

PROSPECTS FOR DEVELOP THE PRODUCTION OF BIOFUELS IN THE EUROPEAN UNION AND ROMANIA

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Abstract

The development of biofuels contribute to increasing energy security of states and improve balance of payments by reducing oil imports. . Extending benefits of biofuels production should be evaluated carefully since their costs are not small and can irreversibly affect the welfare of rural communities and regions, especially with reference to environmental costs (reduction of areas covered by forests, adverse effects on soil, water reserves, biodiversity etc.)..

The production of biofuels in our country is at the beginning, but Romania has great potential for growing energy crops and biofuels.

Key words : biofuels, bioenergy, fuel farm, fuel oil, gas emissions.

INTRODUCTION

Biofuels industry witnessed a large grow today in many states.

The increased demand for raw materials used to produce fuel will have a significant impact on agricultural markets in the next decade.

Bioenergy market development has taken place in economic and political context generated by some of the obligations assumed by European countries on compliance with the Kyoto Protocol, for reducing emissions of greenhouse gases, and on the other hand, the explosion of oil prices which occurred in recent years.

European Union countries have begun to consider and evaluate methods and scenarios for diversification for supply sources and security of energy supply in the medium and long trmen.

On the biofuels market, the EU is a major player alongside the United States, Brazil and China.

EU strategy aims to assess the impact related to biofuels production and use

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of biofuels from several perspectives: research, environment, agriculture, economic conditions, legislation and institutions. The purpose of this strategy is to diversify energy supply and reducing greenhouse gas emissions from transport.

Following the development of production and the widest possible use of agricultural fuels have appeared a number of implications thereof:

- In recent years climate changes that occurred have their origin in increasing greenhouse gas concentrations in the atmosphere. These climate changes that are just starting, will affect people's lives due to the reduction of agricultural production and jeopardizing the terms of food security and the areas most affected are those in southern Europe and from the European Arctic Ocean.
- Production of biofuels, given that petroleum fuel market recorded dramatic increases in oil prices could provide insight into the diversification of energy sources (it is known that global oil reserves that can be operated in reasonable economic conditions are decrease over the next 30-40 years is estimated to be exhausted).
- Development productieie of biofuels will help diversify the specific activities of rural economy involving the growth of the rural population and increasing the income.
- Search for solutions on the problem of producing fuel for transport and reducing emissions of greenhouse gases is correlated with lower unemployment in rural areas and increase the competitiveness of certain agricultural products, stimulating research in order to increase creativity and technological innovation.

In the next decade, the increased demand for biofuel raw material to obtain will have a significant impact on agricultural markets. Thus, in the next 3-4 years the rapid growth of production of biofuels will change the price relationships in various agricultural goods.

Vegetable oil prices also increase, compared to prices for oilseeds and protein flour because greater share of oil value is derived from plant oil content compared with flour protein content. In oilseeds, canola with oil content of 40%, it becomes more profitable than soybeans in some areas, soybean oil having a content of 18%.

Protein feed prices will drop as compared to the price of plant materials used as an energy source (corn).

Prices for poultry and pork prices increased compared with beef because cattle can more effectively use the results as a cerearele co-product from ethanol plants.

For developing countries, increased production of biofuels may trigger an increase in jobs involving and revenue growth

Thus, in Brazil, bioethanol industry and increased production of sugar beet increased number of jobs to over 700 000 in agriculture and manufacturing.

Increasing energy costs spurred governments to encourage the production of substitutes for oil with production from renewable crops (Brazil uses sugarcane to produce ethanol using it widely in vehicles, and the EU has used rapeseed oil to produce biodiesel).

In Romania, a few companies showed interest in biofuels, both in refineries and investing in agricultural production related to energy crops.

Thus, in Calarasi county have been invested 47 million euros in a processing company that has an annual capacity of 100,000 tons and that should provide 30% of the requirements of biofuels in Romania. A German company Man, intends to invest approx. 180 millions euros in a refinery and an agricultural center of Sibiu. Three other oil producers, respectively Argus Constanta, Ultex Tandarei, TEC Brazi are about to build capacity for biofuels. Since the investment required is quite large, this represents a major break for local investors, although Romania has great potential for growing energy crops.

The legal framework for the production / consumption of biofuels are the responsibility of the Romanian Agency for Energy Conservation, Ministry of Economy and Commerce. It adopted nr.1535 Decision of 18 December 2003 on the approval of the use of renewable energy. This bill highlights the importance of renewable energy because it provides guarantees on increasing energy supply based on diversification of energy sources and reducing imports Energy, sustainable development and environmental protection by default. Romania adopted a regulation stipulations of the European Union, but has not established care national framework to stimulate initiative in this area, regulations, taxation or mandatory legal regulations.

Romanian energy strategy should ensure the reducing dependence on imported energy resources. Their growth is estimated approx. 40% by 2015 approx. 60-70%.

Biofuel production is also an opportunity for rural development. An estimated number of people working in this area could increase by 5 percent.

Objectives of the strategy on biofuel production in Romania are similar to the European Union objectives. These are:

- Diversification of energy resources and reduce import dependence;
- Reducing CO2 emissions. Fuels with bio diesel reduces CO2 emissions by 90% and SO2 emissions by 98%;
- Creating new jobs in rural areas;
- Oil pricing;
- Establish measures and policies on the use of biomass in transport, energy production and heating;
- Policies to replace diesel engines with ethanol;
- Correlation of sectoral policies: energy - agriculture - environment - development rural development, establish the level of subsidies, regulation rational surfaces for growing energy crops and the rights and terms of use of GM products;
- Stimulating the acquisition of vehicles that use biofuels in urban transport;
- Establishment of structural funds that could be used for biofuel development and regional development projects proposed for inclusion in the Sectoral Operational Programmes;
- Establishing the scope and forms of aid granted by the state to support the development of energy crops.

Energy crops have spread in recent years, replacing other arable crops. EU directives and climatic conditions o have changed the cultivation structure of Romanian agriculture. This can lead to an increase in agricultural prices that have a negative impact on livestock sector.

Of energy crops grown, corn is the most cultivated crop, followed by sunflower, soaia and rape. Rape culture signified increased in recent years, marked in Table 1.

Table 1. The total area cultivated with the main energy crops in the period 2005-2008

Year	2005		2006		2007		2008	
Total area cultivated th. ha	8467,9		7884,0		7777,2		7798,1	
	th. ha	%	th ha	%	th ha	%	th ha	%
Corn	2628.5	31.04	2520,1	31.96	2524,7	32.46	2441,5	31.30
Sunflower	971.0	11.46	991,4	12.57	835,9	10.74	813,9	10.43
Rape	87.8	1.03	110,1	1.39	364,9	4.69	365,0	4.68
Soy	143.1	1.68	190,8	2.42	133,2	1.71	49,9	0.63
Sugar Beet	25.2	0.29	39,8	0.50	28,7	0.36	20,4	0.26

Source: Anuarele Statistice, I.N.S.

Table 2. The main energy crops, crop production in 2005-2008

Year	2005	2006	2007	2008
Average yield	kg/ha	kg/ha	kg/ha	kg/ha
Corn	3952	3565	1526	3215
Sunflower	1381	1540	654	1437
Rape	1681	1590	991	1844
Soy	2186	1807	1021	1817
Sugar Beet	28932	28942	26065	34564

Source: Anuarele Statistice, I.N.S.

In terms of crop production in these cultures is a significant increase from year to year depending on climatic conditions of those years (Table no. 2). Currently, there are many farmers who grow rape for both domestic consumption, and especially for export.

There are large companies that export canola for oil extraction used as biofuel. Targets provided for the future are that 5% of energy for the transport sector to come from bio energy.

The strategy for development of renewable sources in Romania, it is shown that energy produced from agricultural resources for 2010 to be around 46 million tons, in 2020 around to 94 million tons, arriving in 2030 to a potential of 142 million tons.

Agriculture is an economic sector with an impact on nutrition, industry, energy and health. Given this, it relies most heavily on advances in natural sciences and biotechnology.

The need for increased fuel prices will lead and increased grain and Romanian agriculture, considering the climate and soil conditions extremely favorable, could focus more on growing energy crops.

It can be concluded as a result of those presented, that the development of biofuel production contributes to increased energy security of countries in all over the world and improve the balance of payments by reducing the oil imports.

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