

Promoting favourable conditions to
establish biodiesel market actions

***Information Initiative Concerning Biodiesel
Experience in Romania***

Intelligent Energy Europe Programme

Flueraru Catalin

Intertermo Concept Ltd (ITC)

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Biodiesel chains from natural resources to growing market address directly the following groups involved:

- **Agricultural community**
 - **Biodiesel producers**
 - **Automotive industry**
 - **Motor oil industry**
- **Local energy agencies**
 - **Consumers**
- **Environmental groups**

For the incipient market growing in Romania all afore mentioned groups contribute to the progress in creating markets to achieve European liquid biofuel policies and targets compared to leading member states such as, amongst others, France, Austria and Germany.

Relevant case studies and respective best practices for dissemination and networking activities on biodiesel in Romania are required.

Socio-economic profile of Romania

In Romania the macroeconomic conditions have been improved over the last years based on investments in processing plants of raw materials for biodiesel production.

Production statistics show that the strong acceleration in growth was partially the result of a spike in agricultural output which increased by 21.2% in real terms in 2005 and 2006, except 2007 when a severe drought lead to a loss of 50% from the estimate crop on the cultivated area.

Use of crop residues as well as energy crops for fuel can improve the economics of farming while solving disposal hazards.

Especially energy crops for biodiesel production open a new market for agriculture.

In EU open market the local biodiesel producers are aware of market structures in own country and also in neighbour “customer countries” in order to form own sales and promotion strategies.

Continuation of a strong growth fully supported by economic restructuring is likely to lead to growing area for rapeseeds crop.

Europe and Romania



Romania



Transport sector profile in Romania

The transport sector in Romania is a significant consumer of final energy.

In 2006 the total consumption registered in the transport sector, on the basis of final sales figures reported was 1.453 Mtoe of gasoline, and 3.104 Mtoe of diesel oil, with a total of 4.557 Mtoe for a car stock of around 4 millions of cars.

The need for biofuels is estimated to 300,000 toe, from which 200,000 toe biodiesel, according to the target of EC Directive 2003/30/EC representing 5,75% biofuels use in the transport sector in 2010. For 2007 for the mix of 2% the needed quantity is 100,000 t biodiesel.

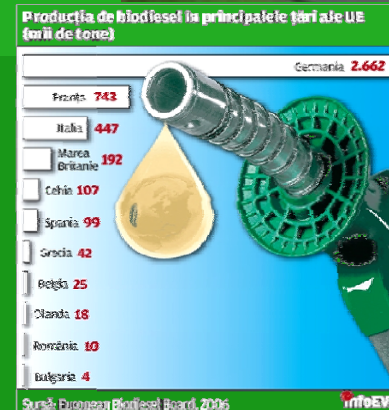
The country capacity for biofuels production based on the actual crop surfaces is estimated to the quantity of around 500-550,000 t/year of vegetable oil (sun flower, soybean, rapeseed), which allows a similar level of biodiesel production.

This agricultural base, ensures the premises of reaching the 10% target of biofuels for 2020, calculated for the total of both petrol and diesel used in transport, target included in the package of energy measures for energy approved by the European Council (march 2007).

The potential is much more higher, when extended surfaces will be used for rapeseed crops, from the existing agricultural land, to quantities of up to 1,500 ktoe with a reserve of up to 1 Mtoe for export to EU countries, representing up to 4% of the EU need estimation that amounts to up to 25 Mtoe in 2010.

Presently, the national cost of fuel, at the fuel station pump, is:

- around 1.04 Euro/litre gasoline and 1,02 Euro/litre diesel



Agricultural Sector

Romania has a total area of 237,500 sq. km. Forty-three (43%) percent of the land is arable, 28% is forest and woodland, 19% meadows and pastures, 3% permanent crops and 7% is devoted to other uses.

Romania's warm summers and cold winters define a transitional temperate-continental type of climate.

The agricultural area of Romania accounts for nearly 7.8 % of the total used agricultural area of the EU-27.

47 % of population is living in rural area. Agricultural employment represents 28.3% of the national labour force (2004 census). In the period 2006-2008, the vegetal sector of the agriculture is expected to grow with a yearly rate of 3.7%.

In 2006, the contribution of the agricultural sector to the GDP was:

- agriculture - 11,7%,
- forestry - 0,24%,
- food industry - 6,0%.

In 2006, EU continues to be the main trade partner for Romania in the agri-food products sector, with a share of about 51% of the total export and 38% of import. The main products exported continue to be live animals, certain categories of vegetables and fruits, vineyards and wheat.

Unfortunately, in 2007 severe drought conditions caused important losses that lead to a loss of 50% from the estimate crop on the cultivated area.

Oil crops

The oil crops are cultivated on 9% of the agricultural land. It is a dynamic sector with good development potential. The production is expected to increase to over 2 millions tones per year.

Within the agricultural year 2006, Romania exported 150,000 tones sunflower oil, and 468,000 tones sunflower seeds.

The average prices for export were 523 Euro/tonne oil and 207 Euro/tonne rapeseed. Main export direction is EU (59%).

Sun flower & soybean cultivation areas

In 2006 and 2007 cultivated areas were the followings:

year	soybean	sunflower	rapeseed
2007	161,400 ha	954,900 ha	340,000 ha
2006	180,668 ha	1,054,900 ha	181,524 ha
2005	143,950 ha	979,236 ha	88,094 ha

Next years estimations foreseen an area more of 500,000 ha for rapeseed

Biodiesel production potential in Romania

At the beginning of 2007 there are operative on the market biofuel producers and in the next period there will be put in action new capacities of production.

There is also some interest for building new means of production in the next years. Based on the information provided by the stakeholders and from their discussions it can be appreciated that Romania can dispose of a capacity production of about 400,000 t/year for biodiesel at the end of 2008.

Today in Romania, there is to be commissioned a production capacity for biodiesel purposes of 110,000 to/year 2007 based on rapeseeds.

The potential for a biodiesel and the investments are for nearly 500,000 to/year being in implementation many process facilities, on the basis of large available land areas for the production of raw materials.

Rape production. As mentioned above, the large majority (90%) of rape seeds production is exported, while the remaining rape and rape oil production is used in Romania for other purposes than biofuel (textiles and chemistry).

The rape cultivated area have an increasing trend. Currently, over 150,000 tones of rape seeds is exported for biofuels production.

Opening of Biodiesel facility

in Vaslui, Romania

01 Aug 2007

The starting of operation of a biodiesel production facility at ULEROM Vaslui city, one of Romania's largest agri-business corporations, announced on 01 August, 2007 the formal opening of their largest facility in Vaslui, Romania.

The 18 million \$ plant, with 60,000 to/yr capacity is intended to extend to 120,000 to/yr in the near future, being now the first biodiesel production facility to operate in Romania .

The biodiesel plant is a key element in the ability of Romania to meet the EU's requirement for 5.75% Biofuels based on the country's extensive agrarian holdings.

This facility featuring waterless wash, computerized, continuous flow and modular construction, represents a big step in the direction of energy independence, a logical and lucrative outlet for agricultural crops and a serious operating facility against warming and pollution from transport in Romania.



Policies and regulations including tax (1)

In the conditions of Romania is joining to the EU in 2007, the country assumed the strategic objectives in renewable energy resources field. The most important document is the Directive 2003/30/EC of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport (OJ L 123, 17.5.2003).

This Directive stipulates that until 2010, biofuels will replace diesel and petrol up to 2% in 2005 and 5,75% by 2010.

The Directive 2003/30/EC has been already included in the national legal frame throughout the Government Decisions: HG-1844/2005 that stipulates that the biofuel will replace diesel and petrol up to 2% by 2007, Romania's accession to EU and 5,75% by 2010.

1. In this direction, there was issued the Government Decision, no. 456/2007, from 22 May 2007, who establishes the gradual introduction of a minimum percent of biofuels in conventional fuels, as the following schedule for the obligatory rates:
 - a. from 1st July 2007, diesel with a minimum biofuel content of 2% in volum;
 - b. from 1st January 2008, diesel with a minimum biofuel content of 3% in volum;
 - c. from 1st July 2008, diesel with a minimum biofuel content of 4% in volum;
 - d. from 1st July 2009, petrol with a minimum biofuel content of 4% in volum;

Policies and regulations including tax (2)

2. Moreover, to implement the Energy Taxation Directive 2003/96/EC of 27 October 2003, has been already included in the national legal frame throughout the Law 571/2003 of the Romanian Code Fiscal (Law 571/2003) and the recent Code Fiscal for application in 2007, according to the art. 3 of GD - HG 1844/2005 is allowing to all types of biofuels, including biodiesel, to be excepted from taxes, transposing the provision of Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity (OJ L 283, 31.10.2003).
3. According to EU legislation, farmers who establish crops of biomass for fuel purposes, receive subsidies in form of uniform payments per hectare, from Romanian Agency for Agriculture Development at rate of 50 Euro/ha from EU support, and complementary rate of 30 Euro/ha from national funds. Supplementary, from national agriculture funds are granted subsidies for farmers for establishing crops of oleaginous plants like rapeseed, sunflower and soybean and maize. The subsidies are made available by the Agency for Agriculture Development at the rate of 42 Euro/ha, providing prior concluded and signed contracts for the crop with biofuels producers.
4. Transposing the standard EN14214 as national standard – SR EN 14214.

Agricultural Potential for Biodiesel production in Romania

One of the most important sources for land and production availability will come from the increase in the production efficiency.

The productivity is expected to increase with 3% per year as response to the gradual introduction of modern technology and machinery, considering existing production efficiency lower than in EU countries. For cereal yields for instance the EU reference is 4.77 t/ha, versus 3 t/ha in Romania. Regarding the oil, sugar and starch crops, the efficiency is even lower than in EU

Currently, cereals use nearly 37% of the utilized agricultural area of 14.8 million ha, from which the area used for maize is the largest with 50%, followed by wheat with 35.5%. The next most important crop by area used is sunflower, with 950,000 ha.

In general it may be considered that from the 9.3 million ha of arable land, the non-cultivated land totals between 0.9 million and 1.4 million hectares.

Summing the above consideration on land and production availability for biofuels raw materials purposes, it may be considered that currently the existing potential is:

- 90,000 ha formerly used for sugar beet production
- 85,000 ha rapeseed cultivation area
- 1 million ha available arable land, presently uncropped
- 1 million tonnes of agricultural and forestry residues

There is a high reserve for this potential to increase in the near future, as the available land resulting from higher production intensity may reach another 1 million hectares by 2010.

The total figure of about 2.2 million ha available land around 2010 for non-food crops is confirmed also by subtracting the arable land area agreed within the Agriculture chapter, 7 million ha, from the total arable land, 9.3 million ha.

Investment on Biodiesel production in Romania

So far, the total value of projects for investments in the segment of biodiesel production tops 250 million euros. Practically, the market starts the second half of this year, when National stipulations forced petroleum companies to sell diesel oil with a 2% content of biodiesel.

Concerning petrol it must contain at least 2% biofuel from January 1, 2009 and 4% one year later.

▪ ***Petroleum companies on Biodiesel market***

PETROM, the biggest Romanian petroleum company, buy 20,000 t biodiesel per this year 2007, from domestic producers, as it did not plan to invest in a production facility.

Major companies, such as ROMPETROL or LUKOIL are interested in investing in their own "green petroleum" production facilities.

LUKOIL will start producing biodiesel in the first half of next year. It is to invest 15 million dollars (12 million euros) in his 60,000 t/year biodiesel producing plant.

ROMPETROL started a 16 million euros investment for construction 60,000 t/year biodiesel plant.

MOL Romania says it will secure the necessary biodiesel from domestic market and from imports.

▪ ***Vegetable Oil Producers on Biodiesel market***

Ultex Tandarei has started producing biodiesel under Biodil brand, being the first vegetable oil processing plant to produce biodiesel domestically.

Argus Constanta announced it would invest around 10 million euros in biodiesel production.

Racova Com-Agro-Pan group of firms invested 18 million euros to build a biodiesel plant in Vaslui.

Expur Urziceni soybean oil will also invest 20m euros to build a biodiesel plant.

Besides these companies, a series of players such as vegetable oil producers or major agricultural land owners, have announced investments of several tens of million euros.

Portugal's Martifer was the first to announce 48 million euros investment in the highest Romanian capacity of 100,000 t/year biodiesel plant.

Other major projects include Retter Projectmanagement, Dafore, Sibiu County Council, MAN Ferrostaal.

THANK YOU VERY MUCH FOR YOUR ATTENTION !

INTERTERMO CONCEPT, ROMANIA

- Tel: + 40 21 330 5020
- Fax: + 40 21 330 5020
- E-mail: intertermo@intertermo.ro

- we have opened the forum Biodiesel at http address:
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