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Biofuels Annual

Biofuels Update

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Report Highlights:
As one of the world's leading producers and exporters of oil and gas, biofuels have an insignificant share in the overall energy production matrix of Russia, with an estimate of only 1.2 percent, and biomass accounting for only 0.5 percent. The development of the biofuels sector has never been a priority for the government in the past, and currently with the strong focus on development of the import substitution program, it will be even less of a priority. No major breakthrough is expected at least in the short-term. Wood pellet production and exports will likely continue to grow, driven primarily by increasing demand from Europe and increasing local consumption.

Post:
Moscow

Executive Summary:

Since the August 2014 food embargo, one of the major focuses of the Russian government is to further develop the agricultural sector. The goal is not only to cover the gap of imported products, but also to increase local production to the levels outlined in the Russian Food Security Doctrine by 2020. The development of the biofuels sector has never been a priority for the government in the past, and currently with the strong focus on development of the import substitution program, it will be even less of a priority. No major breakthrough is expected at least in the short-term.

Moreover, given the current economic conditions in Russia, development of the biofuels sector is not likely to get much attention or resources from the Government of Russia. The Russian Ministry of Economic Development (MED) has indicated that the Russian economy will decline in 2015. With a presumption that average annual oil prices will equal $50 per barrel, MED expects GDP to contract by 2.8 percent, consumer prices to rise 11.9 percent, and real wages to decline by 9.6 percent over the course of 2015. VTB Capital reportedly estimates that 40 percent of Russian income was spent on foodstuffs in 2014, up from 36 percent in 2013. However, MED forecasts disposable income to decline 6.3 percent over 2015. Given the economic volatility in the market, and the fact that food prices of June 1, 2015, have increased 20.2 percent year-on-year, it remains to be seen to what extent Russian consumer demand will continue to contract.

The Russian government has outlined as a national objective the goal of Russia becoming 40 percent more energy-efficiency by 2020. While there have been previous attempts at the federal level to promote the production of biofuels, there are also a small number of activities at the regional level. The number of innovative projects aimed at production of alternative energies has increased in the past years, such as those from plant cellulose (including wood or oilseeds) and agricultural wastes, along with production of biofuel raw materials for export (including fuel pellets, rapeseeds, and rapeseed oil) supported by the regional administration and investors. The emerging Russian biofuels industry's export orientation, specifically wood pellets, is driven by continued growing demand from Europe and Asia. However, the production of biofuels still remains small and has almost no impact on Russia's overall domestic grain and oilseed prices.

Due to its abundance of petroleum and natural gas, Russia produces a small amount of biofuels and has minimal domestic demand. According to experts, Russian biofuel production will not be fully developed in the next 10 years, as the sector is not considered as a national priority. Different sources estimate that renewable energies, including biofuel, represent 1.2 percent of Russia's total energy production, with biomass consisting 0.5 percent. While there are no official statistics that measure what share of total energy production biofuels account for, it is estimated that biofuels make up 5 percent of Russia's heating energy and 1 percent of its electrical power.

The Russian Ministry of Energy reports that the volume of technically accessible renewable sources of energy in Russia is estimated at 24.2 Btoe. The share of electricity generated by renewable sources

accounts for only 1 percent, while the share of thermal energy generated from renewable resources represents 5 percent or 3000 million Gcal. At present, Russia utilizes only 30 percent of its economically viable hydro-energetic resources.

The Russian Ministry of Energy also reports that there are no government-backed biofuel projects in operation at this time. The majority of biofuel ventures in Russia are supported by regional governments or financed by foreign investors. In most circumstances these projects are in the pilot phase and produce just enough biofuel to generate heat/electricity for their own facility, or for the production of organic fertilizer from agricultural waste. Currently, there is no industrial production of either bioethanol or biodiesel in Russia, except for several facilities that are operating in the regions and are supported by the regional administration or private companies.

Disclaimer: This report presents the situation and outlook for biofuels in Russia. This report presents the views of the authors and does not reflect the official views of the U.S. Department of Agriculture (USDA). The data are not official USDA data. Official government statistics on biofuels are not available. This report is based on analytical assessments, trade sources and not official data.

There is also vast potential for exploiting agricultural waste in Russia. However, there are only a few modern agricu plants that can utilize agricultural waste efficiently. Different experts estimate total annual agricultural waste in Rus from 600 to 800 million MT which is equivalent to 80-90 Mtoe. Agricultural waste for livestock sector is estimated million MT, poultry – 23 million MT, and plant production – 220 million MT. The programs for agricultural waste a supported by the regional budgets. Most of the resources could be used for biofuel production or be exported.

Oil and Gas Sector

Russia's abundant resources of petroleum and natural gas (and subsidized natural gas prices) have removed most inc for both more efficient use of fuel and any development of alternative energy sources. Russia owns 23 percent of glo natural gas resources, 19 percent of global coal resources, and 4-5 percent of global resources of petroleum. Russia accounts for 13.1 percent of world production of oil and 17.9 percent of world production of gas. According to the F Customs Statistics, in 2014 Russia produced 525 MMT of oil, including gas condensate, slightly higher than in 2013 Natural gas production has reached 566 billion cubic meters in 2014, a 5 percent drop over 2013.

Large companies as Rosneft, LukOil, SurgutNeftegas, Gasprom Neft, Tatneft , Slavneft and Russneft account for 87 percent of total production of oil, the remaining share is taken by independent companies.

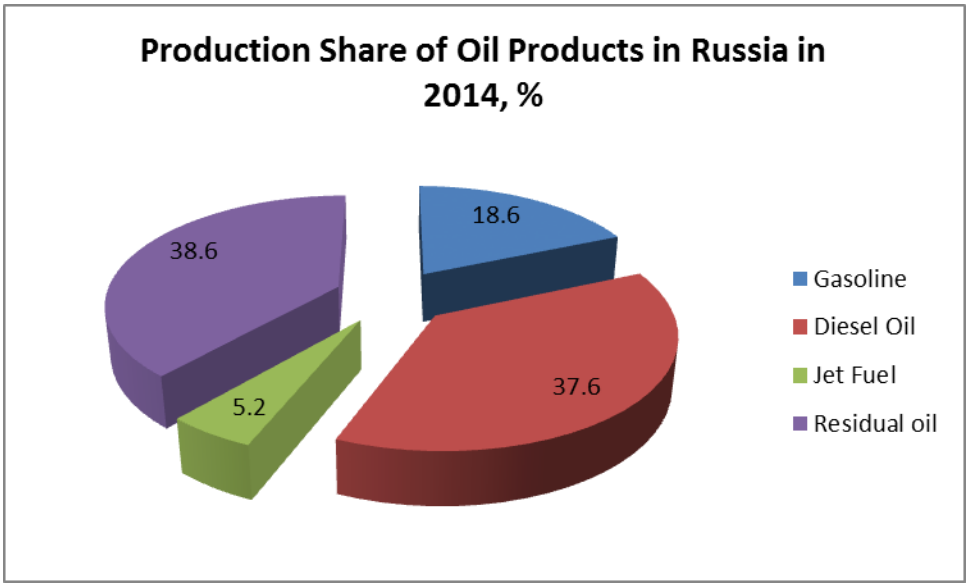
In 2008, the Russian government adopted the Technical Regulation on Fuels. In 2011, the GOR amended the docume reference to the requirements for gasoline, diesel, shipping diesel, jet fuel and residual oil, and stipulates a smooth by transfer to production of oil products that will comply with world ecological standards.

Russia's oil processing sector continued to show stable growth in 2014 in all types of petroleum products, includin oil. Due to lack of modernization of current facilities and the need for new infrastructure, the sector operates approximately 72 percent capacity. In 2014, as a result of a growth in investment of approximately 12 percent in the construction was initiated on a large facility in Taneko (Tatneft) in Tatarstan, with oil processing capacity of u percent.

Rosstat reports production of processed oil products, including gas condensate, at 294 million MT or 4 percent up CY 2013. Gasoline production remained stable at 38.8 MMT, diesel fuel production demonstrated a light growth ov and reached 76.9 MMT. And production of residual (bunker) oil also increased 2 percent in 2013 and reached 78.3 M

The processing rate (depth) has remained stable and estimated at 71.4 percent in 2014. Continued economic gr Russia facilitated growing demand for all types of oil in the domestic market.

Russian exports of oil and gas has been stable since 2011. However, in 2014, despite the record oil production in Ru exports decreased by 5 percent in comparison of 2013. Experts forecast continued high demand for oil and gas reso primarily as a result of growth in Asia.



Source: Ministry of Energy of the Russian Federation

Policy and Programs

Russia is making continued efforts in the developing regulatory norms for bio-energy development and standards fo biofuels. Trade sources indicate that without government support and other development policy measures the sector unlikely to develop.

Currently the development of the Russian bioenergy industry is outlined in the following basic documents:

1) Energy Strategy of Russia until 2030 (approved by Government resolution #1715-P dated November 30, 20
2) State Program of the Russian Federation "Energy savings and increasing efficiency for electrical power gene until 2020" (approved by Government resolution #2446-P dated April 8, 2010);
3) State Program "Industry Development and Increasing Competitiveness until 2020 (approved by Government resolution on December 27, 2012);
4) State Program "Development of Agriculture and Market Regulation of agricultural products, raw material a for the period 2013-2020 (approved by Government on July 14, 2012);
5) Roadmap for the Development of Biotechnology Gene Engineering until 2020 (approved by the GOR in 201

In 2012, the government made efforts to improve regulations relating to bioenergy, specifically related to productio renewable resource for generation electrical power and development of biotechnology.

In April 2012 Russia adopted the Comprehensive Program on Development of Biotechnology through 2020 (BIO 2 The program envisages development of different branches of biotechnology, and classifies biofuels as one of these branches.
Note: for more information on the Program see GAIN report Program on Development of Biotechnology in Russia t 2020_Moscow_Russian Federation_6-7-2012.doc

The Russian Unified Energy system consists of 69 regional energy systems that in turn form 7 united energy system

Eastern region, Siberia and Urals. Middle Volga, south, central and north western electrical energy complex of Russ includes 700 electrical stations with capacity over 5 MWh. Total installed capacity of electrical stations in Russia is estimated at 218,145 million kWh. The percentage share of stations, by type of electrical generation, are as follows: power stations 68.4 percent, hydraulic 20.3 percent, and nuclear about 11 percent.

Currently, the situation with energy supply in rural areas in inconsistent. The southern, north western and central par Russia mostly have centralized energy supply, while Urals, Siberia and Far Eastern regions have low energy security both centralized and decentralized systems. Sixty-five percent of the territory of Russia accounts for a zone of decen energy supply, with a population of over 15 million people, mostly in rural areas.

According to the Russian Ministry of Energy, renewable energy should be considered an important element for susta development of rural territories. The forecast of the Ministry sets the following objectives for the installed capacity o Russian energy sector by 2030:

Wind power – 15 GWh; biomass – 7 GWh; tide water power stations – 6 GWh; geothermal energy – 4 GWh; small hydrostations – 2 Gwh, and solar energy - 1 GWh.

Russia has a high potential for development of domestic hydropower. Nine percent of the world's water resources ar concentrated in Russia. To date, total hydro energy potential is estimated at 2,900 billion KWh per hour of annual el power production or 170,000 Kwh/hours for 1 square kilometer of the territory. However, only 20 percent of this po is being utilized. The major obstacle in developing local hydro energy is remoteness (most of the potential is located eastern and central Siberia and the Far East) with development potential far from the major consumers of electrical p

Russian hydroelectric power stations provide annual saving of 50 MMT of conditional fuel, whereas potential savin go up as high as 250 MMT. Currently hydro stations annually educe CO_2 emissions in the atmosphere up to 60 MM provides Russia with almost unlimited potential to build power facilities even with strict requirements on restriction emissions of greenhouse gases.

There are 102 hydroelectric power stations with capacity of over 100 MW in operation in Russia. The total installed capacity of hydrounits on hydroelectric power stations in Russia is estimated about
46,000 MW (the 5th place in the world). Annually, Russian hydroelectric power stations produce 153,300 billion kW electric power. The share of hydropower stations in the total production of electrical power in Russia is accounted fo percent.

The largest federal hydrogenation company, JSC RusHydro, manages about 68 objects of renewable energy, includi stations in Volga Kams, with total installed capacity of 10,166 MWh. The company also operates geothermal station Kamchatka region.

Development of geothermal energy in Russia also has strong potential. Currently there are 56 natural thermal waters total electrical potential of all thermal fields is estimated at 1 GWh, however, only 80 MWh is being utilized. All op geothermal stations are located in Kamchatka peninsula and Kurils.

Communal service of the Russian Federation reports that for heat supply system it spends more than 82 million tons equivalent (toe) annually. Of the total, natural gas accounts for 62 percent, coal for 27 percent, residual oil for 7 per and woodfire and wood waste for 1.5 percent. Other types of oil, including diesel oil, peat, electricity for heating, ac for 2.5 percent. Forty-one regionss of the Russian Federation use residual oil as the main type of oil for heating. Of

forty-one, 28 Russian regions could potentially cover 100 percent of their demand from residual oil generated from
production and processing. In addition, 4 more regions can generate up to 50 percent of residual oil locally. Experts
calculate that the total savings on expenditures on the difference in cost between residual oil and oil generated from
processing is 16 billion rubles annually (about $300 million).

Currently, Russia utilizes only an approximately 3.5 percent of its potential renewable energy resources. Of total po
generation in Russia, renewable resources' share accounts for less than one percent. Of heat energy, renewable reso
share accounts for 5 percent.

The Russian Government is also discussing a draft program on modernization of electrical energy through 2020. Th
Program outlined as its objective to make Russia 40 percent more energy-efficient by 2020 and to develop differen
of renewable resources for electricity generation, including wind power station, electricity station on biomass, and s
hydro power stations. This program's objective is to construct facilities with biomass utilization that by 2020 will g
580 MWh electrical powers; and biogas facilities for generation 330 MWh. Experts from the Ministry of Energy est
the potential market for renewable resources in Russia at $20 billion.

However, according to recent rules approved by the Government, in May 2013 the system of government financial s
will be extended only to facilities operating on sun, wind and hydro. Both facilities of biomass and biogas will not g
financial support at least until 2020 from the federal budget, since the Government feels that these technologies have
progress to an industrial scale yet, and as a result these support mechanisms would not be effective yet. This approa
make Russia fall even further behind in stimulating the biofuel sector as well as innovative technologies.

Future objectives for the gas and oil sectors are outlined in the Energy Strategy of Russia until 2030. The priority ob
is modernization and reconstruction of the oil processing sector by increasing the processing rate (depth) of crude oi
75 percent in 2010 to 80 percent by 2020. The document stipulates that this is the major condition that will allow tra
the industry into a new technical level and will be able to supply Russia with local high quality oil including diesel,
gasoline lubricants and other products for oil chemistry industry. The increasing efficiency in processing oil will allo
increase in exports of motor oils by 20 percent by 2020.

The Energy Strategy also foresees an increase in production of oil products from the current 200-210 MMT to 210-2
MMT by 2020. The Strategy has an increase in production of gasoline, diesel and jet fuel from 110 MMT up to 130
by 2020.

The Energy Strategy also foresees a number of measures and targets for developing gas industry. The priority for th
government includes developing infrastructure and competition in the local markets, support to development of
independent gas producers, as well as cautious approach to rising prices for gas and developing law and regulation i
gas sector.

The Russian Transport Strategy until 2030 was approved by the government Resolution #1734-p dated November 2
The document establishes the objectives and priorities for the development of the transportation sphere in Russia as
programs and financial support. According to the latest available data for CY2012 from Rosstat, the length of total r
tracks in Russia is reported at 121,000 km, 1.444 million km of automobile roads, 101,000 km of internal water way
2,500 km of trolley tracks, 497 km of subway tracks.

Fuel Use Projections (Million Liters)								
Calendar Year	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Gasoline Total	**53.7**	**55.0**	**72.0**	**55.0**	**56.4**	**59.0**	**63.0**	**64.4**
Diesel Total	**40.7**	**46.5**	**46.6**	**46.7**	**49.2**	**51.4**	**56.1**	**56.2**
On-road	6.0	7.2	7.2	8.4	8.4	10.6	11.9	13.1
Agriculture	6.2	6.8	7.4	7.2	7.6	8.4	8.8	9.0
Construction/mining	5.4	6.1	6.9	6.9	7.2	7.2	7.6	7.8
Shipping/rail	9.6	11.4	11.0	10.8	10.8	10.8	11.4	10.8
Industry	6.0	6.6	6.7	6.9	7.2	7.2	7.4	6.8
Heating	7.5	8.4	7.4	6.5	8.0	7.2	9.0	8.7
Jet Fuel Total	**13.1**	**17.9**	**20.3**	**21.5**	**23.9**	**25**	**26.3**	**28.7**
Total Fuel Markets	**107.5**	**119.4**	**138.9**	**123.2**	**129.5**	**135.4**	**145.4**	**149.3**

Source: Rosstat (Russian Federal Statistical Service), Russian Ministry of Energy, Russian Ministry of T
Union "Energy Efficiency and Savings".

Bioethanol/Biodiesel Projects

In March 2015, the Ministry of Economic Development of the Russian Federation (MED) approved amendments to Federal Law "On State Regulation of Production and Turnover of Ethyl Spirt, Alcohol Products Containing Spirt and Limitations of Consumption of Alcohol Products," developed by the Federal Service for Regulation of Alcohol Market. MED supported the idea of defining bioethanol and motor bioethanol as an individual product. The documents include a more specific definition of bioethanol identifying that motor oils that contain no more than 10 percent of bioethanol are not subject to regulation as products containing spirt. Also, it exempts the production of bioethanol as an additive to motor oil from excise taxes. The Russian bioethanol community has been lobbying for many years for this exemption. However, there is no indication of when the amendments may get final approval from the government. According to the Russian Biofuels Association, if enacted, the potential for expansion of bioethanol production in the near term will increase up to 2 million MT. This expansion would be primarily for use as an additive. And, the potential for expansion for the use of bioethanol production for blending with 95 percent fossil gasoline (B5) could increase up to 5 percent. However, without strong support from the federal level, these targets are unlikely to be achieved.

Experts believe that the production of ethanol from cellulose could be a possibility in the future. Currently the JSC "Corporation Biotechnology" in cooperation with State Corporation "RosTechnology" has a program on construction of bioethanol production facilities from cellulose. One of the plants under construction is located at the JSC "Eastern Siberian Biotech Plant" in Irkutsk oblast (former Tulunskiy Hydrolyzed Plant). The facility will be used more like an experimental station for production of cellulosic ethanol from forestry processing wastes. The facility is planned to produce 30,000 MT of biobuthanol, 100,000 MT of wood pellets, as well as yeast and acetone. The estimated project investment is $20 million.

Currently, the Russian government is focusing on import substitution as a primary objective in the near-term. There are government measures in place to support local agricultural producers and infrastructure to increase the volumes and quality of locally produced food products. Development of the bioethanol and biodiesel sectors is low priorities for the government.
Thus, on April 20, 2015, by amendments to Federal Law # 93 "On Federal Budget for planned period of 2015 – 2017," the subsidies allocated initially for partial compensation of interest rates on credits received for construction, reconstruction and modernization of bioenergy facilities, and processing of biotechnological products, as well as subsidies for implementation of perspective innovative projects in agriculture in the framework of subprogram "Technical and technological modernization, innovative development" under the Federal program "State Program for the Development of Agriculture and regulation of market of agricultural products and raw material for the period 2013-2020," will be cut by almost 1 billion rubles ($180 million) and redistributed to other agricultural production programs.

The denaturated (technical) ethanol industry is mostly concentrated in the Volga Valley region in Russia. The JSC "Neftekhimia" company is the dominant producer of this product accounting for more than 90 percent of overall denaturated ethanol production in Russia. Russia is self-sufficient in the production of this product and exports account for about 40 percent of production. In CY 2014, the major destination markets of HTS220710 Ethyl Alcohol, denaturated, of an alcoholic strength by volume of 55 percent is Finland at 53.0 million liters, followed by Turkey, almost 14 million liters. Analysts report that the production will continue to experience a stable growth in the mid-term as a result of strong demand from Europe and Baltic Republics, and Asian countries. The growth of ethanol production in Russia will be driven primary by the demand of the chemical industry rather than fuel production. Russia will unlikely be developing ethanol for fuel until the GOR has taken serious steps in supporting the industry by developing regulatory base and policy measures to support local producers.

Ethanol Used as Fuel and Other Industrial Chemicals , 1,000 L										
Calendar Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013[R]**	**2014[R]**	**2015[F]**	**2016[F]**
Beginning Stocks	0	0	0	0	0	0	0	0	0	0
Fuel Begin Stocks	0	0	0	0	0	0	0	0	0	0
Production	63,000	72,000	71,000	68,340	80,000	85,080	107,620	107,950	107,575	109,100
Fuel Production							120	150	175	200
Imports										
Fuel Imports										
Exports	15,000	26,000	25,860	22,340	32,890	39,680	61,000	59,300	58,100	58,800
Fuel Exports	0	0	0	0	0	0	0	0	0	0
Consumption	48,000	46,000	45,140	46,000	47,110	45,400	46,500	48,500	49,300	50,100
Fuel Consumption							120	150	175	200
Ending Stocks										
Fuel Ending Stocks										
Total BalanceCheck	0	0	0	0	0	0	0	0	0	0
Fuel BalanceCheck	0	0	0	0	0	0	0	0	0	0
Production Capacity										
Number of Refineries	3	3	4	4	4	4	6	7	7	7
Nameplate Capacity										
Capacity Use (%)										

Co-product Production (1,000 MT)										
DDGS							750	870	920	1,100
Feedstock Use (1,000 MT)										
Grain							2,400	2,780	3,150	3,200

r = revised / e = estimate / f = forecast of FAS/Russia
Source: Rosstat (Russian Federal Statistical Service), Russian Customs Committee, trade sources, Information Agency "Credinform", Russian National Biofules Association.

Biomass

The government of Russia has identified the development of Russia's domestic forestry sector as a necessity, and production within this sector is expected to substantially increase by 2020. While not a priority, the Federal Forestry Agency considers biomass production as the main alternative for Russia's developing biofuel sector. Russia has huge potential for biomass production; however, due to the large supply of high-value fossil fuels, and lack of government incentives for businesses to utilize wood waste, only large wood processing facilities are interested in the commercial production of biomass. In addition, due to the Russian government's focus on import substitution and investing into production agriculture and infrastructure, experts do not anticipate an increase in development of biomass production.

Industry experts also agree that individual regional plans aimed at increasing biofuel production should be considered. The only significant industrial biomass factory is the thermal electricity station "Beliy Ruchey" operating in the Vologda oblast. Its energy capacity is estimated at 6 MWh. The local administration in Komi Republic has stated that it is supportive of biomass development projects. In 2013, the International Co. Metso, was reported to have supplied technological equipment for wood waste utilization to a processing facility in Syktyvkar. The project initially planned to start operating in 2014; however, it was delayed due to the economic situation in Russia. Experts doubt that it will be in operation by the end of CY 2015. The capacity of the electrical station is 4 MWh with annual burning of forestry waste of 83,200 MT.

The Russian Forestry Agency sets total allowable cut at 670 million cubic meters, however only 193.3 million MT was actually harvested in 2014. The total annual volume of wood waste from logging in Russia is estimated at 14-15 billion MT, which is equivalent to 8 billion toe. Today, the majority of wood waste occurs due to limited access to special equipment and modern technologies, as well as a lack of interest from the Russian government and foreign investors in further processing. Current resources of fuel wood is estimated at 90 million cubic meters, including firewood – 51 million m3 (63 percent); crown, stumps, bark – 15 million m3 (15 percent); wastes from sawmilling – 12.7 million m3 (12 percent); wastes from veneer production – 4.1 million m3 (5 percent); wastes from cellulose and paper production – 4.2 million m3 (4 percent).

The "BioChemPlant" Co., Ltd., located in Kirov, is the only plant currently in Russia producing ethanol from nonedible raw material, such as waste from lumber production. In addition, the plant also produces wood pellets. The facility plans to start production of

biomethane from the hydrogenation of the carbonic gas formed in the course of fermentation of yeast. This technology creates "green gas." The company "Biochemical plant" together with the Russian center of science «Applied chemistry» in St. Petersburg produces the technology for green gas, and in the near future is expected to produce 4 million м^3 this fuel.

In addition to the potential for development of biomass production, forestry producers and researchers stress the potential for utilizing peat as an alternative source for the development of biofuels. According to researchers, Russia owns up to 47 percent of the world's peat resources. In the 1970's, the share of peat in total production of energy in the USSR was estimated at 27 percent, currently its share is minimal and accounts for 0.27 percent. The energy potential of peat, calculated in oil equivalent, is higher than total gas and oil reserves and is estimated at 68.3 billion toe. Annual peat growth in Russia is estimated at 260-280 million MT, however, only 1.2 percent of resources are being exploited and utilized now. The Russian Ministry of Energy developed a draft law that includes peat on the list of renewable energy resources. If approved, it will provide for financial support from the federal government for the development of power energy.

Biogas

Experts from the Institute of Energy Strategy estimate that due to vast supplies of agricultural wastes, food processing wastes and municipal wastes 66 billion m^3 of biogas and 112 million MT of high value granulated fertilizer could theoretically be produced in Russia. In addition, experts estimate potential production of electricity from biogas is 121, 200 GWh, and heat – 169, 344 GWh. In 2012-2013 two large state corporations "GasEnergoStroy" and "BioGas EnergoStroy" were planning to build 50 biogas power stations in 27 Russian regions with total capacity of 120 MWh. However, so far there are four major biogas projects in 3 regions that are operating in Russia. Currently there is no government program to stimulate construction of biogas facilities in Russia. The main reason is high initial expenditures for an energy unit. The first biogas station, with a capacity of 600 KWh, has been in operation since 2009 at the livestock farm in Medyni, in Kaluga oblast. The project started in cooperation with the company Lipp, Germany. The thermal power capacity is 300 KWh /hour and electrical capacity is 200 KWh/hour.

In 2013, Kuryanov aeration station, the largest sewage treatment plant near Moscow, launched a minithermal energy station operating on biogas. It allows for reduced emissions of harmful substances into the atmosphere by 5,000 MT annually and generates 60 percent of needs for heat energy to the sewage treatment facilities. The annual biogas production at this plant is 28 million m^3. Currently there are 2 biogas stations in Belgorod oblast. Belgorod is one of the leading regions in swine production with a large amount of agricultural waste. The first station "Baytsury" is a pilot project supported by the regional administration. The investments are estimated at 25-30 million Euros. The station capacity is 500 kWh with further plans to increase capacity to 1,000 KWh. Swine manure and corn silage are being used for biogas. The annual production of biogas is estimated at 1,918,000 m3. Another biogas station in Belgorod is "Luchki" and has been in operation since July 2012. The station processes 42,400 m3 of wastes from the meat processing facility "Agro-Belogorye", including meat processing waste, swine manure, sewage wastes and corn silage. The station annually generates 19.6 million kWh, heat energy of 182,00 Gkal, as well as 66,800 m^3 of fertilizers. The company is planning construction of greenhouse that will use heat generated from the biogas station.

Wood Pellets

The growing interest from the European Union for biofuel, particularly wood pellets, will continue to be a major incentive for Russia to increase production of wood pellets. Currently, Russia is the third largest exporter of wood pellets to the EU, after the United States and Canada. The EU is the world's largest wood pellets market, with consumption of about 17.5 MMT of pellets in 2013. Based on the EC mandates and Member State incentives, the demand is expected to expand further to nearly 21.0 MMT in 2015. Consumption forecasts for 2020 range from 50 – 80 MMT according to the European Biomass Association. Future consumption will however, depend on a range of market factors, and in particular Member State incentives.

According to Rosstat (Russian Federal Statistical Service), Russia produced 878,000 MT of wood pellets in 2014, nearly doubled from CY 2012. A significant drop in wood pellets production in Russia in 2013 attributed to the temporary suspension of operations at Russia's largest wood pellet facility - "Vyborgskaya Forest Corporation" - during the beginning of 2013. Trade sources report that this was due to an interruption in input supplies and legal issues. However, since 2014 the factory is reported to be back to its normal operation. Vyborgskaya Forest Corporation is the largest wood pellet producer in Europe with a total installed capacity of 1 MMT of wood pellets, annually. However, to date the facility operates at 50 percent capacity, due to an unstable raw material supply. Sources report that production statistics for wood pellets is not accurate. The statistics primarily capture large-capacity factories, and mid-sized and smaller facilities which operate as part of larger wood processing plants, do not report their production. Inaccuracy of statistics for production of wood pellets also contributes to the high difference in production in CY2013 and CY 2014. As a result Post believes, the actual wood pellet production is higher than reported by RosStat. Other large processing facilities JSC "Lesozavod-25", "Biogran" in Karelia with annual capacity of 25-30,000 MT, and DOK "Yenisey" and "Novoyeninskiy forestry processing facility" in Krasnoyarsk kray, with annual capacity of 40,000 MT are planning to increase their production driven primarily by strong demand in Europe and South Korea.

There are a number of new processing plants that have been in operation since late 2014, or are planned to start operation in 2015:

1) The Pellet Facility in Igirma, Irkutsk oblast, with annual capacity of 30,000 MT;
2) The ZAO «Lesozavod-25» (belongs to the Group of "Titan" Companies), with annual capacity of 60,000 MT;
3) The new, joint Russian-Austrian investment project, "Hasslaherles" in Novgorod oblast with annual capacity of 20,000 MT;
4) The Company RusForest, pellet facility located in Arkhangeslk oblast with annual capacity of 100,000 MT.

Although overall production is increasing, due to industry consolidation and rapid expansion in larger processers, the total number of processing wood pellets facilities in Russia has been shrinking recently. Trade sources report that the number of processing facilities in Russia in 2010 was 145, but it is estimated to have dropped to 100 plants in 2014. It is expected that larger businesses will continue to absorb smaller wood pellet producing facilities as the latter cannot compete with the larger, vertically

integrated facilities that have permanent supplies of raw materials and a better understanding of the market. Experts believe that the small and medium pellet processing facilities will shrink as they are not cost efficient for producing wood pellets for export. Total annual production capacity is reported at approximately 3.0 MMT.

The majority of wood pellet facilities are located in the Northwest, Central and Volga regions of Russia. The North Western region is the leader in production, where 60 percent of the forests of European Russia are located. The top ten pellet production facilities have 92 percent export share of the total Russia wood pellet industry, and remaining 7 percent is destined to South Korea.

In 2015, the production of wood pellets is expected to rise about 15 percent due to mostly continued strong EU demand, competitive export prices and increasing local production, new processing capacities, as well as the Russian government's call for increased efficiency in the forestry sector.

In the mid-term, domestic demand for wood pellets is forecast to increase at 10-20 percent annually. In the local market wood pellets are in demand by private heating stations and municipal housing, primarily in heavily forested areas where traditional sources of energy are not accessible. Production of wood pellets is, in most cases, cheaper than gas. According to the National Bioenergy Union, a number of regions, including Moscow oblast, Karelia and Nizhniy Novgorod, Republic of Mari El, and Arkhangelsk oblast, have implemented initiatives to transfer local heating stations from coal or residual oil to wood pellets. However, lack of domestic standards for pellets, poor transport infrastructure, lack of warehouses, and the product's seasonality will all negatively impact the wood pellet market's development in Russia.

The Russian Customs Service reports exports of wood pellets from Russia in 2014, at 880,000 MT, or more than 18 percent higher than in 2013. The leading export destination for these products was Denmark at 382,000 MT, followed by Sweden at 218,000 MT, and Italy at 57,000 MT. Europe will continue to be the largest importer of Russian wood pellets. In 2015, 4 more new wood pellets facilities are being constructed in Irkutsk oblast with total estimated annual capacity of 500,000 MT. When in operation, Russia will be increasing exports to Asian countries as well, because of the proximity of these new processing plants to the border.

Near-term foreign demand for wood pellets is likely to increase by 10-15 percent. Some EU experts estimate that Russia's share of the EU's total 2014 import market of wood pellets is 18 percent. Russia has export potential and European pellet demand will likely stimulate an increase in Russian production. However, Russia will require large investments in order to upgrade its facilities and expand its production capacity. Domestic demand can also absorb some of the increased, near-term production.

Table 3: PS& D for Fuel Pellets

Wood Pellets (1,000 MT)									
Calendar Year	**2007** r	**2008** r	**2009** r	**2010** r	**2011** r	**2012** r	**2013** r	**2014** e	**2015** f
Beginning Stocks		0	0	0	0	0	0	0	70
Production	335	400	570	620	718	935	1010	1185	1,36

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Imports	0	0	0	0	0	0	0	0	0
Exports	215	280	405	430	520	730	750	890	1,017
Consumption	120	120	165	190	198	205	260	225	270
Ending Stocks		0	0	0	0	0	0	70	78
Production Capacity									
Number of Plants	65	70	97	145	120	120	103	98	97
Capacity Use (%)	50	55	67	75	75	78	80	80	85

Source: Rosstat (Russian Federal Statistical Service), Russian Customs Committee, Federal Forestry Agency, trade contacts, Forestry Forum "Green press".
r-revised data to match EU-28 import statistics (GTA)

Rapeseed Market

A significant amount of the rapeseeds exported from Russia and used in the EU to produce biofuels. FAS/Moscow estimates exports of rapeseed in MY 2014/15 at 150,000 MT. From July 2014 through February 2015, Russia exported 134,400 MT of rapeseed. During the same period Russia exported 255,400 MT of rapeseed oil. Both exports were stimulated by the soft ruble, and exports of seeds, in addition, by gradually decreased export duties. The scheduled decrease in the rapeseed export duty was on September 1, 2014. However, domestic crushing capacity continues to grow, and exports of rapeseed oil are forecast to grow faster than exports of seeds.
For more information please refer to GAIN RS1516 Annual Oilseeds and Products.

Notes on Statistical Data

Bioethanol and biodiesel production in Russia is very small. There are no official data for these products in Russia. Russian official statistics on fuel use by industry sectors either are not available or differs from the data provided by trade sources and some energy companies and corporations. Also wood pellet production statistics is not very accurate. FAS based estimates on fuel projections on a number of sources, including Ministry of Transport, Ministry of Energy, Industrial Union "Energy Efficiency and Savings", as well as trade sources, media and general economic situation in the country with propriety government objectives. Production and trade data for wood pellets is based on GTA, Official Russian Federal Customs Service, and estimates of the FAS posts in EU. FAS Moscow revised PS&D for wood pellets to be consistent with EU FAS Post data and forecasts. Also Post based its estimates on figures of National Biofuels Association, sources from research, analytical institutions as well as agricultural trade sources.