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The Role of Russia and the Countries of the Central Asia in Maintenance of Europe With Energy Carriers (Production of a Fuel and Energy Complex)

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The Role of Russia and the Countries of the Central Asia in Maintenance of Europe with Energy Carriers (Production of a Fuel and Energy Complex)

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This paper gives a review on the role of Russia and the countries of the Central Asia (Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan and Tajikistan) in maintenance of Europe with fuel and energy.

The paper examines the issues mentioned below:

1. Current reserves of oil and gas (in % from world's reserves);
2. Output of mineral products and distribution of their export on the countries;
3. Competitiveness;
4. Forecasts on output and transportation of oil and gas;
5. Opportunities to increase the volumes of export

Being among the world's richest countries in terms of hydrocarbon resources, this region represents unquestionable interest for European community as an oil and gas exporter and interests at the world's energy market as well.

Key-words: hydrocarbon resources; Russia and Central Asia; fuel and energy; Caspian Sea; output of oil, gas and coal.

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The Role of Russia and the Countries of the Central Asia in Maintenance of Europe with Energy Carriers (Production of a Fuel and Energy Complex)

Central Asia is located between Russia and two other giants - Europe, from one side, and China and India, from another, that are potentially huge consumers of fuel and energy. The Silk Road has run from Europe to China and India via Central Asia since times immemorial, and now the region may also build oil and gas pipelines leading to the Indian Ocean.

The discovery of huge hydrocarbon deposits in the Caspian Sea makes Central Asia of tremendous potential geo-political and geo-economic significance.

Russia and the countries of the Central Asia (Kazakhstan, Kyrgyzstan, Tadjikistan, Turkmenistan and Uzbekistan) are members of the Commonwealths of Independent States (CIS), formed in 1991 on the postSoviet space.

From 12 states of CIS only five have deposits of oil and gas, representing interest for investors. Among them - Russia, Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan. From these states Azerbaijan though in Transcaucasia region, is the near-Caspian state and its basic oil-and-gas resources - in the Caspian Sea.

In 1991, in days of USSR, Russia and republics of the Central Asia extracted 497 million tons of oil, including gas-condensate. In 2004, after collapse of USSR and formation of the new independent states, the same countries have extracted 491.4 million tons of oil. Practically extraction has remained at a level of 90th years; however the contribution of each country to total amount has essentially changed. Kazakhstan for the examined period has increased an oil output in 1.93 times, Turkmenistan - in 1.85 times, and Uzbekistan - in 3.17 times. Russia has reduced an oil output almost to 10 %. (tab. 1)

Table 1**Oil output, including gas-condensate**

	1991	1995	1998	1999	2000	2001	2002	2004
TOTAL, million metric tons								
Kazakhstan	26.6	20.5	25.9	30.1	35.3	40.1	47.3	51.4
Kyrgyzstan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Russia	462	307	303	305	324	348	380	421
Tadjikistan	0.1	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Turkmenistan	5.4	4.5	6.8	7.2	9.0	9.6	9.9	10.0
Uzbekistan	2.8	7.6	8.1	8.1	7.5	8.0	8.5	8.9
SUM	494.0							491.4
PER CAPITA, KG								
Kazakhstan	1567	1232	1666	2018	2375	2703	3182	3449
Kyrgyzstan	31.9	19.6	16.4	15.8	15.7	15.3	15.1	13.8
Russia	3110	2071	2065	2086	2224	2406	2645	2927
Tadjikistan	19.6	4.7	3.2	3.0	3.0	2.6	2.5	2.7
Turkmenistan	1431	1000	1478	1532	1875	1970	1970	2005
Uzbekistan	133	333	337	333	304	322	338	342

CIS Statistics, 1991-2004.

In 1991 general gas production of Russia and republics of the Central Asia was 777.3 billion cubic meters, and by 2004 this volume has decreased up to 746.9 billion cubic meters (that is for 6 %). In 1991-2004 have increased extraction of gas: Kazakhstan - in 2 times, Uzbekistan - in 1.4 times, but have reduced: Russia - on 4 %, Turkmenistan - in 1.6 times (tab. 2).

Table 2**Gas output**

	1991	1995	1998	1999	2000	2001	2002	2004
TOTAL, billion cubic meters								
Kazakhstan	7.9	5.9	7.9	9.9	11.5	11.6	14.1	16.2
Kyrgyzstan	0.1	0.04	0.02	0.03	0.03	0.03	0.03	0.03
Russia	643	595	591	592	584	581	595	620
Tadjikistan	0.1	0.04	0.03	0.04	0.04	0.05	0.03	0.03
Turkmenistan	84.3	32.3	13.3	22.9	30.0	38.0	53.0	53.1
Uzbekistan	41.9	48.6	54.8	55.6	56.4	56.7	56.8	57.6
SUM	777.1							746.9
PER CAPITA, cubic meters								
Kazakhstan	465	356	511	666	776	783	950	1089
Kyrgyzstan	18.5	7.9	3.8	5.1	6.6	6.6	6.0	5.4
Russia	4329	4020	4026	4044	4011	4016	4145	4307
Tadjikistan	16.9	6.7	5.3	5.8	6.5	8.2	5.0	5.0
Turkmenistan	22144	7132	2890	4872	6250	7920	10600	10620
Uzbekistan	1975	2133	2278	2277	2279	2286	2263	2215

CIS Statistics, 1991-2004.

In 1991-2004 the coal mining in Russia and the countries of the Central Asia totally has decreased for 27 %, including in Russia - for 23 %, Kazakhstan - for 35 % and Uzbekistan - for 45 % (tab. 3).

Table 3**Coal output**

	1991	1995	1998	1999	2000	2001	2002	2004
TOTAL, million metric tons								
Kazakhstan	130	83.3	69.8	58.4	74.9	79.1	73.7	84.7
Kyrgyzstan	3.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4
Russia	353	263	232	250	258	270	256	275
Tadjikistan	0.3	0.03	0.02	0.02	0.02	0.02	0.04	0.05
Uzbekistan	5.9	3.1	3.0	3.0	2.5	3.0	3.1	3.3
SUM	492.7							363.4
PER CAPITA, kg								
Kazakhstan	7686	5015	4482	3911	5035	5336	4964	5686
Kyrgyzstan	774	103	91.9	85.7	86.5	95.9	85.9	82.4
Russia	2376	1774	1579	1705	1775	1863	1782	1911
Tadjikistan	56.8	5.8	3.0	3.1	3.6	3.8	5.5	7.1
Uzbekistan	280	135	123	121	101	121	123	126

CIS Statistics, 1991-2004.

Currently from all listed countries the greatest export potential on oil supply have Kazakhstan (3449 kg of oil per capita), Russia (2927 kg) and Turkmenistan (2005 kg); on gas supply - Turkmenistan (10620 cubic meters of gas per capita), Russia (4307 cubic meters), Uzbekistan (2215 cubic meters) and Kazakhstan (1089 cubic meters).

The enormous fuel and energy resources provided by Caspian oil and gas will be of great strategic importance for Russia and Central Asia. Firstly, this region is located between two major oil and petroleum markets: Europe and Asia. Secondly,

it is an important trans-shipment area linking the East with major fuel suppliers in the Middle and Near East, North Africa and Russia.

The investigated deposits of Caspian oil are most compactly concentrated at coast of Azerbaijan and Kazakhstan, gas deposits - at coast of Turkmenistan, and at coast of Russia these resources are not so significant and partly get in a reserved zone.

Western analysts estimate the region's proven extractable oil deposits at about four billion metric tons, or 2.6% of the global total. This is about the same as the North Sea, although some 25-50 times smaller than those in the Middle and Near East, home to over two-thirds of the world's proven global deposits. (tab.4)

Table 4

World's and Caspian region's proven oil deposits

	Billion barrel	Billion metric tons	%
Near East	654.0	89.6	59.7
North America	87.7	12.0	8.0
Latin America	680	9.3	62
Africa	569	7.8	52
Asia	45.1	6.2	4.1
Europe(excluding CIS)	18.5	2.5	1.7
CIS, including:	165 5	22.7	15.1
Russia	136.5	18.7	12.5
Caspian region	29.0	40	2.6
TOTAL	1095.7	150.1	100

International Petroleum Encyclopedic, 1996

Though the Caspian region has the proven deposits at 2.6 % of the global, but its role in fuel supply of the world's regions can appear significant.

North-East, South-East and South Asia will consume the lion's share of Caspian oil. Regional demands for fuel and energy are likely to exceed those of Western

Europe by 230% in the next ten years. Asian oil demand should show an increase of about 240 million metric tons. Asia – Pacific oil demand will also increase steadily, and Asia will be a major player in global investment policies and the choice of optimal oil-transportation routes.

According to forecasts of International Power Agency (IPA), by 2010 the annual consumption of liquid fuel in Europe can make 80 million metric tons, while in Asia - more than 500 million metric tons.

More than 250 local deposits have been found in the Caspian region. Forty-seven of them are ready for drilling, and deep test wells have been drilled at 27 facilities. Twenty oil and gas deposits were also discovered. However, this is not necessarily confirmation of optimistic U.S. forecasts for the Caspian region. The countries surrounding the sea are still divided on its legal status, which is potentially a major hindrance to oil-prospecting operations and projected oil and gas production and export growth.

Russia has oil and gas deposits in both its European and Asian parts that far exceed the projected deposits in the Caspian region. The country's projected oil deposits are estimated at 44 billion metric tons, with gas deposits of over 127 trillion cubic meters. Russia also boasts sizeable reserves of coal (more than 200 billion metric tons, or 12% of the global total), although deposits that have been investigated contain only 105 billion metric tons. Geological coal deposits are estimated at 4.450 billion metric tons, or 30% of the global figure.

Russia will continue to expand oil production in traditional areas such as Western Siberia, the Volga area and the North Caucasus. New oil and gas regions such as the Timano-Pechora area, Eastern Siberia, the Far East and the North Caspian province will also be developed.

Gas production will be located in Western Siberia, the new Eastern Siberia and Far Eastern oil and gas provinces, in northern European Russia (including the Arctic shelf), on the Yamal Peninsula and on the Caspian Sea.

According to the Vector information and strategic assessments bureau, **Kazakhstan** contains one of the world's largest hydrocarbon deposits, and may

soon become a major hydrocarbon producer. The country has the world's twelfth largest studied oil deposits (not including the inadequately estimated Caspian shelf). Its gas and gas-condensate deposits are the world's fifteenth largest. Kazakhstan also ranks twenty-third in terms of oil output, and accounts for 2% of global studied and confirmed oil deposits (again excluding the Caspian shelf). Kazakhstan's more than 200 oil and gas deposits contain 2.2 billion metric tons of extractable reserves, as well as 700 million metric tons of gas condensate. Projected national oil reserves total about 13 billion metric tons.

Apart from sizable oil and gas reserves, Kazakhstan boasts large deposits of coal, uranium, ferrous and non-ferrous metals, and gold. It is one of the world's 12 largest coal producers, with 79 million metric tons annually. The same is true of iron ore (7.5 million metric tons), bauxites (3 million metric tons), copper (more than 300,000 metric tons), zinc (225,000 metric tons), manganese (100,000 metric tons), silver (500 metric tons) and phosphates (1.7 million metric tons). Kazakhstan has more uranium than any other country (25% of global deposits).

Turkmenistan is rich in liquid hydrocarbons and natural gas, which are a large factor in pushing its economic development. The country's national-security doctrine therefore stipulates unimpeded access to such deposits and cost-effective exploitation. Experts estimate the country's energy potential at over 45 billion metric tons of oil equivalent. Turkmenistan contains a significant portion global oil and natural gas. Its projected resources total 21-23 trillion cubic meters of gas and 12.0 billion metric tons of oil. The country has the world's fourth largest confirmed gas deposits estimated at 3 trillion cubic meters.

According to the US Geological Bureau, Turkmenistan ranks tenth in terms of hydrocarbon deposits, and may soon become a major hydrocarbon supplier at oil and petroleum market.

The Asia Monitor Recourse Center says that hydrocarbon deposits can be developed in 60% of **Uzbekistan** territory, where projected oil and gas reserves total more than \$1 trillion. Uzbekistan now produces oil at 60 deposits, a further 17 inactive deposits can also be developed at any time, and geologists are studying

another 13 deposits. A total of 134 gas deposits have been studied to date, with gas production commencing at 53 of them. Another 48 deposits can be activated.

As of 2003, Uzbekistan boasted extremely liberal mineral-production legislation, including foreign-investment incentives for liquid-hydrocarbon production. In December 2002 the country's parliament passed several new bills, including a new version of the mineral-deposit law. The first version got the green light in September 1994 when the state did its best to oversee all oil and gas operations. Moreover, foreign oil and gas prospectors are granted most favoured nation status.

Kyrgyzstan's proven natural-gas deposits total 6 billion cubic meters, but development is hindered by geological specifics and rudimentary infrastructure. The republic produces about 30 million cubic meters of gas annually, and hope to boost gas output to 40 million cubic meters by 2010.

Potential hydro-electric reserves account for over 90% of **Tadjikistan's** fuel and energy balance, or 527 billion kWt/hr per year. However, currently it taps only 6.5% of this tremendous potential. Studied oil, gas and gas-condensate deposits total less than 1% of the country's total resources, which are estimated at 1.033 million metric tons of fuel equivalent.

Overall, the future development of Russian and Central Asian fuel and energy sectors highlight impressive hydrocarbon potential. It will take a lot of investment, including foreign investment, to develop these resources. European countries and counties around the Indian Ocean and China could help locate, develop, produce and transport these oil and gas resources in line with mutually advantageous inter-state agreements.

References

1. Vyacheslav Vashanov. TEK Rossii i stran Tsentralnoy Azii.
2. CIS Statistics, 1991-2004.
3. International Petroleum Encyclopedic, 1996.
4. Economic Survey of Europe, 2005, №1, The Commonwealth of Independent States.
5. <http://www.infoil.ru/news/print/1534>
6. www.ca-c.org/journal/12-1997/st_06_iioliev.shtml