PROBLEMS OF TURKMEN GAS EXPORT: VIEW FROM UKRAINE

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There has been a perceptible increase recently in the public's attention to the energy security problems of the European continent (primarily of the member states of the European Union), particularly with respect to supplying its national economies with natural gas. This was the topic of a discussion arousing great interest at the St. Petersburg G-8 Summit held in July 2006. And it is still drawing the attention of participants in numerous highest-level bi- and multilateral meetings from the Russian Federation, Germany, the leadership of the European Commission, Poland, Ukraine, the states of Central Asia and the Caspian Region, the Middle East, and North Africa. The Russian Federation's guaranteed delivery of natural gas in the future was the most widely discussed topic. Russia currently accounts for more than one quarter of the total volume of the EU

member states' import purchases. In mid-November 2006, the results of a confidential study of gas dependence on Russia carried out by NATO economist experts were published in the mass media (the document was sent to the ambassadors of all 26 member states of the alliance). This document maintains that the RF may try to create a gas cartel consisting of Algeria, Qatar, Libya, the Central Asian countries, and, possibly, Iran.

Against the background of the discussion that unfolded, the interest in states transiting raw hydrocarbons to Europe declined somewhat, although certain European countries (primarily Poland) are trying to prevent this by drawing attention to the role they play in ensuring uninterrupted deliveries of natural gas to Europe from the East.

Nevertheless, certain Central Asian states also have a problem with increasing the export of their own blue fuel to Europe, which is preventing them from realizing their potential. This is a particularly urgent problem for Turkmenistan. Ukraine has always played a significant role in the traditional export route of Turkmen's raw hydrocarbons to Europe, and has been a consumer of large amounts of Turkmen export gas. At the same time, in the post-Soviet period there is no point in looking at gas relations only between Ukrainian and Turkmenistan, since there has always been a third party in them, i.e. states carrying out transit of Turkmen blue fuel from the Turkmen-Uzbek to the Russian-Ukrainian border and attempting (whereby quite successfully) to observe their own national interests along the way. Unfortunately, the authors of this article were unable to find and use Turkmen original sources in their study; they used exclusively Russian and Ukrainian scientific publications, as well as media articles devoted to this problem.

The strategy of Turkmenistan's economic, political, and cultural development until 2020 stipulates that by 2005, gas production will amount to 85 bcm, and export to 70 bcm; by 2010, production will grow to 120 bcm and export to 100 bcm; while by 2020, production will reach 240 bcm. In this way, there are plans to achieve an almost three-fold increase in the production volumes for 2005 over a span of fifteen years (in fact, in 2005, 22 bcm less were produced, whereas almost 25 bcm less were exported). This lag is explained by the unresolved question of exporting gas resources via southern (surface) pipelines through Iran, or via the underwater route through the Caspian (to Azerbaijan). The prospective documents in effect in the country stipulate that between 2006 and 2015, Turkmenistan intends to deliver gas as follows: to Russia and Ukraine in the westerly, to Iran in the southerly, and to Pakistan and India (the Trans-Afghan gas pipeline) in the southeasterly direction. What is more, there are plans to carry out significant deliveries to China (possibly together with Kazakh resources). In compliance with the documents signed by Saparmurat Niyazov and Hu Jintao, beginning in 2009, Ashghabad will sell Beijing 30 bcm of gas a year for thirty years. There are plans to build a special pipeline for this.[1]

How realistic are Turkmenistan's plans and circumstances for producing and selling natural gas? Can Ukraine count on the purchase of Turkmen blue fuel in the volumes it needs to equalize its gas balance? How can Ukraine and Turkmenistan uphold their national interests in gas relations in which third countries—primarily the Russian Federation—directly participate? To answer these questions, we should first remember that with the help of Ukraine's gas transportation system (GTS), approximately 75% of all the exported natural gas is transported to Europe from Russia and the states of the Caspian Region, including Turkmenistan. It is expedient here to chronologically analyze the fifteen-year history of cooperation between our countries in buy-sell transactions of blue fuel and its transportation from Turkmenistan to Ukraine, keeping in mind that civilized market relations in the post-Soviet space had only just begun to develop at this time. Unfortunately, even today economic relations among the states participating in the delivery of Turkmen natural gas from the fields to the end

[1] See: *Kievskie vedomosti,* No. 73 (3741), 6 April, 2006, p. 13, available at [http://www.kv.com.ua/index.php?article=39211&number_old=3741].

consumers in Russia, Ukraine, or Europe are still not sufficiently open and stable, and, consequently, can arouse mistrust in any of the players involved.

In Soviet times, no one in Ukraine was interested in whose natural gas it received via the U.S.S.R. unified gas transportation system. There is every reason to believe that a significant percentage of the blue fuel consumed in this country (according to our estimates, Ukraine consumed more than 115 bcm in 1990, while it produced only 28.1 bcm) was precisely Central Asian, including Turkmen, gas, since it was easier to deliver than Russian gas from the Siberian fields. The data on the Turkmen blue fuel balance at the beginning of the 1990s provides indirect confirmation of this. Turkmenistan consumed no more than 8-10% of the total production volume (80-90 bcm), and the rest of the gas went to the Central Asia-Center system built as early as 1967-1985. It was sent to Ukraine via the Alexandrov Gai-Novopskov gas pipeline (through the states contiguous to Turkmenistan—Uzbekistan and Kazakhstan—to the Russian Federation). Part of this fuel, along with the surplus not consumed by the economies of other gas-producing Central Asian republics and the R.S.F.S.R. (together they produced 777.3 bcm in 1991), was exported, and the revenue was shared centrally among the deliverers. This system was retained during the first years after the collapse of the Soviet Union, when the Russian Federation assumed the role of the Center. For example, in 1992, as noted in one of Russia's studies, "the Russian authorities sent Ashghabad hard currency revenue from the export of only 11.3 bcm of gas."[2] In the text of the article, the word "only" is not used by accident, since (in today's terminology), Turkmenistan exported 75 bcm of blue fuel in 1991, most of which went to the north—to the Russian Federation. It goes without saying that it was impossible to trace the real directions of use of Turkmen gas going to Russia and, in fact, Turkmenistan itself was not ready to undertake this kind of investigation at that time. So for the next two years, the governments of the Russian Federation and Turkmenistan came to terms on the same export volumes for which payment was made from the total currency revenue. A so-called gas delivery quota for export was used, according to which Turkmenistan was allotted 11% until 1994. However, several circumstances interfered with fulfilling the conditions of the contract, and in 1993, Russia paid Turkmenistan for 8.2 bcm (the export volume of Turkmen blue fuel amounted to 64.3 bcm in 1993). The rest of the gas coming from Turkmenistan to the gas transportation system of the Russian Federation was paid by Gazprom at prices no higher than the domestic Russian ones and, according to this company's assurances, was consumed within the Russian Federation (there is reason to believe that some of the resources were also used for the Ukrainian economy and for the economies of several other former Soviet republics). In 1995, Russia eliminated the quota and refused to pump Turkmen gas for export.[3]

Nevertheless, the Turkmen leadership was looking for reliable partners to gain access to European and other gas markets. Hopes were frequently placed on large international companies supported by national governments. Incidentally, this should come as no surprise, since, first, the newly independent states that arose after the collapse of the Soviet Union were in no position to provide any assistance, and second, only cooperation with foreign countries (preferably with the U.S. and other influential Western partners) could increase Turkmenistan's chances in the gas delivery negotiations with the Russian Federation. Of course, it could try to raise its own consumption of natural gas, by augmenting the production of cheap electric power, for example, both for domestic requirements (in this sense, Egypt's experience might be of interest), and for deliveries, as well as for developing the chemical industry (to manufacture fertilizers required in agriculture, for instance). However, this required scientific research, investments, expansion of the domestic market, and resolv-

[2] S. Verezemsky, "Torgovlia gazom v SNG trebuet ot Turkmenistana realizma i gibkosti," *Neft' i kapital*, No. 3, 1996, p. 66.

[3] See: S.S. Zhil'tsov, I.S Zonn, and A.M. Ushkov, *Geopolitika Kaspiiskogo regiona*, Mezhdunarodnye otnoshenia Publishers, Moscow, 2003, p. 136.

ing many associated problems, which could take years. There was not enough technology in the region for liquefying natural gas; and it was impossible to assimilate Uzbekistan's domestic gas market (or Tajikistan's or Kyrgyzstan's bordering on it), since, in accordance with the division of labor established in Soviet times, it belonged to Uzbekistan, which did not need any competitors at present. Uzbekistan sent its surplus gas to Russia via the Central Asia-Center and Bukhara-Ural gas pipelines.

Turkmen gas could be sent (and was sent in small quantities) to the South Caucasian regions, although again only via Uzbekistan, Kazakhstan, and the Russian Federation (in so doing, the Central Asian republics set a transit fee of $1.5 for 1,000 cm per 100 km, which, according to Russian experts, exceeded the average world prices at that time), but interstate contracts and a guarantee mechanism were necessary, both with respect to deliveries and with respect to payment for the natural gas obtained through Russia. Unfortunately, the economies of the new Caucasian states (as well as of Ukraine) became less and less efficient with each passing day, budget revenue dropped, and hard currency takings were clearly insufficient to pay for all of the import, including of Turkmen gas. A solution was found by transferring almost everywhere to barter exchange, including foreign trade transactions. For example, design and construction assembly work, equipment and medication deliveries, the training of Turkmen students at Ukraine's military academies, publishing activity, and so on featured in bilateral agreements between Ukraine and Turkmenistan in the commodity line (including services and work) used for paying for gas. Ukraine also settled Turkmenistan's debt to other countries by means of commodities.

It stands to reason that these systems could not be sufficiently transparent and mutually acceptable, thus giving rise to tension (and this is still a bone of contention) among economic entities, which often reached the interstate level, and enormous debts formed (primarily to Turkmenistan on the part of Ukraine, Georgia, Azerbaijan, and, partially, Armenia). Since it did not receive its allotted compensation, Turkmenistan was forced to cutback gas deliveries and, consequently, also decrease its production. For example, in 1993, 25.5 bcm of Turkmen gas was delivered to Ukraine, while 28 bcm was planned for 1994, but a debt of $713 million, which accumulated in 1992-1993 and was not settled (only about 300 million was paid off), meant that Turkmenistan only sent 11 bcm of gas to Ukraine in 1994, and 20 bcm in 1995 (this was when the Omrania Trading Company appeared, which was registered in Cyprus and in 1995 acted as an agent in implementing an intergovernmental agreement on Turkmenistan's delivery of 11 bcm of gas to Ukraine, ensuring 80% of its payment). In 1995, the Ukrainian structure purchased Turkmen gas at the Russian-Kazakh border at $57 for 1,000 cm and sold it to joint Ukraine-Russian venture OLGaz, which in turn sold it to wholesale consumers. It was not until 1996, after a cycle of talks and almost complete settlement of the state debt, that deliveries began at a level of 23 bcm a year, but by this time under a new system.

A similar picture was also observed at this time in Turkmenistan's gas relations with the South Caucasian republics. Not all consumers could make timely payments for the Turkmen blue fuel they received. Suffice it to say that the total gas debt of the post-Soviet republics to Turkmenistan amounted to almost $1.5 billion by the end of 1995, part of which was registered bilaterally as a long-term loan. The gas production volume in Turkmenistan dropped from 90 bcm in 1990 to 17.2 bcm in 1997, and only after that began to gradually increase, although it has subsequently not reached the level of the Soviet period (see Table 1).

Keeping in mind the low solvency of the Turkmen gas consumers and, consequently, the unreliable payments for transit services, Russia made certain concessions at this time in its relations with Turkmenistan by agreeing to create a joint venture in the form of a joint-stock company called Turkmenrosgaz, one the founders of which was also the international Itera Company. The latter

Table 1

The Republic of Turkmenistan's Natural Gas Balance*

Index	1991	1993	1995	1997	1999	2001	2003	2005
Production	84.3	64.3	31.3	17.2	22.8	51.4	59.1	63.0
Export	75	55.9	22.6	6.5	8.5	37.2	43.4	45.2
Apparent (calculated) consumption	9.3	8.4	8.7	10.7	14.3	14.2	15.7	17.8

* Data from *NGV* (*Neftegazovaia vertikal* [Oil and Gas Vertical] magazine), No. 15, 2005, p. 43, is used. In 2005, Ukraine (34 bcm), Iran (6 bcm), and Russia (5 bcm) were the main purchasers of Turkmen gas.

purchased 4% of the shares, Turkmenistan 45%, and Gazprom 51%. Ukraine became the largest sales market for Turkmen gas in the activity of the formed structure (we will remind you that Turkmenistan's gas export quota to Europe was eliminated at that time). Turkmenistan was responsible for deliveries of blue fuel to the Turkmen-Uzbek border, Kazakhstan and Gazprom offered their gas transportation networks, whereby Russia introduced a privileged fee of approximately $1.1 per 1,000 cm for 100 km, and Itera fulfilled the function of blue fuel delivery and sales operator in Ukraine. After it went into operation, the system, in which everything seemed to be clearly distributed, aroused Turkmenistan's discontent. This country began to receive gas money from Gazprom and Itera on an irregular basis, whereby the percentage of hard currency revenue in the payment decreased and Gazprom was slow to fulfill its investment promises regarding the development of Turkmen gas fields and reconstruction of the Turkmen section of the CAC. In the spring of 1997, without finding an acceptable solution to the problems that arose, Turkmenistan took the drastic step of entirely cutting off blue fuel supplies to Ukraine. And later (in the summer of 1997), according to a special resolution of the state's leader, the structure that was engaged in these deliveries was eliminated (30 bcm were transported to Ukraine over 18 months). Partial export of Turkmen gas to Europe, which began in 1997, was interrupted by Russia in 1998, since the partners could not agree on the price: Turkmenistan insisted on $40 for 1,000 bcm, while Russia would agree to only $30-35.

In the next eighteen months, Ukraine and Turkmenistan made repeated attempts to come to terms on blue fuel purchase without mediators. It is entirely understandable that this did not yield any results, since not one gas route from Central Asia in Ukraine's direction bypasses the Russian Federation, which naturally was not interested in issues of natural gas transportation through its territory being resolved without its participation. A compromise was reached in 1999, when the participants in the talks agreed to a new payment mechanism with respect to Turkmenistan. Now Ukraine was supposed to pay for blue fuel (in an amount of 20 bcm per year) directly to Turkmenistan, Itera retained the role of delivery operator, and Gazprom offered its transportation networks for a set fee, which Ukraine was supposed to pay. But this new system did not work either, since Ukraine did not repay its debts to Turkmenistan (according to the estimates of Russian experts, by the beginning of 1999, they had reached a total of approximately $2 billion) and did not pay for the new deliveries on time. Until mid-May 1999, Turkmenistan sent Ukraine a little more than 5 bcm of essentially unpaid gas (the estimates of its cost varied from $90 million to $190 million) and halted

deliveries. At the end of 1999, after long talks about the price of gas and its payment forms held with the participation of high-ranking officials of both states, Russia's Gazprom signed a framework agreement with Turkmenistan on the purchase in 2000 of 20 bcm of gas at $36 per 1,000 cm at the border of Turkmenistan and Uzbekistan with a 40% payment in cash. Itera continued to be the blue fuel transportation operator through Uzbekistan, Kazakhstan, and Russia, and also its purchaser. This company signed a contract with Turkmenneftegaz on the delivery of goods by way of payment for part of the gas. Itera's transit services were paid for in gas, and the fuel itself (in terms of volume, it was the difference between the amount of gas sent from Turkmenistan and the payment for Itera's services) was paid by the consumers (including Ukraine) both in cash and in goods. Blue fuel deliveries began three days before the beginning of 2000, and by the end of the first quarter, Ukraine received 5.5 bcm. By May, Turkmenneftegaz sent almost 8.8 bcm for a total of $315.5 million. According to Ukrainian experts,[4] Ukraine gave half of the gas to Itera for transit services, due to which the actual price of the other half received amounted to $72 per 1,000 cm at the Russian-Ukrainian border. Keeping in mind the balance carried forward, Ukraine's total debt to Turkmenistan amounted to more than $100 million by May 2000; deliveries were halted again, and by this time the debt coordinated with Gazprom for the gas consumed amounted to $1,390 million. Later, Ukraine succeeded in restructuring its debt to Russia and postponing the time of its settlement—including by means of cost allowances for future transit services rendered by Ukraine to Gazprom. This fact was also reflected in the new gas agreements with the RF signed in January 2006. What is more, even the Ukrainian president found the 2000 talks between Ukraine and Turkmenistan arduous. The Central Asian country insisted on a new gas price of $42 dollars per 1,000 cm and entering only short-term contracts. Later it agreed to the delivery of another 5 bcm of blue fuel at $38 until the end of 2000, whereby 40% of the total amount was to be paid in hard currency and the other 60% in goods. In 2001, the price increased by 2 dollars, and the percentage of cash was to increase to 50%, but because in 2000 Ukraine stopped paying Turkmenistan the debts accumulated as early as 1993-1994, as well as its service fees (up to $140 million a year), Turkmenistan halted its gas deliveries. Ukraine was left with no alternative but to come to terms with Itera and consume the blue fuel received from Gazprom in payment for transit services (24 bcm). New talks with the participation of the states' high-ranking officials led to an agreement which stipulated that in 2001 and for the next five years Ukraine would purchase 250 bcm of Turkmen gas, including 30 bcm in 2001, at $42 per 1,000 cm, 40 bcm in 2002, 50 bcm in 2003, and so on, up to 60 bcm, with 50:50 payment in cash and so-called investment projects. For the period after 2001, the price parameters and range of the commodity part of the blue fuel payment were to be agreed upon separately. At the same time, talks were also underway with the Russian Federation, which was delivering gas to Ukraine.

In April 2003, a contract was signed between the Russian Gazexport Company and Turkmenneftegaz, according to which the Russian Federation purchased 5 bcm of blue fuel in 2004 and up to 10 bcm in 2005. During this time, Ukraine acquired Turkmen gas under separate bilateral agreements, and Russia carried out the functions of a transit state. According to experts' estimates, Turkmen raw hydrocarbons amounted to approximately 45% of Ukraine's gas balance. In the summer of 2004, Gazprom signed a contract with Turkmenistan that boiled down to the RosUkrEnergo Company, the new transit operator of Turkmen gas which took over from the Hungarian company, buying 60-70 bcm a year beginning in 2007 and 70-80 bcm of Turkmen blue fuel a year beginning in 2009. For the entire period until 2028, this would amount to a total of 1.6 tcm of gas. To these export gas expenditures, we should add the obligations to make annual deliveries of up to 8 bcm to Iran via the Korpedzhe-Kurt Kui gas pipeline put into operation in 1998. In 2005, the agreed upon volume

[4] See: *Gaz & Nafta. Energetichniy biuleten'*, No. 5, 2000, pp. 15-16.

amounted to 6.5 bcm, and beginning in 2007, it will be no less than 8 bcm. In so doing, after a new compressor station goes into operation, the throughput capacity of this route will rise to 12 bcm a year. By summing up all the obligations of the Turkmenistan leadership with respect to gas sales, we can conclude that as early as 2007, the republic should be exporting 104-114 bcm (we will remind you that in 2005, its production amounted to a total of 63 bcm), 170-180 bcm in 2009-2010, and up to 202-212 bcm a year after 2010 (see Table 2).

Table 2

Gas Export from Turkmenistan: Obligations and Intentions, *bcm**

Importers	2005	2006	2007	2008	2009	2010	After 2010
Russia[1]	5 (anticipated)	10	60-70	63-73	70-80	70-80	70-80
Ukraine[2]	34	36	36[4]	60[4]	60[4]	60[4]	60[4]
Iran	6	8	8	8	8	12	12
Afghanistan-Pakistan-India	—	—	—	—	—	—	30
Austria[3]	0.2	1.5	—	—	—	—	—
China					30	30	30
Total	*45.2*	*55.5*	*104-114*	*131-141*	*168-178*	*172-182*	*202-212*

* Compiled with the use of data from *NGV*, No.15, 2005, pp. 42-44.

[1] Under the 2003 contract for 25 years; total of 1.6 tcm.

[2] Under the 2001 contract for 2002-2006; total of 250 bcm.

[3] Against the payment of the contract for building the turnkey bypass Dauletabad-Deryalyk gas pipeline (CAC-4)

[4] Agreed upon delivery volumes, but not officialized by a contract.

■ *In light of the new agreements between Ukraine and Russia on gas issues for 2006 and the next four years, the agreement with Turkmenistan is becoming "virtual," that is, it is losing its original inherent economic component. Now Gazprom is doing everything (quite efficiently) to ensure itself the exclusive right to manage the entire gas flow from the Central Asian republics to Europe. On 27 September, 2005, the company succeeded in enforcing its function as transit operator of Turkmen gas via Uzbekistan by entering a corresponding contract with Uztransgaz (a subsidiary company of Uzbekneftegaz) for five years (2006-2010), according to which Gazprom is being transferred the rights to manage the CAC and Bukhara-Ural main gas pipeline system. However, this does not apply to the pipelines for the export of Uzbek*

blue fuel per se to Tajikistan and Kyrgyzstan, as well as for technological needs. For Ukraine, this could create a new problem of Russia setting the price for fuel sold by the Ukrgaz-energo joint venture under the new conditions, since Gazprom might apply the transit fee at which it is transporting its export gas to Europe via the Ukrainian gas transportation network to Turkmen blue fuel meant for delivery to Ukraine via contracted gas pipelines (in Ukraine a fee of $1.6 per 1,000 cm for 100 km is currently in effect).

Here it is expedient to present information on Turkmenistan's natural gas resources, which were officially recognized at one time. According to the Russian press, the republic's proved resources in the U.S.S.R. State Reserves Balance for 1991 (last Union publication) were determined at 2.8 tcm. In 1996, the *Neft' i kapital* magazine (No. 3) published data on $A+B+C_1$ category reserves of Turkmenistan's 15 largest gas fields (in bcm): Dauletabad—1,756.6; Eastern and Western Shatlyk—841.2; Malai—201.9l; the Naip Group—179.1; Kirpichli—153.7; Seyrob-Uchaji—120.6; Gugurtli—94.6; North Balkui—90.5; Beurdeshik—58.7; Korpedzhe—60; Kotur-Depe—49; Saman-Depe—101.6; Bota—101.2, Beshkyzyl—82.8, and Elkui—52.2. This comes to a total of 3,943.7 bcm (almost 4 trillion). There is information about the republic's confirmed gas reserves as of the beginning of 2004: at that time, they amounted to 3 tcm, which correlates quite closely with the data of ten years ago, while in terms of blue fuel reserves in today's estimates, Turkmenistan occupies fourth place in the world. In the country's State Balance of Mineral Reserves, there are 127 natural gas fields, 39 of which were developed by the designated time. In 2004-2005, several domestic and foreign organizations, for example, international certification companies, DeGolyer&McNaughton (U.S.A.), as well as Gaffney, Cline&Associates Ltd. (England), have been engaged in estimating Turkmen gas and oil supplies, but their results have not been made open to the public so far. We believe the competition for foreign investments Turkmenistan is having to carry out with its neighbors, both on land (particularly with Uzbekistan) and at sea (where Azerbaijan is the main rival) should be named among the other reasons for the client's behavior. Nevertheless, experts[5] publish estimates of Turkmenistan's total forecasted gas supplies at 8.1-8.8 tcm. On the whole, the estimates of the republic's reserves differ widely, ranging from 1.5 tcm to 23 tcm. An analysis of the data of various international energy information publications shows that the volume of the republic's proved gas supplies is probably within the range of 2.0-2.5 tcm, and the forecasted volume is between 20 and 23 tcm. So it seems that although Turkmen officials announced the discovery of the Southern Iolotan field in 2006, the reserves of which supposedly amount to 7 tcm of blue fuel, we should be dubious about this claim until the official results of an audit by independent international companies are published, particularly since the data of Soviet geological surveys do not show the possibility of such an enormous field being discovered. On the other hand, it is entirely obvious that if the proved gas reserves in Turkmenistan are not augmented at advanced rates, they will suffice for only about ten years of production at the declared level.

The analysis we conducted makes it possible to presume that at present, Turkmenistan has no real possibility of reaching its planned gas export volumes in the next few years for two reasons: *first*—it has insufficient blue fuel production capacity, making a two-fold increase in production in 2-3 years extremely unlikely, and Russia will not receive 15 bcm of Turkmen gas in 2007, or 25-35 bcm in 2009; *second*—its gas pipelines in the northern (western) direction have limited throughput capacity. The throughput capacity of the Turkmen route of the CAC GTS currently amounts to 50 bcm, and, according to some data, the degree of wear and tear of Turkmenistan's main pipelines is between 72 and 87 percent. In particular, the entire transportation

[5] See: S.S. Zhil'tsov, I.S. Zonn, and A.M. Ushkov, op. cit., p. 135; L. Gusak, "Anatomia gazovykh problem," *2000* newspaper, 13 January, 2006, p. E4.

and technological chain from the Dauletabad-Donmez field to the Deryalyk compressor station located at the end of the Turkmen section of the CAC GTS is outmoded, and modernization has been going on for more than one year now. According to preliminary data, in 2005, the transportation of Turkmen gas via CAC GTS amounted to approximately 40 bcm, of Uzbek to 3 bcm and of Kazakh to 7 bcm. As a result of the restoration and repair work carried out by the KazTransGaz company (3,939 km of pipelines pass through Kazakhstan), by 2008, the throughput capacity of CAC GTS will be increased to 65-70 bcm (the capacity of the Turkmen section will increase from the current 45 to 50 bcm, of the Uzbek section by 6-7 bcm, and of the Kazakh section by 10-12 bcm). By totaling the export volumes of Turkmen, Uzbek, and Kazakh gas pumped via CAC GTS, we can see that Turkmenistan is left with no more than 50 bcm of capacity.

In this respect, new tension can be expected between Gazprom and the Turkmenistan leadership relating to the real volumes of buy-sell of Turkmen blue fuel. The thing is that under the provisions of a 25-year contract, Russia is obligated to purchase the set amounts of gas, or pay for it, regardless of the actual volumes. So Gazprom will apparently have to begin immediate reconstruction of the Turkmen section of the CAC GTS, which presumes the laying of an additional branch with a throughput capacity of 15-20 bcm a year. But for the reasons mentioned above, Gazprom is not rushing to invest funds in modernizing the Turkmen section of the CAC. In other words, we can conclude that the tasks set by the Turkmen leadership for exporting raw hydrocarbons do not entirely correspond to the real possibilities. It appears that the purpose of this policy is to create conditions for intensifying competition among potential investors in resource development, as well as among the purchasers of natural gas. In this case, both an increase in the amount of investments attracted to the gas complex and an increase in the sales price for blue fuel could be achieved. What is more, based on the published data on gas reserves, Turkmenistan will have to undertake serious measures that would enable it in the midterm to carry out European export in the contracted volumes, as well as implement delivery projects to China and Japan.

In all the years of the period under review, Turkmenistan has been working in the gas sector in two vectors, so to speak. The first involves the sale of its natural gas to traditional consumers—post-Soviet states (the Russian Federation, Ukraine, Azerbaijan, Georgia, and Armenia), as well as resolving problems of its payment with them. The second entails searching for new sales markets and transportation routes to them for its raw hydrocarbons. Keeping in mind the situation that is developing with the sale of surplus blue fuel in the post-Soviet space and assessing its prospects, the Turkmenistan leadership began taking steps as early as 1992-1993 aimed at gaining independent access to the European gas market, foreseeing, of course, that this would take a long time, if it were possible at all (taking a side step, we will note that obviously with the aim of attracting foreign investments, in 1993, the Turkmenistan government adopted a long-term program for the country's oil and gas industry development until 2020. The document stipulates the task of producing 130 bcm of natural gas in 2000, and 230 bcm by 2020; in 1995-1996, the latter index was reduced to 200 bcm. According to the available information, the current task it to produce 240 bcm in 2020). At this time, Iran and Turkey were the targets for export routes in the hopes of gaining access in the future to the European markets through their territories. The idea of laying gas pipelines in the direction of India and China was not rejected. As early as 1992, the first agreement was signed between Turkmenistan and Iran on the construction of a gas pipeline of 2,300 km in length and costing $4-5 billion, passing through Iran and Turkey to Europe. In 1993, an international consortium was created for building a gas pipeline that was supposed to pass from Kurt Kui in the Iranian gas pipeline network to the south of Tehran as far as Tabriz (parallel to the existing branch), reach Turkey via Dogubayazit to Erzerum and then go further on to the gulfs. There were plans to complete the project by 2020 with deliveries to Turkey first of 15, then of 28 bcm a year of Turkmen gas, 13 bcm of which were to be sold in Europe. In April 1994, Turkmenistan, Iran, and Turkey signed a provisional agreement on the building of a gas pipeline, and later

a so-called Final Agreement on Joint Execution of a Gas Transportation Project to Europe (by this time, the cost of the construction was estimated at almost $11 billion).

Turkmenistan needed the pipeline to resolve its urgent problems of independently exporting its surplus blue fuel and reinforcing its international status on the gas market. The project was supported by Iran, since it helped it to resolve several of its economic and social development problems using the revenue from transit services. It was also supported by Turkey, which at that time was anticipating accelerated economic growth requiring a significant increase in raw hydrocarbon consumption, while this development would make it possible to reinforce Turkey's role in providing the European states with natural gas and, in so doing, increase their dependence on Turkey, which wants to join the EU. However, these three states were not the only ones whose interests were affected by the project. Its implementation would have an impact on the balance of gas coming to Europe by ousting established suppliers (including the Russian Federation) from the market; it would allow the Iranian economy to develop more dynamically (in counterbalance to America's interests); it would significantly reinforce Turkey's transit role in tandem with Iran; and it would deprive Ukraine of part of the Central Asian natural gas transported via its territory to Europe. What is more, it might deal a detrimental blow to the interests of other countries playing an active role on the region's gas market. In the end, the project failed to gain momentum due to insufficient funds for its implementation (official version). Admittedly, after it was "buried," and particularly in August 1996, Turkey signed an agreement with Iran on the purchase of 10 bcm of blue fuel a year. In so doing, the latter did not have enough resources in its north not only for carrying out its export obligations, but even for satisfying its own needs, having to use imported gas for this purpose (again Turkmen). Not long before this (in 1995), Iran entered an agreement with Turkmenistan on building a local gas pipeline of approximately 200 km in length intended for delivering Turkmen blue fuel from the Korpedzhe field to the border point of Kurt Kui. As early as September 1996 (after signing the above-mentioned agreement with Turkey), building of the pipeline began with the efforts of the Iranian National Engineering Company under rather beneficial conditions for Turkmenistan. Iran needed gas for the factories and power plants in the country's north.

We think the refusal to build a Turkmen gas pipeline to Turkey primarily demonstrated the tough, but unpublicized, competition between Iran and Turkmenistan in their desire to export natural gas to Europe. Iran won this round of the unannounced competition, and Turkmenistan was left with no other choice but to look for new alternatives for delivering its blue fuel to the market via non-Russian routes. The republic was essentially ready for this turn in events, gradually preparing other alternatives in advance, as well as involving well-known contract companies in their development. For example, in 1992, the Turkish Botaş Company asked Turkmenistan to consider two alternatives for delivering gas to Europe: one—through the Caspian Sea to Azerbaijan, Georgia, and then on to Turkey, and the second—via Kazakhstan and the Russian Federation (outside the CAC GTS) to the eastern coast of the Caspian with subsequent hooking up to the existing gas transportation system going to Europe. The first (Trans-Caspian) version with a production capacity of up to 30 bcm of blue fuel a year was regarded as feasible at that time, while no one has seriously considered the second even to this day. In our opinion, the reason for this is that Kazakhstan has still not made a final decision on its export gas route priorities, wishing to resolve its transportation problems, particularly regarding its own natural gas, as independently as possible. Ukraine did not take direct part in the project, but building a gas pipeline from Turkmenistan to Azerbaijan and Georgia (participants in the interstate GUAM association which was sufficiently renowned by that time) would be in its interests, with its subsequent continuation to the Crimea along the bed of the Black Sea.

In the Botaş Company's project, the length of the first route amounted to approximately 4,000 km, and the cost was $15.3 billion. It was supported by the presidents of Turkmenistan and Turkey in the memorandum they signed, which envisaged deliveries of Turkmen gas (beginning in 1998) in an amount

of up to 2 bcm with a subsequent increase to 15 bcm in 2010. However, this project was not destined to become a reality either. Precisely in 1999, rather large (from 0.4 to 1 tcm) resources of natural gas were discovered at Azerbaijan's Shakh Deniz field, which Azerbaijan wanted to export to Turkey via the future Trans-Caspian gas pipeline in an amount of up to 16 bcm a year, that is, load it by no less than half with its blue fuel. Azerbaijan (possibly to play for time in making a final calculation of the gas reserves in its own country) also put forward other demands which Turkmenistan could not agree to. The matter was buried, where it remains to this day, with occasional rises to the surface.

At this time, Turkmenistan continued to look for ways to export gas beyond the country, bypassing its northern neighbors. In 1996-2000, an absolutely new potential export direction for Turkmen natural gas, the easterly direction (to China and Japan), was felt out. It was then (1997-1999) that the Japanese Mitsubishi Company, along with the Chinese National Petroleum Corporation and America's ExxonMobil, carried out geological and economic studies of projects for potential gas pipelines (a route to China of 5,730 km in length and throughput capacity of the first line of up to 18 bcm of blue fuel a year with its subsequent increase to 36 bcm was considered). At the same time, the possibility of assimilating reserves of Turkmen gas on the right-hand bank of the Amu Darya was considered. At the end of this period, surveyors came to the conclusion that the gas there had a high sulfur content and its purification would raise the net cost by at least 25-30%, which, along with transportation costs, would make the fuel uncompetitive. The Americans refrained from taking further part in the projects. However, like the other developments related to Turkmenistan's intentions to export gas, the idea of an easterly pipeline has not been buried for good and could become a target of further research in the future.

At the end of 1997, Turkmenistan's first export gas pipeline went into operation, which was hooked up to the gas-distribution network of the north of Iran (Turkish prime minister and president of Iran attended the opening ceremony of the route held in Ashghabad). For Turkmenistan, this meant a breakthrough to the foreign market via the southern route, which did not depend on the post-Soviet republics and could subsequently be used for increasing deliveries of blue fuel to other countries, too. In other words, Turkmenistan evaluated implementation of the Korpedzhe-Kurt Kui project as the beginning of the realization of its idea to deliver gas to Europe via Turkey. The Iranian side guaranteed the purchase of fuel for 25 years. In the first two years of the gas pipeline's operation (1998-1999), 2.5 bcm were exported per year. The volume was later increased, and in 2005, 6 bcm were delivered, which proved to be 2 bcm less than Iran promised to purchase in 2005, during the time the gas pipeline was going into operation. In our opinion, the insufficient deliveries were related to the overall state of the blue fuel balance in Turkmenistan, the revenue part of which proved lower than planned, which we already mentioned when analyzing the implementation of the republic's socioeconomic development strategy. It should also be kept in mind that Turkmenistan must give approximately 8 bcm of gas every year to the foreign contractors participating in the implementation of the country's oil and gas projects. Nevertheless, none of this prevented Turkmenistan from considering the question of building a new gas pipeline for delivering its natural fuel to Armenia and Turkey via Iran (from Tabriz). This may be possible if the Nabucco gas pipeline construction project is implemented.

Nevertheless, the Trans-Caspian gas pipeline acquired its second wind. At the beginning of 1998, the U.S. showed a certain interest in it, evaluating it as more advantageous than the Iranian, both in length and in the possibility of transporting not only Turkmen, but also Azerbaijani, Uzbek, and even Kazakh natural gas to Europe. Washington allotted Turkmenistan $750,000 for carrying out a feasibility study of the project with the help of the American Enron Company, which joined this development at the very beginning of 1998. By January 1999, Enron prepared and presented a preliminary feasibility report to the Turkmen leadership, and in February PSG International was declared the gas pipeline construction operator. In mid-1999, the Shell Company became a participant in the consortium. In December 1997, Turkmenistan officially asked the Shell Company to head an international

consortium for building a Turkmenistan-Iran-Turkey surface gas pipeline and entered a contract with it on preparing a feasibility study of the entire project. The Royal Dutch/Shell transnational corporation, with which the Turkmenistan government signed a memorandum on mutual understanding at the beginning of 1998, took active part in this project from the very beginning. Confident in the implementation of the Trans-Caspian project, the Turkmen leadership entered a framework buy-sell agreement with the Turkish Botaş Company (beginning in 2002) for 16 bcm of blue fuel with a subsequent increase in this amount to 30 bcm.

By this time, it had essentially become clear that another project—Trans-Afghan (Turkmenistan-Afghanistan-Pakistan-India)—would not be implemented in the near future. We will remind you that as early as 2002, the presidents of Turkmenistan, Afghanistan, and Pakistan formed a committee at the level of the petroleum ministers for carrying it out. One of the absolute prerequisites for the project's further progress was to obtain reliable data about the natural gas reserves at the Turkmen fields (primarily Dauletabad). Turkmenistan's procrastination about publicizing the results of the audit, which was carried out in 2004-2005 by international certification companies DeGolyer&McNaughton, as well as Gaffney, Cline&Associates Ltd., caused Pakistan to leave the committee in 2004. The absence of audit results served (and is still serving) as official grounds for Gazprom to delay the reconstruction of the Turkmen section of the CAC GTS. Although information on the estimated reserves of Turkmen gas has still not become public property, it was passed on to Pakistan, and in April 2005, this country returned to the committee.[6] It was announced that construction would start at the end of 2005-beginning of 2006, but by the end of 2006, very little had been done to accomplish this.

Here it is expedient to remind you that as early as 2002, during the initial discussion of the plans to build the Trans-Afghan gas pipeline (TAP), Pakistan and Afghanistan set the absolute condition of using it to pump their own natural gas (if the production volume allowed this). Iran also supported this position, since it was also more advantageous for it to export its own, rather than Turkmen blue fuel, via the international gas pipeline to India. Thus an alternative Iran-Pakistan-India (IPI) gas pipeline arose, in which Gazprom is also interested, since it is participating in assimilating Iran's South Pars field. There are expert conclusions that give priority to IPI over TAP, but the problem of implementing the first will clash with the interests of the U.S., which supports TAP, in which Iran does not participate. The fact that Turkmenistan had halted blue fuel deliveries within the framework of the Turkmenrosgaz joint venture already mentioned was another reason for the republic's decision to move the Trans-Caspian project to the foreground (with America's support). In order to implement the Trans-Caspian project, the presidents of Turkey and Turkmenistan signed an interstate agreement in October 1998 on the principles of purchasing 16 bcm of Turkmen gas a year for thirty years. A year later, in November 1999, the presidents of Turkmenistan, Turkey, Azerbaijan, and Georgia signed a quadrilateral interstate agreement on building a Trans-Caspian gas pipeline of 1,680 km in total length, a throughput capacity of 16 bcm at the first stage, and of 30 bcm at the second. The British PSG Company with American capital was appointed as the sponsor-founder of the international consortium. Nevertheless, all the mentioned undertakings yielded no positive results, since practical implementation of the project was to come to a halt because of an unsettled political issue regarding the Caspian's status, without which the gas pipeline could not be laid along its bed (the RF and Iran are strictly upholding their interests here). So in counterbalance to the Trans-Caspian project the Russian Federation was able to enter an efficient agreement with Turkey on the joint construction of the Blue Stream pipeline, a route that does not affect the interests of other gas owners in this section of the Black Sea Basin.

Turkey's high activity in issues concerning the country's prospective provision with imported natural gas was based, as already noted, on the certainty that the country's economic consumption

[6] See: O. Vinogradova, "Lovushka dlia Gazproma," *NGV*, No. 15, 2005, pp. 42-44.

volumes of blue fuel would rapidly grow, from an actual 13 bcm in 1998 to the prospect of 51-52 bcm in 2010 and 80 bcm by 2020 (in 1998, Turkey received 6.7 bcm of gas from Russia via Ukraine and Bulgaria, 4 bcm from Algeria, and approximately 3 bcm from the Middle Eastern countries and other regions; in 1999, it received another 1.2 bcm from Nigeria). Beginning in 2000, an agreement with Russia was supposed to come into force on annual deliveries to Turkey of up to 26 bcm of natural gas. It should be noted that the gas transportation system that existed at that time through Ukraine could not ensure this increase in deliveries to Turkey, and so this agreement was apparently oriented toward the Blue Stream pipeline, which began being built in February 2000. In addition to everything else, the Russian Federation took part in building a thermal power plant near Ankara capable of operating on gas, which could also be delivered by the Blue Stream pipeline. In 2000 the Enron Company clarified the Turkish economy's prospective needs for natural gas. It came to the conclusion that, keeping in mind the projects being carried out, no additional supplies would be required earlier than 2014, and withdrew from the project. A serious counterargument was the fact that the gas pipeline was to pass via Turkey through regions of compact Kurdish settlement, and their consent to this building was dependent on the Turkish government resolving the region's political problem. The idea of a Trans-Caspian gas pipeline is still alive, since the hope of exporting Turkmen gas to Europe along the Kazakhstan and Russian coast of the Caspian has not yet died. Now, as we know, Azerbaijan and other interested countries are participating in implementing the so-called Trans-Caspian gas project.

We believe that Turkmenistan has a greater chance in the Nabucco project, the expediency of which has also been under discussion for several years now. The idea consists in delivering the natural gas of Iran and other Caspian states, as well as of North Africa, via Turkmenistan to the countries of Southern, Central, and Western Europe. Ukraine also sees its potential participation in this project, whereby in two roles, both as a potential purchaser of blue fuel and as a supplier of transit services, although this would require choosing a route from Turkey via the Black Sea with access to the Crimean coast and subsequent joining up to the country's GTS. At one time, a corresponding committee of Ukraine's Supreme Rada drew up several alternatives of a possible route for the gas pipeline from Iran (Iran-Armenia-Georgia-Crimea-Europe) to European consumers via Ukraine. Some experts of this republic are considering the possibility of hooking up to the gas pipeline in Rumania and pumping blue fuel under reverse conditions along the existing Khust-Satu Mare pipeline, that is, by purely surface means.

Austria is showing the greatest interest in carrying out the Nabucco project at present. Nabucco Pipeline was drawn up by the Austrian OMV Energy Concern, and so it is very important for Austria to ensure that construction of this gas pipeline with a projected capacity of up to 30 bcm a year and cost of 4.6 billion Euros ($5.42 billion) begins as soon as possible. The project envisages a route passing through Turkey, Bulgaria, Rumania, Hungary, and Slovakia, where it divides into several branches going to Austria, the Czech Republic, and Germany. Blue fuel can be transported from Austria via the available networks to other European states (in 2005, talks were held between the Dutch government and the company's founders about the possible laying of 1,400 km of gas pipeline from Austria to the Netherlands). There are plans to begin construction in the end of 2007 and to complete it by 2020. Austria is not only interested in having an additional diversified source of blue fuel deliveries to the country, but also in obtaining significant revenues in the future from offering its transit services. The project is being carried out by a consortium (with a share of 20% each) consisting of OMV Gas (Austria), MOL (Hungary), Transgaz (Rumania), Bulgargaz (Bulgaria), and Botaş (Turkey), which signed a corresponding agreement on 29 June, 2005 in close cooperation with the European Union, which is participating in financing this development. A new company has been founded called Nabucco Gas Pipeline International with its headquarters in Vienna. Gas de France, as well as E.ON Ruhrgas and RWE are showing an interest. The project acquired a priority status in the Trans-European infrastructure program of the European Union, which ultimately envisages the integration of transporta-

tion flows to the continent. Sections of the gas pipeline already exist in the European part of its route: in 2004, the construction of a 105-km section between Arad (Rumania) and Szeged (Hungary) was completed that links the GTS of these two countries and has a throughput capacity of 1.5-2 bcm.

Nevertheless, as in the history of other gas pipelines, the Austrians are not one-hundred-percent sure that the new route will actually be built. According to them, the problem is that OMV is a gas-transportation enterprise that is forced to look for gas suppliers, and, most important, in our opinion, is striving to gain the support of potential buyers. At present, many of them are still troubled by the January (2006) events in the Russian-Ukrainian gas vicissitudes that entailed breakdowns in blue fuel supplies to several European consumers. This concern is augmented with respect to the forecasted rapid increase in the requirements of the EU states for natural gas, which could amount to 400 bcm by 2020. So even construction of the North European Gas Pipeline (NEGP) with a throughput capacity of 55 bcm will not resolve the problem of ensuring the rapidly growing demand.

When analyzing the situation developing around Nabucco, we should not ignore Russia's interests. Moscow, of course, understands the EU countries' natural striving to protect themselves from possible upheavals relating to their extreme dependence on one export (Russian) source, and so is extending the Yamal-Western Europe gas pipeline, as well as building a new NEGP. Nevertheless, Nabucco could claim some of Turkmenistan's gas resources, which in another alternative might have ended up in the Russian pipe and at different prices. In this context, Gazprom cannot be interested in implementing the project. However, a different conclusion could be drawn if we presume that Russian gas could also end up in the Nabucco gas pipeline in the Turkish territory via the currently underloaded Blue Stream pipeline.