



BIODIESEL CHAINS

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Biofuels in Poland

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- 1990s – at the Radom Engineering University oilseed rape fuel production process was developed and tests with “Tarpan” cars.
- 1993 – 1997 research in this area was continued at the Institute of Aviation (various Polish and foreign fuels were tested).
The test with the Polonez Caro Diesel car, which ran more than 170 000 km on 100% pure oilseed rape fuel confirmed the suitability of Polish rape fuel.
- At the same time research on alternative fuels was also carried out by the Polish Armed Forces.
- In 1994, the Industrial Institute of Agricultural Engineering (PIMR) in Poznań began research on the use of oilseed rape fuel in farm tractor engines.
PIMR built and tested a small-scale rape tractor fuel production installation, known as “agro-refinery”, which produced diesel oil for processing plants.
- At present, biodiesel is a mixture of rape oil methyl ester and diesel oil mixed in various proportions, e.g. B20 and B5 contain 20% and 5% of the ester, respectively, etc., or a mixture of ethanol and diesel oil.



Development of biofuels market (1)

- Demand stimulation for biofuels by privileged treatment and public procurement preferences for energy-efficient and environment friendly technologies.
- Highlight the environmental benefits of biofuels to promote their use.
- Expanding of feedstock supplies (the common agricultural policy reform will increase the financial attractiveness of energy crops).
- Development of the production and distribution of biofuels (particularly important for Poland).
- Enhancement of trade opportunities.
- Support of research and technological development in the field of biofuels.



Development of biofuels market (2)

- Development of biofuels in Poland requires the strengthening of their competitive position in respect to oil-derived fuels.
 - Tax reductions.
 - Direct support for biofuel production (subsidies for farmers growing e.g. rape for fuel purposes or income tax exemptions for biofuel manufacturers).
- Experience of European countries, particularly EU Member States, in the introduction of biofuels indicates that, in the short and medium term, tax reductions are the most effective method of ensuring biofuel competitiveness.



Biofuels legislation in Poland

- Act of 25th August 2006 on biocomponents and biofuels.
- Regulation of the Minister of Finance of 26 April 2004 on excise duty exemption.
- Regulation of the Minister of Agriculture and Rural Development of 6 January 2004 on issuing of biocomponents quality certificates.
- Regulation of the Minister of Economy, Labour and Social Policy of 19 March 2004 on quality requirements for biocomponents – bioethanol and quality examination methods for biocomponents – bioethanol.
- Regulation of the Minister of Economy, Labour and Social Policy of 10 March 2004 on labelling petrol pumps for liquid biofuel sale.



National targets for biofuels

The minimum targets for biofuels in Polish transport:

- 2007 - 2.30%
- 2008 - 3.45%
- 2009 - 4.60%
- 2010 - 5.75%
- 2011 - 6.20%
- 2012 - 6.65%
- 2013 - 7.10%



New Polish Legislation

The Act of 25th August 2006 on biocomponents and biofuels set to enter into force on January 1st, 2007.

- This act implements the resolutions of the Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels and other renewable fuels for transport.
- Though the new laws will not revolutionize the fuel market, but will settle the legal issues. By 2010, the share of biocomponents in the fuel market could reach 5.75%, though biofuels will be sold for separate distributors.
- The *Act on biocomponents and biofuels* contains some provisions that may potentially lead to abuse, such as the stipulation that farmers or groups of individuals can produce biodiesel for their own purposes.



Incentives (biofuels production)

- According to latest (May 2007) changes in Regulation of the Minister of Finance of 18 November 2004 *amending the regulation on excise duty exemptions*, the following products will be exempted from excise duty:
 - Diesel oils containing more than 2% of biocomponents – in the amount of PLN 1.048 per litre of biocomponents added to these fuels,
 - Pure liquid – not a complete exemption from excise duty on the sale of these fuels but a reduction to PLN 0.01 per litre



Biofuels production

- According to the Polish law the companies which expressed their interest to produce or store biocomponents have to register in Register of the enterprisers producing or storing experts in the Ministry of Agriculture and Rural Development.
- So far 16 entrepreneurs producing and storing esters (including two entrepreneurs who only store esters) have been registered. In total, they have declared the capacity to produce more than 300 thousand tonnes of esters per year.



Biofuels instalations

- The first registered biodiesel production installation was built in Trzebinia Refinery (PKN Orlen Group), and its process start-up took place in December 2004. Its annual production capacity is 100 thousand tons of rape oil methyl esters and may be increased.
- In late 2005, Kompania Spirytusowa Wratistavia Polmos S.A. in Wrocław approved the process design of an installation for producing 150 thousand tons/year of higher fatty acid esters.



Use of biofuels in Poland

Year	Petrol (in thousands of tonnes)	Diesel (in thousands of tonnes)	Bioethanol (in thousands of tonnes)	Esters (in thousands of tonnes)	Share based on energy content
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*	4049	6036	84.3	44.9	0.92%

* estimated value



International trade

- According to the information in 2005 around 64 thousands tons of esters were produced in Poland. The national fuel sector used around 17.1 thousand tonnes of esters.
- Only 19.4 million litres used in Poland. At the same time consumption of diesel fuel was much higher than in the previous year. The percentage share of esters in diesel fuel used in 2005 was thus 0.34%.
- Around 76% of the national production was exported. Germany is the main direction of export of the esters used for biodiesel production.



International trade

The level of production and export in the first and second quarter of the year 2006

	I quarter 2006	II quarter 2006
Production of esters	26,096 tons	20,974 tons
Sale of esters	15,379 tons	17,632 tons
- export	15,177 tons	17,024 tons
- internal market	202 tons	608 tons



Biodiesel is still not commonly used in Poland. It is mainly used by transport sector. The main organizations which represent end users are as follows:

- **Chamber of Urban Transport (IGKM)** was founded in March 1991 and continues the tradition of cooperation between urban transport companies, which primarily was realized by the other organizations.
- **Polish Automotive Industry Association (PZPM)** is the biggest Polish organization of automotive industry employers. PZPM associate 31 companies: cars and motorcycle's producers and producers' representatives in Poland.
- **The Polish Chamber of Automotive Industry (PIM)** is a nation-wide business sector selfgovernment institution with members from all entities involved in the Polish automotive industry.



Barriers (1)

- There are economic barriers limiting the expansion of biocomponents on the liquid fuel market, new regulations on excise duty exemptions and reductions could modify this situation.
- The problem for potential investors is the lack of legal guarantees that the tax reductions and exemptions will be maintained in the long term, even though they have already been in place for more than a decade.
- The lack of clear legislation prevents trade in biofuels and rules out investment decisions. Banks treat investments in the construction of agro-refineries (ester installations) as high risk investments. Due to this fact the process of building adequate feedstock supply capacity is delayed.



Barriers (2)

- According to the producers there is no demand for biocomponents on the market. There is no clear answer nor documented evidence that could explain why, despite the fact that public funding has been mobilised to ensure profitability of blending biocomponents in liquid fuels, the share of biofuels has just reached its lowest point in 10 years instead of increasing as required by Poland's international obligations and as would be in the country's social and economic interest.



Recommendations (1)

- Fast-tracking the drafting and implementation of the missing regulations of the Minister of Economy and Labour concerning the quality of, and quality control methods for, esters as well as petrols and diesel oils containing over 5% and over 20% of biocomponents, respectively.
- Fast-tracking the development and implementation of the *2007-2013 long-term programme for the promotion of biofuels and other renewable fuels*;
- Initiation (by the Ministry of Economy and the fuel sector) of measures aimed at placing three-component (multi-component) fuels on the market
- Initiation of work on *"agricultural fuel"* to place on the market diesel oil containing about 10% of bioethanol, 20 – 30% of esters and 60 – 70% of so-called standard diesel oil. Existing Polish technologies and proposals for manufacturer standards may be useful in this context. Agricultural fuel does not require any engine or vehicle design modifications.



Recommendations (2)

- Assessment of the possibility of introducing legislation which would:
 - oblige Polish state and public transport operators to buy vehicles designed to run on fuels containing more than 5% of biocomponents (particularly public buses and company cars);
 - introduce an obligation to run these vehicles on biofuels (petrol containing at least 8-10% of bioethanol and diesel oil containing at least 30% of esters) for which their engines have been designed.
- Analysis of the legal feasibility of linking excise duty reductions on liquid fuels containing biocomponents with the principle that fuel price should be proportional to its energy content (this would be justified in the context of State aid being given and the lower energy content of biofuels).
- Analysis of the legal feasibility of introducing charges on fuel manufacturers for selling fuels which lead to increased greenhouse gas emissions.



Recommendations (3)

- Securing financial support for the construction of agro-refineries, i.e. ester installations (and eventually bioethanol installations); considering their significance for national energy security and environmental protection, they should be supported in a similar way as in other EU Member States and be given due attention in the National Cohesion Strategy for 2007 -2013,
- Initiation and prompt finalisation of legislative work required for full implementation of Directive 2003/30/EC.



**Thank you
for your attention.**