian Association of Biofuel Producers and Suppliers (LITBIOMA). The Association pays attention to the introduction of innovations and to research and development work in order to exploit available and potential biofuel resources, actively cooperates with State institutions and arranges seminars and conferences on biofuel-related issues.

The appendix to the report provides information on the applicable State aid (excise duty reduction for biofuel) and on sale prices of mineral fuels, biofuels for transport and their mixtures, including price comparison.

## **Appendix to the Report**

### **State Aid No 44/2005-Lithuania (Excise duty reduction for biofuels)**

Pursuant to Council Directive 2003/96/EC of 27 October 2003 (restructuring the Community framework for the taxation of energy products and electricity) and without prejudice to Article 16 of this Directive allowing Member States to apply a reduced rate of excise duty to products produced from biomass or products containing biomass and exemptions from excise duty on certain conditions, Lithuania began applying a reduced rate of excise duty to biofuels for transport.

The measure applied constitutes State aid as defined in Article 87(1) of the EC Treaty. The aid is provided by the Lithuanian State and financed from its own public resources, since the tax exemption results in reduced revenues that would otherwise be received by the State. As the excise rate reduction for biofuels for transport is deemed to be equivalent to State aid, Lithuania notified the European Commission, in accordance with the procedure laid down, of its intention to reduce excise duty on biofuels.

On 25 July 2005, the European Commission informed Lithuania (letter No 204085) that it had no objections to the aid scheme for the application of a reduced rate of excise duty to mixtures of biofuel and other fuel types (State Aid No: N44/2005 - Lithuania. Excise duty reduction for biofuels.)

The relief is applicable to bioethanol, biodiesel, bio-ETBE and pure vegetable oil.

Lithuania has undertaken to submit to the European Commission an annual monitoring report on the production costs of mineral fuels (diesel and petrol) and biofuels (biodiesel and bioethanol) for transport and the sale prices of fuel mixtures to prove that no overcompensation exists. The information must be provided to the Commission in annual reports.

To meet this commitment, we hereby provide a comparison of the production costs and sale prices of mineral fuels (petrol, diesel), biofuels (biodiesel and bioethanol) for transport and fuel mixtures in 2006 (Tables 1, 1a, 1b, 2, 2a and 2b) .

The data in Tables 1a, 1b, 1a and 1b shows that the sale price of fuel mixtures, adjusted for fuel energy values, is higher than the sale price of mineral fuel (diesel and/or petrol).

#### **Note.**

In the reporting year, bioethanol and FAME each were produced by only one enterprise (AB Biofuture and UAB Rapsoila).

The information provided by undertakings producing biofuels for transport in Tables 1 and 2 is confidential and, therefore, at the request of the enterprises, these data may not be disclosed to third parties.



### Production costs and sale price (before tax) of fuels (biodiesel and diesel) for transport

Table 1

Price of fuel, LTL <sup>1</sup> per litre	Biodiesel (FAME)	Diesel
1. Raw material (+)	1.92	1.19
2. Processing (+)	0.67	0.05
3. Other costs (research, production reorganisation) (+)	0.31	-
<b>4. Production costs</b>	<b>2.90</b>	<b>1.24</b>
5. Logistics (+)	0.09	0.09
6. Sale price of by-product (-)	0.53	-
7. Profit	0.05	0.11
<b>8. Sale price set by producer (before tax)</b>	<b>2.46</b>	<b>1.44</b>

### Sale price of fuel mixture (diesel and biodiesel)

Table 1a

Price of fuel mixture, LTL per litre	3% FAME	5% FAME
<b>Biodiesel (FAME) costs in mixture</b> (3% x LTL 2.46 per litre); (5% x LTL 2.46 per litre)	0.07	0.12
<b>Diesel costs in mixture</b> (97% x LTL 1.44 per litre); (95% x LTL 1.44 per litre)	1.40	1.37
<b>Excise duty</b> (97% x LTL 0.85 per litre, (95% x LTL 0.85 per litre)	0.82	0.81
<b>Sale price of fuel mixture, total</b>	<b>2.29</b>	<b>2.30</b>
<b>Adjustment for lower mixture energy (13%)<sup>2a</sup></b>	0.01	0.016
<b>Sale price of fuel mixture (relative)</b>	<b>2.30</b>	<b>2.32</b>

### Sale price of diesel

Table 1b

<b>Diesel sale price (before tax) (100% x 1.44 LTL per litre)</b>	<b>1.44</b>
Excise duty on diesel	0.85
<b>Diesel sale price<sup>3</sup></b>	<b>2.29</b>

<sup>1</sup> - Exchange rate used – LTL 3.4528 = EUR 1;

<sup>2a</sup> - The energy value of biodiesel, as compared to mineral fuel (diesel), is lower: the amount of biodiesel required to produce a unit of energy has been calculated to be 13% higher than the amount of diesel required to produce the same unit of energy;

<sup>3</sup> - Calculated excluding VAT.

**Production costs and sale price (before tax) of fuels (bioethanol and petrol) for transport**  
Table 2

<b>Fuel price, LTL<sup>1</sup> per litre</b>	<b>Bioethanol (ETBE)</b>	<b>Petrol</b>
<b>1. Raw material (+)</b>	<b>0.71</b>	1.20
2. Processing (+)	0.65	0.05
3. Other costs (research, production reorganisation) (+)	0.38	
<b>4. Production costs</b>	<b>1.74</b>	<b>1.25</b>
5. Logistics (+)	0.21	0.09
6. Sale price of by-product (-)	-	-
7. Profit	0.08	0.02
<b>8. Sale price set by producer (before tax)</b>	<b>2.03</b>	<b>1.36</b>

**Sale price of fuel mixture (bioethanol and petrol)**

Table 2a

<b>Price of fuel mixture, LTL per litre</b>	<b>containing 5% of bioethanol</b>	<b>containing ETBE, with bioethanol content of:</b>	
		<b>3.29%</b>	<b>7.05%</b>
<b>Bioethanol costs in mixture</b> (3.29% x LTL 2.03 per litre); (5% x LTL 2.03 per litre); (7.05% x LTL 2.03 per litre)	0.101	0.067	0.143
<b>Petrol costs in mixture:</b> (96.71% x LTL 1.36 per litre); (95% x LTL 1.36 per litre); (92.95% x LTL 1.36 per litre)	1.292	1.315	1.264
<b>Excise</b> (96.71% x LTL 0.98 per litre); (95% x LTL 0.98 per litre); (92.95% x LTL 0.98 per litre)	0.93	0.95	0.91
<b>Sale price of fuel mixture, total</b>	<b>2.323</b>	<b>2.332</b>	<b>2.317</b>
<b>Adjustment for lower mixture energy (65%)<sup>2b</sup></b>	0.066	0.044	0.093
<b>Sale price of fuel mixture (relative)</b>	<b>2.39</b>	<b>2.38</b>	<b>2.41</b>

**Sale price of petrol**

Table 2b

<b>Petrol sale price (before tax)</b> (100% x LTL 1.36 per litre)	<b>1.36</b>
Excise duty on petrol	0.98
<b>Petrol sale price<sup>3</sup></b>	<b>2.34</b>

<sup>1</sup> - Exchange rate used – LTL 3.4528 = EUR 1;

<sup>2b</sup> - The energy value of bioethanol, as compared to mineral fuel (petrol), is lower: the amount of bioethanol required to produce a unit of energy has been calculated to be 65% higher than the amount of petrol required to produce an equivalent unit of energy;

<sup>3</sup> - Calculated excluding VAT.