

## INFORMATION REGARDING PROMOTION OF BIOFUELS PRODUCTION AND USE IN LITHUANIA

In Lithuania, with performance of the policy on promotion of the use of renewable sources, the consumption of such resources has been gradually increasing. From 1999 till 2006, the use of renewable energy sources increased by 22%. Use of biofuels within the said period increased by 27%. In 2006, the share of renewable energy sources in the gross inland consumption equalled to 9.2 %. From them: firewood and wood waste made up 92.2%, biofuels – 2.6%, biogas – 0.3%, agricultural waste – 0.2%, other resources – 4.7%. In 2006, in the fuel balance of the district heat supply enterprises, the share of renewables equalled to 14%. From them: wood and wood waste – 130 ktoe, straw and biogas – 1.5 ktoe, geothermal energy – 12 ktoe. In 2006, electricity generated in biogas and wood power generation plants made up 5% from the total amount of electricity generated from renewable energy sources. In the national market, the share of biofuels made up 2.2% from the total energy amount of petrol and diesel fuel for transport.

Principal strategic and programme legislation, regulating the promotion of production and use of biofuels in Lithuania, is as following:

- Law on Energy of the Republic of Lithuania (*Official Gazette*, 2002, No. 56-2224);
- Law on Biofuel, Biofuels for Transport and Bio-Oils of the Republic of Lithuania (*Official Gazette*, 2000, No. 64-1940; 2004, No. 28-870);
- Law on Pollution Tax of the Republic of Lithuania (*Official Gazette*, 1999, No. 47-1469; 2002, No. 13-474; 2005, No. 47-1560);
- Law on Excise Duties of the Republic of Lithuania (*Official Gazette*, 2001, No. 98-3482; 2004, No. 26-802);
- National Energy Strategy, approved by the 18 January 2007 Resolution No. X-1046 of the Seimas of the Republic of Lithuania (*Official Gazette*, 26 January 2007, No. 11-430);
- National Energy Strategy Implementation Plan for 2008–2012, approved by the 27 December 2007 Resolution No. 1442 of the Government of the Republic of Lithuania (*Official Gazette*, 2008, No. 4-131);
- National Energy Efficiency Programme 2006–2010, approved by the 11 May 2006 Resolution No. 443 (*Official Gazette*, 2006, No. 54-1956).
- The 2004–2010 Programme for the Promotion of Production and Use of Biofuels, approved by the 26 August 2004 Resolution No. 1056 (*Official Gazette*, 2004, No. 133-4786);

In the National Energy Strategy, a major move is made to focus on the development of the indigenous and renewable energy sources sector. Principal targets of the National Energy Strategy are related to the use of renewable energy sources:

- to increase the share of renewable energy sources in the total national primary energy balance in 2025 at least by 20%;
- to increase the share of biofuels for transport in the national market in 2020 by 15%, and in 2025 – by 20%;

In the National Energy Strategy, seeking to use indigenous energy resources to the maximum and thus reduce the import of fuel and the use of gas in generation of electricity and district heating, to create new jobs and reduce CO<sub>2</sub> emission, a programme aimed at a more speedy use of biofuel for heat and electricity generation will be drafted and implemented envisaging:

- 1) the application of modern technologies when using all the economically justified potential of the logging waste, which, by 2025, will amount to approximately 180 ktoe;
- 2) the creation and implementation of the logistics system for gathering, storage, transportation and use of straw in enterprises providing district heating. According to experts, straw

remains unused in the agricultural sector of Lithuania and their energy value may amount to approximately 120 ktoe by 2025;

3) planting of the energy crop plantations and constantly expanding their area to achieve the supply volume of approximately 45 000 toe by 2015 and by 2025 – nearly 70 ktoe for energy purposes;

4) arranging sorting of municipal waste and constructing incineration facilities for such waste by 2010 in Vilnius, and later – in major Lithuanian cities and towns to replace approximately 120 ktoe of fossil fuel;

5) to replace approximately 450 ktoe of petroleum products with biofuel by 2025, by respectively expanding rape and other oil-bearing plants growing areas and the production of biodiesel, as well as comprehensively supporting the production of bioethanol using the latest technologies and versatile raw materials.

With a view to increasing the use of biofuel and other indigenous energy resources by reducing the demand in the imported fuel, the following measures will be undertaken:

1. drafting of the required legal acts regulating the use of renewable energy resources of all types in the energy and transport sectors. The State will support the implementation of projects aimed at achieving this goal and will create the conditions for the EU structural and other support funds to be used for this purpose;

2. encouraging the extensive use of indigenous energy resources by employing legal and economic measures, supporting enterprises growing energy plants and crops and producing biofuel.

The National Energy Strategy Implementation Plan for 2008–2012 contains two groups of measures related to the use of biofuels: “Developing new energy capacities, increasing energy production efficiency” and “Developing the use of renewable energy sources and increasing energy efficiency”.

The following measures have been provided for in the Group of Measures “Developing new energy capacities, increasing energy production efficiency”:

- to construct cogeneration power plants using biofuels, including municipal waste, the total electric capacity equalling to 71 MW and thermal capacity – to 178.5 MW;
- to modernize Petrašiūnai Power Plant and adapt it to using biofuel.

In the Group of Measures “Developing the use of renewable energy sources and increasing energy efficiency”, the following measures have been provided for:

- to use the whole economically justifiable potential of wood-cutting waste;
- to create and implement the logistics system for collection and use of biofuels;
- to afforest and develop energy plantations;
- to develop areas of oil plants, production and use of biofuels;
- to examine the possibility to modernize Klaipėda demonstration (show) geothermal power plant, to adapt it to use biofuels instead of natural gas.

The said Plan, in addition to specific measures, sets out the financing for implementation of the measures as well as appropriate periods and responsible institutions.

The purpose of the National Energy Efficiency Programme 2006–2010 in the sector of indigenous, renewable energy sources and waste energy could be identified as following – to use such energy sources for the purpose of reducing national dependence on the import of primary energy sources.

The task is to achieve the share of renewable energy sources of 12% in the total primary energy balance in 2010, and the production of electricity from such sources of 7% of the whole amount of electricity consumed. The foregoing programme contains a plan of measures, which includes separate instruments related to promotion of the use of biofuels.

The 2004–2010 Programme for the Promotion of Production and Use of Biofuels encourages the production of biofuels and bio-oils from the raw materials of Lithuanian origin. The purpose of the said Programme is to implement the Law on Biofuel, Biofuels for Transport and Bio-Oils of the Republic of Lithuania and the provisions of the European Community on the development of the biofuels production and use. The key objectives of the Programme are that:

- by 2010 energy, generated from renewable energy sources, should make 12% (among them: from biofuels produced from the raw materials of Lithuanian origin – 10.5%) of the total amount of energy consumption;
- by 2010 electricity, generated from renewable energy sources, should make up 7% (among them: generated from biofuels – 1.65%) of the total amount of energy consumption;
- by 31 December 2010 – 5.75% of all used fuels for transport.

Key tasks of this Programme:

- by 2010 to increase the production of electricity obtained from biogas, wood and straw up to 0.204 TWh, and the total amount of energy – up to 10.31 TWh per year;
- by 2010 to increase the production of biodiesel fuel from the raw materials of Lithuanian origin up to 40 thousand tons per year;
- by 2010 to increase the production of bioethanol up to 20 thousand tons per year;
- to encourage the growing and preparation of raw materials for biofuels;
- to encourage the use of biofuels, to establish obligatory targets for use of mineral fuels and biofuel mixtures;
- to encourage scientific researches on the issues of production and use of biofuels – to recognize them as a priority trend for scientific researches;
- to implement training, information and consulting measures on the issues of biofuels.

In addition to the above-mentioned strategic and programme documents, the following legal, economic measures, encouraging the use of renewable energy sources, are being implemented:

- by aiming to promote the use of biofuels, the Law on Pollution Tax of the Republic of Lithuania establishes that natural or legal persons polluting from transport vehicles using bio-fuel of established standards upon submitting the documents certifying the consumption of bio-fuel, as well as natural or legal persons who submit documents certifying the consumption of bio-fuel shall be exempted from the pollution tax for pollution from stationary sources of pollution for pollutants discharged into the atmosphere when using bio-fuel;
- by aiming to promote the use of biofuels for electricity generation in cogeneration power plants, the whole amount of electricity produced in the cogeneration regime in combined cycle power units, using biomass and (or) biogas (when biomass and biogas make up at least 70% in the fuel balance, and the rate of nominal electric and thermal capacities is at least 0.23) shall be purchased. Since costs of electricity generation from renewable energy sources are higher than using traditional energy resources, fixed purchase prices have been established for electricity generated from renewable energy sources. The purchase price of electricity produced by using biofuel is 22/24 ct/kWh (6.4/7.0 €/kWh) (for power plants the operation of which started before 1 January 2008 – 22 ct/kWh, for those the operation of which started after 1 January 2008 – 24 ct/kWh). Power plants, generating electricity from renewable energy sources, shall be connected to operating energy enterprises' networks under the procedure as provided for by the legal acts, by applying a 40 % connection tax allowance. In the presence of the limited permeability of transmission and distribution networks, transmission system and distribution networks operators should ensure a priority transmission of electricity through networks, produced by using renewable energy sources.
- while purchasing heat from independent heat suppliers and under the equal price for heat offered by suppliers, priority shall be given to heat produced by using renewable energy sources;
- Fund of the Support Programme for Development of Biofuels Production shall be used

for compensation of the part of the price of rape oil, intended for production of rape methyl (ethyl) ester (RME), or any other fuel mixture used in transport, and the rape and grain purchased for production of dehydrated ethanol because due to expensiveness of the raw material the price cost of biofuels is still higher than the price cost of mineral fuel, therefore producers incur losses;

- financial support is granted for projects related to the use of biofuels in energy production. The EU 2007-2013 Structural Support Funds provide for support for modernisation of the heat plants and other CHP's, supplying heat to district heat supply networks, by replacing the used type of fuel with a less polluting one, for construction of new heat plants and new effective CHP's, using renewable energy sources. The Lithuanian Environmental Investment Fund finances investment projects of public and private legal entities, which reduce a negative impact on the environment and ensure continuity of environmental effect, among them: projects related to energy production by using biomass and biofuels production from biomass.