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## THE MODERN TENDENCIES IN OIL EXTRACTION AND REFINING IN RUSSIA

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**Abstract.** *The structure of the oil industry and refining in the Russian Federation was studied. The data on the volumes of oil production and refining in 2009 - 2010 by the largest companies and in Russia as a whole were collected. The changes in volumes of oil and gas condensate production (in 2004 - 2010) and oil refining (in 2009 - 2010) by the largest companies were observed to estimate the effects of the economic crisis on the branch. It was found out that the global economic crisis had little impact on the Russian oil industry. The fulfillment of the energy strategy of the Russian Federation was estimated.*

**Key words:** *oil, oil extraction, oil refining, energy strategy, economic crisis*

The development of oil extracting and refining in Russia is characterized by creating vertically integrated oil companies. The indexes of crude oil production (the data of CDU TEC excluding the share of vertically integrated companies in the affiliated enterprises) point at a significant increase of extraction in 2004 - 2007 and stabilizing of this value in 2007 - 2010 (Table 1 [2, p. 34]).

Table 1. The production of crude oil and gas condensate  
by the main oil companies in 2004-2010, mln tons

Company	2004	2005	2006	2007	2008	2009	2010
<b>Rosneft</b>	21.6	74.4	85.7	110.4	113.8	116.3	112.4
<b>LUKOIL</b>	84.1	87.8	91.1	91.4	90.2	92.2	90.1
<b>TNK-BP Holding</b>	49.4	54.0	68.4	69.4	68.8	70.2	71.7
<b>Surgutneftegaz</b>	59.6	63.9	65.6	64.5	61.7	59.6	59.6
<b>Gazprom neft</b>	34.0	33.0	32.7	32.7	30.7	29.9	29.8
<b>Tatneft</b>	25.1	25.3	25.4	25.7	26.1	26.1	26.1
<b>Slavneft</b>	22.0	24.2	23.3	20.9	19.6	18.9	18.4
<b>Bashneft</b>	12.1	11.9	11.7	11.6	11.7	12.2	14.1
<b>Russneft</b>	6.6	12.2	14.8	14.2	14.2	12.7	13.0
<b>Sum</b>	<b>314.5</b>	<b>386.7</b>	<b>418.7</b>	<b>440.8</b>	<b>436.8</b>	<b>438.1</b>	<b>435.2</b>

The refining of oil and gas condensate in Russia and industrial manufacturing of oil products from all kinds of oil feed is run 113 specialized oil and gas refineries with combined hydroskimming capacity of 273.3 mln tone per year (the branch registry; the data of 01.01.2010). The basis of Russian refining are 30 large refineries with combined hydroskimming capacity of about 255 mln tons of crude oil. The ratio of these refineries in all-Russian capacity of oil processing was 93.4 % in 2010, an average capacity of a large Russian refinery was about 9.4 mln tones of oil per year [2, p. 37-38].

The combined capacity of the enterprises included in vertically integrated companies is 194.6 mln tons per year, i.e. more than 70 %. 84 small and mini-refineries have the combined capacity of about 11.6 mln tons of oil, so their ratio is less than 5 % of feed. Some indexes of oil refining by the largest Russian refineries in 2009 - 2010 are given in Table 2 [2, p. 38].

It is necessary to mention that the real amounts of processed oil greatly exceed the targets fixed in ES-2020 [3, p. 66].

The energy strategy of Russia as a whole is oriented at increasing of refining capacity up to 200 - 210 mln tons in 2010 and 210 - 215 mln tons in 2020. ES-2030 involves conservation of the trend of increasing of physical amounts of processed feed.

It is supposed that in 2020 they will increase by 5 - 10 % compared with 2009 (249 - 260 mln tons), and in the following decade – by 16 - 31 % compared to the current amounts (up to 275 - 311 mln tons) [4, p. 95].

It is necessary to mention that the crisis didn't cause any catastrophic consequences for the branch. There is no decrease of volumes of oil extraction, refining or export compared with 2008. In 2010 the growth of volumes of refining and export of oil continued [1, p. 4] (the data from different sources concerning oil extraction in Russia as a whole vary, and different individual companies show either growth or stability or small decrease).

Table 2. Some indexes of oil refining by the largest Russian refineries in 2009 - 2010

Company/plant	Capacity, mln tons /year	Hydroskimming, kilo tons		Production in 2010, kilo tons			The ratio of secondary processes in the refinery's capacity, %
		2009	2010	авт. бензина	диз. топлива	мазута	
<b>"NK Rosneft" JSC</b>	72.8	42893.9	50230.4	6430.6	15184.7	17891.5	
RN-Komsomolsk refinery	5.5	7299.8	7761.1	485.9	2114.1	3046.3	9.3
RN-Tuapse refinery	2.2	5221.1	4515.5	232.4	1431.7	2066.7	14.5
RN-Syzran refinery	10.8	6385.5	6520.5	981.4	2158.7	2212.1	72.8
Novokuibyshevsk refinery	17.0	13622	7601.4	1072.5	2021.6	2673.5	46.7
Kuibyshevsk refinery	7.4	6679.1	6667.5	1014.3	2147.1	2816.2	81.1
Achinsk refinery	7.0	7091.3	7452.7	1245.8	2470.3	2769.4	58.4
Angarsk plant	23.1	9534.0	9711.1	1398.3	2841.2	2307.3	37.9
<b>"LUKOIL" JSC</b>	50.3	44254.9	45031.1	5871.7	11957.6	11046.6	
Lukoil-Volgogradneftepererabotka	9.0	11248.3	10975.1	1437.3	3125.6	1777.3	47
Lukoil-Permnefteorgsintaz	13.5	12666.3	13031.1	1854.2	3925.2	2046.0	57.7
Lukoil-Ukhtaneftepererabotka	5.8	4242.8	4098.2	432.6	1065.5	1162.7	21.9
Lukoil-Nizhegorodnefteorgsintez	22.0	16096.5	16926.7	2147.6	3841.3	6060.6	37.2
Moscow refinery	12.1	10002.6	10147.5	2237.2	2708.8	2703.7	59.9
Gazprom neftekhim Salavat JSC	11.5	5638.9	6607.4	643.1	2080.8	1693.9	96.2
<b>"ANK Bashneft" JSC</b>	40.9	20746.4	21193.0	4757.6	7665.2	2802.1	
Novoufimskii ref.	17.4	6641.0	6657.1	1362.5	2331.3	876.2	56.6
Ufaneftekhim	12.0	7590.2	7816.9	1684.6	3226.2	362.6	60.1
Ufa refinery	11.5	6515.2	6719.0	1710.5	2107.7	1563.3	65.5
<b>"Surgutneftegaz" JSC</b>							
Kirishinefteorgsintez	20.2	20400	21177.2	2387.8	5125.0	7159.4	33.2
<b>"Gazprom neft" JSC</b>							
Omsk refinery	19.5	18431.7	18983.8	3581.7	6040.3	3048.2	48.5
<b>"NK Russneft" JSC</b>							
Orsknefteorgsintez	7.2	5089.8	5133.5	752.4	1450.9	1935.3	18.5
Krasnodareconeft	2.7	2461	2517.6	0	822.6	1106.3	57.1
<b>"NK Alliance" JSC</b>							
Khabarovsk refinery	4.3	2974.4	3250.5	369.1	420.4	1188.6	35
<b>"NTK Slavneft" JSC</b>							
Slavneft-YANOS	15.2	13628.2	14290.8	2302.2	4299.6	4743.2	39.9
<b>"TNK-BP Holding" JSC</b>							
Ryazan NPK	17.2	14372.7	15854.7	2915.1	4128.9	5085	51.2
Saratov refinery	10.1	5750.7	6703.7	870.7	1885.9	1650.0	62.3
<b>South of Russia</b>							
Novoshakhtinsk refinery	2.5	464.6	1907.6	0	9.9	917.3	-
Mini-refineries	-	6546.2	9165.6	265.1	2162.6	2504.7	-
<b>Total in Russia</b>	<b>273.3</b>	<b>235558.6</b>	<b>248771.1</b>	<b>36051.0</b>	<b>70341.8</b>	<b>69873.0</b>	<b>57.6</b>

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