

# Structural and Geopolitical Developments of Central Asian Gas Market in the Period of Crisis

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**In the past two years the role of Central Asian region in overall European gas market structure has significantly increased. The basic concern of this contribution is to draw out the main structural and geopolitical changes, which have been taken place during 2009-10, their economical and political causes, and also their possible further impact on European gas market development.**

## INTRODUCTION

The dramatic growth of Central Asian gas industry's role was the result of dissolution of the USSR and the creation of independent states on the post-soviet stretch. [1] The geographical disposal of natural gas reserves in the center of Eurasia, comparative low-price gas production (by contrast to the fields of Yamal and Russian shelf), and also the possibility of using this gas alternatively to the supplies from Russia make it extremely keen for numerous concerned European consumers.

### 1. THE COMMON FRAMEWORK OF CENTRAL ASIAN GAS MARKET AND IT'S MAIN PARTICIPANTS

It is possible to separate the following players of Central Asian and Caspian gas markets: Turkmenistan, Uzbekistan and Kazakstan, EU, Russian Federation, China, and also Azerbaijan and Turkey.

Central Asian states' affection to maintain their separate energy policy has made them much more remarkable market participants, rather than they had been some years ago. [5]

As of the end of 2008, the Caspian countries, excluding Russia and Iran, possessed natural gas reserves of around 12.54 tcm, having nearly doubled their reserves in the last ten years (in 1998 – 6.71 tcm). The growth in reserves was mainly due to Turkmen reserves being re-evaluated with the discovery of the giant South Iolotan-Osman gas field. In October, 2008 Gaffney, Cline & Associates (GCA), confirmed large reserves of Yolotan Gunorta/Osman field. The Field's Reserves are low estimate at 4 tcm, medium estimate at 6 tcm, high estimate at 14 tcm, making Yolotan fourth- or fifth-largest field in the world.

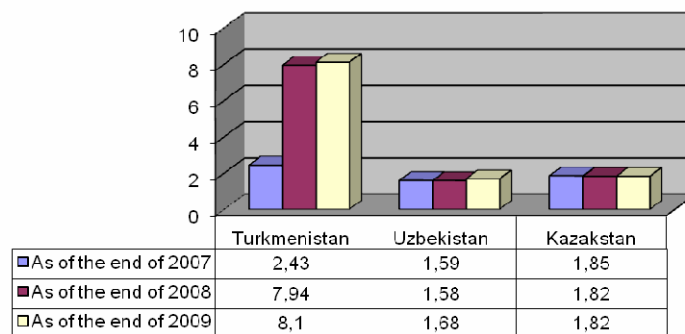


Fig. 1 Proved gas reserves of Caspian countries, tcm [3]

#### 1.1. Turkmenistan

Turkmen sources state that production and export potential of the country will be

growing for the next decade and after that. Once the first phase of South Yolotan field development has been completed, implementation of the second phase will commence (around 2014). The third phase will be implemented if necessary. These projects will generate additional production of 10 bcm a year at the South Yolotan, until peak performance of 70 billion cm of gas is reached by 2020-2022.

Turkmenistan is the regional leader of gas production (according to BP statistics – 66.1 bcm in 2008 and 36.4 bcm in 2009) and gas export (53 bcm in 2008 and 16.7 in 2009) [3]. More than 90% of republic's exchange earnings are from gas export, oil and gas incomings are fabricating about 80-90% of GDP. In connection with this Turkmenistan is interested in maximization of these earnings.

Until 2009 г. Turkmen gas production capacities were measured at the level of 70 - 80 bcm per year [5]. However the reduction of gas deliveries from Turkmenistan to Russia in 2009 has set the scene for a transformation in the way Turkmenistan treats its gas sales abroad. On 9 April 2009 there was an explosion at km 487 of the CAC-4/Davletbat-Daryalik pipeline which cut Turkmen natural gas exports to Russia. Then Gazprom commented on the reason it has stopped purchasing gas in Turkmenistan. The company explained that it had proposed that Ashkhabad either reduced the volumes supplied in the second quarter by 80%, or

lowered the price. At the end of December Turkmenistan and Russia finally managed to reach an agreement on the reinstatement of supplies of Turkmen gas to Russia. Supplies were resumed by 1 January 2010, and annual volumes would be 30 bcm. The newly contracted figure reflects the ceiling value depending on the demand in the market. Average annual price of Turkmen gas for Gazprom will be \$240-250/1000 cm. In addition, Russia and Turkmenistan agreed on joint implementation of the Caspian Coastal Pipeline (CCP) project and the East-West pipeline.

Concerning the dynamics of Central Asian gas market development it's important to note the role of Gazprom in the common framework of gas supplies in this region. At the end of 2009 Gazprom's management has prepared the forecast of purchasing volumes of Asian gas in 2010-2012. Up to now Gazprom has purchased about 60 bcm of Asian gas per year. The main supplier of Russian monopoly in Central Asia was Turkmenistan (up to 80%). In 2010-2012 Gazprom is intending to get from Turkmeniya not more than 10.5 bcm per year with target price for 2010 — \$222 per 1000 cu m. For the comparison: by 2012 purchases from Uzbekistan are planned to be increased to 14.5 bcm. For 2010 the target price of purchases from Kazakstan and Azerbaijan – \$230 и \$244.5 correspondingly [4].

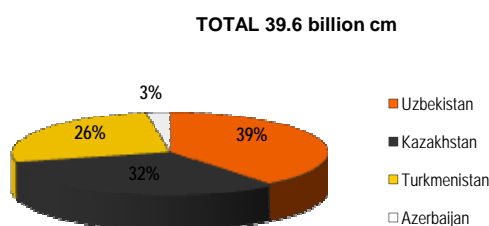


Fig. 2 Gazprom – 2010 - Contracted volumes of purchases of natural gas in the pre- Caspian and Central Asian regions[4]

The signing of a memorandum on long term co-operation between Turkmenistan's Agency for the Management and Use of Hydrocarbon

Resources and Germany's RWE AG became an important event for the Turkmen fuel and energy sector in 2009. The document

envisioned the signing of a production sharing agreement on Block 23 on the Turkmen shelf. From this point of view, the agreement between Ashkhabad and RWE means a possible creation of a new trade and investment alliance between Turkmenistan and EU. It could also mean that Turkmenistan has decided to attract European, western investors to develop its shelf, so that a new export gas pipeline can be laid to the EU through the Caspian Sea, Caucasus and Turkey.



Fig. 3 Offshore blocks in Turkmenistan

2009-2010 border has clearly separated out Turkmen's ancient gas export policy from the new one. Earlier Turkmenistan has only prepared for the multivariant supply and now this approach is being carried out de facto. Until now there always was a super-buyer in Turkmen's export balance (in divers years - Ukraine, Russian Federation or Iran) and there always was a marginal partner with much smaller import volume. But now judging by contract portfolio for 2010 the

distribution of supplies has become more equable between various directions. In such a case Iran and China are using purpose-built pipelines which were specially constructed for import and were put into operation in 2009-2010. Iran had a strong presence at the first place among Turkmen's gas importers in 2010. At the beginning of 2010 r. a new pipeline Douletabad – Salyr Yap – Hangeran with carrying capacity of 12 bcm per year has been put into operation. In 2010 it is planning to pump 6 bcm through it. In other words, the annual export volume is expected in an amount of 14 bcm (along with gas, being transported by KorpEDGE – Kurt-Kui pipeline)[5]. But if it is necessary, carrying capacity of pipeline to Hangeran permits to boost supplies to Tegeran to 20 bcm per year, in other words, Ashkhabad doesn't have any technical limitations for healthy increase gas supplies to Iran.

Common era of competition has to make pricing method for Turkmen's gas transparent, rational and commercial. This method mustn't be formed on the basis of interstate agreements as the result of political deal-making process. However Ashkhabad's sources don't disclose exact gas prices for 2010 for Iran, Russia and China. According to official statements these prices are cagily called as "commercial" and "trans-border". The real analysis of contracted gas volumes for sale and also of expected production dynamics permits to confirm that there is no place for new buyers on Turkmen's market. All the volumes for mid-term have already shared between Russian Federation, Iran and China.

TABLE I TURKMENISTAN'S EXPORT CONTRACTS

	Contract date	Annual volumes, bcm	Deliveries in 2007	Deliveries in 2008	Deliveries in 2009	Price in 2009, \$
Russia	2003	Up to 80	42.6	45	12	appx. 300
China	2006	30	0	0	0	appx. 195
Iran	1997	14	6.2	8	9	appx. 200
Total		124	48.8	53	21	

As for European “forth corridor” energy project (as an alternative to gas supplies from Russia, Norway and North Africa to EU), the participation of Turkmenistan in it and Nabucco pipeline as a base of it, it’s important to mark that the problem of resource base of Nabucco hasn’t resolved yet. In particular, practically there are no free Turkmen resources for Nabucco project because of revisions which has been brought into Russian-Turkmen gas contract.

### 1.2. Kazakhstan

Kazakhstan also plays a significant role in Central Asia thanks to its size and geographical position. The main perspectives of gas production Kazakhstan is planning with projects of foreign investors. At the end of 2009 Italy’s Eni and KazMunaiGaz signed a co-operation agreement with the expected amount of investment in the development of new hydrocarbon resources in Kazakhstan of €40-50 bln. In particular, the agreement envisions exploration of Isatai and Shagala blocks in the north-eastern part of the Kazakhstan’s sector of the Caspian shelf. As far as new international projects in gas transportation are concerned, the end of 2009 saw the commissioning of the Kazakhstan – China pipeline. It will allow Kazakh gas to reach external markets, bypassing Russia. It is a section of the Central Asia pipeline: from fields in Turkmenistan via Uzbekistan and Kazakhstan to China.

In 2008 gas transit volume through the territory of Kazakhstan equaled 116.7 bcm, which is 2.2 % more than in 2007 (114.2 bcm). The volume of international through traffic equaled 97.2 bcm, which is the main part of incomings from Kazakhstan’s gas transportation. Herewith the major contribution gives the transit of Turkmen’s natural gas to central regions of Russia and Ukraine through the cross-country gas pipeline “Central Asia – Centre” (CAC).



Fig. 4 – Cross-country gas pipelines of Kazakhstan

The financial crisis and the decline in commodity prices have left governments in the Caspian somewhat cash poor, and investors also are feeling the pinch, particularly in Kazakhstan. The new Tax Code passed at the beginning of 2009 by Kazakhstan’s government at first glance appears to reduce the burden on investors, yet energy industry participants expect that the oil and gas industry will continue to provide the economy with liquidity currently absent in other sectors due to the ongoing crisis in Kazakhstan’s banking sector.

At the end of 2009 “Kazakhstan – China” gas pipeline was started. This project will allow Kazakhstan’s natural gas entering to external markets bypass Russia. The project of the construction will be the part of the project “Central Asia”, which will be the system of gas transit via three countries: from Turkmen’s fields through the territory of Uzbekistan and Kazakhstan to China.

### 1.3. Uzbekistan

Based on 2009 year end results, Uzbekistan’s gas industry was recovering, foreign investors driving this forward. Last year 85.4 bcm of gas was produced in the country, compared to 67.7 billion in 2008. The share of foreign gas producers within these volumes was over 14%, compared to less than 12% in 2008.

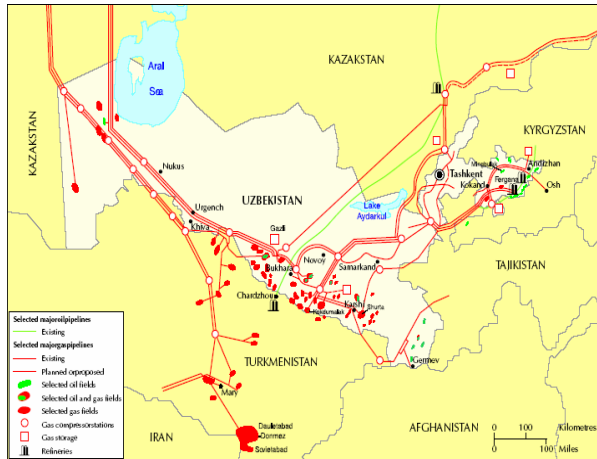


Fig. 5 – Gas and oil infrastructure of Uzbekistan

Last year 13 hydrocarbon fields were discovered in Uzbekistan, 5 of them were discovered by Uzbekneftegaz and 8 by foreign companies. Within the programme of investment projects for 2009 with foreign participation, which comprises all of high priority contracts, capital investment totalled \$1,296 million compared to \$971 million forecasted. The plan of investments on these 19 projects was exceeded by over 44% [3].

TABLE 2 MAIN OIL AND GAS EXPLORATION AND PRODUCTION PROJECTS IN UZBEKISTAN IN 2009

Project	Operator	Investment in 2009 (\$ million)	Planned annual gas production, bcm
Kandym-Hauzak-Shady-Kungrad	LUKOIL	126.2	11.0
Gissar-Ustyurt	LUKOIL	116.6	4.2
Aktusumsky	Gazprom	35.5	5.0
Gissarneftegaz	Zeromax (Switzerland)	64.80	9.0
Baisunsky	Petronas (Malaysia)	72.35	2.5
Urga-Kuanysh	Petronas	75.30	0.7
Surkhansky	Petronas	7.00	Geological exploration
Surgil	KOGAS (Korea)	145.00	3.8
Uzunkui-Tuarkyrsky	KOGAS	2.00	Geological exploration
Koskudyyski	Daewoo (Korea)	3.56	Geological exploration
The Aral Sea shelf	«LUKOIL Overseas», KNOC (Korea), Petronas, CNPC (China)	41.40	Geological exploration
Samsko-Kosbulaksky	CNPC Silk Road Group LLC, CNPC International Ltd, «LUKOIL Overseas », KNOC	25.40	Geological exploration

Russian companies, using their status of the nearest solvent consumer market of hydrocarbons for Tashkent and their long history of cooperation with Uzbekistan, have managed to secure the largest presence in the Uzbek oil gas industry. Expanding transmission capacity of the Central-Asia system will allow exports of up to 10 billion cm of Uzbek gas after 2014, via this system.

## 2. THE GROWING ROLE OF CHINA AS THE BIGGEST CONSUMER OF CENTRAL ASIAN GAS

As much of the world was diverted by the financial meltdown and the dizzying drop of the oil price last year, Chinese companies seemingly never slackened the pace in their efforts to bring Central Asian gas to China. In



n fact the global crisis has made the inflow of investment from China even more critical for Kazakhstan and Turkmenistan in particular.

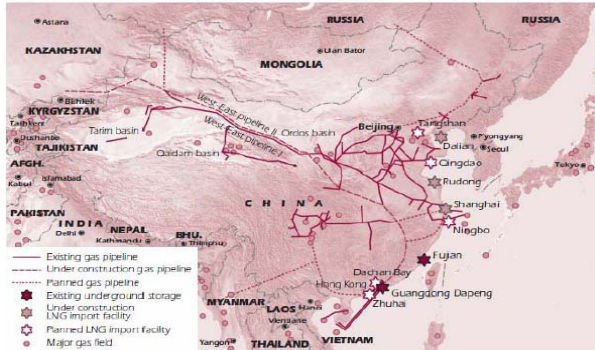


Fig. 6 – Gas and oil infrastructure of China [6].

The launch of the Turkmenistan – China pipeline became the main event of December. The pipeline will carry 40 bcm of gas a year to China as early as in 2013. This route will reduce the dependence of the Central Asian Republics on Russia and establish China's status as an informal leader in the region. The length of the pipeline to the Chinese border exceeds 1,800km. In 2010 around 13 bcm of gas will be shipped via the pipeline, and it should reach projected capacity of 40 bcm in 2012-2013. By that time Turkmenistan will be supplying approximately 30 bcm. CNPC and Turkmengaz have a contract for the supply of gas to China for 30 years, starting in 2009. Another 10 billion cm of gas a year will be supplied by Uzbekistan and Kazakhstan. An additional 6 Bcm is expected to flow through a new pipeline opened in December 2009, connecting the giant Turkmen field at Dauletabad with the Iranian border at Serakhs, near Meshed. The significance of this is that Dauletabad has always been seen as the prime field for the provision of gas to Pakistan and India via the long-mooted Turkmenistan-Afghanistan- Pakistan-India (TAPI) pipeline. [7].

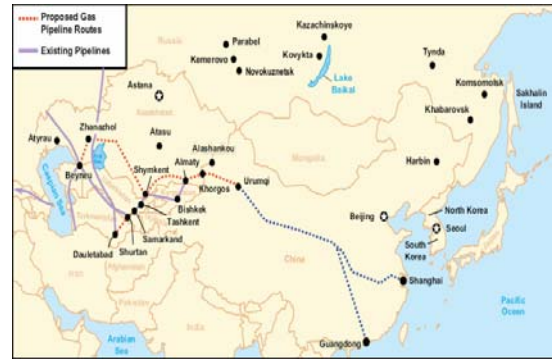


Fig. 7 – “Turkmenistan-China” pipeline’s route

Turkmen's natural gas supplies could be considered as a positive factor. Being directed to less profitable than European market, Turkmen's supplies is the preparation for a massive cooperation between Russia and China in gas sphere, in the course of which Chinese part will obtain practical experience in international gas trade.

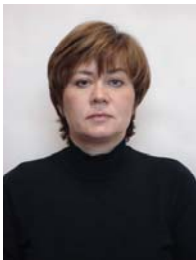
### 3. CONCLUSIONS

Undoubtedly a significant structural and geopolitical changes, which has been taken place during the global economic crisis of 2008 – 09, laid a foundation for the extension of influence of this region's countries not only to development of Asian, but also to the whole European energy market on long-term perspective. It's important to note that decision-making of new pipelines constructions, choosing the routes of them in the Caspian region, is being carried out not only on the base of economic, but also political trends. This is the reason that any geoeconomical project on the global gas market will automatically carry the extrajection of geopolitical interests, and consequently the impress of double standarts – economical and political. That's why any project doesn't secured from economical and from geopolitical errors in judgements.

#### 4. REFERENCES

1. Natural Gas Market Review 2009. International Energy Agency. Paris, 2009.
2. *Mitrova T. A. Central Asian Gas – yesterday, today, tomorrow. “The Big Game” №1, 2007*
3. Statistical Review of World Energy 2007 - 2009. BP.
4. Gaining Momentum. Presentation for the investors OAO “Gazprom”, February 2010.
5. Investor Interest in the Caspian Region Continues Postcrisis. CERA Caspian Energy Watch. Huston, 2009.
6. “Natural Gas in China” Market Evolution and Strategy. International Energy Agency. Paris, 2009.
7. *Finon D.* The limits of the EU direct foreign gas policy. Autopsy of the (soon) stillborn Southern corridor Nabucco. CNRS-CIRED & GIS LARSEN. 2009.

#### BIOGRAPHY



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