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Biofuels Market Outlook in Poland 2016

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Report Highlights:

In 2016 Poland's total production of biofuels is estimated at 0.8 MMT of biodiesel and 0.2 MMT of bioethanol. There is a significant surplus of current domestic production capacity in both biodiesel and bioethanol markets in Poland and further investments in this area are not expected. In 2016 the National Indicative Target (NIT) for Poland is set at 7.1 percent. It will increase gradually in order to reach 10 percent in 2020.

Please Note: This report is to be read in conjunction with the Annual 2016 EU28 Consolidated Report on Biofuels ([Biofuels Annual The Hague EU-28 6-29-2016](#)) and provides further information on Polish market of biofuels.

General Information:

Poland as an EU member state must follow the Renewable Energy Directive (RED) which sets a general target of 20 percent renewables in all energy used by 2020 and creates a sub-target of 10 percent renewables in the transport sector. As of 2017 the upper limit for renewable energy of the first generation will be set at 7 percent and the remaining part of the target must be fulfilled from other sources of biofuels. Fuel suppliers are also required to reduce the greenhouse gas intensity of the EU fuel mix by 6 percent by 2020 in comparison to 2010.

Please note that the only available official data on production and use of RES in Poland were published by the Ministry of Energy as bi-annual report on RES submitted to the EU in 2016 and covering years 2013 and 2014. According to the report in 2014 the share of all Renewable Energy Sources (RES) in overall energy supplies amounted to 11.4 percent and it is estimated that in 2015 it increased slightly to 11.5 percent. Tables below present production use of RES in heating and cooling, production of electricity and use in transport sector in 2013 and 2014.

Share of RES in energy supplies in Poland (%)

	2013	2014
RES in heating and cooling	14.1	13.9
RES in electricity production	10.7	12.4
RES in transport	6.0	5.7
Overall share of RES	11.3	11.4

Source: National Report on RES to the EU, 2016

Production of electricity from different sources of RES (MW)

Type of RES	2013	2014
Hydro	949	958
Wind (onshore)	3,429	3,836
Biomass	735	816
• Solid biomass	582	629
• Biogas	153	187
Total	5,115	5,637

Source: Source: National Report on RES to the EU, 2016

Use of RES in heating and cooling (ktoe)

Type of RES	2013	2014
Biomass	5,186	4,849
• Solid biomass	5,112	4,771
• Biogas	74	77
Total	5,227	4,899

Source: Source: National Report on RES to the EU, 2015

Use of different sources of RES in transport sector (ktoe)

Type of RES	2013	2014
Bioethanol	144.1	132.8
Biodiesel	603.4	572.5
Renewable electricity	58.8	60.7
Total	806.4	766.1

Source: Source: National Report on RES to the EU, 2016

For 2016 the National Indicative Target (NIT) for use of biofuels in transport for Poland was set at 7.1 percent. The NIT will grow to 7.8 percent in 2017 and to 8.5 percent in 2018. For 2012-2015 a reduction factor of 0.85 was set. Consumption of biofuels in Poland depends mainly on prices of gasoline and diesel as well as the policy to implement EU regulations.

Transport fuels and biofuels consumption in Poland (000 MT)
and the level of National Indicative Target (%)

	Gasoline	Diesel	Bioethanol	Biodiesel	NIT realized
2012	3,459	10,752	241	737	5.32
2013	3,310	10,058	241	742	5.67
2014	3,359	9,992	246	643	5.11
2015	3,660	10,400	255	928	n/a

Source: Ministry of Agriculture and Rural Development

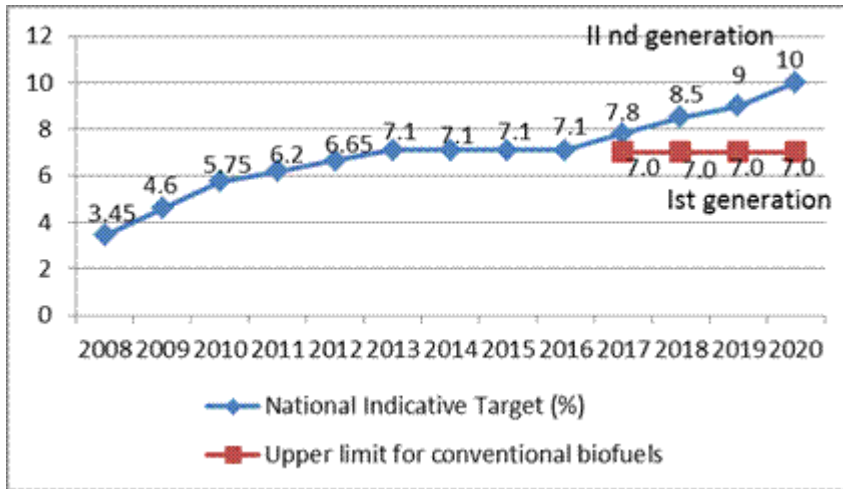
Poland meets the NIT through consumption of biofuels sourced from domestic production and from imports, mainly from the European Union. The basic raw material for bioethanol production is domestic corn (80 percent of the feedstock input), and other grains. Biodiesel is produced almost entirely from domestically grown rapeseed supplemented by imported rapeseed oil. Ethanol is blended with gasoline and fatty acid esters are added to diesel.

The sustainable criteria required by the EU were introduced into Poland's legislation with amendments to the act on biofuels (August 26, 2006, Dz.U.2013, pos. 1164) published on April 8, 2014 (Act of March 21, 2014 amending the Act on components and liquid biofuels and other acts -Journal of Laws 2014 pos. 457). They came into force on May 9, 2014, but some of the provisions of the Act took effect from January 1, 2015, because of the time needed to create implementing regulations, and the time needed to market operators to adapt to the new regulations. The amendment completed the process of Poland's EU biofuel directives transposition.

According to the new regulations, biofuels produced from wastes and non-food products will get bonus on the basis of sustainable development. The share of biofuels in transport fuel domestic consumption is expected to reach 10 percent in 2020. The new rules will also cover such products as biogas (methane, propane, butane), alcohols produced from biomass - other than ethanol (methanol, butanol) and other substances. In addition, bio-components from non-food raw materials (mainly cellulose and lignocellulose and waste residues materials) are promoted. Their contribution to the implementation of NIT (National Indicative Target) is double counted over traditional bio-components.

National Indicative Target (NIT) for use of biofuels in transport (%)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
NIT	3.4	4.6	5.7	6.2	6.6	7.1	7.1	7.1	7.1	7.1	7.8	8.5	n/a	10.0



Source: Energy Regulatory Office (URE)

Firms which operate in the biofuel sector and want to be eligible for government support or count towards mandatory national renewable energy targets must comply with sustainability criteria.

Biodiesel

Production

It is estimated that in 2015 Poland's production of biodiesel amounted 757,000 MT. It is expected that 2016 production will increase by 3 percent. The NIT in 2015 and 2016 is set at the same level of 7.1 percent, so there is no incentive for an increase of biodiesel production, especially if prices for regular fuels remain at the low level. Almost two thirds of annual production of rapeseed (2 million MT) is used for production of biodiesel and one third for rapeseed oil for human consumption. The VAT tax for rapeseed used for human consumption amounts to 5 percent while when used for production of biodiesel it amounts to 23 percent.

There is a significant surplus of current domestic production capacity in both biodiesel and bioethanol markets in Poland and further investments in this area are not expected. Capacity in biodiesel production is currently at around 70 percent and in bioethanol production it is below 30 percent.

Production and sales of biodiesel in Poland (000 MT)

	2010	2011	2012	2013	2014	2015*	2016*
Production	371	364	592	648	692	757	780
In-country sales of domestic production	361	356	553	548	488	550	600

Source: Energy Regulatory Office (URE)

FAS Warsaw Estimate

In 2015 there were 10 installations for production of biodiesel with total production capacity amounting to 970,000 MT. Within last few years there is a trend of consolidation in the biodiesel industry leading to reduction of number of biodiesel installations and increase of their production capacity. It is estimated that there is a 30 percent surplus of the production capacity over actual output in 2015. In 2015 Poland's total production exceeded the country's consumer demand by 10 percent.

Capacity of biodiesel production

Biodiesel	Number of units	Production capacity of installations (000)MT	Production* (000)MT	Use of production capacity (%)
2013	10	1,144	648	57
2014	10	968	692	72
2015	10	986	757	76

Source: Agricultural Market Agency, * Energy Regulatory Office (URE)

Production and imports of biodiesel, (000) MT

	Total Supply	Country Production	Total Import (EU and non EU countries)	Country production in total supply (%)
2013	742	648	94	87
2014	643	692	0.0	108
2015	928	757	171	81

Source: Agricultural Market Agency

Bioethanol

Production

In Poland there are 11 bioethanol plants with a total production capacity of 511, 000 MT. Over the past years the decreasing tendency in bioethanol capacity production has been observed with a decreasing number of units and diminished total capacity. In 2015 the share of production in total production capacity amounted to less than 30 percent. It is estimated that in 2015 production of bioethanol amounted to 169, 000 MT, an 18 percent increase compared to 2014.

Production and sales of bioethanol in Poland, (000) MT

	2010	2011	2012	2013	2014	2015*	2016*
Production	162	132	168	186	143	169	190
In-country sales of domestic production	51	87	99	38	19	20	22
Out of country sales of domestic production	74	21	3	0	0	0	0

Source: Energy Regulatory Office (URE)

*FAS Warsaw estimate

Due to lower prices, imported bioethanol is more competitive than what is produced domestically. As a result domestic capacity for production of bioethanol is not fully used.

Bioethanol, (000) MT

	Total Supply	Country Production	Total Import (EU and non EU countries)	Country production in total supply (%)
2012	241	168	73	70
2013	241	186	55	77
2014	246	143	103	58
2015	255	169	86	66

Source: Agricultural Market Agency

Biogas production

Biogas production capacity and output

	No. of biogas plants (using agricultural feedstock)	Total capacity in MW	Agricultural biogas production in million m3	Electricity production GWh	Heat Production GWh
2013	42	Electrical power 49 MW	112	228	247
		Heat power 51 MW			
2014	58	Electrical power 66 MW	174	355	374
		Heat power 68 MW			
2015	78	Electrical power 67 MW	210	429	225
		Heat power			

		68 MW		
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Source: Agricultural Market Agency

In 2015 biogas from agricultural raw material was produced in 78 biogas plants owned by 69 companies. Polish biogas plants are designed to produce both electricity and electrical energy to produce heat. The most common plants in Poland are small electricity or electro-heat biogas plants sourcing from landfill sites. They account for more than half of this type of installation.

Number of energy companies and their installations

	2011	2012	2013	2014	2015
Number of registered companies	4	21	35	50	69
Number of installations	8	28	42	58	78

Source: Agricultural Market Agency

In order to support the production of energy from renewable sources (implementation of Directive 2001/77/EC of the European Parliament and of the Council of September 27, 2001), Poland has approved so-called green certificates. A green certificate, or certificate of origin, is a document that confirms the origin of renewable energy sources. The system of green certificates has been in force in Poland since October 1, 2005. This mechanism promotes all sources of biogas regardless type of technology. Energy produced from landfills or sewage sludge brings manufacturers the same revenue as energy from agricultural raw materials. Under these conditions agricultural biogas is uncompetitive in relation to almost costless biogas from municipal waste and sewage. The final shape of Poland's regulations, aimed at supporting green energy, was established by the Act on Renewable Energy Sources. According to the Act, the system of green certificates was replaced by the auction system as of January 1 2016.

Policy

Poland, as a member of the European Union, has implemented EU law on biofuels with a number of regulations. The basic requirements of two EU directives: Renewable Energy Directive (RED) (2009/28/EC) and Fuel Quality Directive (2009/30/EC), were transposed into Polish legislation with two acts:

1. The Act of August 25, 2006. Bio-components and liquid biofuels. OJ 2006 No. 169, item. 1199 with further amendments.
2. The Act of August 25, 2006. On monitoring and controlling the quality of fuels. OJ 2006 No. 169, item. 1200 with further amendments.

The consolidated version of the act was published as: Announcement of the Republic of Polish Marshal of the Sejm on November 19, 2014 on the publication of the consolidated text of the Law on the monitoring and control of fuel quality. OJ 2014 item for the Act 1728 for OJ 2006 No. 169, item. 1200. The acts are available on web site: <http://isap.sejm.gov.pl> (Polish language).

Poland applies preferential treatment to those fuel operators who use at least 70 percent of their biofuels from local manufacturers and when the biofuels are produced predominantly from raw materials originating in certain countries. The EC is of the opinion that this preferential treatment discriminates against biofuels manufacturers and raw material producers in other countries. The EC also points at the inconsistencies in requirements for the marketing of imported hydrotreated vegetable oil.

End of the Report