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Russia - Central Asia: Existing and Potential Oil and Gas Trade

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Key Points

* Trade in hydrocarbons between Russia and Central Asia is mainly between Russia, on the one side, and Kazakhstan, Turkmenistan and Uzbekistan on the other. The export of hydrocarbons from Kazakhstan to Russia is mainly in the form of oil, while from Turkmenistan and Uzbekistan it is in the form of natural gas. Russia exports hydrocarbons to Kazakhstan and Uzbekistan mainly in the form of oil.

* In the period 2003-2006 the proportion of the total trade between Russia and Kazakhstan, Turkmenistan and Uzbekistan represented by oil and gas rose from 23% to 36%, i.e. from 2 to 4.6 billion dollars. The trade in oil doubled (rising from 1.8 to 3.7 billion dollars) while the trade in gas increased by a factor of 4.5 (from 0.2 to 0.9 billion dollars).

* Within the Central Asian zone, trade in hydrocarbons takes place between only four of the five countries. Since the disintegration of the Soviet Union, Turkmenistan has not participated in the regional trade in hydrocarbons. The main component of this trade is supply of gas by Uzbekistan to the other three countries.

* In financial terms, the value of the supply of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan is relatively low (154 million dollars), as is the proportion of total trade it occupies (4%).

* Although the volume of trade in hydrocarbons, both between Russia and Central Asia and between the Central Asian countries themselves, is gradually increasing, it is still below the levels in Soviet times, when one of the main drivers of mutual cooperation was the development of the oil and gas processing industries.

* The present pattern of trade in hydrocarbons in the Russian and Central Asian economic zone is unbalanced and inefficient from the point of view of the long-term interests both of Russia and Central Asia. The main priority of the countries that are richer in oil and gas, i.e. Russia, Kazakhstan and Turkmenistan, remains as it was before:

to maximise their exports to the external market, rather than developing their hydrocarbon processing industries.

* If this pattern of trade in hydrocarbons continues, it will result in Russia and the Central Asian countries doing no more with their oil and gas resources than merely consuming them.

* If the present trends are maintained, it will take about fifty years for the volume of trade in oil to reach the level it was at in 1990, but exports of gas from Central Asia to and through Russia will have recovered to 1990 levels within a few years.

* At the same time, it will take about 60 years for the level of trading in gas between the Central Asian countries themselves to reach 1990 levels. It is too early to make similar forecasts concerning the development of internal trading in oil, as oil extraction is still a relatively new phenomenon in the region.

* By 2020, Russia, Kazakhstan and Turkmenistan plan to make significant increases in the volume of hydrocarbons they extract and export. In practice, however, the development of the oil and gas trade in the Russian and Central Asian sphere will be influenced by a more complex combination of unpredictable factors, which can be summarised as follows:

- if the future pattern of the oil and gas export trade is dominated by internal trading within the region, the rates of growth within the Russian and Central Asian sphere will be significantly higher than those reached in the period from 2003 to 2006;

- if, on the other hand, the future pattern of exports is dominated by an increase in trading with external markets, the rates of growth in the oil and gas trade between Russia and Central Asia and internally within Central Asia will stay at the same levels or even fall.

* Forecasting future oil and gas trading in the Russian and Central Asian sphere, especially exports from Central Asia to or through Russia, is a question of trying to calculate the effects of a number of complex and unknown variables. This calculation could be affected by the following factors:

- the multilateral and bilateral relations between Russia and the countries of the region, including the national policies of the states involved;

- the nature of investment activity by Russia in the region and the increasing international competition for the hydrocarbon resources of Central Asia.

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Russia – Central Asia: Existing and Potential Oil and Gas Trade

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Introduction

Since about 2003 there has been a noticeable intensification in the trade in oil and gas between Russia and those countries of Central Asia possessing significant stocks of hydrocarbons and the potential to export them in the form of oil or natural gas, i.e. Kazakhstan, Turkmenistan and Uzbekistan.

In the other two countries of the region, namely Kyrgyzstan and Tajikistan, no significant sources of oil or gas have yet been discovered. There is little industrial hydrocarbon refining activity in these countries, which satisfy their internal energy requirements with their own hydro-electric plants and fuel imports from Russia, Kazakhstan and Uzbekistan. Kyrgyzstan and Tajikistan are really minor players in the hydrocarbon trade between Russia and Central Asia as a whole, using only a small amount of natural gas from Uzbekistan and fuel oil from Russian and Kazakhstan for their thermal electric power stations.

In Soviet times, Russia and Kazakhstan, Turkmenistan and Uzbekistan were the main producers of hydrocarbons in the former USSR. Indeed, significant amounts of oil only began to be extracted in Kazakhstan and Turkmenistan after the disintegration of the USSR. These countries remain the main producers in the whole post-Soviet region, possessing as they do about 95% of known reserves of oil and more than 98% of the natural gas in the territory of the CIS.¹

Table 1. Russia and Kazakhstan, Turkmenistan and Uzbekistan): main economic indicators in oil and gas sectors.²

Indicator	Russia		Kazakhstan		Turkmenistan		Uzbekistan	
	Oil, millions of tonnes	Gas, billions of cubic metres	Oil, millions of tonnes	Gas, billions of cubic metres	Oil, millions of tonnes	Gas, billions of cubic metres	Oil, millions of tonnes	Gas, billions of cubic metres
Known reserves	10200	47600	5400	1800	100	2900	100	1900
1990								
Extraction	550	630	14.8	3	8	90.6	4	45.5
Export	133	143	14.8	-	-	70.6	-	10.8
2006								
Extraction	530	660	64	15	10	66	6	60
Export	360	196	55	-	7.8	50	-	11.9
Import	6.1	19	2.6	1.8	-	-	0.2	-
Domestic consumption	176.1	483	11.6	16.8	2.2	16	6.2	48.1

	2020		2015		2020		2020	
Extraction	660	900	120	45-50	100	240	-	60-65
Export	450	316	100	25-30	-	170-220	-	20

Note: dashes indicate zero oil and gas exports/imports or no figures available for planned extraction and export of oil.

It would not be an exaggeration to say that the oil and gas trade in the Russian and Central Asian region is a reflection of vitally important economic and political processes, that it is of major significance for the development of the former Soviet republics and that it will be extremely influential on the internal situation in many post-Soviet countries and on their role on the international stage and in the global economy.

The present-day trade in hydrocarbons between Russia and Central Asia takes place in the main between Russia, on the one side, and Kazakhstan, Turkmenistan and Uzbekistan on the other. Oil and gas constitute about 36% (2006 figures) of the total trade between Russia and these three countries.³ Hydrocarbon exports from Kazakhstan to Russia are mainly in the form of oil, while those from Turkmenistan and Uzbekistan are mainly in the form of natural gas. Hydrocarbon exports from Russia are mainly to Kazakhstan and Uzbekistan in the form of oil.

Within Central Asia itself, there is a trade in hydrocarbons only between four of the countries of the region, Uzbekistan, Kazakhstan, Kyrgyzstan and Tajikistan. This consists mainly of exports of gas from Uzbekistan to the other three countries, and represents a mere 4% of Uzbekistan's total trade with Kazakhstan, Kyrgyzstan and Tajikistan.⁴ Turkmenistan does not take part in hydrocarbon trading within this area. Its gas exports are confined to Russia and its neighbour, Iran, and its oil exports go to countries outside the region. Turkmenistan does not import hydrocarbons from Russia and the Central Asian region.

Part 1

The current state of trade

Russia and Central Asia

The trade in hydrocarbons between Russia, Kazakhstan, Turkmenistan and Uzbekistan has been increasing in recent years and occupies an increasingly important role in their trade and economic relations. This is evidenced not only by the dynamic growth in the value of the hydrocarbon trade between these countries, but also by the year-on-year increase in the proportion of total trade occupied by the oil and gas sector. This trend is particularly striking in the period 2003-2006, which has seen the most dynamic development of Russian-Central Asian trade since the collapse of the USSR.

In financial terms the volume of trade in hydrocarbons between Russia and the three Central Asian countries increased in the period 2003-2006 from about 2 to 4.6 billion dollars, and the share of the total trade between the countries occupied by the oil and gas sectors increased from 23% to 36%:

- with Turkmenistan: from 90% to 93%;
- with Kazakhstan: from 44% to 55%;
- with Uzbekistan: from 0.2% to 34%.

Table 2. Russia and Central Asia (Kazakhstan, Turkmenistan and Uzbekistan): value of trade in hydrocarbons and the proportion of total trade occupied by hydrocarbons, 2003-2006.⁵

Year	Supplied from Russia to the region, US\$ millions	Supplied from the region to Russia, US\$ millions	Proportion of oil & gas in total trade, %
2003	515	1542	23.5
2004	1038	1857	29.6
2005	1094	2834	31.7
2006	1121	3517	35.8

The 2006 figures show that the export of hydrocarbons (oil) from Russia to Central Asia was mainly directed at Kazakhstan, with a much smaller share going to Uzbekistan. The trade in hydrocarbons to the two countries was of the order of 1.1 billion dollars (2.8 million tonnes of oil):

- to Kazakhstan: just over 1 billion dollars (2.6 million tonnes of oil);
- to Uzbekistan: about 45 million dollars (0.2 million tonnes of oil).

Exports of hydrocarbons from the countries of Central Asia to Russia in 2006 amounted to about 3.5 billion dollars (6.1 million tonnes of oil, valued at 2.6 billion dollars, and 19 billion cubic metres of natural gas at a value of 0.9 billion dollars):

- from Kazakhstan: about 2.6 billion dollars (6.1 million tonnes of oil);
- from Turkmenistan: about 0.5 billion dollars (10 billion cubic metres of gas);
- from Uzbekistan: about 0.4 billion dollars (9 billion cubic metres of gas).

The figures for 2003-2006 show the volume of the oil and gas trade between Russia and the countries of Central Asia more than doubling: the trade in oil (imports and exports between Russia and Kazakhstan, exports from Russia to Uzbekistan) doubled (from 1.8 to 3.7 billion dollars), and the trade in gas (from Turkmenistan and Uzbekistan to Russia) increased by a factor of 4.5 (from 0.2 to 0.9 billion dollars). The export of hydrocarbons from the region to Russia and from Russia to the region grew at approximately the same rates.

Table 3. Russia and Central Asia (Kazakhstan, Turkmenistan and Uzbekistan): value of trade in hydrocarbons in 2003 and 2006.⁶

Country	Supplied from Russia to the region				Supplied from the region to Russia			
	Oil, US\$ millions		Gas, US\$ millions		Oil, US\$ millions		Gas, US\$ millions	
	2003	2006	2003	2006	2003	2006	2003	2006
Kazakhstan	515	1076	*	*	1278	2580	*	*
Turkmenistan	*	*	*	*	*	*	218	550
Uzbekistan	*	45	*	*	*	*	46	387
Total	515	1121	*	*	1278	2580	264	937

Note: (*) means one of the following:

- for Russia and Kazakhstan: although Kazakhstan does have stocks of gas, it did not export it until 2006: Russia's gas exports did not appear in the Russian-Central Asian trade in hydrocarbons until 2006; a two-way swap process for gas between Kazakhstan and Russia started in 2007;

- for Turkmenistan: oil exporting from Turkmenistan was not a feature of the Russian-Central Asian trade in hydrocarbons; Turkmenistan is not an importer of oil or gas;
- for Uzbekistan: Uzbekistan does not export oil, but has been importing it since 2004; Uzbekistan is not an importer of gas and in 2003 was not an importer of oil either.

The volume of the oil trade between Russia and Central Asia increased in the period 2003-2006 by just over 30%; oil exports from Russia to the region increased by about 40% (from 2 to 2.8 million tonnes), and from the region to Russia by about 30% (from 4.7 to 6.1 million tonnes). The most vigorous growth sector was the gas sector (exports from the region to Russia), which increased almost threefold - from 6.5 to 19 billion cubic metres.

Table 4. Russia and Central Asia (Kazakhstan, Turkmenistan, Uzbekistan): physical volume of trade in hydrocarbons in 2003 and 2006.⁷

Country	Supplied from Russia to the region				Supplied from the region to Russia			
	Oil, million tonnes		Gas, bn cubic metres		Oil, million tonnes		Gas, bn cubic metres	
	2003	2006	2003	2006	2003	2006	2003	2006
Kazakhstan	2.0	2.6	*	*	4.7	6.1	*	*
Turkmenistan	*	*	*	*	*	*	5.2	10
Uzbekistan	*	0.2	*	*	*	*	1.3	9
Total	2.0	2.8	*	*	4.7	6.1	6.5	19

Note: (*) means one of the following:

- for Russia and Kazakhstan: although Kazakhstan does have stocks of gas, it did not export it until 2006: Russia's gas exports did not appear in the Russian-Central Asian trade in hydrocarbons until 2006; a two-way swap process for gas between Kazakhstan and Russia started in 2007;
- for Turkmenistan: oil exporting from Turkmenistan was not a feature of the Russian-Central Asian trade in hydrocarbons; Turkmenistan is not an importer of oil or gas;
- for Uzbekistan: Uzbekistan does not export oil, but has been importing it since 2004; Uzbekistan is not an importer of gas and in 2003 was not an importer of oil either.

Although the volume of trade in hydrocarbons between Russia and Central Asia is gradually increasing, it still has not reached the levels it was at in the Soviet era.

In 1990 the trade in oil between Russia and Central Asia was about 40 million tonnes, but in 2006 it was only about quarter of this level, about 9 million tonnes. The most notable change was in exports of oil from Russia to the region, which were reduced by a factor of about 9, while exports of oil from the region to Russia were only down by a factor of about 2.5.

Table 5. Russia and Central Asia (Kazakhstan and Uzbekistan): physical volume of trade in oil in 1990 and 2006.⁸

Country	Oil supplied from Russia to the region, million tonnes		Oil supplied from the region to Russia, million tonnes	
	1990	2006	1990	2006
Kazakhstan	18.4	2.6	14.8	6.1
Uzbekistan	6.5	0.2	*	*
Total	24.9	2.8	14.8	6.1

Note: (*) means that Uzbekistan was not and is not an exporter of oil, although it does have oil reserves.

It is difficult to make a quantitative comparison of the volumes of gas supplied by Central Asia (Turkmenistan and Uzbekistan) to Russia in the years 1990 and 2006. In Soviet times, gas exports from Turkmenistan and Uzbekistan within the USSR were considered a single product, and the consumers of this product were mainly Russia, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan and a number of other former Soviet republics. Russia and Ukraine (the main users of Central Asian gas) between them used about 4/5 of the total Turkmen-Uzbek gas supply to the Soviet Union (based on 1990 figures).⁹

Since the collapse of the USSR the supply of gas from Turkmenistan to Ukraine has been by way of Russia and Russian companies, as this transfer is only possible at present via the Russian pipeline system.¹⁰ Since the disintegration of the Soviet Union the Russian company Gazprom has been active in Turkmenistan in partnership with the private company ITERA, which specialises in gas trading in the CIS countries and the Baltic republics. These companies have provided Turkmen gas to Ukraine at prices considerably below the European gas market price (about one quarter to one third). Ukraine, however, has frequently been unable to pay even these reduced prices, and has several times offered barter arrangements. In practice, much of the gas from Turkmenistan has been paid for in food products: the main activity of ITERA in Turkmenistan has been as a mediator in the financial agreements to cover the supply of food and other products to Turkmenistan in exchange for gas.

Nowadays the Ukrainian national joint stock company Naftohas Ukrainy buys gas from RosUkrEnergo (a mediation company founded in 2004 by Gazprom and the Austrian investment bank Raiffeisen¹¹ to sell gas from Turkmenistan to Naftohas Ukrainy). Up to and including 2006, Gazprom calculated separately the volumes of Turkmenistan's gas destined for consumers in Russia and Ukraine. In 2006 the volume of gas exported from Turkmenistan to Russia was 42 billion cubic metres, of which 10 billion cubic metres were for Russian consumers and 32 billion cubic metres for Ukrainian consumers.

Overall the quantity of gas supplied to Russia (mainly for Russian and Ukrainian consumers) is still below the levels of the Soviet era. In 1990, about 65 billion cubic metres of gas from Turkmenistan and Uzbekistan were provided to Russia (and Ukraine) via Kazakhstan. In 2006 the total supplied was about 51 billion cubic metres: 42 billion cubic metres from Turkmenistan and 9 billion cubic metres from Uzbekistan.

Table 6. Russia and Central Asia (Turkmenistan and Uzbekistan): gas supplies from Turkmenistan and Uzbekistan in a Russian direction in 1990 and 2006.¹²

Country	Gas supplied to/through Russia, bn cubic metres	
	1990	2006
Turkmenistan	65.1*	42
Uzbekistan		9
Total	65.1	51

Note: (*) means that in Soviet times the gas supplies from Turkmenistan and Uzbekistan were considered as a single product.

In 2007 the supply system for Central Asian gas changed, Gazprom becoming the single customer (rather than the mediator) for and owner of the gas from both Uzbekistan and Turkmenistan exported to and through Russia and Ukraine.

Central Asia

Up to and including 2006 the trade in hydrocarbons within Central Asia itself consisted mainly of supplies of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan. In 2007, however, the arrangements for trade in gas between Uzbekistan and Kazakhstan changed. Uzbek gas is not supplied directly to Kazakhstan: Gazprom and the Kazakh KazMunaiGaz started to use Uzbek gas for swap operations. It is expected that the figures for 2007 will show Gazprom buying about 13 billion cubic metres of gas in Uzbekistan, of which about 3.5 billion cubic metres will go to KazMunaiGaz to supply the southern regions of Kazakhstan with gas. KazMunaiGaz will transfer 3.5 billion cubic metres of gas from Kazakhstan, from the Karachaganak field in the north-west of Kazakhstan.¹³

As well as gas exports from Uzbekistan, the Central Asian trade in hydrocarbons includes supplies from Kazakhstan of petroleum to Uzbekistan and fuel oil to Kyrgyzstan. The levels of these exports are relatively insignificant, however, and hardly make any contribution to the overall levels of trade in hydrocarbons in the region, more than 99% of which consists of supplies of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan.

Even this trade is insignificant in comparison with Uzbekistan's overall trade balance with Kazakhstan, Kyrgyzstan and Tajikistan. Although the amount of gas exported by Uzbekistan increased in the period 2003-2006, Uzbekistan's overall trade balance with the other three countries increased at an even greater rate in this period.

The financial value of supplies of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan increased from 83 to 154 million dollars. At the same time, the proportion of the total trade between Uzbekistan and the other three countries reduced by about a third, from 6 to 4%.

Table 7. Central Asia: value of gas supplied by Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan and proportion of Uzbekistan's total trade with them occupied by the gas sector, 2003-2006.¹⁴

Year	Gas supplied from Uzbekistan, US\$ millions	Total trade, US\$ millions	Proportion of gas in total trade, %
2003	83	1278	6.4
2004	91	1331	6.8
2005	112	2455	4.6
2006	154	3755	4.1

Note: although Turkmenistan possesses considerable potential to export gas, it does not take part in the trading of gas within the region.

The 2006 figures show that the financial value of gas supplies from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan was about 154 billion (2.9 billion cubic metres):

- to Kazakhstan: 99 million dollars (about 1.8 billion cubic metres);
- to Tajikistan: 29 million dollars (about 0.6 billion cubic metres);
- to Kyrgyzstan: 26 million dollars (about 0.5 billion cubic metres).

There were only insignificant exports from the countries of the region to Uzbekistan: about 45,000 tonnes of oil from Kazakhstan in 2006. In financial terms the value of trade in gas increased by about 80% between 2003 and 2006.

Table 8. Central Asia: value of gas supplied from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan in 2003 and 2006.¹⁵

Country	Gas supplied from Uzbekistan, US\$ millions	
	2003	2006
Kazakhstan*	46	99
Kyrgyzstan	18	26
Tajikistan	19	29
Total	83	154

Note: (*) means that from 2007 onwards, gas is not supplied directly from Uzbekistan to Kazakhstan: Gazprom and KazMunaigaz use Uzbekistan's gas in swap operations.

The physical volume of the gas traded in the region increased by about 40% in the period 2003-2006, from 2 to 2.9 billion cubic metres.

Table 9. Central Asia: volume of gas exported from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan in 2003 and 2006.¹⁶

Country	Gas supplied by Uzbekistan, million cubic metres	
	2003	2006
Kazakhstan*	1160	1800
Kyrgyzstan	420	510
Tajikistan	440	570
Total	2020	2880

Note: (*) means that from 2007 onwards, gas is not supplied directly from Uzbekistan to Kazakhstan: Gazprom and KazMunaigaz use Uzbekistan's gas in swap operations.

In general, the trade in hydrocarbons within the Central Asian region is growing extremely slowly and is still far short of the levels it reached in the Soviet era. In 1990 about 16.4 billion cubic metres of gas from Turkmenistan and Uzbekistan were supplied to Kazakhstan, Kyrgyzstan and Tajikistan, but in 2006 less than a fifth of this quantity was supplied - only about 2.9 billion cubic metres of gas from Uzbekistan.

Table 10. Central Asia: volume of gas exported from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan in 1990 and 2006.¹⁷

Country	Gas supplied by Uzbekistan and Turkmenistan, million cubic metres	
	1990	2006*
Kazakhstan	7,8	1,8
Kyrgyzstan	3,6	0,51
Tajikistan	5,0	0,57
Total	16,4	2,88

Note: (*) means that in 2006 gas was supplied to Kazakhstan, Kyrgyzstan and Tajikistan only from Uzbekistan.

Conclusions to Part 1

Analysis of the state of the oil and gas trade in the Russian and Central Asian area shows that this trade is still on a smaller scale than it was in Soviet times, and that its character has changed.

Firstly, the volume of the oil trade between Russia and the countries of the region is developing extremely slowly and is still only a quarter of what it was in the Soviet era.

Secondly, the hydrocarbon trade within Central Asia itself is hardly developing at all. Turkmenistan now plays no part in this regional trade. The volume of gas supplied by Uzbekistan to the countries of the region is only a sixth of what was supplied by Turkmenistan and Uzbekistan in the Soviet era.

Thirdly, the increase in the hydrocarbon trade between Russia and the countries of Central Asia is mainly accounted for by the increase in the quantity of gas supplied by the countries of the region to Russia (and Ukraine), which may surpass Soviet levels by 2010. Hydrocarbon (i.e. oil) exports from Russia into the region, on the other hand, remain at extremely low levels, only about a ninth of what they were in Soviet times.

In general it can be said that the only area of dynamic growth has been the gas sector, where supplies of gas from Turkmenistan and Uzbekistan to Russia have increased. This is the main factor affecting the growth of the hydrocarbon trade in the Russian and Central Asian economic zone.

* * *

The present pattern of trade in hydrocarbons in the Russian and Central Asian economic zone has not only changed shape but can be seen as inefficient from the point of view of the longer-term economic interests of Russia and the Central Asian countries. We must conclude that the main priority of the economic policy of the countries richest in oil and gas, i.e. Russia, Kazakhstan and Turkmenistan, is still to maximise expansion of exports to the external market rather than developing refining capacity and cooperation in this activity in the whole post-Soviet economic area. These activities were given high priority in Soviet times and this was reflected in the relatively high level of the hydrocarbon trade between union republics.

It is noteworthy that these relatively low levels of the oil and gas trade in the Russian and Central Asian economic zone are seen at a time when the volume of hydrocarbons extracted and exported are higher than they were in Soviet times.

There has thus been a noticeable increase in the extraction of oil and gas in Russia and the countries of the region. In 1990, 577 million tonnes of oil and 770 billion cubic metres of gas were extracted in Russia, Kazakhstan, Turkmenistan and Uzbekistan. In 2006 these figures had grown to 610 million tonnes of oil and 801 billion cubic metres of gas:

- in Russia the extraction of oil and gas remained more or less at the same level;

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- in Kazakhstan the quantity of oil extracted increased by a factor of 4.3 (from 14.8 to 64 million tonnes) and the quantity of gas extracted increased by a factor of 5 (from 3 to 15 billion cubic metres);
- in Turkmenistan the quantity of oil extracted increased by 30% (from 8 to 10 million tonnes, but the quantity of gas extracted fell by 30% (from 90 to 66 billion cubic metres);
- in Uzbekistan the quantity of oil extracted increased by 50% (from 4 to 6 million tonnes) and the quantity of gas extracted increased by 30% (from 45 to 60 billion cubic metres).

In 1990 these countries (then Soviet republics) exported within and beyond the Union 148 million tonnes of oil and 223 billion cubic metres of natural gas. In 2006 the respective figures were 423 million tonnes of oil and 257 billion cubic metres of gas:

- from Russia, the quantity of oil exported increased by a factor of 2.7 (from 133 to 360 million tonnes) and the quantity of gas exported increased by 40% (from 143 to 196 billion cubic metres);
- from Kazakhstan, the quantity of oil exported increased by a factor of 3.7 (from 14.8 to 55 million tonnes);
- in 1990, Turkmenistan did not export any oil, but the figures for 2006 show exports of 7.8 million tonnes of oil; there was a 40% fall in the export of gas from Turkmenistan over this period (from 70 to 50 million cubic metres);
- the export of gas from Uzbekistan stayed more or less at the same level.

It seems most likely that in the medium and longer term Russia and the countries of the region will continue with their export-orientated strategy. Russia and Kazakhstan, the two biggest producers of oil in the post-Soviet economic zone, are already exporting about 70% and 85% respectively of the oil they extract to countries outside the CIS. Even Turkmenistan exports about 78% of its limited oil production to the market outside the post-Soviet economic area.

In the future, the strategic plans of Russia, Kazakhstan and Turkmenistan are to maintain the proportions of hydrocarbons they export at similar levels. All this is further evidence that Russia and the countries of the region will continue to neglect, as they have in the past, the development of hydrocarbon refining capacity, and particularly the capacity for post-refinement hydrocarbon processing, i.e. the manufacture of products with high added value. This "strategy", such as it is, will continue to result in inefficient exploitation of hydrocarbon resources from the point of view of long-term economic interests.

If this pattern of trade in hydrocarbons continues, it will result in these countries doing no more with their oil and gas resources than merely consuming them.

Part 2

Future Potential: an Extrapolatory Approach

In the short term (up to 2010) there is no doubt that trade in hydrocarbons within the Russian and Central Asian economic zone will increase. What the rates of growth will be and what the nature of trade in hydrocarbons will be in the medium term (up to 2020) and in the longer term, are questions to which there have not yet been unambiguous answers.

But in spite of the difficulty of forecasting the prospects for trade in hydrocarbons in detail, even a rough and provisional estimate of its future scale is of interest. Such an estimate is possible if we extrapolate¹⁸ the average annual values of growth in actual trade in oil and gas in the Russian and Central Asian economic zone.

This approach will not of course enable exact figures for the oil and gas trade to be forecast, but it will at least provide another analysis tool to enable the following three aspects of this trade to be considered more closely:

- what are the true rates of growth in the Russian - Central Asian oil trade, in the export of gas from this region to Russia and from Uzbekistan to the other countries of Central Asia?
- is this growth capable, even theoretically, of restoring the level of trade, at least in the medium term (up to 2020) to the levels of the Soviet period (1990)?
- is this growth adequate for the present scale of extraction and export of hydrocarbons from Central Asia and for future plans for extraction and export?

This analysis assumes that the situation in the Russian and Central Asian economic zone can be considered in so-called "ideal conditions", in other words that adequate reserves of hydrocarbons remain to be extracted and that there are no major disturbances such as social and economic upheavals or geopolitical cataclysms at the national, regional or global level.

Russia and Central Asia

The trade in hydrocarbons between Russia and Central Asia has the following two main features:

- two-way trade in oil between Russia and Central Asia (mainly Kazakhstan);
- export of gas from Central Asia (mainly Turkmenistan and Uzbekistan) to or through Russia.

Estimates of the volume of trade in oil and gas between Russia and Kazakhstan, Uzbekistan and Turkmenistan and estimates of the volume of exports of gas from Central Asia to or through Russia are given in table 11.

Table 11. Russia and Kazakhstan, Turkmenistan, Uzbekistan: provisional estimates of volumes of future hydrocarbon exports for 2010, 2015 and 2020.

Country	Estimated hydrocarbon exports from Russia						Estimated hydrocarbon exports from Central Asian region					
	Oil, millions of tonnes			Gas, billions of cubic metres			Oil, millions of tonnes			Gas, billions of cubic metres		
	2010	2015	2020	2010	2015	2020	2010	2015	2020	2010	2015	2020
Kazakhstan	3.4	4.4	5.4	-	-	-	7.9	10.1	12.4	-	-	-
Turkmenistan	-	-	-	-	-	-	-	-	-	*	*	*
Uzbekistan	0.4	0.6	0.9	-	-	-	-	-	-	*	*	*
Total	3.8	5.0	6.3	-	-	-	7.9	10.1	12.4	62.6-76.8	77.1-97.8	91.6-118.8

Note: dashes indicate that there were zero exports and imports in the period 2003-2006 and hence linear extrapolation for the period 2010-2020 is not possible; asterisks indicate that extrapolated figures for possible exports of gas have only been calculated to show trends in gas exports from Central Asia to or through Russia. These calculations also assumed minimum and maximum figures for gas exports.

Two-way trade in oil

If we assume that the present growth rates in the Russian - Central Asian oil trade are maintained, the future volume of this trade could increase on average by 0.7 million tonnes a year.¹⁹

Whereas in 1990 the amount of oil involved in the trade was more than 46 million tonnes, there will only be 18-19 million tonnes in 2020,²⁰ less than the 1990 level by a factor of 2.5. At current rates of growth, it will take 50 years to recover to Soviet levels, i.e. these will not be achieved until 2060.

It seems that both Russia and Kazakhstan (the main suppliers and users of oil at present) could not only maintain the present rates of growth in the oil trade without undue effort, but could also increase them significantly. Turkmenistan could also make a contribution to an increase in the Russian - Central Asian oil trade, especially if its own extraction and export performance increases.

Other countries of the region, such as Uzbekistan, Tajikistan and Kyrgyzstan (consumers of oil and petroleum products) have a great interest in the maximum possible development of trade in these products. Uzbekistan, in particular, with its significant industrial capacity, could be one of the drivers of this growth.

Furthermore, the existing pipeline infrastructure (primarily the pipelines which pass through Kazakhstan: the Atyrau - Samara, the Omsk - Pavlodar - Shymkent pipelines and a number of others), the prospects for rail transport, sea transport (the Caspian) and road transport could bring the level of trade in oil and petroleum products between Russia and Central Asia up to a much higher level.

In practice, however, the main pre-requisite for more intensive trade in oil between Russia and Central Asia is probably agreement in principle by Russia, Kazakhstan and Turkmenistan to develop bilateral and multilateral forms of cooperation in the sphere of petroleum processing. It was close cooperation in this field which was the main reason for the higher levels of trade in oil in the Soviet era.

The most likely prospect is that in the short (up to 2010) and medium (up to 2020) terms, the oil trade between Russia and Central Asia will stay at the present

extremely low levels. It is likely to increase even more slowly than foreseen in the extrapolation model. The main efforts of Russia, Kazakhstan and Turkmenistan will, as before, be directed towards increasing their exports of oil to the external market (outside Central Asia and probably outside the post-Soviet space).

Exports of gas from Central Asia: main scenarios

It is more difficult to foresee the levels of export of gas from Central Asia (at present from Turkmenistan and Uzbekistan, and soon from Kazakhstan), although to improve confidence the possible volume of gas to be exported to Ukraine²¹ has been calculated in two different ways, as follows:

- by linear extrapolation of the supplies of gas to Russia, with the supplies to Ukraine via Russia calculated separately (provisionally calculated at the maximum realistic constant level);
- by linear extrapolation of the supplies of gas to and through Russia, with calculation of the overall growth rates of the gas supply to Russia and the supply to Ukraine via Russia. This approach is justified by the fact that in 2007 Gazprom became the sole purchaser of all natural gas from Turkmenistan and Uzbekistan exported into or transiting via Russia.

Two main scenarios result from these considerations of gas exporting: one optimistic and one pessimistic.

Optimistic scenario

If we assume the present pattern of growth in the supply of gas to Russia alone (without taking supplies for Ukraine into account), the volume of this supply could in theory increase by 4.2 billion cubic metres per year.²² In 2010 the supply of gas to Russia could be about 36 billion cubic metres, in 2015 it could be 57 billion cubic metres and in 2020 it could be 78 billion cubic metres.

The possible volume of gas for Ukraine must be added to these totals. It is difficult to estimate this, however, due to the unstable nature of the supply of gas from Central Asia to Ukraine. The amount of gas transiting Russia for Ukraine in various years has varied from 41²³ to 32 billion cubic metres of gas from Central Asia (mainly from Turkmenistan).²⁴ In view of this instability in the quantity of gas provided to Ukraine in the period 2007-2020, in our preferred method of calculation of the possible volume of gas for Ukraine we have assumed that it stays constant at the 41 billion cubic metres level.²⁵

This calculation gives the following results: in 2010 the supply of gas from Central Asia to Russia (for both Russia and Ukraine) could reach 77 billion cubic metres a year, in 2015 it could be 98 billion cubic metres a year and in 2020 it could be 119 billion cubic metres.

Comparison of these totals with the supplies which were made in 1990 shows that the Soviet level (about 65 billion cubic metres of gas) could be reached as early as in 2008.²⁶

Pessimistic scenario

If we assume the present rate of growth in the supply of gas to and through Russia (i.e. for both Russia and Ukraine), the volume of gas exported could in theory increase by 2.9 billion cubic metres per year (taking into account the reduction in

the supply to Ukraine which occurred in the period 2003-2006).²⁷ In 2003-2006 the volume of gas exported from the region to Russia increased on an average by 4.2 billion cubic metres a year, while at the same time the supply to Ukraine fell by about 1.3 billion cubic metres per year.²⁸ The total amount of gas supplied to and via Russia thus increased on average by about 2.9 (i.e. 4.2 less 1.3) billion cubic metres a year.

Thus in theory the amount of gas supplied to and through Russia in 2010 could be about 63 billion cubic metres, in 2015 it could be 77 billion cubic metres and in 2020 it could be 92 billion cubic metres. If the present rate of growth is maintained, the 1990 Soviet level might be reached in 2011.

In theory, both these scenarios are possible. They are both compatible with the overall picture of the present state and the development prospects for the gas transportation system of the region (the Central Asia - Centre and Bukhara - Ural pipelines) and also in the context of the obligations of Turkmenistan and Uzbekistan to provide gas to Russia. The scenarios are also realistic in view of Kazakhstan's potential for export growth over recent years, but it is to be expected that Kazakhstan will play an increasingly important role as a supplier of gas both to and through Russia.

In view of the greater complexity and importance of questions of Russian - Central Asian cooperation in the gas sector, it is both justifiable and essential to consider them more deeply and in greater detail.

Central Asia

Starting from the assumption that the pattern of growth in the supply of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan seen over the period 2003 to 2006 is maintained, the supply of natural gas from Uzbekistan could increase on average by about 287 million cubic metres per year.

In spite of the fact that since 2007 Kazakhstan has received its gas from Uzbekistan via Gazprom, in extrapolating the volume of gas supplied by Uzbekistan to the countries of the region, possible supplies to Kazakhstan have been taken into account. This assumption seems justified on the basis that gas from Uzbekistan will be included in the fuel and energy trade balance of Kazakhstan.

Estimates of the supply of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan, taking the above factors into account, are tabulated in table 12 below.

Table 12. Central Asia (Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan): provisional estimates of volumes of gas to be supplied by Uzbekistan.

Countries receiving gas	Estimated supply of gas from Uzbekistan, millions of cubic metres		
	2010	2015	2020
Kazakhstan	2517	3414	4311
Kyrgyzstan	713	967	1221
Tajikistan	798	1082	1366
Total	4028	5463	6898

In 1990, about 16.4 billion tonnes of gas from Turkmenistan and Uzbekistan were supplied to Kazakhstan, Kyrgyzstan and Tajikistan. In 2020, if the rate of growth of

the supply of gas from Uzbekistan is maintained at the 2003-2006 level, Uzbekistan will supply not more than 7 billion cubic metres to these three countries. This is less than the quantity supplied by Uzbekistan and Turkmenistan in 1990 by a factor of about 2.4.

Thus if the rates of growth in the supply of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan stay as they were in the period 2003-2006, the supply will not reach 1990 levels for 47 years (i.e. until 2054).

These calculations are adequate from the point of view of the export prospects for Uzbekistan. Furthermore the gas transportation infrastructure of the region is capable of supporting the supply of far more than 7 billion cubic metres of gas per year to these three countries.

It is more likely, however, that the calculations are realistic only in the short term: i.e. for the supply of 4 billion cubic metres of gas from Uzbekistan in 2010, particularly as in 2007 Kazakhstan received about 3.5 billion cubic metres of gas from Uzbekistan in swap operations with Gazprom and KazMunaiGaz. It is extremely difficult to foresee the medium-term prospects.

Firstly, it is still not clear whether Uzbekistan will have the capability (or the will) to supply even 7 billion cubic metres of gas to Kazakhstan, Kyrgyzstan and Tajikistan by 2020. Uzbekistan's export potential is in reality still extremely limited.

Secondly, it is also unclear whether Kazakhstan, Kyrgyzstan and Tajikistan will be in a position to increase the quantity of gas they buy from Uzbekistan. Kazakhstan is increasing its own capacity for gas extraction and its own gas transportation infrastructure, while the economic situation in Kyrgyzstan and Tajikistan remains extremely difficult, with both states frequently unable to pay in full and on time for their imports of gas. So Kazakhstan will probably reduce its dependence on imports of gas from Uzbekistan, while Kyrgyzstan and Tajikistan will prefer to continue to satisfy their domestic energy requirements mainly from their own hydroelectric resources rather than from imported gas.

Thirdly, it is unlikely that Turkmenistan will participate in the regional gas trade, at least in the medium term. Ashgabat already has enough problems in meeting its numerous export obligations.

* * *

It is most likely, therefore, that in the short and medium terms the gas supply from Uzbekistan to the other countries of the region will stay at or near present levels. It is possible that the quantity supplied by Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan will even fall below the levels predicted by linear extrapolation.

On the other hand, oil exports from Kazakhstan (and possibly also from Turkmenistan) to Uzbekistan are likely to increase. Uzbekistan is planning to buy more oil to increase its own industrial capacity. It is difficult to forecast the future levels of this trade in oil, as oil trading within the region is a relatively new phenomenon.²⁹

Conclusions

It seems likely that the situation in the Russian - Central Asian economic zone will change substantially in the medium term as Russia, Kazakhstan and Turkmenistan all plan to increase the quantity of hydrocarbons they extract and export.

Russia plans to increase its oil extraction by 20% by the year 2020 (from 530 to 660 million tonnes) and its gas extraction by 40% (from 660 to 900 billion cubic metres). It is also planning to increase its oil exports by about 30% (from 360 to 450 million tonnes) and its gas exports by 60% (from 196 to 316 billion cubic metres).

Kazakhstan plans to double its oil extraction by the year 2015 (from 64 to 120 million tonnes) and to treble its gas extraction (from 15 to 45-50 billion cubic metres). It is also planning to double its oil exports (from 55 to 100 million tonnes) and to export at least 25-30 billion cubic metres of gas.

Turkmenistan plans to increase its extraction of natural gas by a factor of 3.6 by the year 2020 (from 66 to 240 billion cubic metres) and its oil extraction by a factor of 10 (from 10 to 100 million tonnes). It is planning to increase its gas exports by a factor of 3.4-4.4 by the year 2020 (from 50 to 170-220 billion cubic metres). These plans all look rather unrealistic.

Uzbekistan proposes to increase its extraction of gas by about 10% by 2020 (from 60 to 65 billion cubic metres).³⁰ It is also planning to double its gas exports in the same period (from 11-13 to 20 billion cubic metres). A number of assessments have concluded that oil extraction will remain below the level required for domestic consumption, meaning that oil will have to be imported. Thus it is forecast that in 2020 oil extraction will amount to about 5-6 million tonnes, while domestic demand will be for about 12 million tonnes, so that 6-7 million tonnes will have to be imported.

In theory the plans of the Central Asian states (even if Russia's plans are not taken into account) envisage increasing extraction and exporting of hydrocarbons well above the levels required to maintain growth in the hydrocarbon trade in the Russian and Central Asian economic zone at 2003-2006 rates. Were these plans to be realised, the extraction and export of hydrocarbons in these countries would be considerably higher than they were in Soviet times.

In practice, however, the development of the oil and gas trade in the Russian and Central Asian economic zone will be influenced by a more complex combination of unpredictable factors, the complexity of which can be summarised as follows:

- if the future pattern of the oil and gas export trade is dominated by internal trading within the region and with Russia, the rates of growth of trade in oil and gas within the Russian and Central Asian zone will be significantly higher than those reached in the period from 2003 to 2006;
- if, on the other hand, the future pattern of exports from these states is dominated by an increase in trading with external markets, outside the post-Soviet space, the rates of growth in the hydrocarbon trade between Russia and Central Asia and internally within the Central Asian area will stay at the same levels or even fall below 2003-2006 levels.

* * *

Forecasting future oil and gas trading in the Russian and Central Asian sphere, especially exports from Central Asia to or through Russia is a question of trying to calculate the effects of a number of complex and unknown variables. This calculation could be affected by the following factors:

- in respect of gas exports from Central Asia to or through Russia, the multilateral and bilateral relations between Russia and the countries of the region, including the national policies of the states involved;
- in respect of cooperation in the oil and gas business as a whole, the nature of project and investment activity by Russia in the region and the increasing international competition for the hydrocarbon resources of Central Asia.³¹

Endnotes

¹ In addition to Russia, Kazakhstan, Turkmenistan and Uzbekistan, Azerbaijan is also a major producer of oil in post-Soviet space. It has around 4.6% of oil and less than 1% of gas reserves on former Soviet territory. In 2006 Azerbaijan produced 30.4 million tonnes of oil, and exported 22.2 million tonnes. Azerbaijan depends on supplies of natural gas, since it can produce no more than 25% of its domestic requirements.

² Sources: oil reserves: BP Statistical Review of World Energy, June 2006. L S Belyayev, V V Bushuyev, M P Lastovskaya, A V Lebedev, O V Marchenko, P A Solomin, S V Filippov (ed V V Bushuyev) 'World Energy: current state, problems, prospects' – Moscow 'Energiya', 2007, p.588; gas reserves: Oil & Gas Journal, No 103.47, 2005, pp.24-25. Belyayev et al. p.587; on Russian extraction and exports to Central Asia in 1990 – World Bank referring to national statistics organs of Russia and the countries of the region, 1996; Uzbekistan: Plan for Economic Reform. – The World Bank, Washington, DC, 1993; Kazakhstan: Transition of the State – The World Bank, Washington, DC, 1997; Turkmenistan – The World Bank, Washington, DC, 1994; data on extraction, export, import and internal use of Russia and Central Asia in 2006 – Economist Intelligence Unit referring to national statistics organs of Russia and the countries of the region (Russia: Country Report, London: The Economist Intelligence Unit, June 2007; Kazakhstan: Country Report, London: The Economist Intelligence Unit, June 2007; Turkmenistan: Country Report, London: The Economist Intelligence Unit, June 2007; Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2007); on planned volumes of extraction and export of hydrocarbons of Russia and Central Asia – national sources: scientific and analytical structures of these countries, official documents and reports; Institute of Geology, Oil and Gas of the Siberian Branch of the Russian Academy of Sciences; Energy Strategy of Kazakhstan; Institute of Economic Research of Economic and Budgetary Planning of Kazakhstan; official statements of the President of Kazakhstan; N A Simoniya, 'Russia and the CIS: energy cooperation versus rivalry / economic aspects of energy cooperation of Russia and other countries and security', Moscow: Institute of World Economics and International Relations of the Russian Academy of Sciences 2006 p.5); Centre of Political Research (Uzbekistan) 'Energy Potential of Central Asia: problems of assessing reserves, mining and transporting oil and natural gas' / 'Energy Market of Central Asia: trends and prospects'. Materials for a scientific-practical conference, Tashkent, 6-7 December 2005, Tashkent: Patent-Press, 2006; 'Oil and Gas of Uzbekistan': special issue of 'Oil and Gas vertical' – Moscow № 9, June 2007.

³ This index is calculated as the ratio of the total of Russia's oil and gas trade with Kazakhstan, Turkmenistan and Uzbekistan to the total of all trade between these countries.

⁴ 2006 figures. This index is calculated as the ratio of the total exports of gas from Uzbekistan to Kazakhstan, Kyrgyzstan and Tajikistan and the total of all trade between Uzbekistan and these three countries.

⁵ Source: Economist Intelligence Unit referring to the national statistics offices of Kazakhstan, Kyrgyzstan and Uzbekistan (Kazakhstan: Country Report, London: the

Economist Intelligence Unit, June 2004, June 2005, June 2006, June 2007; Turkmenistan: Country Report, London: The Economist Intelligence Unit, June 2004, June 2005, June 2006, June 2007; Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2004, June 2005, June 2006, June 2007).

⁶ Source: Economist Intelligence Unit referring to the national statistics offices of Kazakhstan, Kyrgyzstan and Uzbekistan (Kazakhstan: Country Report, London: the Economist Intelligence Unit, June 2004, June 2007; Turkmenistan: Country Report, London: The Economist Intelligence Unit, June 2004, June 2007; Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2004, June 2007).

⁷ Source: *ibid.*

⁸ Sources: data for 1990 - The World Bank, referring to the national statistics offices of Uzbekistan and Kazakhstan (Uzbekistan: Plan of Economic Reform, The World Bank, Washington, DC, 1993; Kazakhstan: Transition of the State, The World Bank, Washington, DC, 1997; data for 2006 - Economist Intelligence Unit, referring to the national statistics offices of Uzbekistan and Kazakhstan (Kazakhstan: Country Report, London: The Economist Intelligence Unit, June 2007; Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2007).

⁹ Source: The World Bank, referring to the national statistics offices of Uzbekistan and Turkmenistan (Uzbekistan: Plan of Economic Reform - The World Bank, Washington, DC, 1993; Turkmenistan - The World Bank, Washington, DC, 1994).

¹⁰ Ukraine buys Russian gas as well as gas from Turkmenistan for its own consumption.

¹¹ Raiffeisen Investment.

¹² Sources: data for 1990 - The World Bank, referring to the national statistics offices of Uzbekistan and Kazakhstan (Uzbekistan: Plan of Economic Reform, The World Bank, Washington, DC, 1993; Kazakhstan: Transition of the State, The World Bank, Washington, DC, 1997; data for 2006: Economist Intelligence Unit referring to the national statistics offices of Uzbekistan and Kazakhstan (Kazakhstan: Country Report, London: The Economist Intelligence Unit, June 2007; Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2007).

¹³ "Uzbekistan's oil and gas": special issue of Oil and Gas Vertical' Moscow, № 9, June 2007.

¹⁴ Source: Economist Intelligence Unit, referring to the Republic of Uzbekistan State Statistics Committee (Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2004, June 2005, June 2006, June 2007).

¹⁵ Source: *ibid.*

¹⁶ Source: *ibid.*

¹⁷ Sources: data for 1990: The World Bank, referring to the national statistics offices of Uzbekistan and Turkmenistan (Uzbekistan: Plan of Economic Reform, The World Bank, Washington, DC, 1993; Turkmenistan: The World Bank, Washington, DC, 1994); data for 2006: Economist Intelligence Unit, referring to the Republic of Uzbekistan State Statistics Committee (Uzbekistan: Country Report, London: The Economist Intelligence Unit, June 2007).

¹⁸ Extrapolation is a method of scientific forecasting and disseminating outcomes gained from examining the effect on one aspect of data and applying it to another (as generally understood). Extrapolation is a projection on a given scale (or function), beyond that scale (mathematical meaning).

¹⁹ 0.25 million tonnes a year from Russia (approximately 0.2 million tonnes to Kazakhstan and 0.05 million to Uzbekistan) and 0.45 million tonnes a year from the region (from Kazakhstan).

²⁰ Around 12-13 million tonnes from Kazakhstan and 6-7 million tonnes from Russia.

²¹ At that time, deliveries of gas to Ukraine were used as the benchmark. This was done to fix the price and taking into account the indirect relationship of Ukraine to the cooperation of Russia and Central Asia in the gas sphere. Turkmen gas traditionally played and plays a major role in Central Asian supplies of gas to Ukraine, and was bought by Ukraine directly from Turkmenistan, as well as through intermediaries (ITERA, Euraltransgas, RosUkrEnergo), in close cooperation with Gazprom. In 2004 Ukraine began to buy insignificant quantities of gas from Uzbekistan and Kazakhstan, but currently Kiev as previously, is trying to deal directly for its purchases with the 3 Central Asian states. However, as an exception from all previous years, in 2007 Gazprom has bought all the supplies of Turkmen and Uzbek gas transported in the Russian direction. In its turn,

Kazakhstan agreed with Russia on the possibility of taking gas produced in Orenburg (Russia) (in exchange for Kazakh crude) into foreign markets (in this case Ukraine) through the KazRosGas company. As a whole, whilst Ukraine correctly talked of Turkmen, Uzbek and Kazakh gas, it was not 'from' these countries. In addition, it is also important that significant supplies of Uzbek and Kazakh gas handled by Gazprom transit through Ukraine to Caucasus countries (Georgia, Armenia).

²² In 2003 around 6.5 billion cubic metres of gas were supplied, and in 2006 around 19 billion. The total for the 3 years grew to 12.5 billion cubic metres, but the growth trend was around 4.2 billion cubic metres of gas a year.

²³ N A Simonyan, 'Russia and the CIS: energy cooperation versus rivalry' / Economic aspects of energy cooperation of Russia and other countries and security, Moscow: Institute of World Economics and International Relations of the Russian Academy of Sciences, 2006, p.25.

²⁴ In addition, at the end of 2006 Russia and Ukraine even concluded an agreement to supply Ukraine in 2007 with not less than 55 billion cubic metres of Turkmen gas. The agreement, dated 24 October 2006, was between RosUkrEnergO (an intermediary company, established in 2004 by Gazprom and Raiffeisen Investment, an Austrian investment bank, to bring Turkmen gas to Naftohaz Ukrainy) and UkrGazEnergO (a local company of Naftohaz Ukrainy and RosUkrEnergO, which each had a 50% stake). N A Simonyan, 'Russia and the CIS: energy cooperation versus rivalry' / Economic aspects of energy cooperation of Russia and other countries and security, Moscow: Institute of World Economics and International Relations of the Russian Academy of Sciences 2006 pp.17, 19.

²⁵ Assumptions on the possibilities of delivery to Ukraine of up to 41 billion cubic metres of gas have been made as a simplified estimate, and taking into account the 'optimism' of the same scenario.

²⁶ In specified conditions: the maintenance of the dynamic of growth of the supply of gas to Russia and given the delivery of supplies to Ukraine at maximum but realistic levels.

²⁷ Although as a whole it is not possible to talk of any firm tendency for supplies of Turkmen gas to Ukraine to decline: in 2002 it was 34, in 2003 36, in 2006 32, and in 2007 approximately 42.5 billion cubic metres.

²⁸ In 2003 the volume of deliveries of Turkmen gas were around 36 billion cubic metres, and in 2006 32 billion. In total, deliveries of gas for the 3 years shrank to 4 billion cubic metres, but the trend towards reduced supplies was around 1.3 billion cubic metres a year.

²⁹ In Soviet times oil trade in the region did not exist. In that period oil extraction in Central Asia was fairly weakly developed, and the main (and, in fact, the only) producer of oil in the territory of the former USSR was Russia (RSFSR). Russia supplied oil to all the USSR republics with the exception of Azerbaijan (Azeri SSR, which had its own oil extraction and processing facilities) and Turkmenistan (Turkmen SSR, where oil was extracted and processed in small quantities, enough for domestic requirements). The Central Asian republics (except Turkmenistan) thus were users of Russian oil products too.

³⁰ A Korzhubayev, I Filimonova, A Meshcherin, O Lukin 'The oil and gas complex of Uzbekistan: trade association review' / Oil and gas of Uzbekistan: special issue of 'Oil and gas vertical', Moscow no 9, June 2007 p 58.

³¹ These subjects will be tackled in subsequent papers.

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