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The World of Central Asian Oil and Gas

*Power Politics, Market Forces,
and Stealth Pipelines*

Michael Fredholm



Department of Oriental Languages

Department of Political Science

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A plethora of state- and nation-building programmes are being developed in present-day Asia, where governments have to consider the regionality of old ethno-cultural identities. While the cohesive power of traditions must be put into use within a particular nation, that same power challenges its national boundaries. To soften this contradiction, economic and/or political regionalism, in contrast to isolationism and globalism, becomes a solution, suggesting new and exciting routes to modernity. In studies conducted by the Asian Cultures and Modernity Research Group at Stockholm University, sociolinguistic and culture-relativistic perspectives are applied with the support of epistemological considerations from the field of political science.

Department of Oriental Languages

Stockholm University

SE-106 91 Stockholm

E-mail: asiancultures@orient.su.se

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Asian Cultures and Modernity
Research Report No. 16

The World of Central Asian Oil and Gas

Power Politics, Market Forces, and Stealth Pipelines

by

Michael Fredholm
Department of South and Central Asian Studies
Stockholm University

Editorial Note

The author has written extensively on the history, defence and security policies, and energy sector developments of Eurasia. He also heads the business research company Team Ippeki. The views presented in this article are those of the author alone and do not represent those of the Swedish government or any other group.

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The World of Central Asian Oil and Gas

Power Politics, Market Forces, and Stealth Pipelines

Abstract

1. Central Asia is beginning to see a genuine move away from barter deals towards commercial deals in accordance with market forces.
2. Contrary to much perceived wisdom, in Central Asia it is Gazprom, Russia's natural gas export monopoly, that is leading the way in the movement towards market forces.
3. Central Asian natural gas and oil will to some extent be able to satisfy European demand, but available reserves and infrastructure will be insufficient to allow Central Asia to replace other gas and oil regions as primary suppliers to European markets.
4. Russian and Central Asian oil prices have already reached international levels, and the gas prices are moving in the direction of European levels.
5. However, transportation bottlenecks remain and infrastructure often remains insufficient for Central Asian gas, and to some extent oil, exports even to gain available market share in European markets. For exports elsewhere, such as to China or India, transportation bottlenecks still pose even greater problems.
6. Kazakhstan is expected to become a net exporter of natural gas in 2008 and is already an established oil exporter. Although crude oil has been very important to the country's economy, Kazakhstan must still import oil products for its own needs due to a lack of refinery capacity. Kazakhstan has since 2001-2002 quietly taken steps to reverse the large-scale privatisation of oil assets undertaken in the mid-1990s, and the Kazakhstani state is reasserting its dominant position versus the commercial actors.
7. Uzbekistan is self-sufficient in natural gas production but again needs to import oil. Even so, the country has great potential as an oil and natural gas exporter.
8. Turkmenistan already exports substantial volumes of both natural gas and oil. However, Turkmenistan has concluded so many agreements to export natural gas that the country will not be able to fulfil all export obligations.
9. Azerbaijan, in comparison, became a net exporter of natural gas in 2007 and is an established oil exporter. Crude oil has indeed been spectacularly important to the country's economy.

The Caspian Sea and Central Asia as Oil and Gas Regions

Quite a number of reports and analyses of the oil and natural gas industries of the countries of the former Soviet Union chiefly focus on problems, political or economic, or both. Some choose this approach to sell copies, since doom and gloom make excellent headlines. Others do it because there are a number of undeniable problems in the energy sectors of most, if not all, former Soviet states (as well as in many others, of non-Soviet origin). A problem-oriented approach should certainly not be dismissed, since one first must identify and understand a problem before one can fix it. Some of my own work could be included in this category as well.¹ This particular report, which aims to present a broad survey of the Central Asian oil and gas sectors, may be the exception. Because while numerous and undeniable problems remain within the world of Central Asian oil and gas, there have also been impressive achievements. We are beginning to see a genuine move away from barter deals towards commercial deals in accordance with market forces, and, lo and behold, in Central Asia it is the much maligned Gazprom, Russia's natural gas export monopoly, that is leading the way in this direction. Some might argue that Gazprom's move towards market forces is nothing but a virtue made out of necessity due to the increasing clout of the Central Asian producers and the potential of them eventually to export their gas to other markets. Even so, the move is still genuine and should be welcomed.

The cautious does not need to feel undone, though; sufficient oddities and quirks remain within the field of Central Asian oil and gas to worry anybody. Even entire pipelines, which with some irony might be termed stealth pipelines, are projected without public announcements. This, however, should not distract from the positive developments that are, in fact, taking place. Key supply routes are coming on-stream, and it has become possible to determine which routes actually are viable. This work will focus on production, market conditions, supply routes, and current infrastructure projects. It will touch only briefly upon the question of total available reserves, since this would merit a study in its own right and statistics are often, it seems, unreliable.² This is not a macro-economic study. Several excellent ones have already been published.³ While often of great interest, macro-economic studies may easily lead those astray who do not already have access to what actually happens on the ground. In this work, the approach is therefore to investigate the Central Asian oil and gas industries from below instead of above, from a subsoil instead of a top-down perspective if a pun may be permitted. The emphasis will be on details and individual assessments, not broad perspectives for the future that cannot be proven and, however interesting, may well never materialise.

Since the Central Asian gas and oil resources are landlocked and there is no obvious access to consuming countries, much of the debate has been devoted to geopolitical conditions, on the one hand, and cost-benefit analyses, on the other. Political scientists have investigated the former, while the industry has been more interested in the latter. A combined approach is needed, however. Transportation distances are undeniably long and at times difficult. Yet it is dangerous to separate the two questions of production and access. A pipeline built for political reasons may remain idle, if no oil or gas is produced to load it. On the other hand, there is little point in developing a field for production if political conditions preclude the construction of

¹ E.g., Michael Fredholm, *Gazprom in Crisis: Putin's Quest for State Planning and Russia's Growing Natural Gas Deficit* (Conflict Studies Research Centre, UK Defence Academy, Russian Series 06/48, October 2006).

² On proved reserves, see, e.g., *BP Statistical Review of World Energy June 2008*, pp. 6, 22 (www.bp.com). See also Baurzhan Valiyev, *Oil Flows and Export Capacity in the Caspian and Black Sea Regions* (Brussels: Energy Charter Secretariat, 2008).

³ See, e.g., Vladimir Paramonov and Aleksey Stokov, *Russia-Central Asia: Existing and Potential Oil and Gas Trade* (Advanced Research and Assessment Group, UK Defence Academy, Central Asian Series 08/03, February 2008); Vladimir Paramonov, *The Future Supply of Gas from Central Asia to Russia: An Expert Assessment* (Advanced Research and Assessment Group, UK Defence Academy, Central Asian Series 08/05, February 2008); Vladimir Paramonov and Aleksey Stokov, *Russian Oil and Gas Projects and Investments in Central Asia* (Advanced Research and Assessment Group, UK Defence Academy, Central Asian Series 08/19, May 2008).

transportation infrastructure to carry the produce. It would for this reason often make better commercial and political sense to regard the various export routes as connectors, that is, extensions of the production field, instead of separate, politically driven projects. And it should be admitted, many projects are politically driven. Whereas the European Union (EU) in a perfect world should focus on how to acquire, say, gas supplies to common EU markets in sufficient amounts and at lowest possible transportation costs, all too often the issue instead boils down to national interests and national security. These factors, rather than geopolitics or commerce, would seem to set the limits for what can be termed realistic routes for supplies to EU markets.

The Caspian Sea and Central Asia form a region rich in energy resources but geographically, it presents a number of unusual problems for oil and gas prospecting, exploitation, infrastructure development, and transit.

First, there are logistical constraints. Land transportation infrastructure is not always well developed, and railways and highways are limited. With regard to the Caspian, the only way to bring in heavy equipment by sea is through the Volga River. Even so, certain types of floating oil production platforms for deep-water exploration and exploitation are far too big to move into the Caspian. Such equipment hardware is generally not available locally, since production platforms usually are built with parts from different countries. This means high costs for rigs and vessels. There are thus significant logistical constraints, and cycle times in exploration and exploitation are long.⁴ This affects transportation as well. At present, there are only some 70 oil tankers in the Caspian, and most are over-aged.⁵

Second, persistent doubts would seem to remain with regard to the actual oil and gas reserves available in the region. These doubts generally derive from the fact that the Soviet Union emphasised exploration and exploitation of the oil reserves in the Volga-Ural region and in West Siberia, not in the Caspian or in Central Asia. Some argue that the Azerbaijani oil deposits thus are unlikely to be as large as advertised. If they had been, why would the Soviet leadership in 1963 have taken a strategic decision to spend vast resources to prospect for and extract oil in the North and Siberia, when they already had a firm control over Azerbaijan, where an infrastructure was already in place? Yet, the Soviet Union in 1963 only derived 3 per cent of its total oil production from the Caspian.⁶ However, this strategic decision of the Soviet leadership is easily explained by the fact that much of the northern Caucasus including oil-producing areas there had been occupied by German forces in the Second World War, while important parts of both present-day Azerbaijan and Turkmenistan were briefly held by British troops in the First World War and its aftermath. The Soviet leadership thus had every reason to concentrate oil and gas production to its central regions in anticipation of a Third World War. Yet the fact remains that there have been few independent audits of the oil and gas deposits of the Caspian and Central Asian region, and some of those that have been made, have never been released to the public.

Third, the often unstable relations and external agendas among the various countries of the region, and the fact that the issue on how to decide the legal status of the Caspian remains unresolved, hamper both prospecting and exploitation as well as the transit of energy resources.

Fourth, and of lesser importance, there are natural complications such as deserts and wilderness in Central Asia, recurring ice in the north of the Caspian, extreme depth differences at sea (from 5 to 1,000 m in the Caspian), and a high level of earthquake activity throughout the region.

Apart from these, there are more general problems, not unique to the Caspian and Central Asian regions. Many would argue that a sustained hydrocarbon export growth would mean that the states of the region run the risk of falling victim to “Dutch disease.” This is an economic phenomenon (named after conditions in the Netherlands of the 1960s) in which increased

⁴ Hugh McDowell (Vice President for BP Exploration, BP Turkey), “Upstream and Downstream Oil and Gas Industry Potential in Turkey,” Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

⁵ Peter Reiniger (EBRD), “Caspian Oil & Gas Transportation,” presentation, Caspian Oil & Gas, Baku, 8-9 June 2005.

⁶ C. W. Blandy, *The Caspian: Communitary Crosscurrents* (Sandhurst: Conflict Studies Research Centre, 1999), 20-22.

exploitation of a nation's natural resources ultimately decreases its non-resource exports through the rise in value of the national currency, which makes its manufactured goods less competitive, thereby increasing imports, and decreasing productivity. Dutch Disease ultimately leads to de-industrialisation of a nation's economy.

The sustained export growth, and in particular the expectation of yet more impressive future growth, has led to surplus pipeline capacity with regard to oil (but not yet gas). The amount of locally produced oil in the region is much lower than the total oil pipeline network capacity. This causes much rivalry for oil among importers and pipeline operators.⁷

On the other hand, production costs in Central Asia for both oil and gas are much lower than in, for instance, Siberia. A key reason for Gazprom's interest in Central Asian gas is that the necessary investments for gas production in Central Asia are substantially cheaper (three to five-fold) than the investments needed for corresponding Siberian projects.⁸ This will indeed make Central Asian gas a viable proposition for Gazprom even when the firm can no longer buy cheap gas directly (most likely from 2009 onwards, for reasons that will be explained below).

However, there is also the domestic need for oil and gas to take into consideration. Domestic demand tends to grow, at least whenever the economy is growing. However, energy efficiency is a sadly neglected field throughout the former Soviet space. At times, domestic demand is growing faster than production can be increased. This is a particular problem for those economies that depend on the export of energy resources to bring in revenues. Due to the wasteful practices inherent in the Soviet system, all Central Asian energy producers need to improve energy efficiency, so as to allow more energy for export.

Even so, among the Central Asian states at least Kazakhstan, Uzbekistan, and Turkmenistan have the capacity to produce more oil and gas than they need for domestic consumption (Tables 1-2). Kyrgyzstan and Tajikistan have important energy resources in particularly hydropower but lack substantial oil and gas deposits.⁹ The emphasis of the present work will accordingly be on Kazakhstan, Uzbekistan, and Turkmenistan, and on producing a survey of the potential and existing export routes of the region's oil and gas resources. In addition, Azerbaijan, an important energy producer in its own right as well as a potentially important transit country for Central Asian energy, will be covered although in less detail. The remaining states of the Caucasus, Armenia and Georgia, have insignificant and only small oil and gas reserves, respectively, and will thus only be covered in passing, specifically in their capacity as transit countries.

Unlike oil, which in Russia, Kazakhstan, and Azerbaijan was privatised soon after the dissolution of the Soviet Union and due to the existence of an international market proved easier to market under commercial conditions, natural gas remained the concern of governments. Throughout the post-Soviet period, natural gas exports were in the former Soviet republics generally conducted under bilateral intergovernmental agreements. These provided a framework for sales, transit volumes, and prices. At times, other issues such as storage and establishment of joint ventures in production were included as well. Within the framework of such intergovernmental agreements, the firms involved in the trade negotiated commercial contracts. These were usually supplemented by annual agreements that specified exact prices and volumes for the following year. This was particularly true for the special relationship between the Central Asian producers, Russia, and Ukraine but to some extent applied to most natural gas exports within the post-Soviet space.¹⁰

⁷ Igor Tomberg, "Energy Policy and Energy Projects in Central Eurasia," *Central Asia and the Caucasus* 6 (48), 2007, 38-50, on 42.

⁸ David Preyger and Vladimir Omelchenko, "Caspian Dilemma: How to Deliver Blue Fuel to the European Market," *Central Asia and the Caucasus* 33 (2005), 120-28, on 125.

⁹ Oil and gas production in Tajikistan began already in 1907 at the Selrokho field. Several oil and gas fields were discovered in the country from the 1960s onwards, but gas production peaked as early as in 1973 (at 520 million cubic metres) and oil production in 1979 (at 418 thousand tonnes). Timur Valamat-Zade, "Tajikistan Energy Sector: Present and Near Future," *Central Asia and the Caucasus* 49 (2008), 89-97, on 96.

¹⁰ International Energy Agency (IEA), *Ukraine: Energy Policy Review 2006* (Paris: OECD/IEA, 2006), 218; Simon Pirani, *Ukraine's Gas Sector* (Oxford: Oxford Institute for Energy Studies, June 2007), 18.

Table 1. Oil Production / Consumption (million tonnes)

Year	Azerbaijan	Kazakhstan	Turkmenistan	Uzbekistan	Russian Federation
1990	12.5 / 8.5	25.8 / 21.5	5.7 / 4.4	2.8 / 12.6	515.9 / 249.7
1991	11.8 / 8.2	26.6 / 21.7	5.4 / 5.0	2.8 / 11.0	461.9 / 243.4
1992	11.2 / 8.0	25.8 / 20.3	5.2 / 5.2	3.3 / 8.5	398.8 / 224.4
1993	10.3 / 8.0	23.0 / 15.7	4.4 / 3.0	4.0 / 7.6	354.9 / 188.6
1994	9.6 / 7.3	20.3 / 12.3	4.2 / 3.0	5.5 / 6.8	317.6 / 162.7
1995	9.2 / 6.6	20.6 / 12.0	4.1 / 2.7	7.6 / 6.8	310.7 / 146.1
1996	9.1 / 5.9	23.0 / 10.2	4.4 / 3.0	7.6 / 6.6	302.9 / 130.1
1997	9.0 / 5.6	25.8 / 10.3	5.4 / 3.1	7.9 / 7.1	307.4 / 129.1
1998	11.4 / 5.9	25.9 / 8.5	6.4 / 3.4	8.2 / 7.1	304.3 / 123.7
1999	13.9 / 5.7	30.1 / 7.0	7.1 / 3.6	8.1 / 6.9	304.8 / 126.2
2000	14.1 / 6.3	35.3 / 7.4	7.2 / 3.6	7.5 / 6.7	323.3 / 123.5
2001	15.0 / 4.0	40.1 / 8.9	8.0 / 3.7	7.2 / 6.5	348.1 / 122.3
2002	15.4 / 3.7	48.2 / 9.3	9.0 / 3.8	7.2 / 6.3	379.6 / 123.5
2003	15.5 / 4.3	52.4 / 8.8	10.0 / 4.2	7.1 / 7.2	421.4 / 123.4
2004	15.6 / 4.6	60.6 / 9.0	9.6 / 4.2	6.6 / 6.5	458.8 / 123.3
2005	22.4 / 5.3	62.6 / 10.0	9.5 / 4.4	5.4 / 5.5	470.0 / 121.9
2006	32.5 / 4.9	66.1 / 11.0	9.2 / 4.5	5.4 / 5.6	480.5 / 127.1
2007	42.8 / 4.5	68.7 / 10.6	9.8 / 4.7	4.9 / 5.8	491.3 / 125.9

Source: *BP Statistical Review of World Energy June 2008* (www.bp.com)

Table 2. Natural Gas Production / Consumption (billion cubic metres)

Year	Azerbaijan	Kazakhstan	Turkmenistan	Uzbekistan	Russian Federation
1990	9.2 / 15.8	6.6 / 12.5	81.9 / 9.8	38.1 / 36.8	597.9 / 420.1
1991	8.0 / 15.1	7.4 / 13.2	78.6 / 9.6	39.1 / 37.1	599.8 / 431.1
1992	7.4 / 11.8	7.6 / 13.5	56.1 / 9.3	39.9 / 37.3	597.4 / 417.3
1993	6.3 / 8.7	6.2 / 13.0	60.9 / 9.3	42.0 / 40.7	576.5 / 416.0
1994	6.0 / 8.1	4.2 / 10.3	33.3 / 10.2	44.0 / 41.3	566.4 / 390.9
1995	6.2 / 8.0	5.5 / 10.8	30.1 / 8.0	45.3 / 42.4	555.4 / 377.8
1996	5.9 / 5.9	6.1 / 9.0	32.8 / 10.0	45.7 / 43.3	561.1 / 379.9
1997	5.6 / 5.6	7.6 / 7.1	16.1 / 10.1	47.8 / 45.4	532.6 / 350.4
1998	5.2 / 5.2	7.4 / 7.3	12.4 / 10.3	51.1 / 47.0	551.3 / 364.7
1999	5.6 / 5.6	9.3 / 7.9	21.3 / 11.3	51.8 / 49.3	551.0 / 363.6
2000	5.3 / 5.4	10.8 / 9.7	43.8 / 12.6	52.6 / 47.1	545.0 / 377.2
2001	5.2 / 7.8	10.8 / 10.1	47.9 / 12.9	53.6 / 51.1	542.4 / 372.7
2002	4.8 / 7.8	10.6 / 11.1	49.9 / 13.2	53.5 / 52.4	555.4 / 388.9
2003	4.8 / 8.0	12.9 / 13.3	55.1 / 14.6	53.6 / 47.2	578.6 / 392.9
2004	4.7 / 8.6	20.6 / 15.4	54.4 / 15.5	55.8 / 44.8	591.0 / 401.9
2005	5.3 / 8.9	23.3 / 19.4	58.8 / 16.6	55.0 / 44.0	598.0 / 405.1
2006	6.3 / 9.4	24.6 / 20.9	62.2 / 18.9	55.4 / 43.2	612.1 / 432.1
2007	10.3 / 8.3	27.3 / 19.8	67.4 / 21.9	58.5 / 45.6	607.4 / 438.8

Source: *BP Statistical Review of World Energy June 2008* (www.bp.com)

There have also been attempts to conclude multilateral agreements. On 21 January 2002, Russia's President Vladimir Putin proposed a "single export channel" for all gas exports from Central Asia and suggested that Russia, Kazakhstan, Turkmenistan, and Uzbekistan form a Eurasian Gas Producers' Alliance.¹¹ These words were later echoed in the Russian energy strategy, approved on 23 May 2003 and confirmed by the Russian government on 28 August 2003, which also insists on the need to preserve a "single channel of export of natural gas" and the use of long-term contracts with regard to exports to Europe.¹² As a consequence of Putin's initiative, the presidents of Russia, Kazakhstan, Turkmenistan, and Uzbekistan on 1 March 2002 signed a joint statement on co-operation in the energy sphere, and on protecting the interests of the countries that produce natural gas.¹³

A further development took place on 9 April 2007 in Qatar's capital Doha, where the 6th Ministerial Meeting of the informal group known as the Gas Exporting Countries Forum (GECF) was held. This organisation, which was established in Tehran in 2001, has a membership that includes Russia, Algeria, Libya, Qatar, Iran, and many others (Turkmenistan took part in the first meeting only). During the meeting, the GECF established an expert group, chaired by Russia, with the task to study factors such as pricing, infrastructure, and the relationship between producers and consumers.¹⁴ Although not directly comparable to the Organization of the Petroleum Exporting Countries (OPEC), since the open spot market for natural gas remains small and most gas is traded by long-term contracts and delivered through pipelines, the organisation might in time evolve into a proper gas cartel. The organisation might, for instance, be able to divide export markets among its members to maximise prices in the long-term perspective. It should be noted that the formation of the GECF was in part motivated and triggered by the implementation of an EU retroactive ban on territorial restrictions by the EU Commission.¹⁵

The GECF is expected to meet next time in Moscow (a date of 18 November 2008 was mentioned).¹⁶ However, while Russia certainly has maintained a presence in the Central Asian energy market, it remains to be seen what impact, if any, the GECF hopes to achieve there.

The reason for these doubts is that the Central Asian oil sector, although taken together still perhaps best described as semi-privatised, has been moving steadily into the international market. Transportation bottlenecks remain, as well as some political considerations with regard to export routes, yet pricing mechanisms and price levels have converged with those of the international market. A similar although slower process has been ongoing with regard to natural gas. Russian and Central Asian gas prices are moving in the direction of European price levels. On 11 March 2008, the heads of the gas export monopolies of Russia, Kazakhstan, Uzbekistan, and Turkmenistan indeed jointly declared that from 2009, they would all sell gas at European market prices.¹⁷ There would be no more subsidised gas to those countries that have come to depend on cheap gas, such as Ukraine. There would also, it seems, be little need for a formal organisation such as the GECF,

In addition, the Central Asians have been negotiating gas exports with China since 2006. In January 2008, they finally reached an agreement on pricing, confirming that a gas pipeline from Turkmenistan to China would be built and perhaps be in operation already in 2009. Many media reports concluded that the Chinese had outmanoeuvred Russia's Gazprom and would now acquire the gas supplies desired by Russia. Not so. Gazprom supported the Chinese deal, and a key company within the Gazprom group will build part of the pipeline to China. And why not? The Chinese pipeline will be loaded with gas from fields only now being taken into production,

¹¹ *Pipeline & Gas Journal*, March 2002.

¹² *Energeticheskaya strategiya Rossii na period do 2020 goda* ("Energy Strategy of Russia to the Year 2020"), Government of the Russian Federation Decree 1234-r, 28 August 2003, pp. 78-9.

¹³ See, e.g., Ekspress-K (Almaty), 20 April 2002; Vladimir Saprykin (Volodymyr Saprykin), "Gazprom of Russia in the Central Asian Countries," *Central Asia and the Caucasus* 29 (2004), 81-93, on 82.

¹⁴ Reuters, 9 April 2007.

¹⁵ For more information, see Hadi Hallouche, *The Gas Exporting Countries Forum: Is it Really a Gas OPEC in the Making?* (Oxford: Oxford Institute for Energy studies, NG 13, June 2006).

¹⁶ Press TV, 20 September 2008 (www.presstv.com).

¹⁷ Gazprom press release, 11 March 2008.

with Chinese investments, while the Russian pipeline system remains adequate for existing exports to Europe. The foreseeable increase in Turkmenistan's gas production capacity can be handled through the Russian system, especially so since a new pipeline will be built and the existing system refurbished. The opening of the Turkmenistan-China gas pipeline thus does not necessarily imply less gas for Europe as a whole, but certain countries (in particular Ukraine and Iran) may not get as much gas as they want.

Meanwhile, Russia and North Africa will remain key natural gas suppliers to EU markets. Prices, however, are likely to rise. The implications would thus seem to be that henceforth, Russia will continue to export gas to Europe, but at higher prices. The Central Asians will continue to contribute their share through the Russian pipeline system, but at European market prices. Gazprom will collect a transportation fee and while giving up some profits from pricing differences, the firm no longer will have to engage in mutually damaging negotiations with key transit countries. Any remaining Central Asian gas will eventually go to China. And whenever a gas deficit occurs, in Russia or Central Asia, there will be less gas for exports.

The new situation will probably not much affect the major West European gas consumers who have entered into long-term contracts with Gazprom. It may, however, cause decreased supplies of natural gas for those not so fortunate, including countries such as Ukraine which have come to rely on cheap Central Asian gas. There is currently very little that these gas consumers can do about the problem.

The present study will first cover the Central Asian producer countries, then the various infrastructure projects. Each project will be covered in some detail, since geographical, economic, and political factors tend to be quite different in each case. Will existing infrastructure be sufficient to satisfy future demand and guarantee security of supply? With regard to oil, yes, but as will be shown, not yet with regard to gas.

Kazakhstan

Geography and Energy Resources

Kazakhstan has significant oil and natural gas reserves but few natural export routes. Yet Kazakhstan's exports are in value terms increasingly dominated by raw materials.¹⁸ Many large gas fields in Kazakhstan (including Tengiz, Zhanazhol, and Uritau) do not yet have access to export pipelines with sufficient capacity.¹⁹ In addition, Kazakhstan hitherto produced about as much natural gas as it consumed domestically. This is about to change, however, and Kazakhstan is expected to become a net exporter of natural gas in 2008.²⁰

Even so, due to its size and patchy system of energy infrastructure, Kazakhstan cannot rely on its own energy resources. The southern part of the country depends on imports of gas from Uzbekistan.²¹ In 2008, Uzbekistan will ship gas to southern Kazakhstan, including the region around Almaty, at a price of \$100 per thousand cubic metres, a price unchanged from 2007.²²

In addition, Kazakhstan still must import oil products for its own needs, especially diesel. Two oil product pipelines from Russia support Kazakhstan, one from Travniki to Amankaragay, the other and arguably more important by way of Petropavlovsk to Kazakhstan's capital

¹⁸ See, e.g., Vladimir Babak, "The Oil and Gas Sector in Kazakhstan," *Central Asia and the Caucasus* 40 (2006), 41-55, on 45.

¹⁹ Gulnur Rakhmatulina, "Some Solutions to the Central Asian Region's Energy Cooperation Problems," *Central Asia and the Caucasus* 46 (2007), 7-17, on 10.

²⁰ Energy Information Administration (EIA), *Kazakhstan*, February 2008 (www.eia.doe.gov).

²¹ Rakhmatulina, "Some Solutions," 11. In 2006, Kazakhstan imported 1.8 billion cubic metres (bcm) of gas from Uzbekistan. Paramonov and Stokov, *Russia-Central Asia*, 7.

²² EIA, *Kazakhstan*, February 2008. A similar situation applies with regard to electricity. Since 2002, Kazakhstan is a net exporter of electricity. However, a lack of sufficient transmission infrastructure means that Kazakhstan must import electricity to the southern part of the country, since the country's northern generating units are connected to a separate transmission grid. Oppenheimer Technical Assistance Consultants, *Kazakhstan's Energy Sector Overview*, Working Paper, 27 January 2005. Peter Oppenheimer, economic advisor at Oxford University and expert at the British company Oppenheimer Technical Assistance Consultants, has researched the development of Kazakhstan's energy strategy for several years.

Astana.²³ The reason is that in striking contrast to the upstream sector, the refining sector has remained largely in the possession of the state and has not received as high levels of foreign direct investments (FDI) as other parts of the oil and gas sector. Domestic prices for refined products have remained low, offering little incentive to produce refined products for the domestic market. The total capacity of all three oil refineries in Kazakhstan (at Pavlodar for the northern region, Atyrau for the western region, and Shymkent for the southern region) remains limited and all indeed operate far below capacity. One explanation is that foreign oil companies prefer to export crude oil rather than to sell the oil within the country at low domestic prices.²⁴ The Pavlodar refinery is supplied mainly by a crude oil pipeline from western Siberia. The Atyrau refinery is supplied solely by domestic crude from northwest Kazakhstan, while the Shymkent refinery despite being linked by pipeline to Russia is currently relying on oil from Kazakhstani fields at Kumkol', Aktobe, and Makatinsk.²⁵ The refineries are old. The Atyrau refinery, for instance, was built at the end of the Second World War.²⁶

Oil was first found in the Atyrau province in 1899 and has been produced since 1911.²⁷ Oil has been spectacularly important to Kazakhstan, with oil exports so far being the foundation of the country's economy. The petroleum industry accounts for about 30 per cent of Kazakhstan's GDP and over half of its export revenues.²⁸ Kazakhstan claims the northeast portion of the Caspian Sea and thus most of its biggest known oil fields. Kazakhstan's main oil fields are Tengiz, Karachaganak, Kashagan, and Kurmangazy. The first two are under development. Other major oil fields in operation are located in Aktobe, Uzen', Mangistau, and Kumkol'. Kazakhstan also has substantial deposits of natural gas, almost entirely consisting of 'associated' gas (a by-product of oil extraction) derived from the oil fields.²⁹

The supergiant Tengiz field, discovered in 1979 in the swamplands along the northeastern shores of the Caspian, is the largest source of oil production in Kazakhstan. The Tengiz field is also a substantial source of natural gas. Development began in 1993, when the Tengizneftegaz production association, after four years of negotiations, became the base for a joint venture on a parity basis with Chevron, known as the TengizChevroil (TCO) consortium. In 2007, the consortium was fined around \$609 million for environmental violations. There have been other problems as well, including government restrictions on the flaring of associated natural gas, which have kept production down. Instead of flaring, a project to reinject the flared gas has been tested.³⁰

The supergiant Karachaganak oil and gas condensate field, onshore in northwestern Kazakhstan near the Russian border, was also discovered in 1979. Production began in 1984.³¹ The Karachaganak field is a major source of natural gas as well, being regarded as the largest source of natural gas in Kazakhstan. The field is operated by Karachaganak Petroleum (KPO) consortium, which includes Italy's Eni and Russia's LUKoil, among others. At first, crude oil

²³ See, e.g., Oppenheimer, *Kazakhstan's Energy Sector*; Centre for Global Energy Studies (CGES), *Crude Oil Pipelines of the Former Soviet Union* (London: CGES, 2007); CGES, *Russia's Oil Product Pipelines* (London: CGES, 2007). A third oil product pipeline, from Uralsk in Kazakhstan to Samara in Russia, is no longer used for its original purpose and is in the process of being refurbished and expanded, possibly to carry up to 3 million tonnes per year of Karachaganak condensate to Russia, in a deal with Russian pipeline operator Transneft. The pipeline is owned by the Kondensat group of companies. See their web site, www.condensat.kz; *NEFTE Compass*, 22 June 2000.

²⁴ Babak, "Oil and Gas Sector," 50-51. The capacity of the Pavlodar, Atyrau, and Shymkent refineries was in 2005 stated to be respectively 7.5, 4.5, and 6.5 million tonnes per year. There are also three gas processing plants, in Zhanazhol, Tengiz, and Aktau, with a capacity of 0.7, 3, and 1.5 bcm per year, respectively. Ministry of Energy and Mineral Resources of the Republic of Kazakhstan, presentation, The Hague, 30 August 2005.

²⁵ EIA, *Kazakhstan*, February 2008.

²⁶ *APS Review Gas Market Trends*, 24 July 2006 (<http://goliath.ecnext.com>).

²⁷ *APS Review Gas Market Trends*, 24 July 2006 (<http://goliath.ecnext.com>).

²⁸ EIA, *Kazakhstan*, February 2008.

²⁹ Babak, "Oil and Gas Sector," 41; EIA, *Kazakhstan*, February 2008.

³⁰ Oppenheimer, *Kazakhstan's Energy Sector*; EIA, *Kazakhstan*, February 2008; Bloomberg, 25 August 2005.

³¹ Robert M. Cutler, "Karachaganak Gas and the Future of Kazakhstan's Pipeline System," *Central Asia Caucasus Analyst* (www.cacianalyst.org), 8 September 2004.

from Karachaganak was processed at Russian facilities across the border. Since 2003, the field is also connected by pipeline to the Caspian Pipeline Consortium (CPC) export infrastructure.³²

The Kashagan field, yet another supergiant, is located off the northern shore of the Caspian. It was discovered in 2000.³³ Called the largest discovery in the past 35 years in terms of reserves, it is operated by a consortium known as the Agip Kazakhstan North Caspian Operating Company (Agip KCO), led by Eni. The field also contains substantial resources of natural gas. Development has been repeatedly delayed, and full-scale commercial oil production is not expected to begin until 2013.³⁴ As for gas, development was expected to begin in 2008, but is presently running at least two years late. Gas production is currently expected to come on-stream at the earliest in 2010.³⁵ Problems at Kashagan are not limited to delays, there have also been government accusations of environmental violations.³⁶

The Kurmangazy field, on the maritime border between Russia and Kazakhstan, is the least developed of the Kazakhstani oil fields. The Russian and Kazakhstani state oil firms Rosneft and KazMunayGaz have co-operated in exploration on the field since 2005.³⁷

Then there is the large Amangeldy gas field in southern Kazakhstan. Preparatory work including some production began in 2003. The development of this field will eventually help Kazakhstan to cease importing gas from Uzbekistan.³⁸

Flaring of natural gas during oil production is a substantial problem in Kazakhstan. As noted, most of the country's natural gas is associated gas. In August 1999, the government introduced legislation requiring subsoil users to include natural gas utilisation projects in their development plans.³⁹ In May 2005, the government ordered all oil producing firms to reduce oil production to levels that would avoid natural gas flaring. The government thus has the option to fine any firm that carries out unauthorised natural gas flaring. Flaring has since reduced slightly.⁴⁰

There is a high potential for exploration for oil in Kazakhstan, in particular in the pre-Caspian. This potential was shown, for instance, by the discovery of the supergiant Kashagan offshore oil field.⁴¹

Energy Strategy

Upon independence, Kazakhstan found itself with rather unfavourable initial conditions for developing as a sovereign state. Although having natural resources and an educated work force, the new country was characterised by significant regional and ethnic disparities that indeed were seen as a factor that potentially could lead to the secession, to Russia, of northern and eastern Kazakhstan. In addition, the country had no primary industry that was competitive on the world market. Even the geography proved a problem, since Kazakhstan is landlocked. For this reason, the government had little choice but to privatise the budding oil sector so as to attract foreign direct investment. One could indeed argue that the government prioritised the selling-off of the rights to exploit oil and gas reserves to bring in quick revenues rather than aiming for the long-term but not immediate profits of developing potential oil and gas fields. Many foreign oil and gas companies in the early 1990s indeed switched their focus from Russia to Kazakhstan, where

³² EIA, *Kazakhstan*, February 2008. On LUKoil and Eni, see the firms' web sites, www.lukoil.ru, www.eni.it. LUKoil Overseas Karachaganak was funded through project financing with capital ultimately from the International Finance Corporation (IFC), part of the World Bank Group. On the IFC, see the firm's web site, www.ifc.org.

³³ Babak, "Oil and Gas Sector," 49.

³⁴ EIA, *Kazakhstan*, February 2008. See the firm's web site, www.agipkco.com.

³⁵ Tomberg, "Energy Policy," 40.

³⁶ EIA, *Kazakhstan*, February 2008.

³⁷ EIA, *Kazakhstan*, February 2008.

³⁸ Babak, "Oil and Gas Sector," 50; KazTransGaz press release, 10 December 2007 (www.kaztransgas.kz); EIA, *Kazakhstan*, February 2008.

³⁹ Oppenheimer, *Kazakhstan's Energy Sector*.

⁴⁰ EIA, *Kazakhstan*, February 2008.

⁴¹ Francis G. Harper (Senior Executive, Exploration, BP), Seminar on Oil Reserves, Stockholm, 14 December 2004.

they perceived business conditions to be more favourable. This short-term-oriented strategy was later regarded as a mistake that the government would have to rectify.⁴²

However, the short-term-oriented strategy did result in substantial foreign investments. Kazakhstan's oil industry has indeed seen far more foreign investments than the energy sectors of neighbouring Uzbekistan and Turkmenistan. International projects have been formed around production sharing agreements (PSAs), exploration or field concessions, or as joint ventures with the national oil company KazMunayGaz.⁴³

Kazakhstan began inviting foreign oil companies immediately after independence. By 1993, the government, as noted, concluded an agreement with Chevron jointly to develop the Tengiz oil field as the TengizChevroil (TCO) consortium. In 1993, British Gas and the Italian oil company Agip likewise won exclusive negotiation rights to develop the Karachaganak oil and gas fields.⁴⁴

The bulk of foreign acquisitions in the oil and gas industry occurred between July 1996 and July 1997, during Akezhan Kazhegeldin's term as prime minister. Although expressly appointed to privatise the oil and gas industry, many believed that the prices he realised were too small, accusations that led to his resignation.⁴⁵ Kazhegeldin was prime minister from October 1994 to October 1997, when he was ousted in a power struggle with President Nursultan Nazarbayev. He is currently a prominent opposition leader in exile in Europe after having been convicted, wrongly say some, in absentia of tax fraud and corruption.⁴⁶

When oil and gas assets were sold off to foreign companies, the latter were expressly expected to fulfil social obligations in the region in which they would be operating. Such terms were written into the contracts. This involved the provision of social services such as guaranteeing full employment, the payment of back wages, and building and maintaining schools and hospitals.⁴⁷

In March 1997, President Nazarbayev and his administration had become sufficiently strong to increase control over the expanding oil extraction. Foreign firms noted that despite their contract being negotiated and signed at the national level, they then needed to negotiate with the regional governor (*akim*) as well, on an ongoing basis as new social and economic needs arose. If they failed to do so, the governor could send over tax inspectors to cause problems for the company.⁴⁸ In addition, Nazarbayev in March 1997 signed a decree on the establishment of the state company NNK Kazakhoil. The creation of Kazakhoil provided a legal means for the government to set aside a position of the revenues acquired through oil exports for its own uses. Kazakhoil, for instance, spent a major portion of its export revenues, an estimated \$25-30 million, on the construction of the new capital, Astana.⁴⁹ In 1998, the government transferred its public shares in production and refining capacity to Kazakhoil. Although initially considered for privatisation, Kazakhoil was later transformed into a closed joint-stock company, wholly owned by the state.⁵⁰ On 20 February 2002, Kazakhoil and the state company NK Transport Nefti i Gaza (Oil and Gas Transportation) were merged into a new vertically integrated company named KazMunayGaz.⁵¹ The new company, a state owned natural monopoly, assumed control over the government's shares in 52 enterprises and acquired the status of national operator in the

⁴² Pauline Jones Luong and Erika Weinthal, *Prelude to the Resource Curse: Oil and Gas Development Strategies in Central Asia and Beyond* (New Haven: Yale University, August 1999), 11, 15-21, 24-7.

⁴³ EIA, *Kazakhstan*, February 2008; EIA, *Caspian Sea*, January 2007 (www.eia.doe.gov).

⁴⁴ Oppenheimer Technical Assistance Consultants, *Changing Policies in the Oil & Gas Sector: a Move to 'Nationalisation'?*, Working Paper, 27 January 2005; Luong and Weinthal, *Prelude*, 21; based on World Bank, *Kazakhstan: The Transition to a Market Economy* (Washington, DC: World Bank, 1993), 111.

⁴⁵ Oppenheimer, *Changing Policies*; Luong and Weinthal, *Prelude*, 20-21.

⁴⁶ Bloomberg, 25 August 2005, reprinted by CorpWatch.

⁴⁷ Luong and Weinthal, *Prelude*, 26-7.

⁴⁸ Luong and Weinthal, *Prelude*, 26.

⁴⁹ Luong and Weinthal, *Prelude*, 27; citing *Kazakhstanskaya pravda*, 3 December 1997, p. 1.

⁵⁰ Oppenheimer, *Kazakhstan's Energy Sector*.

⁵¹ *Aksionernoye Obshchestvo Natsional'naya Kompaniya KazMunayGaz*, i.e. National Stock Company KazMunayGaz. See the firm's web site, www.kmg.kz. The firm was established by Decree of the President No. 811.

oil and gas industry.⁵² KazMunayGaz also plays a key role in the offerings of tenders and in agreements with foreign oil companies.⁵³

The consolidation of a state-owned vertically integrated oil and gas company was not enough, though. The government of Kazakhstan has also issued several laws that allow it control over the hydrocarbon resources within the country.

A decree valid as a Law on Oil (No. 2350) was adopted already on 28 June 1995, in anticipation of the forthcoming mass privatisation. Its articles give the state the right to priority purchases of oil from a foreign or non-state resource user at world market prices, when so is needed due to war, natural disaster, or other emergencies. In addition, and more significantly, this law gives the state the right to order a contractor to increase levels of oil production, for instance, if the contractor fails to begin production or produces oil at a level incommensurate with the capacity of the field.⁵⁴

While the legal framework developed in the 1990s was designed to attract foreign investors and accordingly guaranteed investors against adverse changes for the first ten years, or until the expiry of the contract in case of long-term contracts, the guarantees were significantly weakened when the new Tax Code, approved by Parliament in June 2001, came into force on 1 January 2002. Among its provisions was a statement that taxation conditions should restore the original economic interests of Kazakhstan. In addition, a number of tax exemptions were abolished.⁵⁵

In June 2002, the government adopted Regulations for the Purchasing of Goods (Works, Services) Required for Petroleum Operations which forced subsoil users to buy goods, works, and services manufactured by Kazakhstani entities within Kazakhstan provided that such goods met certain requirements, and to give preference to the employment of local personnel. The regulations also confirmed the leading role of KazMunayGaz in such operations.⁵⁶

On 16 May 2003, Kazakhstan adopted, by decree of the president (No. 1095), a State Programme for the Development of the Kazakhstan Sector of the Caspian Sea, for the purpose of making this geographical area the main zone of hydrocarbon extraction in Kazakhstan and supporting the development of supporting infrastructure there for the oil and gas sector. On 13 July 2006, a government decree (No. 673) launched a second phase of the programme, encompassing the years 2006-2010.⁵⁷

On 17 May 2003, Kazakhstan adopted, again by decree of the president (No. 1096), a Strategy for Innovative Industrial Development of Kazakhstan for 2003-2015. Its purpose was to express the overall strategic aims and goals of the Kazakhstani government for the development of the national economy.⁵⁸

The Kazakhstani state was by then gaining an increasingly dominant role within the oil sector. Yet another new tax and regulatory regime was adopted from 2004. The amendment in the system of taxation, in effect from 1 January 2004, raised the government's share of oil income to a range of 65 to 85 per cent and brought in an excess profit tax.⁵⁹ In response, the 47 energy companies that made up the Kazakhstan Petroleum Association, a lobbying bloc representing multinational corporations, in May 2004 sent the government a letter in which they objected to

⁵² Oppenheimer, *Changing Policies*; Oppenheimer, *Kazakhstan's Energy Sector*.

⁵³ *APS Review Gas Market Trends*, 24 July 2006 (<http://goliath.ecnext.com>).

⁵⁴ Oppenheimer, *Kazakhstan's Energy Sector*. The law is published on Ministry of Energy and Mineral Resources web site, www.memr.gov.kz; and the KazMunayGaz web site, www.kmg.kz.

⁵⁵ Oppenheimer, *Kazakhstan's Energy Sector*; Asian Development Bank web site, www.adb.org.

⁵⁶ Oppenheimer, *Kazakhstan's Energy Sector*. See, e.g., government decree No. 708 of 29 June 2002, published on the KazMunayGaz web site, www.kmg.kz.

⁵⁷ Oppenheimer Technical Assistance Consultants, *Kazakhstan's Energy Policy: Developing a Strategy*, Working Paper, 27 January 2005. The programme is published on the Government of the Republic of Kazakhstan web site, www.government.kz; and the KazMunayGaz web site, www.kmg.kz.

⁵⁸ Oppenheimer, *Kazakhstan's Energy Policy*. The strategy is published on the Government of the Republic of Kazakhstan web site, www.government.kz.

⁵⁹ EIA, *Kazakhstan*, February 2008.

potential laws that would give the state favourable terms on subsoil exploration.⁶⁰ This changed nothing. Production costs remain relatively high and Kazakhstan's tax and legal regimes are, in the opinion of many, turning increasingly unfavourable for the investor.⁶¹

Moreover, the national company KazMunayGaz was granted the exclusive right to a stake of at least 50 per cent in any new oil project implemented in Kazakhstan from 1 January 2004 onwards. Then, in November 2004, the laws On Oil and On the Use of Mineral Resources were amended in favour of the state. The Kazakhstani parliament approved amendments to the laws regulating the use of mining and oil operations so that the state henceforth assumed the right to priority purchase of shares in existing and future oil projects, indeed the option to buy out mineral rights if it so desires. These changes have since acted as a deterrent to new projects.⁶²

The subsoil use law was then amended by Kazakhstan's President Nazarbayev in October 2005, allowing the government priority rights on all strategic resources and assets in the country, thus preempting the sale of such assets. The government now has a pre-emptive right over stakes being released in any extractive industry contract. Furthermore, Kazakhstan's energy and mineral resources minister, Baktykozha Ismukhambetov, stated that all deals on oil fields, including the sale of shares in any extractive industry contract, had to go through the ministry and the minister personally. Any acquisition that was not filed with the ministry in this way had not occurred, he concluded.⁶³

In 2007, Kazakhstan announced that it would review all energy and mineral resources contracts, with the aim to generate more revenue and diversify the sources of investment. In October 2007, President Nazarbayev signed an amendment of the law of subsoil resources into a new law, effective from the following month, that allowed the government unilaterally to break contracts with energy companies. The law gives the Kazakhstani government two ways to terminate contracts, either by forcing the company into negotiations with the government, or by allowing for the repudiation of the contract with a notice period of, in certain cases, only two months. It also became clear that the Kazakhstani government considered weakening the PSA regimes, to make their terms more favourable to the state.⁶⁴ Indeed, it has been suggested that the strengthening of state involvement in the oil and gas sector is to at least some extent a populist response with the aim to make the state appear strong. Since the present leadership due to several years of power concentration no longer needs to fear internal contestation of power, the desire to accrue more revenues from energy exports and trivial populism play key roles in intensifying the "etatist" claims, some have suggested.⁶⁵ Whether this apparent lack of security among private foreign investors will deter further investments remains to be seen. Although the legal rules of the game appear unstable and changing, there are still large profits to be made.

Another worry for foreign investors is corruption. The continuing court case of James Giffen has almost become symbolic of Kazakhstani corruption. Giffen, a New York investment banker, from at least 1995 worked as an adviser to President Nazarbayev, who in this period agreed to a series of large oil contracts with American firms. Giffen reportedly gave some \$84 million to senior officials in Kazakhstan, for which he in 2003 was indicted in the United States on federal bribery charges. Giffen has since claimed that he acted on behalf of the Central Intelligence Agency (CIA), White House, and State Department to help ensure that Kazakhstan's oil and gas reserves would be controlled by American rather than Russian or Chinese interests.⁶⁶ Foreign oil companies have duly noted that the Kazakhstani government is usually keen on the signature

⁶⁰ Oppenheimer, *Kazakhstan's Energy Sector*. The Kazakhstan Petroleum Association maintains a web site, www.kpa.kz.

⁶¹ Oppenheimer, *Kazakhstan's Energy Sector*.

⁶² Oppenheimer, *Kazakhstan's Energy Policy*; Rudiger Ahrend and William Tompson, "The Oil Supply Potential of the CIS," *Beyond Transition* 17: 2 (April-June 2006), 7-8; Babak, "Oil and Gas Sector," 54; Sergey Smirnov, "Transnational Corporations in Kazakhstan," *Central Asia and the Caucasus* 40 (2006), 55-61, on 58.

⁶³ *Emerging Europe Oil and Gas Insight* 6 (Business Monitor International, October 2006), 9.

⁶⁴ *Interfax Oil & Gas Report*, 27 September – 3 October 2007; EIA, *Kazakhstan*, February 2008.

⁶⁵ Oppenheimer, *Changing Policies*.

⁶⁶ *New York Times*, 23 December 2007; Bloomberg, 25 August 2005, reprinted by CorpWatch. If Giffen's claims are correct, his might technically be a case of foreign power projection through patronage rather than mere commercial corruption.

bonus, a vital source of upfront cash. It is commonly believed in the industry that the company that pays the highest bonus will get any block or field on offer.⁶⁷

The increasingly dominant role claimed by the Kazakhstani government in the energy sector to some extent mirrors developments in Russia. However, in Russia the state only began to acquire a similarly dominant role along these lines in 2003, while in Kazakhstan the situation began to change already in 2002 when, as noted, the new Tax Code came into force. In Kazakhstan, KazMunayGaz, as noted, from 1 January 2004 was granted the exclusive right to have a stake of at least 50 per cent in any new oil project implemented in Kazakhstan. In Russia, a similar move was seen only from 2005 onwards.⁶⁸ It can thus be argued that it was Russia that followed in the footsteps of Kazakhstan rather than vice versa. However, Kazakhstan has been able to avoid the negative effects in the form of bad press in the foreign media that these changes brought with regard to Russia.

So did, for instance, Kazakhstan on 15 January 2008 announce that KazMunayGaz henceforth would assume a leading role in developing the Kashagan field. Until then, Eni, Exxon Mobil, Royal Dutch Shell, Total, ConocoPhillips, and Japan's Inpex owned most of the equity, with KazMunayGaz only holding an 8.33 per cent stake. Under the new deal, KazMunayGaz acquired a 16.81 stake while the shares of the other firms were decreased correspondingly. Kazakhstan's President Nazarbayev called the deal a "restoration of justice" since Kazakhstan had lost its share of anticipated profits.⁶⁹

Kazakhstan's Strategy for Innovative Industrial Development of Kazakhstan for 2003-2015 includes and subsumes several other strategies and programmes. In the Strategy for Development of the Energy Sector of Kazakhstan to 2015, the government set several priority goals in the development of the oil and gas industry. Among them was the need to develop a transportation infrastructure, something that is further elaborated in the Transport Strategy of the Republic of Kazakhstan to 2015, adopted by presidential decree (No. 86) on 11 April 2006, with a first stage of implementation from 2006 to 2011. Another priority goal was to formulate a state strategy on how to use fuel resources to raise Kazakhstan's status as a fuel supplier in the eyes of the great powers. The Kazakhstani government on 18 June 2004 also adopted a Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), following the Concept of Gas Sector Development to 2015 (No. 25), adopted by the government on 11 January 2002.⁷⁰

Kazakhstan has not forgotten to plan for its oil and gas revenues. On 23 August 2000, Kazakhstan set up a National Fund that began functioning in June 2001. It was patterned on Norway's State Petroleum Fund and serves to stabilise the country's development through the use of hydrocarbons export earnings.⁷¹

There is no doubt that Kazakhstan's production of oil and gas for export is increasing. The question is how much would seem feasible, in particular in the light of increasing domestic demand. Kazakhstan currently produces more than 65 million tonnes of oil per year. On 10 October 2007, Kazakhstan's Minister of Energy and Natural Resources, Sauat Mynbayev, forecast that in 2010, oil production would amount to 75 to 80 million tonnes, and in 2015, to 120 to 130 million tonnes. Domestic consumption would be no more than 16 million tonnes per

⁶⁷ *APS Review Gas Market Trends*, 24 July 2006 (<http://goliath.ecnext.com>).

⁶⁸ Michael Fredholm, *The Russian Energy Strategy & Energy Policy: Pipeline Diplomacy or Mutual Dependence?* (Conflict Studies Research Centre, UK Defence Academy, Russian Series 05/41, September 2005), 9.

⁶⁹ RIA-Novosti, 14 January 2008; *Kazakhstan News Bulletin* 1, 18 January 2008; 2, 23 January 2008 (www.kazakhembus.com); *Petroleum Economist*, February 2008. For present equity stakes of these firms in the Kashagan project, see the web site, www.agipkco.com. Under the terms of the agreement, KazMunayGaz, Eni, Exxon Mobil, Royal Dutch Shell, and Total own equal shares, while the stakes of ConocoPhillips and Inpex remain smaller.

⁷⁰ Oppenheimer, *Kazakhstan's Energy Policy*; Erbol Sarsenov, KazTransGas (Tashkent), presentation, Oil & Gas Uzbekistan (OGU 2006), Tashkent, 17-18 May 2006. See also the Government of the Republic of Kazakhstan web site, www.government.kz, which has published at least some of these documents. Some additional information can be found in Energy Charter Secretariat, *Kazakhstan: Regular Review of Energy Efficiency Policies 2006* (Brussels: Energy Charter Secretariat, 2006).

⁷¹ Government of the Republic of Kazakhstan web site, www.government.kz; Babak, "Oil and Gas Sector," 46.

year until 2015.⁷² At present, domestic oil consumption is estimated to be around 10 million tonnes per year.⁷³

Two days later, on 12 October 2007, Kazakhstan's president Nazarbayev was even more upbeat on production. He announced that by 2010, forecasted oil production in Kazakhstan would be over 80 million tonnes, by 2015 it would reach 130 million tonnes with domestic consumption of no more than 25 million tonnes. However, this was still a decrease from the figure mentioned by Kazakhstan for 2015 in previous strategies and estimates, which was 150-170 million tonnes of oil per year - henceforth apparently regarded as unrealistic. In the previous forecasts, Kazakhstani oil production in 2015 was estimated to be 90-120 million tonnes in a low-case scenario or 125-180 million tonnes in a high-case scenario.⁷⁴ Most was intended for export, with the export potential estimated to stand at between 81.4 and 111.5 million tonnes in 2015.⁷⁵

Gas production was in the earlier estimates again regarded in a very optimistic light, estimated to reach 61.4 bcm by 2010. By 2015, gas production was estimated to reach 106.1 bcm, a figure then adjusted to about 80 bcm. However, most of the gas would be re-injected into the ground. Domestic gas consumption was expected to amount to 12.4 bcm in 2005 (although actual consumption was considerably higher, see Table 2), 25.9 bcm in 2010, and 31.2 bcm in 2015. The export potential for gas was then estimated at approximately 13-16 bcm in 2015 (however, forecasts about the Kashagan field has again resulted in more optimistic export estimates, including exports to China).⁷⁶

As a further point, it needs to be emphasised that the Strategy for Innovative Industrial Development of Kazakhstan for 2003-2015 indicates that although Kazakhstan should aim for an eventual shift from extraction to processing of mineral resources, oil and gas production, ferrous and non-ferrous metallurgy, and chemical and petrochemical industries are to remain the core sectors of the economy. This implies preservation and indeed enhancement of the country's current energy-intensive structure. There is thus no reason to expect energy intensity to decrease. Energy efficiency is likely to remain an elusive target for Kazakhstan.⁷⁷

Production and Export Potential

Oil exports from Kazakhstan are growing rapidly. Export routes cross Russia and the Black Sea, the Persian Gulf (as swap deals with Iran; Kazakhstani oil is delivered in tankers to refineries in northern Iran in exchange for similar volumes of crude oil at Kharg Island in the Persian Gulf), and China. In 2006, Kazakhstan exported 24 million tonnes of oil through the CPC pipeline bound for the Russian export port of Novorossiysk on the Black Sea. 15.6 million tonnes were shipped towards Russia with the Atyrau-Samara oil pipeline. Approximately 2.2 million tonnes were sent through the Atasu-Alashankou pipeline to China. 9.6 million tonnes were transported via the Aktau port on the Caspian. About 2.2 million tonnes of oil is henceforth expected to be supplied to the Baku port on the Caspian.⁷⁸

Moreover, Kazakhstan is developing an internal Kazakhstan Caspian Transportation System (KCTS) to move future oil exports from Kashagan to international markets. This entails the construction of an oil pipeline from Eskene in western Kazakhstan to the port of Kuryk on the

⁷² Sauat Mynbayev, Minister of Energy and Natural Resources, Kazakhstan, speech, Vilnius Energy Security Conference, 10 October 2007.

⁷³ Murat Laumulin, "Gazprom as a Transnational Corporation and Central Asia 1," *Central Asia and the Caucasus* 41 (2006), 34-46, on 42. Laumulin is chief researcher at the Institute of Strategic Studies under the President of Kazakhstan. His estimate is supported by the one presented by BP (see Table 1).

⁷⁴ Oppenheimer, *Kazakhstan's Energy Policy*; Oppenheimer, *Kazakhstan's Energy Sector*; referring to the Strategy for Development of the Energy Sector of Kazakhstan to 2015; Tomberg, "Energy Policy," 40.

⁷⁵ Oppenheimer, *Kazakhstan's Energy Sector*.

⁷⁶ Oppenheimer, *Kazakhstan's Energy Sector*; Babak, "Oil and Gas Sector," 49.

⁷⁷ Oppenheimer, *Kazakhstan's Energy Sector*.

⁷⁸ Sauat Mynbayev, Minister of Energy and Natural Resources, Kazakhstan, "Deepening Energy Cooperation with the Caspian and Black Sea Regions," speech, Vilnius Energy Security Conference, 10 October 2007. Printed in proceedings of the conference (Vilnius: Office of the President of the Republic of Lithuania; Ministry of Foreign Affairs of the Republic of Lithuania; and Center for Strategic Studies, 2008), 29-31.

Caspian, just south of the present port of Aktau, where a new oil terminal has been built.⁷⁹ Capacity has been estimated at 25 million tonnes per year.⁸⁰ Kazakhstan wants to develop the ports Aktau, Bautino, and Kuryk for transshipment of large tonnage cargoes.⁸¹ Oil may then be shipped across the Caspian by barge to Baku and the BTC pipeline bound for Turkey. The plan also entails the build-up of a Caspian tanker fleet. The first three Kazakhstani oil tankers (the Astana, Almaty, and Aktau, constructed in St. Petersburg) were built in 2004-2006. They operate in the Caspian, from Aktau to Baku and Makhachkala.⁸²

However, there is still plenty of Russian involvement in the Kazakhstani energy sector. On 28 November 2001, Kazakhstan and Russia signed an intergovernmental agreement on energy sector co-operation.⁸³ On 7 June 2002, Gazprom and KazMunayGaz created a joint venture on what would become a parity basis, TOO KazRosGaz, with the purpose to extract raw gas from the Karachaganak field (in which Gazprom had been involved from 10 February 1995⁸⁴) and process it at Russia's Orenburg gas processing plant. KazRosGaz became the operator of Kazakhstani export gas to Russia, Georgia, and Azerbaijan.⁸⁵

In addition, Gazprom has since hinted at wishing to buy shares of Kazakhstan's state-owned gas pipeline operator company, AO KazTransGaz (established in 2000 and wholly owned by KazMunayGaz), and work to expand and modernise Kazakhstan's gas pipeline system.⁸⁶

Natural gas exports from Kazakhstan's Karachaganak field are thus moved northwards to Russia's Orenburg processing plant. In the summer of 2006, Gazprom signed a 15-year agreement according to which it would pay \$140 for Kazakhstani gas imports, up from \$47-50. Kazakhstan would also get a 50-per cent stake in a new unit of the Orenburg gas processing plant.⁸⁷ Some observers concluded that Kazakhstan had used its potential support for the Trans-Caspian gas pipeline (see below) as a means to persuade Russia to agree to raise the purchase price for Kazakhstani gas.⁸⁸ By the end of 2007, the price for Kazakhstan's gas had increased to \$165,⁸⁹ and in late 2007, Kazakhstan announced its wish to raise the price to \$190.⁹⁰ Kazakhstan in December 2007 also announced an intention to raise the tariffs for the transit of Turkmenistani and Uzbekistani gas via Kazakhstan from \$1.1 to \$1.5-1.85 per thousand cubic metres.⁹¹ From 2009, as noted, the price of gas is expected to increase yet more.

⁷⁹ *Nefteryok* (Oil Market) 5, 2005; Centre for Global Energy Studies (CGES), *The Kazakhstan Caspian Transportation System (KCTS)* (London: CGES, 2007).

⁸⁰ Centre for Global Energy Studies (CGES), *Western Crude Oil Pipelines of the Former Soviet Union* (London: CGES, 2007).

⁸¹ Lyazzat Kiinov (Ministry of Energy and Mineral Resources of the Republic of Kazakhstan), "The Main Development Direction of Oil Industry," presentation, 13th International Caspian Oil & Gas Conference, Baku, 7-8 June 2006.

⁸² Babak, "Oil and Gas Sector," 50.

⁸³ Alexander Ryazanov (Deputy Chairman of the Board, Gazprom), "Perspectives of Gazprom's Cooperation with Central Asian Countries," presentation, Oil & Gas Uzbekistan (OGU 2006), Tashkent, 17-18 May 2006.

⁸⁴ See, e.g., Rosemarie Forsythe, *The Politics of Oil in The Caucasus and Central Asia: Prospects for Oil Exploitation and Export in the Caspian Basin* (London: Oxford University Press/IISS, Adelphi Paper 300, 1996), 42.

⁸⁵ Ryazanov, "Perspectives of Gazprom's Cooperation." KazRosGaz was the result of an intergovernmental agreement between Russia and Kazakhstan on 28 November 2001. Gazprom raised its stake from 30 to 50 per cent in July 2003. Gazprom press release, 21 July 2003.

⁸⁶ Cutler, "Karachaganak;" Rauf Guseynov, "Russian Energy Companies in Central Asia," *Central Asia and the Caucasus* 29 (2004), 60-69, on 64-66; Saprykin, "Gazprom of Russia," 87. On KazTransGaz, see the firm's web site, www.kaztransgaz.kz.

⁸⁷ EIA, *Kazakhstan*, February 2008.

⁸⁸ *Caspian Investor* 9: 6 (June/July 2006), 4.

⁸⁹ *Kommersant*, 20 December 2007.

⁹⁰ *Nefte Compass*, 28 December 2007.

⁹¹ *Kommersant*, 20 December 2007.

Uzbekistan

Geography and Energy Resources

Uzbekistan is self-sufficient in natural gas production, and was between 1995 and 2002, self-sufficient in oil production (Tables 1-2). Uzbekistan has three refineries, at Ferghana, Alty-Aryk, and Bukhara.⁹²

Industrial exploration for oil in present Uzbekistan began in 1885, after a first, failed attempt in 1868. The origins of the industry were humble. Kerosene was produced in the Ferghana valley, and sent on bullock carts and camels to towns such as Andijon, Tashkent, and Kokand for consumption. The gas industry emerged much later. The first gas field was discovered in 1953. With work at the Gazli gas field commenced the construction of major gas pipelines such as the Bukhara-Ural and Central Asia-Center.⁹³

Uzbekistan has substantial oil and natural gas deposits. Uzbekistan is the third largest natural gas producer in the Commonwealth of Independent States (CIS), after Russia and Turkmenistan, and one of the top fifteen natural gas producers of the world. Almost all of Uzbekistan's gas production is concentrated on the Uzbekistani side of the Amu Darya basin, in southeastern Uzbekistan, and in the Ustyurt plateau in the western part of the country. Most oil fields are located in the Bukhara-Khiva region, including the Kokdumalak field, which accounts for about 70 per cent of Uzbekistan's oil production. There are also oil fields in the Ferghana basin, the Ustyurt plateau, and the Aral Sea.⁹⁴

Although Uzbekistan was for a while self-sufficient in oil production, oil production has since dropped. Uzbekistan is currently a net importer. The country has oil reserves similar to those of Turkmenistan but produces significantly less due to a lack of investments.⁹⁵

Energy Strategy

Since Uzbekistan is fairly self-reliant with regard to energy resources and has an economy that is not solely based on energy exports, the country has been slow to formulate either a cohesive energy strategy or, for that matter, a thorough economic reform programme. Some observers have concluded that due to the existence of other sources of income, in particular the cotton industry, and few real challenges to the government, the Uzbekistani government preferred to concentrate on the development of the cotton industry rather than the oil and gas sector. This also allowed the government to retain state ownership of the energy sector and to go without a high level of international involvement in it in the form of foreign direct investment.⁹⁶

Indeed, Uzbekistan has been able to dictate the terms to some of its neighbours that depend on Uzbekistani energy exports. In early 2004, for instance, Uzbekistan changed the conditions of its natural gas export price to Kyrgyzstan. The price remained \$42, but Uzbekistan insisted that the full price be paid in hard currency, and not half in currency and half in barter goods as before.⁹⁷ In early 2007, Uzbekistan doubled the price of gas for Tajikistan, to \$100.⁹⁸ In late

⁹² Energy Information Administration (EIA), *Central Asia*, February 2008 (www.eia.doe.gov).

⁹³ See, e.g., Uzbekneftegaz, *Annual Report 2005* (Tashkent: Uzbekneftegaz, 2005), 7; Inamjon Khaidarov (Director of the Alty-Aryk oil processing works), "Alty-Aryk Oil-Processing Works: A Centenary From the Date of Foundation," *10th Anniversary International Oil & Gas Conference, May 17-18 2006: Conference Proceeding* (Tashkent: ITE, 2006), 90-92.

⁹⁴ EIA, *Central Asia*, February 2008.

⁹⁵ EIA, *Central Asia*, February 2008.

⁹⁶ Luong and Weinthal, *Prelude*, 11, 14-15, 17-26. See also Energy Charter Secretariat, *Uzbekistan: In-Depth Review of the Investment Climate and Market Structure in the Energy Sector* (Brussels: Energy Charter Secretariat, 2005).

⁹⁷ Murat Laumulin, "Gazprom as a Transnational Corporation and Central Asia 2," *Central Asia and the Caucasus* 42 (2006), 19-31, on 19. Uzbekistan then delivered about 0.6 bcm per year to Kyrgyzstan. *Ibid.*, 20. In 2006, Uzbekistan delivered 0.51 bcm to Kyrgyzstan. Paramonov and Stokov, *Russia-Central Asia*, 7.

⁹⁸ Askar Abdrakhmanov, "Tajikistan Today: Economics and Politics at Home and Abroad," *Central Asia and the Caucasus* 48 (2007), 25-37, on 36. Uzbekistan then delivered about 0.485 bcm per year to Tajikistan. Laumulin, "Gazprom as a Transnational Corporation and Central Asia 2," 20.

2007, Uzbekistan raised its natural gas export price for both Kyrgyzstan and Tajikistan for 2008 to \$145.⁹⁹

There have also been disputes over gas deliveries from Uzbekistan to Kyrgyzstan and Tajikistan. Uzbekistan has at times cut gas supplies to Tajikistan to force it to pay its gas debt. In addition, gas supplies from Uzbekistan to Tajikistan remain unreliable reportedly due to low pressure in the pipelines.¹⁰⁰ Relations have also not always been smooth with Kyrgyzstan. On 27 August 2005, the Kyrgyzstani gas company Kyrgyzgaz claimed that Uzbekistan unilaterally had annulled an agreement on gas supplies after the government of Kyrgyzstan had refused to return Uzbeks from Andijon, wanted by Uzbekistan's security forces, and instead sent them on to freedom in Romania. Uztransgaz refuted this explanation and described the issue as a mere response to Kyrgyzstan not having paid for gas.¹⁰¹

The government of Uzbekistan has of course attempted to raise the importance of the energy sector for the national economy. In an attempt to raise revenue, Uzbekistan in 2005 increased taxes for crude oil production from 12.3 per cent to 32 per cent. Taxes for natural gas production were increased from 18.5 per cent to 64 per cent. However, this deterred foreign investments to the extent that the tax rates subsequently (in 2007) had to be decreased to 20 per cent for crude oil production and 30 per cent for natural gas production. Even so, this has served to dampen interest among investors.¹⁰²

Production and Export Potential

In 1998, a presidential decree established NKhK Uzbekneftegaz, which comprises eight firms, involved in, respectively, extraction; energy-related construction work; distribution of oil products, refinery of crude oil; pipeline operation; prospecting; equipment; and trade and services.¹⁰³

However, the energy sector, like other sectors of the Uzbekistani economy, has not yet lived up to its development potential. The Uzbekistani gas fields were heavily exploited in the 1960s and 1970s, and several old fields are declining in production. For this reason, Uzbekistan is developing new fields and exploring for new reserves.¹⁰⁴ The country's output is comparable to that of Turkmenistan, but Uzbekistan uses the bulk for domestic consumption, so can export only small amounts (Table 2). Uzbekneftegaz in 2007 attempted to raise the volume of gas exports to 13 bcm, which by 2014 would be raised further to 16 bcm.¹⁰⁵ The newly developed gas fields on the Ustyurt plateau will, with Gazprom investments, have the potential to increase Uzbekistan's gas exports to 17 bcm per year. These exports can be expected to go to Russia.¹⁰⁶

Most investments indeed derive from Russia. On 17 December 2002, Gazprom and Uzbekneftegaz signed an Agreement on Strategic Co-operation for the Period up to 2012. An unusual feature of this was that there was no intergovernmental agreement to serve as framework, which had by then become the norm in the energy relations among the former Soviet states.¹⁰⁷ It was thus, at least on paper, a strictly commercial relationship.

⁹⁹ "Russia Striking Back in Energy Game, Makes Play for Kyrgyz National Gas Company," *Business & Economics* (www.eurasianet.org), 31 January 2008; EIA, *Central Asia*, February 2008.

¹⁰⁰ Jahangir Kakharov, "Regional Cooperation in Central Asia As Seen From Uzbekistan," *Central Asia and the Caucasus* 48 (2007), 110-16, on 115.

¹⁰¹ See, e.g., the Global Security web site, www.globalsecurity.org; *Kazakhstan Daily Digest*, 29 August 2005 (www.eurasianet.org); citing the BBC, 27 August 2005.

¹⁰² *Alexander's Gas and Oil Connections* 10: 1 (17 January 2005; www.gasandoil.com); EIA, *Central Asia*, February 2008.

¹⁰³ Murat Kenisarin, "The Energy Sector of Uzbekistan: Present State and Problems," *Central Asia and the Caucasus* 26 (2004), 124-37; *Central Asia and the Caucasus* 27 (2004), 172-8. The full name of the firm is Natsional'naya Kholdingovaya Kompaniya Uzbekneftegaz, i.e., National Holding Company Uzbekneftegaz. See the firm's web site, www.uzneftegaz.uz.

¹⁰⁴ EIA, *Central Asia*, February 2008.

¹⁰⁵ Rakhmitdin E. Zikriyev (Deputy Chairman, Uzbekneftegas), presentation, Oil & Gas Uzbekistan (OGU 2006), Tashkent, 17-18 May 2006; Tomberg, "Energy Policy," 41.

¹⁰⁶ Tomberg, "Energy Policy," 41.

¹⁰⁷ Ryazanov, "Perspectives of Gazprom's Cooperation."

Gazprom has expressed an interest, not yet achieved, in acquiring a 44 per cent stake in the Uzbekistani gas pipeline monopoly AK Uztransgaz, a subsidiary of Uzbekneftegaz. The intention was to facilitate the delivery of Turkmenistani gas to Russia through Uzbekistan.¹⁰⁸ In mid-2004, Gazprom also negotiated with Uzbekneftegaz on the possible acquisition of Avtogaz, a gasoline station chain, but this objective also failed.¹⁰⁹

However, Uzbekneftegaz and a Gazprom subsidiary, Zarubezhneftegaz, on 14 April 2004 signed a 15-year production sharing agreement (PSA) for the development of the Shakhpakhty gas and condensate field, which was first opened in 1962 but where production had been halted in February 2002 due to high wear-and-tear of the equipment. Other joint projects were also agreed.¹¹⁰ Russia's LUKoil has also made investments in a joint project with Uzbekneftegaz to extract gas, in the Bukhara-Khiva oil and gas region, following an agreement between Russia's President Vladimir Putin and his Uzbekistani counterpart, Islom Karimov, in June 2004. Under the agreement, LUKoil will develop the gas fields of Kandym, Khauzak, and Shady, taking a 90 per cent share in the project. Uzbekneftegaz will hold the remaining 10 per cent.¹¹¹ The investments by Gazprom and LUKoil in Uzbekistan has ensured that the two companies gain a dominant position in the country's energy sector.

Even foreign investments in the Uzbekistani energy sector have at times ended up in Russian hands, even though the process to this result has not always been smooth. Uzbekneftegaz signed its first PSA in April 2001, with Britain's Trinity Energy through a specially formed subsidiary known as UzPEC Ltd., which thus acquired licenses to gas fields in the southwest Gissar and central Ustyurt regions. UzPEC planned to sell gas to Russia, Kazakhstan, and China. However, in July 2004, Yuriy Shafranik, head of the Russian firm Soyuzneftegaz and former Russian minister of fuel and energy, bought a controlling block of shares in UzPEC.¹¹² In February 2005, Uzbekneftegaz cancelled the PSA, claiming that UzPEC had not fulfilled its obligations. The parties signed a new PSA in February 2007,¹¹³ several months after Shafranik had complained in public that for several years, Uzbekneftegaz and his firm had had serious differences.¹¹⁴

By 2006, Uzbekistan exported 7.3 bcm of natural gas.¹¹⁵ Of these volumes, 1.8 bcm went to Kazakhstan, 0.51 bcm to Kyrgyzstan, and perhaps 0.57 bcm to Tajikistan. The rest was exported to Russia.¹¹⁶ Uzbekistan planned to export 13 bcm to Gazprom in 2007, and Gazprom has for years hoped that Uzbekistan would be able to increase its annual supplies to 17-18 bcm.¹¹⁷

¹⁰⁸ Esmer Islamov and Sergei Blagov, "Uzbek Events Could Prompt Geopolitical Shift," *Eurasia Insight* (www.eurasianet.org), 2 April 2004; Gazprom web site, www.gazprom.ru.

¹⁰⁹ *Kommersant*, 5 August 2004; reprinted in *Vestnik TEK: Obzor pressy* 6 (39), 31 July - 6 August 2004, 40.

¹¹⁰ *Kommersant*, 5 August 2004; reprinted in *Vestnik TEK: Obzor pressy* 6 (39), 31 July - 6 August 2004, 40; Sergei Blagov, "Investment Strengthens Russian Ties to Uzbekistan," *Business & Economics* (www.eurasianet.org), 4 August 2004; Guseynov, "Russian Energy Companies," 66-7; Saprykin, "Gazprom of Russia," 87; Laumulin, "Gazprom as a Transnational Corporation 1," 44. Zarubezhneftegaz maintains a not particularly informative web site, www.zargaz.ru. The firm is a closed joint stock company created in September 1998, with 60.1 per cent of the shares belonging to Gazprom, 24.9 per cent to Zarubezhneft, and 15 per cent to Stroytransgaz (in which Gazprom maintains a high, if not majority, stake as well).

¹¹¹ Blagov, "Investment Strengthens Russian Ties;" Guseynov, "Russian Energy Companies," 67.

¹¹² Igor Tomberg, "Central Asia and the Caspian: A New Stage in the Great Energy Game," *Central Asia and the Caucasus* 41 (2006), 20-34, on 31, citing *Vremya novostey*, 14 July 2004; EIA, *Central Asia*, February 2008. Yuriy Shafranik maintains a web site, www.shafranik.com.

¹¹³ EIA, *Central Asia*, February 2008.

¹¹⁴ Yuriy Shafranik, presentation, Oil & Gas Uzbekistan (OGU 2006), Tashkent, 17-18 May 2006. On PSA legislation in Uzbekistan, see, e.g., Michael P. Barry, "The Development and Use of Production Sharing Agreement Law in Uzbekistan Oil and Gas," *Central Asia and the Caucasus* 41 (2006), 47-59.

¹¹⁵ Ergen K. Tursynbayev (Uzbekneftegaz), presentation, 13th International Caspian Oil and Gas Conference (7-8 June 2006), Baku.

¹¹⁶ See, e.g., Paramonov and Stokov, *Russia-Central Asia*, 7.

¹¹⁷ See, e.g., (author anonymous) "Russia's Central Asia Energy Strategy Experiences a Few Setbacks," *Business & Economics* (www.eurasianet.org), 11 May 2007.

The price paid by Gazprom for Uzbekistani gas has risen consistently, from \$40 in 2004, \$44 in 2005, \$60 in 2006, to \$100 starting 1 January 2007.¹¹⁸ On 9 January 2008, it was announced that Gazprom would pay \$130 for gas from Uzbekistan in the first half of 2008, and \$150 in the second half of the year.¹¹⁹ Then, a little later in January 2008, China agreed to buy gas from Central Asia including presumably Uzbekistan for a price of \$195.¹²⁰ But these pricing agreements pale in comparison to the already mentioned 11 March 2008 announcement that Gazprom from 2009 would pay European market prices for its gas imports from Central Asia.

Turkmenistan

Geography and Energy Resources

In Turkmenistan, existing energy export infrastructure, a series of gas pipelines, is primarily directed towards Russia. In addition, two small gas pipelines connect Turkmenistan to northern Iran and have been used for swap deals. Turkmenistan has two major refineries, the Seydi (Charjew) and Turkmenbashi. The Charjew refinery in fact used to be supplied with Russian oil through the Omsk-Pavlodar-Shymkent-Charjew pipeline from Siberia.¹²¹

Turkmenistan has substantial natural gas and oil deposits. Most of the oil fields are in the South Caspian basin, often in the disputed areas of the Caspian Sea which means that they are likely to remain undeveloped until the Caspian littoral states have agreed on their maritime borders. Others are located in the Garashyzyk onshore area in the west of the country. While Turkmenistan exports roughly half of its oil production and yet remains of little importance as an oil exporter, the country is the second largest gas exporter of the former Soviet states (Tables 1-2). Most of the natural gas fields currently in operation are located in the southeast of the country.¹²²

Energy Strategy

Since Turkmenistan, like Uzbekistan, is not dependent on the export of energy resources, the country has been slow to formulate a cohesive energy strategy, or any kind of thorough economic reform programme. Some observers have concluded that due to the existence of other sources of income, in particular the cotton industry, and few real challenges to the government, the Turkmenistani government, just like its Uzbekistani counterpart, preferred to concentrate on the development of the cotton industry rather than the oil and gas sector. This also allowed the government to retain state ownership of the energy sector and to go without a high level of international involvement in it in the form of foreign investments.¹²³

Turkmenistan's major problem within the energy sector was always to find viable export routes, since most neighbouring countries were also energy exporters. Turkmenistan for this reason prudently still expresses its interest in multiple pipeline projects, in order not to write off any project, however unlikely, or any important player, whoever he might be, prematurely. Turkmenistan has envisaged natural gas exports in all directions: to Russia and Ukraine in the northwest, the European Union in the far west, Iran in the south, China in the east, and Pakistan and India in the southeast.

Some see this as rivalry between different factions in Turkmenistani politics. For sure, it remains a possibility that competing Turkmenistani leadership factions might appeal to different

¹¹⁸ Aleksandr Ryazanov (Gazprom), "Perspektivy sotrudnichestva OAO Gazprom so stranami tsentral'no-aziatskogo regiona," presentation, Oil and Gas Uzbekistan (OGU 2006), Tashkent, 17 May 2006; *Russian Petroleum Investor* 16: 3 (March 2007), 69.

¹¹⁹ Patrick Armstrong, *Russian Federation/CIS Weekly Sitrep*, 10 January 2008.

¹²⁰ Dow Jones Energy Service, 21 January 2008.

¹²¹ See, e.g., EIA, *Central Asia*, February 2008.

¹²² EIA, *Central Asia*, February 2008.

¹²³ Luong and Weinthal, *Prelude*, 11, 14-15, 17-26.

foreign countries, such as the United States, Russia, China, Turkey, and perhaps others.¹²⁴ But the various suspicions on the inner manoeuvring of the Turkmenistani leaders remain often just that, suspicions. As an example, in the course of securing power after the death in December 2006 of former president Saparmurat Niyazov, Turkmenistan's new president, Gurbanguly Berdymuhammedov (elected in February 2007), sacked the powerful head of the presidential guard, Akmurad Rejepov. It was indeed Rejepov who had secured a peaceful transition after the death of Niyazov and he clearly was a major, potential rival for power in Turkmenistan. Berdymuhammedov thus had every reason to remove Rejepov. However, since the sacking and arrest of Rejepov took place within days of the 12 May 2007 agreement on the building of the Prikaspiyskiy pipeline to Russia (see below), the sacking of Rejepov led to a number of conspiracy theories. Some believe that since Rejepov was alleged to have been the chief advocate of the Turkmenistan-China gas pipeline project, Berdymuhammedov had Rejepov removed so as to personally be able to control relations with China. Others suggest that the timing indicates that Berdymuhammedov must have promised Russia's President Putin his acceptance of the Prikaspiyskiy project in exchange for Russian political support against Rejepov.¹²⁵ Both suggestions might certainly sound plausible and although quite different, they do not necessarily contradict each other. However, they also add little, if anything, to our understanding of the decisions that led to the Prikaspiyskiy and Turkmenistan-China pipeline projects. The Prikaspiyskiy project was necessary to move further gas supplies to the Russian market, and Russia was not against the Turkmenistan-China pipeline project, which indeed already was on track. Besides, it is very likely that President Berdymuhammedov will strive to maintain good relations with both Russia and China, regardless of what goes on within the inner circles of the Turkmenistani leadership. And the purge of Rejepov was not the first, and very likely not the last, among the political leaders of Turkmenistan.

Turkmenistan has seen some foreign investment in the upstream oil sector, both as joint ventures and as production sharing agreements (PSAs) with GK Turkmenneft (known in Turkmen as Turkmennebit), the state-owned oil company.¹²⁶ PSAs have been signed with Petronas (Malaysia), which began production at the Diyarbekir field in 2005-2006; Dragon Oil (United Arab Emirates), which since 2006 produces oil at the offshore Cheleken deposit; and Burren Energy (Italy), which in 2006 produced oil from its onshore Nebit Dag field. Dragon Oil, for instance, ships over half of its crude oil output to Neka in Iran in swap deals with Iran.¹²⁷ Other oil companies involved in Turkmenistan include Mitro International (Austria), Maersk Oil (Denmark), Wintershall (Germany), Oil and Natural Gas Corporation (ONGC, India), Zarit Consortium (Russia), British Petroleum (BP), Chevron (USA), Buried Hill Energy (Cyprus), LUKoil (Russia), and ConocoPhillips (USA).¹²⁸ Indeed, the interest in foreign direct investments in Turkmenistan has expanded greatly since the ascension to power of Berdymuhammedov in early 2007, who has begun to open up the country to foreign business. Steps have been taken to establish a regulatory authority with greater transparency than in the past.¹²⁹

Unlike the oil sector, the natural gas sector has primarily seen investments from Russia and China. In June 2007, President Berdymuhammedov signed an agreement in which the Chinese

¹²⁴ Aleksei Malashenko, "Russia and Turkmenistan," *Russian Analytical Digest* 29, 2007 (www.res.ethz.ch), 2-5, on 5.

¹²⁵ News web site, www.ferghana.ru, 31 July 2007; Turkmenistani opposition web site Gündogar, 30 November 2007 (www.gundogar.org); Malashenko, "Russia and Turkmenistan," 4.

¹²⁶ Gosudarstvennyy Kontsern Turkmenneft, i.e., State Concern Turkmenneft. For some information on Turkmenistani laws for the oil and gas industry, see the Government of Turkmenistan web site, www.turkmenistan.gov.tm.

¹²⁷ EIA, *Caspian Sea*, January 2007; EIA, *Central Asia*, February 2008 (www.eia.doe.gov). Burren Energy was acquired by Eni in January 2008. Dragon Oil, with a majority stake held by the national oil company of the United Arab Emirates, maintains a web site, www.dragonoil.com.

¹²⁸ EIA, *Central Asia*, February 2008. On the Zarit Consortium, established by Rosneft, Itera, and Zarubezhneftegaz in 2003, see, e.g., Sergei Blagov, "Itera Suggests Reviving Zarit Consortium for Caspian Exploration," *Eurasia Daily Monitor*, 14 March 2007 (www.jamestown.org).

¹²⁹ EIA, *Central Asia*, February 2008.

National Petroleum Corporation (CNPC) received a license for developing Bagtyarlyk, said to be one of the country's most promising gas fields.¹³⁰ In July 2008, Russia's gas export monopoly Gazprom announced that it would finance and build gas transportation infrastructure, in particular from the eastern part of the country, and develop gas fields in Turkmenistan.¹³¹

There have also been a number of projects involving ultimately Ukrainian interests. In 2005, the Austrian firm ZanGas Hoch- & Tiefbau GmbH, incorporated in 2004 in Vienna but part of the Ukrainian businessman Dmytro Firtash's group of companies, was contracted to build the Malay-Zerger gas pipeline in Turkmenistan, for which the firm would be paid in gas. ZanGas was also named the principal contractor in the construction of parts of the bypass lines of Shatlyk-Khiva on the Central Asia-Centre (CAC) pipeline system, and part of the Dowlatabad-Darialyk gas pipeline system.¹³²

Production and Export Potential

The key to Turkmenistan's energy reserves is gas, not oil. The volume of oil production is not particularly large. Turkmenistan has never produced more than 10 million tonnes of crude (Table 1). Besides, some Turkmenistani crude oil suffers from poor quality.¹³³

Turkmenistan's state oil company GK Turkmenneft is responsible for the country's oil industry. But there are problems. The chairman of Turkmenneft, Garyagdy Tasliyev, and the head of Turkmennebitgazgurlusy, the state department in charge of constructing oil and gas facilities and pipelines, Jumageldi Babasev, were in December 2007 reprimanded by President Berdymuhammedov for shortcomings in their work to implement the Programme of Development of the Oil and Gas Industry of Turkmenistan until 2030, which is supposed to guide the country's development in these matters.¹³⁴

Turkmenistan's state gas company GK Turkmengaz is responsible for the country's gas industry.¹³⁵ While Turkmenistan's natural gas reserves are expected to be substantial, a number of questions remain with regard to the country's gas balance. Quite simply, it appears that Turkmenistan will not be able to honour all its contracted export obligations.

In the beginning of the 1990s, Turkmenistan's total gas production was some 80 bcm per year, out of which little more than 10 per cent was needed for domestic consumption (Table 2). Most of the gas exports went to Ukraine. In February 1994, Turkmenistan ceased delivering gas to Ukraine due to the latter's failure to pay its accumulated gas debt.¹³⁶ As a consequence, Turkmenistan reduced production. While Turkmenistan had supplied 25.5 bcm to Ukraine in 1993, and a volume of 28 bcm was planned for 1994, only 11 bcm were actually sent to Ukraine in this year.¹³⁷ Production has since started to recover but has not yet reached the level of the Soviet period (Table 2).

In early 2008, President Berdymuhammedov was quoted as saying that Turkmenistan produced 72.3 bcm of natural gas in 2007 and plans to increase output to 81.5 bcm in 2008.¹³⁸

Turkmenistan has, as noted, envisaged natural gas exports in all directions: to Russia and Ukraine in the northwest, the European Union in the far west, Iran in the south, China in the east, and Pakistan and India in the southeast. However, Turkmenistan has repeatedly reduced its projections for gas production. As noted, Turkmenistan has not yet been able to resume the production volumes of 1991, and certainly not those of 1990. Nonetheless, in 1993 the

¹³⁰ Tomberg, "Energy Policy," 49.

¹³¹ Gazprom press release, 25 July 2008; *Asia Times*, 30 July 2008 (www.atimes.com).

¹³² The group's web site, www.groupdf.com.

¹³³ EIA, *Central Asia*, February 2008.

¹³⁴ Turkmenistani TV, 17 December 2007. In Russian, the name is Programma razvitiya neftegazovoy promyshlennosti Turkmenistana na period do 2030 goda.

¹³⁵ Gosudarstvennyy Kontsern Turkmengaz, i.e., State Concern Turkmengaz.

¹³⁶ Shinkichi Fujimori, "Ukrainian Gas Traders, Domestic Clans and Russian Factors: A Test Case for Meso-Mega Area Dynamics," in Kimitaka Matsuzato (ed.), *Emerging Meso-Areas in the Former Socialist Countries: Histories Revived or Improvised?* (Sapporo: Slavic Research Center, Hokkaido University, 2005), 113-36, on 121.

¹³⁷ Preyger and Omelchenko, "Problems of Turkmen Gas Export," 123.

¹³⁸ Reuters, 17 March 2008. For somewhat lower production figures, see Table 2, based on BP statistics.

Turkmenistani government adopted a long-term programme for the development of the oil and gas industry until 2020. This document stipulated the goal of producing 130 bcm of natural gas in 2000, and 230 bcm by 2020. This assessment rapidly lost touch with reality, and by 1995-1996, when total gas production had diminished to a fraction of the one at the time of the Soviet Union, the projection for 2020 was reduced to 200 bcm. The present strategy of Turkmenistan's economic, political, and cultural development until 2020, which again does not correspond that well with reality, indicates that by 2005, gas production should have amounted to 85 bcm, of which 70 bcm would have been exported (in reality, production in this year reached less than 60 bcm). By 2010, production would grow to 120 bcm and exports to 100 bcm. By 2020, however, production would have reached 240 bcm - a figure even more optimistic than the failed projection of the early 1990s. Turkmenistan has since topped this optimistic plan with a promise to export another 30 bcm per year to China, beginning in 2009.¹³⁹

Turkmenistan has concluded so many agreements (although some are intergovernmental framework agreements that technically remain uncontracted in a commercial sense) that a summary of its export obligations suggests that Turkmenistan is not even close to reaching its gas export obligations (for a *conservative* estimate of the country's outstanding obligations, see Table 3). Moreover, Turkmenistan's 1999 contract with Turkey's Botas to deliver 16 bcm per year from 2002 has been disregarded in this calculation since there is no trans-Caspian pipeline to transport the gas, as originally planned. Note also that the 10 April 2003 agreement between Turkmenistan and Russia in fact envisaged Turkmenistan exports of 5-6 bcm in 2004; 6-7 bcm in 2005; 10 bcm in 2006; 60-70 bcm in 2007; 63-73 bcm in 2008; and 70-80 bcm per year in 2009-2028.¹⁴⁰ Turkmenistan has failed to live up to this agreement as well.

Table 3. Turkmenistan's Natural Gas Export Obligations – A Conservative Estimate

Year	Russia	Ukraine	Iran	Austria	China	Pakistan	Total	Actual Export
2005	5	34	6	0.2	-	-	45.2	42.2
2006	41	-	8	1.5	-	-	50.5	43.3
2007	50	-	8	-	-	-	58	45.5
2008	50	-	8	-	-	-	58	na
2009	50	-	8	-	30	-	88	na
2010	70	-	12	-	30	-	112	na
Post-2010	70	-	12	-	30	30	142	na

Sources: Preyger and Omelchenko, "Problems of Turkmen Gas Export," 126, citing *Neftegazovaya Vertikal'* 15, 2005, pp. 42-44; Tomberg, "Energy Policy," 47. The actual export is the figure for production less domestic consumption as per Table 2. Ukraine's imports have mainly been subsumed in the export obligation to Russia, in 2006 determined by the agreement between Gazprom and Naftogaz Ukrainy of 4 January 2006.

Furthermore, even with the currently ongoing restoration of the Central Asia-Centre (CAC) pipeline, and with the planned Prikaspiyskiy pipeline (see below), Turkmenistan will only be able to transport approximately 60 bcm towards the west and north (roughly 50 + 10 bcm, respectively). There will thus be no chance in the foreseeable future to fulfil even the obligations to Russia and, through transit, Ukraine. Throughput capacity will simply be insufficient.

There is reason to believe that Gazprom is well aware of this particular problem. Let us not assume that Gazprom expects Turkmenistan to honour its obligations from 10 April 2003, when the governments of Russia and Turkmenistan signed the already mentioned 25-year intergovernmental agreement on gas co-operation that stipulated a gradual increase formula for the purchase of Turkmenistani gas, with significantly increased delivery volumes from 2007 onwards. Whether Turkmenistan will be able to honour its obligations and promises to its other customers is anybody's guess.

¹³⁹ Preyger and Omelchenko, "Problems of Turkmen Gas Export," 121, 128.

¹⁴⁰ Soglashenie mezhdru Rossiiy i Turkmenistanom o sotrudnichestve v gazovoy otrasli, Moskva, Kreml', 10 aprelya 2003 goda (at the Ministry of Foreign Affairs web site, www.ln.mid.ru).

Azerbaijan

Geography and Energy Resources

Azerbaijan's major hydrocarbon reserves are located offshore in the Caspian Sea. Almost all oil being exported from Azerbaijan is moved through the Baku-Tbilisi-Ceyhan (BTC) pipeline. Small amounts are being exported by railway to Georgian export ports and by pipeline to Novorossiysk. Natural gas is since 2007 being exported through the South Caucasian Pipeline (SCP).¹⁴¹

Azerbaijani crude oil is refined domestically at two refineries near Baku, the Azerineftyag refinery and the Heydar Aliyev refinery, formerly known as Azerneftyanajag.¹⁴²

Energy Strategy

Unlike Uzbekistan and Turkmenistan, Azerbaijan found itself without any realistic alternatives to the energy sector. It was also less stable politically, even though the government was able to rally much of the population around the 1988-1994 war with neighbouring Armenia over Nagorno-Karabakh and national survival. In addition, and in contrast to the other former Soviet states in the region, the oil sector in Azerbaijan was already the foundation of the country's economy upon independence. The government thus chose to retain hold on the oil assets, like Uzbekistan and Turkmenistan, while still, unlike them, encouraging direct international involvement in the form of international oil companies that were allowed to operate in the country only through joint ventures and PSAs.¹⁴³ As for natural gas, Azerbaijan was then a net importer (Table 2), so the emphasis was on the oil industry.

In the aftermath of the Nagorno-Karabakh war and the lingering tensions between Azerbaijan and Armenia, Azerbaijan arranged a swap deal with Iran that provides natural gas to Azerbaijan's geographically separate Nakhchivan enclave. For this purpose, Azerbaijan exports natural gas to Iran via the Baku-Astara Pipeline. Iran then delivers natural gas to Nakhchivan via a newly built pipeline into the enclave, in exchange for a transit fee.¹⁴⁴

In 1999, then President Heydar Aliyev established a State Oil Fund, with the purpose to use money obtained from oil-related foreign investments for various worthwhile goals including reportedly education, poverty reduction, and efforts to raise rural living standards.¹⁴⁵

Azerbaijan depends on its oil exports. By 2003, exports of crude oil and refined oil products constituted 85.4 per cent of the country's total exports and no less than 75 per cent of the government's budget revenues.¹⁴⁶

Dependence on oil exports does not mean that Azerbaijan is unable to assert its interests abroad. This includes investments. Azerbaijan is, for instance, currently involved in the construction of a terminal for oil and oil products at Moldova's only port, Giurgiulesti on the Danube. This might become a way for Azerbaijan, at least to some extent, to control its exports. The port has railway access.¹⁴⁷ In addition, as will be shown, Azerbaijan has made substantial investments in Georgia's Batumi export terminal, through which substantial amounts of Azerbaijani oil and oil products pass on its way to international markets.

¹⁴¹ Energy Information Administration (EIA), *Azerbaijan*, November 2007 (www.eia.doe.gov); *Petroleum Review*, 31 December 2007.

¹⁴² EIA, *Azerbaijan*, November 2007.

¹⁴³ Luong and Weinthal, *Prelude*, 28-9. See also Energy Charter Secretariat, *Azerbaijan: In-Depth Review of the Investment Climate and Market Structure in the Energy Sector* (Brussels: Energy Charter Secretariat, 2005).

¹⁴⁴ EIA, *Azerbaijan*, November 2007.

¹⁴⁵ EIA, *Azerbaijan*, November 2007.

¹⁴⁶ *Nezavisimaya gazeta*, 1 April 2003.

¹⁴⁷ David Preyger, "Guam and Global Energy Policy," *Central Asia and the Caucasus* 51-51 (2008), 55-66, on 59. See also the Giurgiulesti International Free Port web site, www.gifp.md.

Production and Export Potential

Foreign direct investment since independence, and in particular since 1997, has revitalised the Azerbaijani oil sector. Several new large-scale projects have been developed, and existing facilities have been refurbished. By 2007, oil production was thus driven almost exclusively by growth from the Azeri-Chirag-Guneshli (ACG) fields, controlled by the Azerbaijan International Operating Company (AIOC) and operated by the consortium's largest stakeholder, British Petroleum (BP). The ACG group of fields, including the deep-water Guneshli, produces some 80 per cent of the country's oil. This share is expected to rise further, as oil production grows. In comparison, the oil output of the State Oil Company of the Azerbaijan Republic (SOCAR), which maintains production in several Soviet-era fields, is in decline, decreasing by around 1 per cent per year.¹⁴⁸

While the international consortium AIOC is a success story, SOCAR remains under government control and has less to boast of, especially in the oil sector. SOCAR was established in September 1992 through the merger of Azerbaijan's two state oil companies, Azerineft and Azneftkimiya. SOCAR and its subsidiaries are responsible for the production of oil and natural gas, the operation of the country's two refineries, the pipeline system (except the BTC oil and SCP gas pipeline systems), and management of Azerbaijan's oil and natural gas imports and exports. SOCAR's most important field is the shallow-water Guneshli, in the Soviet period known as "28th of April Field". It first came online in 1981. In addition, SOCAR operates some forty other old fields, both on- and offshore. Many suffer from ageing equipment and have been artificially stimulated for years using water injection.¹⁴⁹

SOCAR remains, at least for now, more important in the gas sector. Of Azerbaijan's natural gas production, some 60 per cent is produced by Azneft, a SOCAR subsidiary. The rest is produced by several joint ventures, the largest of which is AIOC. Fundamentally all natural gas production takes place at offshore fields, the most important of which remains the Bakhar oil and gas field off the southern promontory of the Absheron Peninsula, which as late as in 2007 accounted for almost half of Azerbaijan's natural gas output. Output at Bakhar has been declining, however. SOCAR therefore plans to invest further in the nearby Bakhar-2 field and to develop the gas production at the shallow-water Guneshli field, which despite peaking in 1992 is the company's only profitable asset. The most promising natural gas and condensate field, however, is Shah Deniz, estimated to be one of the world's largest natural gas discoveries of the last twenty years and the field around which all hopes for Azerbaijani gas exports revolve. Shah Deniz is located offshore, southeast of Baku, and is being developed by the Shah Deniz consortium, of which BP is the leading member. The consortium is based on a PSA signed in 1996. The Shah Deniz field has experienced several delays. Production began in 2007, during which the consortium hoped to produce 2.8 bcm of natural gas in addition to significant volumes of gas condensate.¹⁵⁰

Azerbaijan's domestic demand for gas has been rising in the last ten years (Table 2). Despite its substantial gas reserves, Azerbaijan was expected to remain a net importer of gas throughout 2007, taking any gas needed from Russia and Iran.¹⁵¹ Until Shah Deniz came online, domestic consumption remained higher than production. Azerbaijan officially ceased importing gas from Russia in early 2007, when production began at Shah Deniz. However, since the natural gas from phase 1 of Shah Deniz is being sold to the SCP consortium (also led by BP), Georgia, and Turkey, local consumption would depend on associated natural gas from the ACG project, delivered by AIOC to SOCAR (a volume of around 2.2 bcm in 2007).¹⁵²

Russia's Gazprom was indeed the leading supplier of gas to Azerbaijan by January 2004. At the end of December 2003, Aleksandr Medvedev, director of Gazprom's export arm Gazexport, had signed a five-year contract for Russian gas with Natic Aliyev, president of SOCAR. The

¹⁴⁸ EIA, *Azerbaijan*, November 2007. SOCAR maintains a web site, www.socar.az.

¹⁴⁹ EIA, *Azerbaijan*, November 2007.

¹⁵⁰ EIA, *Azerbaijan*, November 2007.

¹⁵¹ Tomberg, "Energy Policy," 47.

¹⁵² EIA, *Azerbaijan*, November 2007. BP figures indicate that Azerbaijan due to the BP-operated Shah Deniz field in fact became a net exporter in 2007. See Table 2.

contract came into effect on 1 January 2004 and terminates 31 December 2008. According to the terms, Gazprom would supply up to 4 bcm per year to Azerbaijan.¹⁵³ Relations were never particularly warm between Gazprom and Azerbaijan. On 10 December 2004, Aleksandr Medvedev met Azerbaijan's Vice Prime Minister Yagub Eiyubov to discuss the gas price for the following year. The two could not agree. The Russian firm wanted to raise the gas price from \$52 to \$70-80, since it purchased the gas supplied to Azerbaijan from Turkmenistan in the first place, and Turkmenistan had demanded a price rise from \$44 to \$58. The Azerbaijani side refused to accept the price rise, even though the price of Turkmenistani gas was rising. As a result, Gazexport from 1 January 2005 ceased delivering gas to Azerbaijan, and only resumed deliveries on 10 January 2005. Gazexport blamed the halt in deliveries on shutdowns on the Central Asia-Center pipeline (CAC, see below), which was correct since Turkmenistan on 31 December had abruptly ceased delivering gas to Russia, no doubt because Gazprom had not accepted the requested price hike. Turkmenistan thus halted deliveries, blaming the halt on a need to carry out repairs on the CAC pipeline. Azerbaijan chose to interpret the halt in deliveries as mere negotiation tactics and, with several Ukrainian and Western observers, accused Gazprom of illegitimate political and economic pressure.¹⁵⁴

The accusations did not help Azerbaijan. In 2005, Azerbaijan eventually had to pay \$60 for gas, and in 2006, since the gas price continued to rise, Azerbaijan had to pay a price of \$110.¹⁵⁵

In late 2006, it became increasingly clear that Azerbaijan soon would be able to export its own natural gas at high price through the South Caucasus Pipeline (SCP) to Turkey. Gazprom thus again raised its price for gas to Azerbaijan. From 2007, Azerbaijan would have to pay \$235 for gas deliveries from Russia.¹⁵⁶ As a consequence, Azerbaijan declined to buy gas from Gazprom.¹⁵⁷ Azerbaijan expected to cover the gap with Shah Deniz gas, which indeed finally was feasible at the time, so when Gazprom imposed increased gas prices on Azerbaijan, Azerbaijan retaliated by not only halting imports of Russian natural gas but also exports of Azerbaijani oil via Russia to Europe (through Novorossiysk) from 1 January 2007.¹⁵⁸

In March 2007, Azerbaijan at last began exporting Shah Deniz gas to Georgia. In July 2007, the first natural gas entered Turkey's pipeline system via the SCP, with Botas as purchaser. Azerbaijan also expects to deliver gas to Greece. While this is feasible, with current production volumes it would seem impossible for Azerbaijan to produce sufficient gas for it to reach Europe beyond Greece under existing conditions.¹⁵⁹ The Azerbaijani government believes otherwise. According to its projections, by 2010, Azerbaijan expects to produce 48 million tonnes of oil and over 120 bcm of gas per year. By 2020, Azerbaijan expects to have increased these volumes to 100 million tonnes of oil and 240 bcm of gas per year.¹⁶⁰

It remains to be seen whether Azerbaijan will stay determined to deliver gas to western Europe. On 3-4 July 2008, Russia's President Dmitry Medvedev visited the country's capital Baku. So did the head of Gazprom, Aleksei Miller, who took part in an extended meeting with President Ilham Aliyev of Azerbaijan. At the time of their visit, Gazprom offered to buy all of Azerbaijan's gas at European market prices.¹⁶¹ This would be far higher prices than Azerbaijan so far has been able to realise from its customers in Georgia and Turkey.

¹⁵³ Samvel Martirosyan, "Will Gas Be a Lethal Weapon in the South Caucasus?," *Alexander's Gas & Oil Connections* 9: 6 (25 March 2004; www.gasandoil.com).

¹⁵⁴ *Nefterynok* (Oil Market) 1, 2005. See also Stern, *Russian-Ukrainian Gas Crisis*, 3-4; Vladimir Saprykin, "Iran as an Exporter of Natural Gas to the South Caucasian Countries," *Central Asia and the Caucasus* 33 (2005), 108-20, on 112-13.

¹⁵⁵ Andreas Heinrich, "Gazprom: A Reliable Partner for Europe's Energy Supply," *Russian Analytical Digest* 1, 2006 (www.res.ethz.ch), 2-6, on 4.

¹⁵⁶ Roland Götz, *Europas Energieversorgung: Zur Debatte um Importabhängigkeit, Ressourcenverfügbarkeit und Lieferantenmonopole* (Stiftung Wissenschaft und Politik, Deutsches Institut für Internationale Politik und Sicherheit, Diskussionspapier, 2007), 21.

¹⁵⁷ Data published continuously in the journal MINTOP (Moscow).

¹⁵⁸ *Mosnews*, 9 January 2007 (www.mosnews.com, since then discontinued).

¹⁵⁹ EIA, *Azerbaijan*, November 2007; *Petroleum Review*, 31 December 2007.

¹⁶⁰ Tomberg, "Energy Policy," 40.

¹⁶¹ Gazprom press release, 3 July 2008; *Asia Times*, 30 July 2008 (www.atimes.com).

Potential and Existing Export Routes

Oil

To Russia

The Atyrau-Samara Pipeline

Atyrau, a major centre for oil and gas in Kazakhstan, is the starting point of the old Soviet-built Atyrau-Samara pipeline, one of the main oil export pipelines for Kazakhstan. This Russia-bound pipeline connects to the old Russian-controlled Druzhba pipeline that ends in Germany. On Russian territory, the pipeline is controlled by Russia's Transneft, while KazMunayGaz operates the pipeline on Kazakhstani territory.¹⁶²

The Atyrau-Samara pipeline enables substantial volumes of Kazakhstani oil to reach Europe through Russia without ever having to cross the Black Sea and the congested Turkish Straits.¹⁶³ However, for practical reasons much oil has in fact been moved not to Germany but to the Odessa port on the Black Sea.¹⁶⁴

In June 2002, Kazakhstan and Russia signed a 15-year oil transit agreement under which Kazakhstan would export at least 17.5 million tonnes of oil per year through the Atyrau-Samara pipeline.¹⁶⁵ Such volumes have not yet been reached, although the operators are almost there. In 2006, Kazakhstan shipped 15.6 million tonnes through the Atyrau-Samara pipeline, of which 7.5 million tonnes were delivered to the Odessa port. At present, Kazakhstan ships 15 to 17 million tonnes of oil per year through this pipeline.¹⁶⁶ By 2006, there was also a plan to expand the pipeline's capacity up to 25 million tonnes per year, or even 30 million tonnes.¹⁶⁷

The Caspian Pipeline Consortium (CPC), aka the Tengiz-Novorossiysk Pipeline

The Caspian Pipeline Consortium (CPC) moves Kazakhstani oil from Tengiz and (since 2003) to some extent Karachaganak to Russia for shipping out of the Novorossiysk port on the Black Sea or for further transportation through the Caucasus. It is another main export oil pipeline for Kazakhstan.¹⁶⁸

The pipeline project was first initiated in May/June 1992 by Russia, Kazakhstan, and Oman for the transportation of North Caspian oil to be extracted by the joint stock company TengizChevroil (TCO), in a deal brokered by the Bermuda-based Dutch oil trader Johann Deuss. The pipeline would transport crude oil from western Kazakhstan (primarily the Tengiz deposit) to the port of Novorossiysk. The pipeline uses the Yuzhnaya Ozereyevka terminal, situated in a small community between Novorossiysk and Anapa. This terminal is located next to the main Sheskharis terminal of Novorossiysk. The project soon encountered difficulties. After a four-year stalemate, a new consortium, the CPC, was formed in 1996, without the participation of Deuss. Construction of the pipeline was to take place from August 1998 to September 2000, and both Russia and Kazakhstan would participate.¹⁶⁹

¹⁶² Ravil Cherdabaev, Presidential Representative for the Caspian Region, Republic of Kazakhstan, Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004; Tomberg, "Energy Policy," 42.

¹⁶³ John Roberts (Platts), "Potential of Caspian Oil and Gas and Export Options Via the Black Sea Region and Balkans; Overview of Export Options from Central Asia and the Caspian Region to the Middle East and Asia," Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

¹⁶⁴ See, e.g., CGES, *Western Crude Oil Pipelines*.

¹⁶⁵ Oppenheimer, *Kazakhstan's Energy Sector*.

¹⁶⁶ Mynbayev, "Deepening Energy Cooperation," 29-31.

¹⁶⁷ 25 million tonnes: Kiinov, "Main Development Direction;" 30 million tonnes: Centre for Global Energy Studies (CGES), *Oil Pipelines of Kazakhstan* (London: CGES, 2007).

¹⁶⁸ Cherdabaev, Caspian & Black Sea Oil & Gas Conference 2004; EIA, *Kazakhstan*, February 2008. The CPC is known in Russian as the Kaspiyskiy truboprovodnyy konsortsiy (KTK). See also the consortium's web site, www.cpc.ru.

¹⁶⁹ See, e.g., Forsythe, *Politics of Oil*, 49-52; Blandy, *Caspian*, 31 n.102; R. Hrair Dekmejian and Hovann H. Simonian, *Troubled Waters: The Geopolitics of the Caspian Region* (London: I. B. Tauris, 2001), 158.

There were some delays, but the new pipeline was ready in late 2001. The first crude was loaded onto a tanker in Novorossiysk on 13 October 2001, and the pipeline was officially opened on 27 November 2001. Initial capacity was 28.2 million tonnes per year, with plans to increase capacity to 67 million tonnes.¹⁷⁰ On 9 November 2004, the CPC also began to ship Russian crude, loaded at Kropotkin.¹⁷¹ Various ways have been discussed to add capacity, including a second and third parallel pipeline. However, the CPC can also be expanded by adding pump stations and other facilities.¹⁷²

In 2005, the total volume of transportation reached 30.5 million tonnes.¹⁷³ By 2007, this had increased to almost 33 million tonnes.¹⁷⁴ When capacity is increased to 67 million tonnes per year, Kazakhstan has stated an intention to ship 50 million tonnes. However, in 2006 Kazakhstan shipped 24 million tonnes through the CPC.¹⁷⁵ The rest consisted of Russian crude. In 2007, Kazakhstan shipped 26 million tonnes.¹⁷⁶

The fact that the CPC was in part privately owned, indeed being one of very few privately owned oil transportation infrastructure projects in Russia, in the early 2000s exposed the CPC to criticisms from the Russian government, which then no doubt would have preferred to see the project deemed a natural monopoly under full state control.¹⁷⁷ Some indeed argued that the CPC suffered from a shaky legal foundation, since the agreement signed by the Russian government in 1996 was not an intergovernmental agreement but “only” a private contract.¹⁷⁸ However, since late 2006 or so the Russian oil pipeline monopoly Transneft wishes to keep CPC in operation in order not to tempt the Kazakhstani oil producers to divert oil to China or the Turkey-bound BTC instead.¹⁷⁹ As shareholders, Russia and Kazakhstan are also interested in increasing the tax revenues due their national budgets.¹⁸⁰

From an organisational point of view, the CPC consists of two firms: the CPC-R in Russia and the CPC-K in Kazakhstan.¹⁸¹ By February 2008, CPC equity was divided on a parity basis between governments and commercial companies. Government ownership included Russia (24.00%, at first held by the Federal Property Fund but in April 2007 transferred to Transneft), Kazakhstan (19.00%, held by KazMunayGaz), and Oman (7.00%, held by Oman CPC Company); while among companies major participants included ChevronCaspian Pipeline Consortium Company (15.00%), LUKARCO B.V. (12.50%), Rosneft-Shell Caspian Ventures Limited (7.50%), Mobil Caspian Pipeline Company (7.50%), Agip International (N.A.) N.V. (2.00%), BG Overseas Holding Limited (2.00%), Kazakhstan Pipeline Ventures LLC (1.75%), and Oryx Caspian Pipeline LLC (1.75%). The division of equity between these companies had by then been stable for several years.¹⁸²

¹⁷⁰ CPC web site, www.cpc.ru; *Nefteryok* (Oil Market) 8, 2004; 3, 2005.

¹⁷¹ *Nefteryok* (Oil Market) 10, 2004.

¹⁷² Ian MacDonald (General Director, CPC), presentation on the Caspian Pipeline Consortium, 3rd Russian Petroleum & Gas Congress, Moscow, 21-23 June 2005.

¹⁷³ Kiinov, “Main Development Direction.”

¹⁷⁴ Valiyev, *Oil Flows*, 13.

¹⁷⁵ Mynbayev, “Deepening Energy Cooperation,” 29-31.

¹⁷⁶ Valiyev, *Oil Flows*, 13.

¹⁷⁷ See, e.g., *Nefteryok* (Oil Market) 8, 2004.

¹⁷⁸ See, e.g., Tsentr strategicheskogo razvitiya, *O vozmoznykh napravleniyakh razvitiya infrastruktury po transportirovke rossiyskoy nefii* (“On the Possible Directions for Development of Russian Oil Transportation Infrastructure”), November 2004 (www.csr.ru). The centre was founded by Russia’s then minister of economic development and trade, German Gref.

¹⁷⁹ Tomberg, “Energy Policy,” 43.

¹⁸⁰ *Nefteryok* (Oil Market) 3, 2005.

¹⁸¹ Known in Russian as ZAO KTK-R and AO KTK-K, respectively.

¹⁸² See, e.g., CPC web site, www.cpr.ru; *Nefteryok* (Oil Market) 10, 2004; 3, 2005; Prime-TASS - Novosti TEK, 7 February 2008. On the transfer of Russia’s equity to Transneft, see *Upstream*, 29 April 2007 (www.upstreamonline.com).

The Karachaganak-Atyrau-Novorossiysk Pipeline

As noted, the CPC to some extent moves Karachaganak oil from northern Kazakhstan to Russia's export port Novorossiysk by way of Atyrau, where the CPC begins. The Karachaganak-Atyrau section of the pipeline was completed in mid-2003 and operational in May 2004, with a capacity of 12 million tonnes per year. It can fundamentally be regarded as an extension of the CPC. However, for a considerable distance it runs in parallel with the Atyrau-Samara pipeline, but is operated in the opposite direction, that is, oil is being moved towards the south instead of the north.¹⁸³ Any natural gas produced at Karachaganak is instead, as will be shown, moved straight into Russia for processing at Orenburg.

The Baku-Tikhoretsk-Novorossiysk Pipeline, aka the Northern Route Export Pipeline (NREP)

In the mid-1990s it became clear that there was a need to transport oil from Azerbaijan to a suitable export port on the Black Sea. As a result, the involved parties, including Russia's Transneft and Azerbaijan's SOCAR and AIOC, in January 1996 signed the Baku-Novorossiysk Pipeline Restoration Agreement. The pipeline, also referred to as the Northern Route Export Pipeline (NREP), was duly launched in October 1997.¹⁸⁴ In addition to Azerbaijani oil, Kazakhstani oil in 2005 began to be moved by tanker to Makhachkala, Dagestan, where it entered the pipeline.¹⁸⁵ In 2007, Kazakhstan shipped 4.2 million tonnes of oil to Makhachkala.¹⁸⁶ Small amounts of crude oil from Turkmenistan can also be shipped across the Caspian Sea.

Following the commissioning of the BTC pipeline (see below), AIOC in early 2007 discontinued shipments of oil to Novorossiysk.¹⁸⁷ Although Azerbaijan's state oil company SOCAR continued to use the pipeline, it is since practically idle, there being insufficient oil to load it fully.¹⁸⁸ Instead, the Azerbaijani oil produced by AIOC is primarily loaded on the BTC bound from Baku to Turkey. During the Russia-Georgia conflict in August 2008, however, SOCAR requested to double shipments through the Baku-Novorossiysk pipeline. According to Transneft's vice president Mikhail Barkov, SOCAR asked to ship volumes that would amount to an additional million tonnes, in addition to its already planned volume of a million tonnes per year.¹⁸⁹ Current throughput capacity of the Baku-Novorossiysk oil pipeline is 5.7 million tonnes per year.¹⁹⁰

To the South Caucasus and Onwards to the West

The Baku-Tbilisi-Ceyhan (BTC) Pipeline

The outspoken aim of the Baku-Tbilisi-Ceyhan (BTC) pipeline project was to build an oil pipeline that could move Caspian crude from in particular the Azeri, Chirag, and Guneshli fields from Azerbaijan to the West, in the form of the United States and its NATO allies. It is fair to say that geopolitical factors did play a substantial role in the BTC project. A route through Russia or Iran was never acceptable to the United States for political reasons, and a route through Armenia was unacceptable to Azerbaijan due to the Nagorno-Karabakh conflict. Turkey did not accept an additional pipeline to the Black Sea, as this would put further pressure on the already crowded Bosphorus Straits, and besides, the United States believed that any new Black Sea routes might become subject to Russian pressure. It would not be in the strategic

¹⁸³ CGES, *Oil Pipelines of Kazakhstan*.

¹⁸⁴ Medjid Kerimov (Minister of Fuel and Energy of Azerbaijan), "Regional and International Overview of Key Caspian and Black Sea Energy and Transport Issues," Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004; *Nefterynok* (Oil Market) 9, 2004; Tomberg, "Energy Policy," 42.

¹⁸⁵ *Nefterynok* (Oil Market) 1, 2005; Berik Tolumbaev (General Director, AO KazTransOil), "Kazakh Oil Export Plans," *Caspian Investor* 9: 6 (June/July 2006), 1, 10-12, 36, on 10.

¹⁸⁶ Valiyev, *Oil Flows*, 13.

¹⁸⁷ *Mosnews*, 9 January 2007 (www.mosnews.com, since then discontinued), which claims this took place in January 2007. Others report that shipments continued into April 2007. *Interfax Oil & Gas Report*, 20-26 September 2007.

¹⁸⁸ Tomberg, "Energy Policy," 43.

¹⁸⁹ Interfax, 12 August 2008.

¹⁹⁰ CGES, *Western Crude Oil Pipelines*.

interests of the United States if Russia and Iran controlled the Caspian and Central Asian oil deposits and thereby were able to supply China's energy needs. It was for these reasons eventually decided to run the pipeline from Baku in Azerbaijan through Tbilisi in Georgia to the deep-sea Mediterranean port of Ceyhan in southeastern Turkey, with a planned capacity of 50 million tonnes of oil per year. The pipeline originates at Sangachal on the Caspian shore near Baku.¹⁹¹

American interests are clearly better served by moving oil from the Caspian Sea through Georgia and Turkey than through Iran and Russia, since the latter cannot then control parts of the energy resources market or, in the case of Russia at present, monopolise part of it. The United States would then no doubt also want to influence the governments of Kazakhstan and Turkmenistan to construct a new pipeline under the Caspian to connect to the BTC, which will be necessary to make the pipeline genuinely commercially viable.¹⁹² The reasons for the BTC are thus clearly political, not economic. To the Russian government, such a scenario, especially if complemented by the so-called Transport Corridor Europe-Caucasus-Asia (TRACECA) project, a programme initiated by the EU, might indeed evoke feelings of what Russia traditionally regarded as the old Pan-Turkic threat to Moscow.¹⁹³

The BTC project began in earnest with the Istanbul Declaration on 18 November 1999, in which the signatories to the intergovernmental agreement in support of the BTC agreed to build the pipeline. The first engineering work was completed in 2001, and approved in June 2002. On 18 September 2002, the BTC pipeline was confirmed officially.¹⁹⁴

From 2001, Ambassador Steven R. Mann (former US ambassador to Turkmenistan; by then US State Department Special Representative, Caspian Basin Energy Diplomacy¹⁹⁵) was the main promoter on the American side. He also took part in the triumphant ceremony of connecting the Azerbaijani and Georgian sections of the pipeline on 16 September 2004.¹⁹⁶

It was then believed that the first BTC pipeline oil would flow from Ceyhan in January 2005.¹⁹⁷ Some even expected that the first oil to be gained, in 2005, would be transported to Ceyhan all the way from the Kazakhstani part of the Aral Sea, since many of the pipeline promoters expected Kazakhstan to sign up as well.¹⁹⁸ Turkey claimed that the BTC oil pipeline project would supply Europe with oil.¹⁹⁹ However, Kazakhstan never signed on, and the pipeline project was delayed. The BTC pipeline was at least formally inaugurated on 25 May 2005. On this date, the Baku Declaration on the development and expansion of the East-West energy corridor was signed in Baku, with the United States Secretary of Energy, Samuel Bodman, witnessing the ceremony. The East-West energy corridor project, it turned out, included not only the commissioning of the BTC pipeline but also the projected South Caucasus gas pipeline (SCP, also known as the Baku-Tbilisi-Erzurum, BTE) and the existing Baku-Supsa oil pipeline (on these projects, see below). In conjunction with the ceremony, Azerbaijan on the

¹⁹¹ See, e.g., Colin Sutcliffe, "The Baku-Tbilisi-Ceyhan Project: Bringing Caspian Oil to the World's Markets," *BlackSea Trend Review* 1: 1 (Summer 2002), 77-81. See also "Construction Begins on the Baku-Tbilisi-Ceyhan Pipeline," *BlackSea Trend Review* 2: 4 (Summer 2003), 46-8.

¹⁹² See, e.g., Hakki Akil (General Director - Economic Affairs, Ministry of Foreign Affairs, Turkey), "Potential of Caspian Oil and Gas and Export Options Via the Black Sea Region and Balkans," Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

¹⁹³ The TRACECA unites, in different degrees, Afghanistan, Armenia, Azerbaijan, Bulgaria, Georgia, Iran, Kazakhstan, Kyrgyzstan, Moldova, Romania, Tajikistan, Turkey, Turkmenistan, Ukraine, and Uzbekistan. See the organisation's web site, www.traceca-org.org.

¹⁹⁴ Kerimov, "Regional and International Overview." Previous talks had been going on since 1993. Preyger, "Guam and Global Energy Policy," 58.

¹⁹⁵ Ambassador Mann was in January 2008 appointed the U.S. State Department's Coordinator for Eurasian Energy Diplomacy.

¹⁹⁶ Faris Ismailzade, "BTC Enters the Final Stage as Azerbaijan and Georgia Connect the Pipeline at the Border," *Central Asia-Caucasus Analyst* (www.cacianalyst.org), 20 October 2004.

¹⁹⁷ Mehmet Özkanlı (President, Turkish Association of Petroleum Geologists), Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

¹⁹⁸ Kerimov, "Regional and International Overview."

¹⁹⁹ Hilmi Guler (Minister of Energy and Natural Resources of Turkey), Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

same day began test filling the Azerbaijani section of the pipeline. The first tanker at Ceyhan was filled with BTC oil on 13 July 2006.²⁰⁰ Real use of the pipeline only started in late 2006.²⁰¹

All oil moved through the BTC comes from Azerbaijan, which currently sends the bulk of its oil exports via the BTC which yet remains underloaded. In 2007, more than 27 million tonnes of Azerbaijani crude was sent through the BTC.²⁰² Even so, the capacity of the BTC is planned to be increased to 60 million tonnes of oil per year, or even an ambitious 90 million tonnes,²⁰³ from the initial maximum capacity of 50 million tonnes per year.²⁰⁴ However, questions remain about the volume of oil available to move through the BTC pipeline. To make maximum use of the BTC depends on co-operation with Kazakhstan. The BTC is set to transport Kazakhstani oil, either by a new trans-Caspian sub-sea pipeline from the Tengiz field to Aktau and Uzen' (both in Kazakhstan) and onwards to Baku, or by tanker. Turkish government spokesmen have assured that the BTC will indeed be extended to Aktau.²⁰⁵ This would entail Kazakhstani participation, and such has not yet materialised. Kazakhstani participation, except in a limited way through the use of oil tankers, would indeed seem unlikely in the near future, since Sauat Mynbayev, Kazakhstan's Minister of Energy and Natural Resources, at the Vilnius energy conference on 11 October 2007 stated that Kazakhstan would only join financially justified projects and, yet more important, that Kazakhstan would coordinate its export projects with Russia.²⁰⁶

For Turkey, at least, the BTC was always a most important project. The BTC was indeed Turkey's only second oil pipeline that reached the Mediterranean,²⁰⁷ and Turkey regards the BTC pipeline as the backbone of its oil infrastructure.²⁰⁸

So much for the geopolitical importance of the BTC pipeline. How does it fare in a commercial sense? As a pure transit pipeline, it was very expensive, costing some \$4 billion. However, effectively the BTC is an oil connector, that is, an extension of an oil field, and not a mere transit pipeline. Without the means to move the oil to the market, the produce has no commercial value. The BTC can thus be said to form part of the production cost of the oil field. The BTC pipeline is run by BP, which is also the operator of and largest stakeholder in the ACG oil fields from which the BTC oil derives. If regarded in this light, the BTC is commercially viable. In addition, for roughly another \$1 billion, the consortium participants can double the pipeline's capacity, if sufficient oil is found.²⁰⁹

However, the BTC is built in a volatile area. On 5 August 2008, an explosion disrupted the pipeline in eastern Turkey, where shipments of oil then ceased. The Kurdish terrorist group Kurdistan Workers' Party (*Partiya Karkerê Kurdistan*, PKK) claimed responsibility. Deliveries were interrupted until 26 August.²¹⁰

²⁰⁰ *Nefterynok* (Oil Market) 5, 2005; Energy Information Administration (EIA), *Turkey*, October 2006 (www.eia.doe.gov). This was greeted with much rejoicing among the project's participants. The BTC Ceyhan terminal was even named after the late president Heydar Aliyev of Azerbaijan, according to a decision in February 2004. Guler, *Caspian & Black Sea Oil & Gas Conference* 2004.

²⁰¹ This was at least the general consensus at the Baku 13th Caspian Oil and Gas Conference and Exhibition in June 2006, where the BTC was expected to be fully commissioned only in late 2006.

²⁰² Valiyev, *Oil Flows*, 13.

²⁰³ 60 million tonnes: Tomberg, "Energy Policy," 44; 90 million tonnes: CGES, *Western Crude Oil Pipelines*.

²⁰⁴ Hüsni Müjdat Bali (Senior Advisor to General Manager, BOTAS), "Caspian Sea Oil and Gas Transportation," presentation, *Caspian Oil & Gas 2005*, Baku, 8-9 June 2005.

²⁰⁵ Akil, "Potential of Caspian Oil and Gas."

²⁰⁶ Mynbayev, *Vilnius Energy Security Conference* 2007.

²⁰⁷ Nadir Biyikoglu (Deputy General Manager, BOTAS), "Upstream and Downstream Oil and Gas Industry Potential in Turkey," *Caspian & Black Sea Oil & Gas Conference* 2004, Istanbul, 26-27 February 2004.

²⁰⁸ Alev Kilic (deputy undersecretary, Ministry of Foreign Affairs, Turkey), "Importance of Caspian Oil and Gas Reserves for Turkey, the Black Sea and Europe," *Caspian & Black Sea Oil & Gas Conference* 2004, Istanbul, 26-27 February 2004.

²⁰⁹ John Roberts (Platts), "What Makes a Pipeline Viable," presentation, 2nd Annual Russian Gas Industry Summit, Moscow, 31 October 2007.

²¹⁰ *Hürriyet*, August 2008 (www.hurriyet.com.tr); IEA, *Energy Security Implications of the Georgia-Russia Conflict* (Paris: OECD/IEA, 24 September 2008), 2, 3.

The Baku-Supsa Pipeline, a k a the Western Route Export Pipeline (WREP)

On 8 March 1996, a thirty-year agreement between Azerbaijan and Georgia was signed on the export of early oil from Azerbaijan through Georgia.²¹¹ An existing pipeline was found that could be refurbished, modernised, and expanded. This resulted in the commissioning of the Baku-Supsa pipeline in April 1999.²¹² This pipeline was conceived to transport Baku early oil to the West and accordingly also referred to as the Western Route Export Pipeline (WREP). It was controlled by the Azerbaijan International Operating Company (AIOC). On Georgian territory, the pipeline was under the control of an AIOC representative, an enterprise known as the Georgian International Oil Corporation (GIOC).²¹³ The pipeline has therefore been operated by BP. The pipeline originates at Sangachal on the Caspian shore near Baku and ends at the Supsa export terminal. Capacity was always low, initially no more than 5 million tonnes per year.²¹⁴ After refurbishment, capacity was reportedly about 7.2 million tonnes per year.²¹⁵

The Baku-Supsa pipeline was the first Caspian export oil pipeline to bypass Russia. However, already in November 2006 problems were observed in the pipeline, forcing a shut-down.²¹⁶ The pipeline was put out of commission in April 2007, when its political and technical life was deemed to have come to an end.²¹⁷ Having since undergone extensive repairs and maintenance, oil shipments restarted in June 2008.²¹⁸ On 12 August 2008, BP again shut down the Baku-Supsa pipeline, this time because of uncertainty over the security situation in Georgia due to the then ongoing conflict with Russia.²¹⁹

The Baku-Batumi/Kulevi/Poti Railway

Oil is not only shipped in pipelines, shipments can also be delivered by railway. From the Baku region, the oil can be moved through local pipelines to the railway stations of Dubendi and Ali-Bayramli, north and west of the city, respectively, where it is loaded into oil tank wagons. The oil is then shipped by rail through Georgia to the Black Sea ports of Batumi, Kulevi, and Poti, from which tankers deliver the oil to Europe and beyond. This route has primarily been used for small amounts of crude oil and petroleum products from Kazakhstan and to some extent Turkmenistan, shipped by mostly Azerbaijani tankers across the Caspian Sea to Azerbaijan. The Kazakhstani port of Aktau has a capacity of 10 million tonnes per year, while the Turkmenistani ports of Aladja, Turkmenbashi, and Okarem have a total capacity of about 5 million tonnes per year.²²⁰ The route has also been used for moderate amounts of refined products from Azerbaijan. This export route was originally developed by ChevronTexaco Corporation, which intended to rebuild and expand the existing pipeline along this route. These plans were cancelled, however, and this company now ships its crude through the CPC pipeline from Kazakhstan to Novorossiysk.²²¹

On the Azerbaijani side, port capacity is quite sufficient. Dubendi has a capacity of 20 million tonnes per year, while Baku and Sangachal can handle 5 million tonnes each. In addition, there is the Garadagh terminal with a planned capacity of 15 million tonnes per year, with room to expand if needed.²²²

In February 2008, Kazakhstan's KazMunayGaz became the sole owner of the Batumi export terminal, in which the firm had been involved since 2006. Current capacity of the Batumi export

²¹¹ Energy Information Administration (EIA), *Caucasus Region*, May 2006 (www.eia.doe.gov).

²¹² Kerimov, "Regional and International Overview."

²¹³ Blandy, *Caspian*, 32 n.103; EIA, *Caucasus Region*, May 2006.

²¹⁴ Tomberg, "Energy Policy," 42.

²¹⁵ *Pravda Online*, 29 May 2002 (<http://english.pravda.ru>).

²¹⁶ Today.AZ news agency, 17 April 2008 (www.today.az).

²¹⁷ Tomberg, "Energy Policy," 45.

²¹⁸ Today.AZ news web site, 5 June 2008 (www.today.az).

²¹⁹ Platts, 13 August 2008.

²²⁰ Tomberg, "Energy Policy," 43; CGES, *Western Crude Oil Pipelines*.

²²¹ Energy Information Administration (EIA), *Caspian Sea Region Reserves and Pipelines*, July 2002 (www.eia.doe.gov); Dow Jones News Service, 16 March 2004; *Caspian Investor* 9: 6 (June/July 2006), 5-7.

²²² CGES, *Western Crude Oil Pipelines*.

terminal is up to 15 million tonnes per year.²²³ However, it is unlikely that the existing railway system could handle larger volumes than about 10 million tonnes per year, regardless of the fact that in addition to the Batumi terminal, a second terminal has been built in Kulevi. The Kulevi export terminal, brought into operation in May 2008, is controlled by the Azerbaijani state firm SOCAR.²²⁴ Current capacity of the Kulevi terminal is up to 10 million tonnes per year.²²⁵ Moreover, there is a third export terminal, at Poti. This is planned to be able to handle up to 5 million tonnes of oil per year, although so far, these amounts have not been realised.²²⁶ In 2007, Kazakhstan shipped 1.6 million tonnes of oil to Baku for further transportation by railway. Turkmenistan shipped 0.3 million tonnes in the same year.²²⁷

During the Georgia-Russia conflict in August 2008, railway traffic was interrupted due to an explosion that damaged a nearby train loaded with oil products.²²⁸

The Trans-Caspian Oil Pipeline Projekt

By 2005, in conjunction with the formal inauguration of the BTC pipeline, there was much talk about the possible construction of a Trans-Caspian oil pipeline from the Kazakhstani ports of Atyrau or Aktau to Baku. The plan was for SOCAR and KazMunayGaz, the national oil and gas companies of Azerbaijan and Kazakhstan, respectively, to move Kazakhstani oil from primarily the Kashagan field to the western markets through the BTC.²²⁹ Turkish government spokesmen has, as noted, claimed that the BTC will be extended across the Caspian to Aktau in Kazakhstan.²³⁰ However, a Trans-Caspian pipeline has not yet been built, nor has there been any progress in these various plans.

To China

The Kazakhstan-China oil pipeline

The Kazakhstan-China and Kazakhstan-Iran Projects

Kazakhstan began to ship crude oil to China by rail through the Alashankou rail crossing in 1997, using the Atasu rail terminal on the Omsk-Pavlodar-Shymkent pipeline (which was built to supply the Kazakhstani refineries in Pavlodar and Shymkent with Russian crude oil). In the mid-2000s, Kazakhstan reportedly shipped some 4-5 million tonnes, and in 2007, shipments were expected to reach 8 million tonnes.²³¹

However, railway capacity was never deemed sufficient. In September 1997, Kazakhstan and China signed an intergovernmental Agreement on Co-operation in the Oil and Gas Sector. It was also proposed, by the Ministry of Energy and Natural Resources of Kazakhstan and the China National Petroleum Corporation (CNPC), to build a trunk pipeline connection from the oil fields of western Kazakhstan to the east coast of China, where oil demand was and is high.²³² The domestic Chinese section of the Kazakhstan-China pipeline, in Xinjiang, with an expected capacity to transport 25 million tonnes of crude per year to China, was built in the late

²²³ Reuters, 6 February 2008; Paramonov and Stokov, *Russian Oil and Gas*, 10; CGES, *Western Crude Oil Pipelines*.

²²⁴ See, e.g., ANS Press, 21 August 2008 (www.anspress.com); IEA, *Energy Security Implications*, 2.

²²⁵ CGES, *Western Crude Oil Pipelines*.

²²⁶ Channel Energy press release, 18 November 2005 (www.channelenergy.ge).

²²⁷ Valiyev, *Oil Flows*, 13-14.

²²⁸ See, e.g., the news web site, <http://news.trendaz.com>, 24 August 2008.

²²⁹ See, e.g., Svante E. Cornell; Mamuka Tsereteli; and Vladimir Socor, "Geostrategic Implications of the Baku-Tbilisi-Ceyhan Pipeline," S. Frederick Starr and Svante E. Cornell (eds), *The Baku-Tbilisi-Ceyhan Pipeline: Oil Window to the West* (Washington, DC: Johns Hopkins University-SAIS, 2005), 17-38, on 35.

²³⁰ Akil, "Potential of Caspian Oil and Gas."

²³¹ Viacheslav Belokrinskiy, "Southwesterly Enlargement of Greater China," *Central Asia and the Caucasus* 45 (2007), 51-62, on 54.

²³² Muhamedjan Barbasov, "An Oil Pipeline to China: An Element of Struggle for Caspian Resources," *Central Asia and the Caucasus* 28 (2004), 105-116, on 110. On the CNPC, see the firm's web site, www.cnpc.com.cn.

1990s, so the project encompassed a 3,000-km pipeline from the oil fields to the Xinjiang border.²³³

At the same time, Kazakhstan and China considered a second, shorter pipeline as well. This pipeline, known as the Kazakhstan Turkmenistan to Iran Oil Pipeline (KTIOPI), would as the name implies run from Kazakhstan via Turkmenistan to the Iranian border. The Iranians would then move the crude onwards to a Persian Gulf port, from which oil would be shipped to China.

But the Chinese needed crude oil to load the projected pipelines. An agreement was reached on this as well. The CNPC signed an agreement with Kazakhstan to develop two oil fields, Uzen' and Aktobe. In July 1997, the CNPC acquired 60 per cent in the Uzenmunaygaz production association. The CNPC also purchased a 60.3 per cent stake in the Aktobemunaygaz production association, a stake in May 2003 raised to 80.5 per cent in order to own all oil produced.²³⁴ These acquisitions were against keen competition by Western oil companies. The CNPC was reportedly successful because it agreed to pay a bonus of \$320 million, in addition to an agreement to invest about \$9.5 billion in Kazakhstan.²³⁵ But most importantly, China committed to finance and build the two pipelines: the long pipeline from the oil fields to the Xinjiang border and the short pipeline via Turkmenistan to the Iranian border.²³⁶

By 1999, a first feasibility study for the Kazakhstan-China pipeline had been concluded, in 2000, China declared its willingness to build the pipeline, and all seemed set. (The KTIOPI has since apparently been dropped or at least postponed and changed, see below).²³⁷

China's interest in the pipeline then seemed to wane. The reason was that the Chinese side thought that a better deal was available in Russia. In March 2003, the Russian oil company YuKOS signed an agreement to construct an oil pipeline from Angarsk in Siberia to Daqing in China.²³⁸ China no doubt found this project, and access to the Siberian oil resources, of far more interest than the distant oil deposits of western Kazakhstan. However, the CEO of YuKOS, Mikhail Khodorkovsky, was from May 2003 accused by several parties of various offences and eventually, on 25 October 2003, arrested.²³⁹ By the time of his arrest, the Chinese would have realised that the Angarsk-Daqing project had fallen through. The Kazakhstani oil deposits again looked tempting to Chinese eyes.

The First Section: Aktobe/Atyrau-Kenkiyak

Meanwhile, the Chinese had been busy at the Aktobe oil fields. They had also expanded their activities, with substantial investments and production in the Zhanazhol and Kenkiyak fields and other sites. They also moved into gas production, and among other investments in 1998 built the Zhanazhol-Aktobe gas pipeline. In 2004, they built a 72 km long railway between Zhanazhol and Zhem to bring in workers and supplies and also constructed a 160 km long gas pipeline from the Zhanazhol gas processing plant and the KS-13 gas compressor station to the Bukhara-Ural trunk gas pipeline, leading into Russia. The oil produced was delivered to China by railway.²⁴⁰ Chinese firms also, incidentally, prepared to sell petroleum products in Kazakhstan, for instance through a chain of Sinooil gas stations in Almaty.²⁴¹

²³³ Li Lifan, "National Energy Security and Sino-Russian-Kazakh-Japan Energy Cooperation," *Central Asia and the Caucasus* 43 (2007), 110-20, on 113.

²³⁴ Luong and Weinthal, *Prelude*, 33; Barbasov, "An Oil Pipeline to China," 108-9; Stephen Blank, "China, Kazakh Energy, and Russia: An Unlikely Ménage à Trois," *China and Eurasia Forum Quarterly* 3: 3 (November 2005), 99-109, on 103.

²³⁵ *APS Review Gas Market Trends*, 24 July 2006 (<http://goliath.ecnext.com>).

²³⁶ Charles van der Leeuw, *Oil and Gas in the Caucasus & Caspian: A History* (Richmond, Surrey: Curzon, 2000), 131; Li, "National Energy Security," 113; Pan Guang, "China and Energy Security in Central Asia," *Central Asia and the Caucasus* 48 (2007), 85-91, on 87.

²³⁷ Barbasov, "An Oil Pipeline to China," 108, 110.

²³⁸ Tomberg, "Oil Pipeline in the Far East," 110-18.

²³⁹ *International Herald Tribune*, 27 October 2003.

²⁴⁰ Barbasov, "An Oil Pipeline to China," 109.

²⁴¹ Kalamkas Esimova, "Kazakhstan-Chinese Cooperation in the Energy Sphere," *Central Asia and the Caucasus* 31 (2005), 146-52, on 148. Sinooil is working on a web site, so far at <http://212.154.140.12>.

The first section of the Kazakhstan-China pipeline, paid for by Chinese investments and running across western Kazakhstan from the oil hub at Atyrau to Kenkiyak near the Aktobe oil fields, in which the Chinese had invested heavily, was completed by the Russian contractor Stroytransgaz in May 2003. It was built with an initial annual capacity of 6 million tonnes per year, to be increased to 14 million tonnes. Since this was the first section to be built of what eventually was planned to be a Kazakhstan-China pipeline, it was in fact built to be reversed. From the outset, and while waiting for further sections eastwards to be built, it was intended to be operated from the east to the west, connecting the oil fields with Atyrau and the export pipeline systems Atyrau-Samara and CPC, both of which went to Russia. Only when the rest of the pipeline had been constructed would this first section be reversed to run from west to east.²⁴² Then, in August 2003, the Kazakhstani and Chinese parties signed a memorandum on building the actual oil pipeline Kazakhstan-China.²⁴³ To build the main sections of the pipeline, the state-owned Kazakhstani oil pipeline operator AO KazTransOil (KTO) and China National Oil and Gas Exploration and Development Corporation (CNODC, an affiliate of CNPC) from August 2003 created a joint company, Kazakhstan-China Pipeline (KCP), on a parity basis.²⁴⁴

The Second Section: Atasu-Alashankou

A framework agreement for the second section of the Kazakhstan-China oil pipeline, from Atasu (Karaganda Region, Kazakhstan) to Alashankou (China), was signed by KazMunayGaz and CNPC on 17 May 2004. Construction commenced on 28 September 2004, with the pipeline running along the route Atasu - Agadyr - Akchatau - Aktogai - Ucharal - Alashankou.²⁴⁵ On 15 December 2005, this stage of the pipeline was completed and the Atasu-Alashankou oil pipeline was officially inaugurated.²⁴⁶ (Just in time, incidentally, since the CNPC obligation to build a pipeline to China was to expire after 2005.²⁴⁷)

The pipeline went into operation in May 2006. The first crude oil reached Alashankou on 25 May 2006, and on 20 July 2006, the Atasu-Alashankou oil pipeline began real operations.²⁴⁸ On 29 July 2006, around two months behind schedule due to disagreements over measuring standards, crude oil was at last reaching the Chinese end, the Dushanzi refinery.²⁴⁹

The pipeline was projected to have a initial capacity of 10 million tonnes of oil per year, eventually expanded to 20 million tonnes.²⁵⁰ However, the additional 10 million tonnes would have to come from Russian supplies from Western Siberia.²⁵¹ Already in early 2006, it was clear that 10 million tonnes per year of Russian crude via the Omsk-Pavlodar-Shymkent pipeline (hitherto only used to supply Russian crude to the Kazakhstani refineries in Pavlodar and Shymkent) would be needed for the Atasu-Alashankou pipeline to reach its full capacity of 20 million tonnes per year by 2010.²⁵² There are also plans for a second phase of the pipeline

²⁴² Barbasov, "An Oil Pipeline to China," 110, 112.

²⁴³ Sarsenov, OGU 2006; Barbasov, "An Oil Pipeline to China," 111.

²⁴⁴ Sergey Smirnov, "The Chinese Dragon Is Thirsty for Oil and Gas," *Central Asia and the Caucasus* 30 (2004), 67-76, on 74-6. See also Railya Mukimdzhanova, "Central Asian States and China: Cooperation Today and Prospects for Tomorrow," *Central Asia and the Caucasus* 28 (2004), 61-70, on 63; *Nefteryok* (Oil Market) 1, 2005. On KazTransOil, see the firm's web site, www.kaztransoil.kz. On CNODC, see the firm's web site, www.cnpc.com.cn/cnodc.

²⁴⁵ *Nefteryok* (Oil Market) 9, 2005.

²⁴⁶ *Caspian Investor* 9: 8 (September 2006), 9.

²⁴⁷ Barbasov, "An Oil Pipeline to China," 113.

²⁴⁸ Kiinov, "Main Development Direction," *Caspian Investor* 9: 6 (June/July 2006), 31; *Caspian Investor* 9: 8 (September 2006), 8.

²⁴⁹ Reuters, 30 July 2006.

²⁵⁰ Stephen Blank, "Energy at the Source of Sino-Kazakh Rapprochement," *Business & Economics* (www.eurasianet.org), 8 November 2004; Kiinov, "Main Development Direction;" Timur P. Salikhov (Director of Energy and Automation Institute, Academy of Science, Uzbekistan), presentation, Oil and Gas Uzbekistan (OGU 2006), Tashkent, 17 May 2006.

²⁵¹ Li, "National Energy Security," 111.

²⁵² See, e.g., Sergei Blagov, "Russian Energy Partnership with Kazakhstan Faces Reality Check," *Business & Economics* (www.eurasianet.org), 18 January 2006.

that would allow a final capacity of 50 million tonnes per year, of which 30 million tonnes would be taken from Russia.²⁵³

For the first stage, the pipeline would receive oil from Kumkol', from which an existing pipeline connected to Atasu, and oil from Aktobe brought by railway to Atasu, in addition to the Russian supplies.²⁵⁴

The Third Section: Kenkiyak-Kumkol-Atasu

With the Atasu-Alashankou-Dushanzi pipeline in operation, only the section Kenkiyak-Kumkol remains for the full Kazakhstan-China pipeline to be completed. On 18 August 2007, Kazakhstan and China signed an additional intergovernmental agreement to the effect that the entire oil pipeline Kazakhstan-China (including the Kenkiyak-Kumkol connection) would be ready by the end of 2009. The pipeline is built with a projected capacity of 20 million tonnes of oil per year.²⁵⁵

Russian Crude Through Kazakhstan

As a result from a mutual transit agreement that Russia and Kazakhstan signed in late November 2007, up to five million tonnes of Russian crude per year is expected to be exported to China via Kazakhstan. Russian crude began to be transited to China in January 2008, along the Omsk-Pavlodar-Atasu-Alashankou route, with KazTransOil acting as operator.²⁵⁶ The Russian crude arrived through the Omsk-Pavlodar-Shymkent pipeline which passes through Atasu long before it reaches Shymkent. Indeed, it will be remembered, the route was part of a yet longer pipeline, the Omsk-Pavlodar-Shymkent-Charjew oil pipeline that connects Omsk in Russian West Siberia with oil refineries in Pavlodar and Shymkent, both in east Kazakhstan, and Charjew in Turkmenistan. The pipeline was originally built to supply refineries in these cities in Kazakhstan as well as in Charjew in Turkmenistan with Siberian oil. The Atasu connection was a fortunate revival for the pipeline, which previously was idle for much of its length since the Kazakhstani refinery in Shymkent in the 1990s gradually switched to crude oil from domestic fields (the section from Shymkent to Charjew remains unused). The Pavlodar refinery, however, remains supplied by Russian crude.²⁵⁷ A volume of 300,000 tonnes of Russian crude was expected to be transited in the first quarter of 2008. Oil was supplied by the Russian firms TNK-BP and Gazprom Neft, but the latter is not allowed itself to transport crude through Kazakhstan.²⁵⁸ However, to put the volume of Russian crude oil transit in perspective, this volume is still less than the amount that is being shipped directly from Russia to China by railway each year (roughly 9 million tonnes per year).²⁵⁹

TNK-BP began shipping in January 2008 and is allowed the full 5 million tonnes per year. The firm achieves a slight premium as compared to shipping by sea, which so far has made the route worthwhile. China needs Russian crude particularly in winter.²⁶⁰

The Future

There may yet be a further twist to the saga of the Kazakhstan-China pipeline and the failure of the KTIOP to be realised. As a future project, China considers the construction of an oil pipeline from the oil fields in Iran to the Caspian Sea, from which Iranian oil supplies then could be

²⁵³ Igor Tomberg, "Oil Pipeline in the Far East: Economics and Geopolitics," *Central Asia and the Caucasus* 25 (2004), 110-18, on 115; Barbasov, "An Oil Pipeline to China," 113; Pan, "China and Energy Security," 87.

²⁵⁴ Barbasov, "An Oil Pipeline to China," 108, 113-14.

²⁵⁵ Mynbayev, Vilnius Energy Security Conference 2007. Kenkiyak is currently connected by pipeline to Orsk in Russia, the Alibekmola-Kenkiyak-Orsk pipeline with a capacity of 6 million tonnes per year. CGES, *Oil Pipelines of Kazakhstan*.

²⁵⁶ Interfax, 22 January 2008.

²⁵⁷ Laumulin, "Gazprom as a Transnational Corporation 1," 42; Center for Energy Economics, *Refining Sector in Kazakhstan* (Austin: Center for Energy Economics, University of Texas, nd).

²⁵⁸ Interfax, 22 January 2008.

²⁵⁹ EIA, *Russia*, May 2008 (www.eia.doe.gov).

²⁶⁰ Interview with Jonathan Kollek (TNK-BP vice-president for supply, trading and logistics), *Argus Nefte Transport Update*, March 2008.

moved to China through the Kazakhstan-China pipeline.²⁶¹ From a strategic standpoint, this would indeed be beneficial to China, since in times of war or crisis it would be far easier to safeguard pipeline shipments overland by way of Central Asia rather than tanker shipments by sea.

However, from the perspective of Kazakhstan, one further point should be considered. The Kazakhstan-China oil pipeline is a one-customer pipeline. China will to some extent be able to influence the price it has to pay for the oil received.

To Iran, Afghanistan, and South Asia Oil Shipments by Tanker to Neka

There is a fairly active swap trade in crude oil between the Caspian and the Persian Gulf. Kazakhstan and Turkmenistan began their swap deals with Iran in the mid-1990s, with Uzbekistan following suit somewhat later. Producers from all three countries currently swap crude with Iran.²⁶² Already in November 1992, Kazakhstan and Iran drafted a protocol on development of co-operation in the transport sector, which was duly signed by the transport ministers of the two countries. This protocol envisaged the sale of up to 2 million tonnes of oil per year. In 1996, a further agreement on Kazakhstani oil supplies on a swap basis was signed, although the contract was not finalised until December 2001. In February 2002, the first tanker of the Kazakhstani national shipping company KazMorTransFlot with oil for Iran set out from Aktau, bound for Neka. In 1998, meanwhile, the Turkmenistan-based oil exporter Dragon Oil signed its own swap deal with Iran, with a second, ten-year contract signed in April 2000. Again oil was delivered to Neka. Other oil exporters have joined these firms.²⁶³

The crude is produced in the non-Iranian sectors of the Caspian and shipped to Iran where it is consumed domestically. In return, an equivalent amount of oil is produced in Iran for export through the Persian Gulf with a Switzerland-trading arm of National Iranian Oil Company (NIOC) for a swap fee. To facilitate this trade, Iran has built a substantial new oil terminal at Neka. The Neka facility is indeed referred to as “the Rotterdam of the Caspian” by the Iranians.²⁶⁴

Not only the Neka oil terminal is newly built. To move the oil from Neka to the refinery near Tehran, it was necessary to build a Neka-Tehran oil pipeline. It was completed in April 2004.²⁶⁵ China is financing a second pipeline along this route.²⁶⁶ The pipeline has since been further expanded and now connects Neka to the Tehran, Rey (located next to the Tehran facility), and Tabriz refineries.²⁶⁷

In 2007, Kazakhstan shipped 3.4 million tonnes of oil to Neka. Turkmenistan shipped 3.2 million tonnes in the same year.²⁶⁸ Neka has a capacity of 10 million tonnes per year.²⁶⁹

Oil Shipments by Railway to Mashhad

Oil destined for swap deals with Iran can also be moved by railway. Oil from Kazakhstan’s Kumkol’ field, for instance, has been sent to the Tehran refinery along the Tejen-Mashhad

²⁶¹ Xuecheng Liu, *China’s Energy Security and Its Grand Strategy* (Muscatine, Iowa: Stanley Foundation Policy Analysis Brief, September 2006), 11.

²⁶² Hooman Peimani, “Central Asian States Increase Energy Swap Deals with Iran,” *Central Asia - Caucasus Analyst* (www.cacianalyst.org), 30 June 2004.

²⁶³ Bolat Auelbaev, “Kazakhstan’s Politico-Economic Relations with Iran,” *Central Asia and the Caucasus* 28 (2004), 82-8, on 83-4.

²⁶⁴ Mahmood Khaghani (Director General for Caspian Sea Oil & Gas Affairs, Ministry of Petroleum, Iran, as well as National Iranian Oil Company (NIOC)), Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004. See also the NIOC web site, www.nioc.ir.

²⁶⁵ See, e.g., Pavel Baev, “Russia’s Happiness in Multiple Pipelines,” *Central Asia Caucasus Analyst* (www.cacianalyst.org), 16 June 2004.

²⁶⁶ Peimani, “Central Asian States Increase Energy Swap.”

²⁶⁷ Energy Information Administration (EIA), *Iran*, October 2007 (www.eia.doe.gov).

²⁶⁸ Valiyev, *Oil Flows*, 13-14.

²⁶⁹ CGES, *Western Crude Oil Pipelines*.

railway.²⁷⁰ This railway link connecting Turkmenistan and Iran was inaugurated in May 1996, joining Tejen in Turkmenistan to the Iranian city of Mashhad through the twin towns of Serakhs in Turkmenistan and Sarakhs in Iran. The project was expected eventually to form part of a larger transport and energy corridor to connect Kazakhstan and the whole of the former Soviet railway system with the Persian Gulf and, equally ambitiously, China with Turkey and the Middle East, thus also forming a second entry point into Europe by passing Russia.²⁷¹

The Kazakhstan Turkmenistan to Iran Oil Pipeline (KTIO) Project

As noted, the Kazakhstan Turkmenistan to Iran Oil Pipeline (KTIO) was first proposed by Iran. The project was in 1997 supported by China, but it was immediately vetoed for its companies by the United States. An argument for the KTIO was that it could be built faster and cheaper than the BTC.²⁷² However, the BTC has been built, and the KTIO is still languishing.

From an economic perspective, however, there is much in favour of building the KTIO. Such a pipeline, if built, could connect, overland, the oil fields at Tengiz and the northern Caspian by way of Uzen' in Kazakhstan and Belek in Turkmenistan to Neka and Tehran, and then move refined oil onwards to the Kharg export terminal on the Persian Gulf.²⁷³ As noted, the alternative route by tanker across the Caspian to Neka is already in use.

However, development of such a pipeline would be difficult under the Iran Sanctions Act, which imposes sanctions on non-United States companies investing in the Iranian oil and natural gas sectors.²⁷⁴

As a further note, Transneft of Russia and KazTransOil of Kazakhstan in the early 2000s made plans for using the existing Omsk-Pavlodar-Shymkent-Charjew oil pipeline with a new extension to the north of Iran.²⁷⁵ Such an extension could well be built to Neka, where sufficient infrastructure already exists.

The Azerbaijan-Iran Pipeline Project

An oil pipeline from Baku in Azerbaijan to Tabriz in Iran was earlier proposed by TotalFinaElf.²⁷⁶ Since the construction of the BTC, this option would no longer seem viable, in particular for political reasons, which in any case doomed the project from the outset.

The Central Asia Oil Pipeline (CAOP) Project, Turkmenistan-Afghanistan-Pakistan

There have at various times been plans for an oil pipeline from Turkmenistan through Afghanistan to Pakistan. One of the proponents of this project was the American firm Unocal, which also was involved in the project to build a gas pipeline from Turkmenistan to Pakistan via Afghanistan (see below).²⁷⁷ So far, this has led nowhere, not even to the planning stage.

Natural Gas

To Russia

The Central Asia-Center (CAC) Pipeline System

The Central Asia-Center (CAC) gas pipeline system, running from Turkmenistan through Uzbekistan and Kazakhstan to Russia, is an old pipeline network the primary function of which is to bring natural gas to Russia. The Russian government knows that it is vital to restore the

²⁷⁰ Auelbaev, "Kazakhstan's Politico-Economic Relations," 84.

²⁷¹ Anette Bohr, *Uzbekistan: Politics and Foreign Policy* (London: Royal Institute of International Affairs, 1998), 48; Lena Jonson, *Russia and Central Asia: A New Web of Relations* (London: Royal Institute of International Affairs, 1998), 13-14, 49-50; Jane's Sentinel: Turkmenistan, 31 October 2000.

²⁷² Khaghani, Caspian & Black Sea Oil & Gas Conference 2004.

²⁷³ Auelbaev, "Kazakhstan's Politico-Economic Relations," 83.

²⁷⁴ EIA, *Caspian Sea*, January 2007.

²⁷⁵ Auelbaev, "Kazakhstan's Politico-Economic Relations," 83, citing A. Abishev, *Kaspii: Neft i politika* (Almaty, 2002), 303.

²⁷⁶ EIA, *Caspian Sea Region Reserves and Pipelines*, July 2002.

²⁷⁷ See, e.g., Martha Brill Olcott, *International Gas Trade in Central Asia: Turkmenistan, Iran, Russia and Afghanistan* (Stanford University and Rice University, 2004, Working Paper 28), 22; EIA, *Caspian Sea Region Reserves and Pipelines*, July 2002.

system and increase its transit capacity, in order to retain the capacity to move gas from this region into Russia.²⁷⁸ The CAC is a network of five separate pipelines chiefly used for transportation of gas from the southeastern gas fields of Turkmenistan. The first line was built for this purpose in 1966 and the last was concluded in 1987. The pipeline system was laid in two major corridors: a main branch consisting of four pipelines (CAC-1, -2, -4, and -5) that passes through Uzbekistan, and which accounts for the bulk of the system's transportation capacity, and a smaller branch consisting of only one pipeline (CAC-3) that runs solely through Kazakhstan. Most parts of the pipeline system are already beyond their projected exploitation limit of 33 years and current capacity has deteriorated.²⁷⁹

Because of these problems as well as lingering rivalry between Uzbekistan and Turkmenistan, there were recurring Turkmenistani proposals to increase the capacity of the existing CAC-3 pipeline through Kazakhstan.²⁸⁰ However, the existing CAC-3 stood idle for many years.²⁸¹ For this reason, a new CAC-3 pipeline along the Caspian coast from Turkmenistan through Kazakhstan to Russia was long under consideration by the Russian government and Gazprom which realised that it would almost certainly be needed if the full, stated export potential of Turkmenistani gas was to be realised.²⁸² In 2007, an agreement to build a new CAC-3, under the name of the Prikaspiyskiy pipeline (see below), was finally concluded.

There have been some improvements within the CAC network. So was, for instance, in 2006 a bypass on the section between Dowlatabad and Darialyk (for the CAC-4) in Turkmenistan built by the firm ZanGas Hoch- & Tiefbau, controlled by the Ukrainian businessman Firtash. This firm was also contracted to build part of the bypass on the line Shatlyk-Khiva on the CAC system.²⁸³

Claims are often heard that Gazprom controls, or at least operates, the CAC. This is not quite correct. Gazprom neither operates nor controls the CAC. In Kazakhstan, the CAC is operated by AO Intergaz Tsentral'naya Aziya, a subsidiary of AO NK KazMunayGaz, while in Uzbekistan the network is operated by AK Uztransgaz, a subsidiary of NKhK Uzbekneftegaz. Both are state-controlled companies. However, since early 2003, a series of agreements between Gazprom and Uztransgaz (for Uzbekistan) and Intergaz Tsentral'naya Aziya (for Kazakhstan) has enabled Gazprom to act as the operator for both Kazakhstani and Uzbekistani gas in transit through Uzbekistan and Kazakhstan en route to Russia and, by implication, onwards to Europe.²⁸⁴ On 27 September 2005, Gazprom contracted with Uztransgaz the right to use all of its capacity for five years (2006-2010) with regard to the CAC and also the Bukhara-Ural main gas pipeline system (see below) for gas in transit en route for Russia. On 11 November 2005, a corresponding deal (valid for both Central Asian and Russian gas) was agreed with Intergaz Tsentral'naya Aziya with regard to the network in Kazakhstan. So while Gazprom does not physically control or operate the CAC, it has the contracted right to use its full capacity for a number of years. (This right, of course, only applies to gas transit to Russia; it does not include the Uzbekistani gas exports to Tajikistan and Kyrgyzstan.)²⁸⁵

The CAC pipeline system is, as might be expected, used at full capacity. The initial design throughput capacity of the system was 90 bcm per year and capacity occasionally reached 120 bcm. By the early 2000s, its maximum annual capacity was certainly less than 50 bcm and even

²⁷⁸ Viktor Kalyuzhny (Deputy Minister of Foreign Affairs of the Russian Federation, Russian Special Presidential Envoy for the Caspian Sea), Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

²⁷⁹ *Alexander's Gas & Oil Connections* 9: 4 (25 February 2003; www.gasandoil.com). In Turkmenistan, the CAC system is also referred to as the Turkmenistan-Europe pipeline. The pipelines were numbered in chronological order: CAC-1 in 1966, CAC-2 in 1969, CAC-3 and CAC-4 in 1972, and CAC-5 in 1985. Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004.

²⁸⁰ *Alexander's Gas & Oil Connections* 9: 4 (25 February 2003; www.gasandoil.com).

²⁸¹ See, e.g., *Caspian Investor* 9: 7 (August 2006), 7.

²⁸² Kalyuzhny, Caspian & Black Sea Oil & Gas Conference 2004.

²⁸³ Preyger and Omelchenko, "Problems of Turkmen Gas Export," 126; the firm's web site, www.groupdf.com.

²⁸⁴ Saprykin, "Gazprom of Russia," 88; Jonathan P. Stern, *The Future of Russian Gas and Gazprom* (Oxford: Oxford University Press/Oxford Institute for Energy Studies, 2005), 82.

²⁸⁵ *Kommersant*, 14 November 2005 (www.kommersant.com); Preyger and Omelchenko, "Problems of Turkmen Gas Export," 126.

appeared to be falling. By 2003, for instance, maximum capacity was about 45-48 bcm per year according to Gazprom and no more than 40 bcm per year according to Uzbekistani experts.²⁸⁶ By 2004, the Turkmenistani part of the CAC reportedly had a loading capacity of only 44-47.5 bcm.²⁸⁷ In 2005, the capacity was 54.6 bcm in the Kazakhstani network, which always had a slightly higher throughput capacity; however, actual capacity for Central Asian gas was then only 41.1 bcm.²⁸⁸ In 2005, some estimates indicate that only 40 bcm of Turkmenistani gas, 3 bcm of Uzbekistani gas, and 7 bcm of Kazakhstani gas passed through the CAC.²⁸⁹ By 2006, again only 40 bcm of Turkmenistani gas passed through the CAC,²⁹⁰ although Uzbekneftegaz reportedly exported 9.0 bcm to Gazprom through the system.²⁹¹

Gazprom may have measured the gas flow somewhat differently, since it in 2006 noted an actual throughput capacity of 44-45 bcm, which if it included Uzbekistani and Kazakhstani gas was the lowest so far. Gazprom accordingly announced that work would commence to increase CAC capacity. At least in Kazakhstan, Gazprom assumed two stages of capacity increase: a first stage of up to 55 bcm, and a second stage of up to 80 bcm.²⁹²

KazTransGaz was then somewhat more optimistic, and announced its aim to increase capacity to 2010 up to 75-90 bcm. The then throughput capacity in Kazakhstan of 54.6 bcm (a figure from 2005) was first to be raised to 80 bcm, then – as long as long-term transit was guaranteed – to 100 bcm. As for Turkmenistan and Uzbekistan, there was then a plan to upgrade the gas transportation network through these countries in the period 2006-2010 to reach an annual throughput capacity of no less than 60 bcm.²⁹³ By 2008, the throughput capacity of the CAC system was planned to have been increased to 65-70 bcm, as follows: the Turkmenistani section, by 5 bcm (expressed as an increase from the current 45 to 50 bcm); the Uzbekistani section, by 6-7 bcm (that is, about 56 bcm); the Kazakhstani section, by 10-12 bcm.²⁹⁴ As for the period 2008-2010, KazTransGaz hoped to increase transit volumes to the following:²⁹⁵

- From Turkmenistan: 70-80 bcm per year (through the CAC and presumably the Prikaspiyskiy)
- From Uzbekistan: 10 bcm per year (through the CAC and Bukhara-Ural)
- From Kazakhstan: up to 30 bcm (through the CAC and Bukhara-Ural)
- From Russia: 66 bcm per year (through the Orenburg-Novoposkov; see below)

The planned figure for Uzbekistani gas for 2007 was 13 bcm.²⁹⁶ By 2014, Uzbekneftegaz, as noted, plans to supply up to 16.0 bcm to Gazprom.²⁹⁷ Indeed, the newly developed gas fields on the Ustyurt plateau will, with Gazprom investments, have the potential to increase Uzbekistan's gas exports to Russia to 17 bcm per year.²⁹⁸

²⁸⁶ *Alexander's Gas & Oil Connections* 9: 4 (25 February 2003; www.gasandoil.com).

²⁸⁷ Guseynov, "Russian Energy Companies," 65-6; Saprykin, "Gazprom of Russia," 83-4, 88-9.

²⁸⁸ Sarsenov, OGU 2006.

²⁸⁹ Preyger and Omelchenko, "Problems of Turkmen Gas Export," 128.

²⁹⁰ Uktam Eshmuradov (1st Deputy General Director, Uztransgas), *Oil & Gas Uzbekistan* (OGU 2006), Tashkent, 17-18 May 2006.

²⁹¹ Zikriyev, OGU 2006.

²⁹² Ryazanov, "Perspectives of Gazprom's Cooperation."

²⁹³ Sarsenov, OGU 2006.

²⁹⁴ Preyger and Omelchenko, "Problems of Turkmen Gas Export," 128.

²⁹⁵ Sarsenov, OGU 2006.

²⁹⁶ Tomberg, "Energy Policy," 41.

²⁹⁷ Zikriyev, OGU 2006.

²⁹⁸ Tomberg, "Energy Policy," 41.

The Prikaspiyskiy or Caspian Pipeline Project

The Prikaspiyskiy or Caspian Gas Pipeline project encompasses the construction of a new CAC-3 pipeline on the eastern shore of the Caspian Sea from Turkmenistan through Kazakhstan to Russia. Although a new pipeline, it will thus form part of the CAC system.

The plans for the new pipeline are strongly connected to the plans for the Central Asian states to increase gas production. On 10 April 2003, the governments of Russia and Turkmenistan signed a 25-year intergovernmental agreement on gas co-operation that stipulated a gradual increase formula for the purchase of Turkmenistani gas, with purchases in 2004 beginning at a total of 5-6 bcm, which would then rise to 10 bcm in 2006. Delivery volumes would significantly increase from 2007 (when coincidentally, the 2001 Turkmenistani-Ukrainian agreement had expired; Ukraine being a major market for Turkmenistani gas). According to the agreement, by 2009, Russia would in effect be buying virtually all of Turkmenistan's gas, amounting to an expected 70-80 bcm by 2028. Moreover, Russia would retain the exclusive right to re-export the gas elsewhere.²⁹⁹

There were, however, always some doubt whether Turkmenistan would honour the 2003 agreement. After the death of Turkmenistani president Saparmurat Niyazov, Russia approached Turkmenistan for a new series of intergovernmental agreements. This time, the other Central Asian states were involved as well.

On 12 May 2007, the three presidents of Kazakhstan, Turkmenistan, and Russia signed two declarations of intent. The first was a declaration to build what would be known as the Prikaspiyskiy or Caspian Gas Pipeline. The pipeline was projected to cross Kazakhstan to join the existing CAC at Aleksandrov Gai on the Kazakhstan-Russia border.³⁰⁰ The pipeline would run from the Belek compressor station outside Turkmenbashi in western Turkmenistan to the gas metering station Aleksandrov Gai in Russia's Saratov region which necessitated the overhaul of the existing Okarem-Beyneu pipeline from the southern part of Turkmenistan's Caspian coast to the CAC pipeline as well as the CAC pipeline itself.³⁰¹ For this reason, the presidents at the same time signed a declaration of intent to upgrade and expand the entire CAC network.³⁰² President Karimov of Uzbekistan also signed up separately, on 9 May 2007, for a modernisation of the Turkmenistan-Uzbekistan-Kazakhstan-Russia pipeline system.³⁰³

On 20 December 2007, yet another two agreements followed on the same topic. The first was an agreement signed by the heads of the state energy firms of Russia, Turkmenistan, and Kazakhstan to build the pipeline, which was planned to be completed and on-line by late 2010. Construction was planned to commence by summer 2008. Each republic would finance construction on its territory. The pipeline would have a total throughput capacity of 20 bcm. Turkmenistan (GK Turkmengaz) would guarantee a delivery of up to 10 bcm per year through the new pipeline, while Kazakhstan (AO NK KazMunayGaz) would add another 10 bcm of its own gas per year. The pipeline would, as noted, be built from the Belek compressor station outside Turkmenbashi in Turkmenistan to join the Russian system at Aleksandrov Gai. The presidents of Russia and Kazakhstan attended the signing ceremony, before which the two presidents talked on the telephone with Turkmenistan's president, Berdymammedov.³⁰⁴ The second agreement, between Russia, Kazakhstan, Uzbekistan, and Turkmenistan, reiterated the need for the restoration of the CAC pipeline system and the parties agreed to increase the throughput capacity up to some 85 bcm. According to the agreement, which would remain in force until 31 December 2028, Turkmenistan will deliver 60-70 bcm per year (as per previous

²⁹⁹ Soglashenie mezhdru Rossiiy i Turkmenistanom o sotrudnichestve v gazovoy otrasli, Moskva, Kreml', 10 aprelya 2003 goda (at the Ministry of Foreign Affairs web site, www.in.mid.ru). See also Veniamin Ginsburg and Manuella Troschke, "The Export of Turkmenistan's Energy Resources," *Central Asia and the Caucasus* 24 (2003), 108-17.

³⁰⁰ See, e.g., CGES *FSU Pipeline Advisory* 13 (15 May), 2007; Tomberg, "Energy Policy," 50.

³⁰¹ Interfax, 20 December 2007.

³⁰² See, e.g., CGES *FSU Pipeline Advisory* 13 (15 May), 2007; Tomberg, "Energy Policy," 50.

³⁰³ M. K. Bhadrakumar, "Russia, Iran Tighten the Energy Noose," *Asia Times*, 22 December 2007 (www.atimes.com).

³⁰⁴ *Financial Times*, 20 December 2007; official news web site, www.turkmenistan.ru, 21 December 2007; *Times of Central Asia*, 26 December 2007; *Nefte Compass*, 28 December 2007.

agreements), Uzbekistan up to 17 bcm per year, and Kazakhstan up to 10 bcm per year to Russia.³⁰⁵

Whether these agreements will be followed by all countries that signed them remains to be seen. Little or no information on transit and transportation tariffs and prices were published at the time (although Russia stated that it would work on a gas pricing formula for Turkmenistan supplies starting in 2009 under a long-term contract valid through 2028³⁰⁶), and the fact that the agreement with Turkmenistan merely reiterates what Turkmenistan apparently promised more than four years previously suggests that Turkmenistan has not yet delivered.

On 11 March 2008, as noted, the heads of the gas monopolies of Russia, Kazakhstan, Uzbekistan, and Turkmenistan jointly declared that from 2009, they would all sell gas at European market prices.³⁰⁷ On 25 July 2008, Gazprom's Miller visited Turkmenistan's President Berdymuhamedov in Ashgabat. Gazprom signed two agreements during the visit. The first concerned the pricing mechanisms that will be guiding the Turkmenistani gas exports to Russia up to 2028. From 2009, Russia will pay a base gas purchasing price based on the average wholesale price in Europe and Ukraine. At present estimates, the 2009 price for Turkmenistani gas will be in the range of \$225-295, as compared to Gazprom's present purchasing price of \$150 (for the second half of 2008) and China's present purchasing price of \$195 plus a transmission fee of \$50.³⁰⁸

The second agreement stipulated that Gazprom would finance and build gas transportation infrastructure, in particular from the eastern part of the country, develop gas fields in Turkmenistan, and increase the throughput capacity of the Turkmenistani section of the projected Prikaspiyskiy gas pipeline up to 30 bcm. Gazprom would take part in the construction.³⁰⁹

In addition, Gazprom agreed to build a representative office and a branch of the I. M. Gubkin Russian State Oil and Gas University in Ashgabat.³¹⁰

Turkmenistan, as noted, currently produces about 65 bcm per year, out of which roughly 45 bcm is available for export. It remains to be seen how much production can be increased, but the country certainly has a potential to increase exports.

The Bukhara-Ural Pipeline

The Bukhara-Ural natural gas pipeline, built between 1963 and 1965 to carry Turkmenistani and Uzbekistani gas to Russia, was in operation for more than two decades.³¹¹ Then mothballed, the pipeline was re-opened in 2001 for the transit of increasing volumes of gas from Turkmenistan.³¹² The restoration and the increasing of the throughput capacity of the Bukhara-Ural pipeline has since then been regarded as a vital project.³¹³

The Central Asian part of the Bukhara-Urals pipeline has an actual throughput capacity of 7.2 bcm per year although the system was designed for 15 bcm. However, in 2005 only 2.0 bcm were carried.³¹⁴

³⁰⁵ *Vremya novostey*, 21 December 2007 (www.vremya.ru); ITAR-TASS, 23 December 2007; Elmur Madinov, "Present-Day Titanomachy or the Nature of Energy Geopolitics in Central Asia," *Central Asia and the Caucasus* 6 (48), 2007, 68-77, on 71. The figure for Uzbekistan is an estimate based on Tomberg, "Energy Policy," 41.

³⁰⁶ *Nefte Compass*, 28 December 2007.

³⁰⁷ Gazprom press release, 11 March 2008 (www.gazprom.ru).

³⁰⁸ Gazprom press release, 25 July 2008; *Asia Times*, 30 July 2008 (www.atimes.com).

³⁰⁹ Gazprom press release, 25 July 2008; *Asia Times*, 30 July 2008 (www.atimes.com).

³¹⁰ Gazprom press release, 25 July 2008.

³¹¹ Saprykin, "Gazprom of Russia," 88; Sarsenov, OGU 2006; Centre for Global Energy Studies (CGES), *Gas Pipelines of Kazakhstan* (London: CGES, 2007).

³¹² EIA, *Central Asia*, February 2008.

³¹³ Kalyuzhny, Caspian & Black Sea Oil & Gas Conference 2004.

³¹⁴ Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004; Sarsenov, OGU 2006. Sarsenov suggests a capacity of 14 bcm. In comparison, the northern part of the pipeline, which runs within Russia, has a capacity of 23.8 bcm per year. In 2005, this section carried 22.2 bcm of Russian gas. Total design throughput capacity including in the Russian sections was apparently much higher, 54 bcm per year. CGES, *Gas Pipelines of Kazakhstan*.

The Makat (Kazakhstan) - North Caucasus (Russia) Pipeline

The Makat-North Caucasus natural gas pipeline has a throughput capacity of 17 bcm per year. In 2005, only 13.2 bcm were carried. The pipeline is used for Turkmenistani gas to the Caucasus as well as Ukraine.³¹⁵

The Orenburg (Russia) - Aleksandrov Gai (Kazakhstan) - Novopskov (Ukraine) Pipeline

The Orenburg-Novopskov natural gas pipeline connects Russia with eastern Ukraine through northwestern Kazakhstan. It is used to move Russian gas to Ukraine. The pipeline carries Russian gas, but since it passes through Kazakhstan, it is operated by KazTransGaz on Kazakhstani territory. Built in 1976, the pipeline's throughput capacity in Kazakhstan was designed to be 14 bcm per year but is in reality assessed as 10 bcm.³¹⁶

The Soyuz Pipeline

The Orenburg-Novopskov gas pipeline runs next to the old Soyuz ("Union") gas pipeline built for gas transit to Europe, which in Kazakhstan has a design capacity of 28 bcm per year although it is assessed as only 20 bcm. The Kazakhstani section was built in 1978. The two pipelines together in 2005 only carried 26.4 bcm. The Soyuz, like the Orenburg-Novopskov pipeline, carries Russian gas but is operated by KazTransGaz on Kazakhstani territory.³¹⁷

To the South Caucasus and Onwards to the West

The South Caucasus Pipeline (SCP), aka Baku-Tbilisi-Erzurum (BTE)

The South Caucasus Pipeline (SCP), also known as Baku-Tbilisi-Erzurum (BTE) pipeline, originated in negotiations on the supply of natural gas from Azerbaijan's Shah Deniz field that took place from October 2000 to March 2001. An agreement on the South Caucasus Pipeline was concluded on 29 September 2001 and approved by Azerbaijan on 26 October 2001. An intergovernmental agreement was signed between Turkey and Azerbaijan on 12 March 2002. The pipeline was conceived as an export route for the natural gas reserves in the Shah Deniz field through Georgia to Turkey much like the BTC pipeline moves oil along the same route. Under the terms of the agreement, Georgia can siphon off 5 per cent of the gas transported along the pipeline for its own use, thus alleviating the need to depend exclusively on Russian deliveries. Turkey in its turn hopes to re-export the gas to Europe.³¹⁸ In February 2003, Turkey and Greece signed an agreement to build a pipeline to transport gas to Greece and beyond.³¹⁹

The SCP forms part of the East-West energy corridor project, which also includes the parallel BTC oil pipeline. It was thus always to some extent a political project. The route of the pipeline was carefully planned so as to avoid Russian, Armenian, and Iranian territory. Russia saw the SCP, and its possible extension to Europe, together with the BTC as a political means to contain Russia and create an alternative to Russian energy deliveries.³²⁰ The United States, Turkey and their allies instead regarded the SCP as the most important gas project for the West and expected that it would become part of the project to export gas from Turkmenistan to Turkey and onwards.³²¹ For these reasons, Russia always opposed the SCP. Russian representatives, with some justification, asked from where the gas would come, if nothing was forthcoming

³¹⁵ Sarsenov, OGU 2006. Thus, Ukrainians can distinguish between Russian and Central Asian gas. Other sources indicate an actual capacity of 17 bcm and a design capacity of 25.5 bcm. Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004. Sarsenov indicated a design capacity of 30 bcm.

³¹⁶ Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004; Sarsenov, OGU 2006.

³¹⁷ Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004; Sarsenov, OGU 2006. Sarsenov suggests a design capacity of 30 bcm.

³¹⁸ *BlackSea Trend Review* 1: 1 (Summer 2002), 109; "Shah Deniz Gas Pipeline Project," *BlackSea Trend Review* 2: 3 (Spring 2003), 54-5; *Oil and Gas Guide 2007* (Baku: Ernst & Young Azerbaijan, 2007).

³¹⁹ Athens News Agency, 26 February 2003.

³²⁰ Kalyuzhny, Caspian & Black Sea Oil & Gas Conference 2004.

³²¹ Kilic, "Importance of Caspian Oil and Gas;" Akil, "Potential of Caspian Oil and Gas."

from Turkmenistan. Both Turkey and Greece are gas importers, they argued, and there was not enough gas in Azerbaijan to supply both Turkey and Europe.³²² Certainly the Azerbaijani production is not yet sufficient even to supply Turkey.³²³

The SCP project offers valuable lessons on how stated ambitions eventually may conflict with realities on the ground. Both throughput capacity and completion date changed a number of times before construction began. At first, it was stated that natural gas delivery would begin in 2004-2005 with 2 bcm, which would level off at 6.6 bcm in 2007.³²⁴ This capacity would seem to be the one that eventually materialised. However, later announcements claimed higher capacity, from 7.7 bcm per year up to what some described as an initial capacity of 8.4 bcm per year that would be increased to up to 30 bcm per year.³²⁵ Present maximum throughput capacity would seem to be about 22 bcm per year, although that much gas is not yet available.³²⁶ The construction schedule was eventually postponed as well. First, as noted, there was talk about a completion date in 2004-2005. This was adjusted to early 2006. Then, by 2004, it was stated that the first gas would reach Turkey in the fourth quarter of 2006.³²⁷ Even this could not be achieved. By June 2006, the president of Statoil in Baku, a partner in the Shah Deniz consortium as well as the SCP and BTC pipelines, concluded that the SCP would be ready for start-up on 1 October 2006. Then the Azerbaijan Gas Supply Company (AGSC), a firm operated by Statoil, would be ready for operations. He also stated that this date would be the correct one due to “contractual obligations.”³²⁸ However, production at the Shah Deniz field commenced only in 2007, and the SCP was not put in operation before July 2007, when Azerbaijan finally began to send gas to the Turkish company Botas through the SCP.³²⁹ Volumes delivered in 2007 were low, only 1.2 bcm to Turkey, but so were prices, with Turkey paying a price no higher than \$120 until April 2008. However, both volumes delivered and prices are expected to rise significantly in 2008.³³⁰

BP is technical operator of the pipeline and holds a major share in the project.³³¹ BP is also, as noted, a leading member of the Shah Deniz consortium that develops the gas field from which the gas is taken. Since the Shah Deniz field and the SCP have the same sponsors (with BP as leader), the SCP can thus be explained as a connector. In this capacity, the pipeline can be said to be commercially viable; however, as with the other components of the East-West energy corridor project, and indeed all other energy projects of this magnitude in the Caspian region, it can hardly be denied that politics have come first in the creation and realisation of the project.

For this reason, the pipeline brings a certain amount of political risk. On 12 August 2008, BP shut down the SCP temporarily because of uncertainty over the security situation in Georgia due to the ongoing conflict with Russia. By 14 August, gas supplies had been resumed.³³²

Georgia has been offered quite favourable terms for serving as a transit country for the SCP. As a minimum payment, Georgia will, as noted, receive a fee set at 5 per cent of the gas in transit, either in funds or in gas. In addition, Georgia is entitled, during a twenty-year period, to

³²² Kalyuzhny, Caspian & Black Sea Oil & Gas Conference 2004.

³²³ By 2007, Turkey imported a total of 36.6 bcm. The bulk, 23.1 bcm, came from Russia. Iran supplied 6.2 bcm and Algeria 4.4 bcm. Azerbaijan provided less than 1.3 bcm. *BP Statistical Review of World Energy June 2008* (www.bp.com).

³²⁴ *BlackSea Trend Review* 1: 1 (Summer 2002), 109; “Shah Deniz Gas Pipeline Project,” *BlackSea Trend Review* 2: 3 (Spring 2003), 54-5.

³²⁵ Mamuka Tsereteli, “Caspian Gas: Potential to Activate Europe in the South Caucasus,” *Central Asia Caucasus Analyst* (www.cacianalyst.org), 25 August 2004.

³²⁶ Centre for Global Energy Studies (CGES), *Western Gas Export Pipelines of the Former Soviet Union* (London: CGES, 2007).

³²⁷ Osman Saim Dinc (General Manager, TPAO), “Upstream and Downstream Oil and Gas Industry Potential in Turkey,” Caspian & Black Sea Oil & Gas Conference 2004, Istanbul, 26-27 February 2004.

³²⁸ Georg Karl Gundersen (President, Statoil Azerbaijan), presentation, 13th Caspian International Oil & Gas Exhibition and Conference, Baku, 6-9 June 2006.

³²⁹ *Petroleum Review*, 31 December 2007; EIA, *Azerbaijan*, November 2007.

³³⁰ International Energy Agency (IEA), *Natural Gas Market Review 2008* (Paris: OECD/IEA, 2008), 52, 170.

³³¹ EIA, *Azerbaijan*, November 2007.

³³² Platts, 13 August 2008; *Upstream*, 14 August 2008 (www.upstreamonline.com).

buy further gas at a concessionary rate, which has not been disclosed. In the first year, up to 0.2 bcm would be made available, a volume that will rise to 0.5 bcm from the sixth year of operation. However, Georgia is expected to provide security for the pipeline and is liable for damages up to the total of its revenues in case of, for instance, sabotage.³³³

This does not mean that Georgia has got everything it asked for. By 2006, before the start of SCP deliveries, all gas deliveries to Georgia were carried out through the Makat (Kazakhstan)-North Caucasus gas pipeline. Georgia's need for gas in 2006 was estimated at 2.25 bcm.³³⁴ In December 2005, Gazprom and Georgia agreed on a gas price for 2006 of \$110.³³⁵ There was little doubt that this price would rise, so Georgia turned to Azerbaijan.³³⁶ On 15 July 2006, Georgia announced that an agreement had been reached, under which Azerbaijan would provide about 60 per cent of Georgia's gas needs. The remaining demand would be covered with imports from Russia's Gazprom. Azerbaijan by then still imported gas from Russia, but this would not be re-exported, Azerbaijan pointed out.³³⁷ The price was set only later, and it turned out that Azerbaijan sold Georgia gas for \$120. However, the Georgian-Azerbaijani bilateral gas-supply contract expired in early autumn 2007. Azerbaijan then attempted to explain to the Georgians that they would have to pay prices that approached world market levels, but the Georgian side ignored or failed to understand these demands and continued to ask for the same price, \$120. Azerbaijan responded by cutting the flow of gas to Georgia first on 20 November 2007, and then again on 6 January 2008.³³⁸

In February 2008, Georgia's minister of fuel and energy, Aleko Khetaguri, attempted to persuade his Azerbaijani counterpart, Natic Aliyev, to let Georgia buy gas for \$180-190 in 2008, up from \$120 in 2007. In addition, he wanted to buy upwards of 1.5 bcm (a volume mentioned by Georgia already in the summer of 2006³³⁹), while Azerbaijan only wanted to sell up to 0.5 bcm. The negotiations seemed to have been unsuccessful. Despite this, it appeared that Georgia was receiving sufficient amounts of gas, after all. Was Georgia paying more than Turkey, which paid \$120? Or less? Or was this a new case of gas debt building up? Georgia's sole gas provider, the state-owned Georgian Oil and Gas Corporation (GOGC), refused to comment on existing supply arrangements, or the prices paid.³⁴⁰ Besides, Georgia continued to import gas from Gazprom through the Trans-Caucasus gas pipeline, although in somewhat reduced amounts as compared to the previous year.³⁴¹ But it hardly seems likely that Gazprom then would have offered lower prices than Azerbaijan.

The Trans-Caspian Pipeline Project

Already in 1992, the Turkish company Botas asked Turkmenistan to consider a trans-Caspian natural gas pipeline (referred to as TCG or TCP) for up to 30 bcm per year, to be delivered to Turkey through Azerbaijan and Georgia.³⁴² A pipeline could be built to run from Turkmenbashi in Turkmenistan to Sangachal in Azerbaijan. The proposal was soon seconded by the United States, Turkey, Turkmenistan, Azerbaijan, and Georgia. An agreement on this pipeline, with a projected capacity of 30-32 bcm, was thus signed in 1999 by the presidents of Turkmenistan, Turkey, Azerbaijan, and Georgia to weaken Russia's influence in the region. A consortium was

³³³ Energy Charter Secretariat, *Gas Transit Tariffs in Selected Energy Charter Treaty Countries* (Brussels: Energy Charter Secretariat, January 2006), 57-8.

³³⁴ Laumulin, "Gazprom as a Transnational Corporation 2," 29.

³³⁵ G. P. Armstrong, *Russian Federation/CIS Weekly Sitrep*, 15 December 2005; 12 January 2006; Marcus Svedberg, *Energy in Eurasia: The Dependency Game* (Stockholm: Stockholm Institute of Transition Economics, paper, 2006).

³³⁶ Götz, *Europas Energieversorgung*, 21.

³³⁷ *Caspian Investor* 9: 7 (August 2006), 25.

³³⁸ Nino Patsuria, "Georgia and Azerbaijan: Partners in Pipelines, Antagonists in Energy Export Talks," *Eurasia Insight* (www.eurasianet.org), 14 February 2008.

³³⁹ *Caspian Investor* 9: 7 (August 2006), 25.

³⁴⁰ Patsuria, "Georgia and Azerbaijan." GOGC, established in 2006 and wholly owned by the Georgian state, in turn owns the state shares of Georgian International Oil Corporation, Georgian Gas International Corporation, and National Oil Company Georgian Oil.

³⁴¹ Data published continuously in the journal MINTOP (Moscow).

³⁴² Preyger and Omelchenko, "Problems of Turkmen Gas Export," 129.

formed to build the pipeline. Turkmenistan in 1998 and again in 1999 even contracted (with Botas) to deliver 16 bcm per year beginning in 2002, a volume said later to be increased to 30 bcm. However, the project never progressed, and will indeed be difficult to implement until the legal status of the Caspian Sea is settled. There are also environmental concerns.³⁴³ In addition, Gazprom has, as noted, already contracted virtually all Turkmenistani gas, which may leave the pipeline without sufficient capacity to be commercially viable.

Furthermore, at the time there were disagreements between Azerbaijan and Turkmenistan. Azerbaijan wanted to connect the project to its own Shah Deniz field to sell its own gas first, before Turkmenistani gas came online. There were also disputes between Azerbaijan and Turkmenistan concerning the rights to certain fields in the Caspian. However, since Azerbaijani gas will be insufficient to supply the South Caucasus Pipeline (SCP) in the long-term, Azerbaijan is currently in favour of implementing the project after all. A trans-Caspian gas pipeline is regarded as a logical beginning to the proposed Nabucco gas pipeline to Austria, which is promoted by the EU. The prospect of a Nabucco pipeline would indeed make the trans-Caspian gas pipeline project more attractive to Turkmenistan and Kazakhstan.³⁴⁴ However, on 11 October 2007 Sauat Mynbayev, minister of energy and natural resources of Kazakhstan, was not particularly enthusiastic and said that Kazakhstan would only join financially justified projects and that Kazakhstan would coordinate its export projects with Russia.³⁴⁵

To the South Caucasus only

The Trans-Caucasus Pipeline

The Trans-Caucasus gas pipeline is an existing pipeline from Russia to Georgia and, through spurs, to Armenia and Azerbaijan. It still supplies gas to Georgia and Armenia and has a current throughput capacity of 13 bcm.³⁴⁶ In 2007, Georgia received 1.2 bcm, while another 1.9 bcm were delivered to Armenia.³⁴⁷

The Vladikavkaz-Tbilisi section of the Trans-Caucasus gas pipeline was built and put in operation in 1963. However, the Soviet union then embarked upon a swap deal with Iran, in which Iranian gas was imported to supply the southern Caucasus and to some extent Central Asia while Iran could sell equivalent volumes of Russian gas on the European market.³⁴⁸ Georgia was supplied with Iranian gas delivered via Azerbaijan through the then operational IGAT 1 gas pipeline from 1970 until November 1978, when the Iranian revolution led to a halt in supplies. A reconstruction of the Trans-Caucasus pipeline therefore took place from 1985 to 1991, after which Georgia and the other Transcaucasian republics began to rely on gas from Turkmenistan delivered through Russia. The throughput capacity then reached 20 bcm per year.³⁴⁹

The Shirvanovka Pipeline

In addition to the Trans-Caucasus gas pipeline, there is an old pipeline that runs along the west shore of the Caspian, from Makhachkala in Russia's Dagestan to Sumgait in Azerbaijan. Previously used for gas supplies from Russia to Azerbaijan, the pipeline was in 2000-2003 to be rehabilitated and a new gas metering station was to be built at Shirvanovka on the Azerbaijan side of the Azerbaijani-Russian border. Capacity was planned to be in the range of 3 to 4 bcm

³⁴³ David Preiger; Irina Maliarchuk; and Taisia Grinkevich, "Ukraine, Russia, and the Central Asian States: Cooperation Problems in the Gas Sector," *Central Asia and the Caucasus* 25 (2004), 101-10, on 108; Preyger and Omelchenko, "Problems of Turkmen Gas Export," 130-31.

³⁴⁴ Tomberg, "Energy Policy," 47.

³⁴⁵ Mynbayev, Vilnius Energy Security Conference 2007.

³⁴⁶ CGES, *Western Gas Export Pipelines*.

³⁴⁷ IEA, *Energy Security Implications*, 5.

³⁴⁸ Clément Therme, *L'Iran: Exportateur de gaz?* (Paris: Ifri, 2008), 4.

³⁴⁹ Demur Chomakhidze, "Georgia's Fuel and Energy Complex After Independence," *Central Asia and the Caucasus* 44 (2007), 86-96, on 88.

per year, and funding came from the EU.³⁵⁰ However, it is unlikely that Azerbaijan would be interested in importing further Russian gas.

The Iran-Armenia Pipeline

In the early 1990s, there were discussions on building a pipeline from Iran to Armenia. The first version of an agreement was signed as early as in 1992.³⁵¹ In 1997, Armenia, Iran, and Greece drew up plans for a gas pipeline that would connect the Iranian and Turkmenistani gas fields with Europe by way of Armenia. An annual capacity of 1.2 bcm was planned. Armenia would initially receive 1.1 bcm of Iranian gas per year, and from 2019 onwards, 2.3 bcm. Iran would provide a pipeline from Tabriz to the border (Meghri), and Armenia would build a pipeline through Kajaran, Sisian, Jermuk, and (in phase 2) Ararat (from which an existing pipeline connected to Yerevan). Armenia would repay every cubic metre of Iranian gas with 3 kilowatts of electric energy.³⁵² Despite these plans, it took until late December 2001 before Armenia and Iran signed an agreement on the construction of the pipeline.³⁵³

But this still let Russia out of the equation. Russia had good relations with both Iran and Armenia, so the situation could be resolved. At the end of 2003, rumours began to circulate that a pipeline-related deal was finally going to happen between Armenia and Russia, then the sole provider of gas to Armenia, and in January 2004, Iran expressed an interest as well, declaring itself ready to supply Armenia with 1 bcm of gas per year from 2006 onwards.³⁵⁴

On 13 May 2004, Iran and Armenia signed an agreement to construct, mainly with Iranian funding, a gas pipeline from Kajaran on the Iran-Armenia border to Yerevan and to complete the fifth block (Hrazdan-5) of the Hrazdan thermal power plant. Iranian gas would power Hrazdan, which would generate electric energy to supply Armenia and, to a lesser extent, Iran, as a way of repaying the latter for its investments. Hrazdan-5 would be completed in 2008.³⁵⁵ At first, the Armenians regarded the possibility of Iranian gas supplies as a way to ease their own supply concerns, since Russia was the sole provider of gas. In 2005, Armenia imported 1.7 bcm of gas.³⁵⁶ However, Russia and Armenia agreed to limit the Iran-Armenia pipeline's diameter to 700 millimetres, instead of 1,420 millimetres as per original specifications. Some observers have concluded that Russia thus wished to prevent the possibility to transit Iranian gas via Armenia to Georgia, the Black Sea region, and Ukraine, which in 2005 and at least the first half of 2006 showed an interest in an Armenian transit route for Iranian gas. On 25 July 2005, Ukraine even signed a memorandum with Iran on the construction of a new pipeline that would export Iranian gas to Europe, bringing 20-30 bcm of Iranian gas to Ukraine via Armenia, Georgia, and perhaps Russia. The three latter countries were invited into a pentapartite commission to project and construct the Iran-Ukraine gas pipeline that Ukraine proposed. If Russia was not interested, the Ukrainian side suggested, then the new pipeline could run across the Black Sea, bypassing Russia. Ukraine's deputy fuel and energy minister, Sergei Titenko, seemingly announced that the pipeline in any case would be built bypassing Russia, crossing the Black Sea from the Georgian port of Supsa to the Crimea in Ukraine. However, these plans progressed no further, and the Iran-Armenia pipeline seems to have been built with an initial capacity of 0.3 to 0.4 bcm per year (instead of the originally planned 1.2 bcm per year), which can only meet a part of Armenia's gas demand.³⁵⁷ However, Iran would not be supplying its

³⁵⁰ See, e.g., Project 98.04, INOGATE web site, www.inogate.org.

³⁵¹ Preiger; Maliarchuk; and Grinkevich, "Ukraine, Russia, and the Central Asian States," 109.

³⁵² Huseyn N. Najafov, "Iran and the Southern Caucasus," *Central Asia and the Caucasus* 49 (2008), 35-43, on 41-2; CGES, *Western Gas Export Pipelines*.

³⁵³ Preiger; Maliarchuk; and Grinkevich, "Ukraine, Russia, and the Central Asian States," 109-110.

³⁵⁴ Martirosyan, "Will Gas Be a Lethal Weapon?"

³⁵⁵ See, e.g., Sergei Blagov, "Russia and Armenia: United by Geopolitics, Divided by Energy Resources," *Business & Economics* (www.eurasianet.org), 17 May 2004; Vladimir Socor, "Russia Cements Control of Armenia's Energy System," *Eurasia Daily Monitor*, 3 November 2006 (www.jamestown.org).

³⁵⁶ See, e.g., *World Gas Intelligence*, 12 April 2006.

³⁵⁷ See, e.g., Socor, "Russia Cements Control." On the Ukrainian interest, see also *Emerging Europe Oil and Gas Insight* 4 (Business Monitor International, August 2006), 11. On the memorandum signed by Ukraine and Iran, see

own gas but the gas deliveries from Turkmenistan that Iran already imported for resale to Armenia. In addition, demand for gas was falling in Armenia. While the existing contracts between Gazprom and ArmRosgazprom, the latter a Russo-Armenian joint venture controlled by Gazprom, by then stipulated that Gazprom would deliver up to 1.5 bcm of gas via Georgia in 2004, and 1.9 bcm per year by 2007, Armenia's gas consumption only amounted to 1.199 bcm in 2003. Of course, a secure supply of gas to Armenia from Iran, bypassing Georgia, would give Russia a freer hand to negotiate gas transit with Georgia.³⁵⁸

In April 2006, Gazprom and Armenia signed a 25-year gas co-operation agreement. The agreement raised, but also froze, the price of import gas, which until then had been \$56. In exchange for freezing the price of import gas at \$110 (until 1 January 2009), Armenia apparently agreed, in a closed meeting, to sell the Iran-Armenia gas pipeline to Gazprom (this was denied in public, since the pipeline was not yet built and thus could not be sold), to allow Gazprom to invest in an expansion of this pipeline, and to let Gazprom buy the unfinished fifth block of the Hrazdan thermal power plant. Gazprom also requested (and was no doubt promised) a majority stake in ArmRosgazprom as well as that ArmRosgazprom would take ownership of a 40-km first section of the planned Iran-Armenia gas pipeline, from Kajaran on the Iran-Armenia border to Meghri.³⁵⁹ Gazprom then deputy chairman of the board Aleksandr Ryazanov on 30 June 2006 announced that Gazprom would acquire the pipeline. It would create a reliable supply of gas for Armenia, which was necessary, Ryazanov said, because Georgia took the liberty to siphon off gas illegally. Ryazanov added that the pipeline would have a transit capacity of 1.2 bcm per year.³⁶⁰ This, of course, corresponded fairly well to Armenia's then annual gas consumption.

Armenia's President Robert Kocharyan visited Moscow on 30 October – 1 November 2006. One key result of his visit was that effective 20 November 2006, Gazprom increased its stake in ArmRosgazprom from 45 per cent to 60.69 per cent - and the firm on 20 February 2007 announced its hope to increase its stake to 80 per cent.³⁶¹ Gazprom thus de facto took over the Iran-Armenia gas pipeline, even as Iran and Armenia were about to complete the construction of the pipeline under the earlier bilateral agreement, and the Hrazdan power plant's fifth block (Hrazdan-5), since both belonged to ArmRosgazprom.³⁶²

In phase 1 of the pipeline project, the Meghri-Kajaran section was officially inaugurated on 19 March 2007 in the Armenian border town of Agarak by the presidents of the two countries, Mahmoud Ahmadinejad and Robert Kocharyan.³⁶³ No gas was apparently exported, however, and some observers believe that exports will only begin from December 2008, if not later.³⁶⁴

The Iran-Nakhchivan Pipeline

In the aftermath of the Nagorno-Karabakh war, Azerbaijan arranged a swap deal with Iran that provides natural gas to Azerbaijan's geographically separate Nakhchivan enclave. For this purpose, Azerbaijan exports natural gas to northern Iran via the Baku-Astara gas pipeline. Iran then delivers natural gas to Nakhchivan, reportedly a volume of 0.35 bcm per year, via a newly built pipeline from Marand in Iran into the enclave, in exchange for a transit fee.³⁶⁵ In Iran, the Baku-Astara gas pipeline had a continuation in the shape of the mothballed pipeline known as the First Iran Gas Trunkline (IGAT 1). The IGAT 1 earlier supplied Iranian gas to Astara on the

Interstate Oil and Gas Transport to Europe (INOGATE) web site, www.inogate.org, July 2005, citing *AZG Armenian Daily*, 27 July 2005; August 2005, citing RIA Novosti, 1 August 2005; *Kommersant*, 26 July 2005.

³⁵⁸ Martirosyan, "Will Gas Be a Lethal Weapon?" ArmRosgazprom maintains a web site, www.armrusgasprom.am.

³⁵⁹ See, e.g., *World Gas Intelligence*, 12 April 2006; Haroutiun Khachatryan, "Armenia: Economic Challenges During the Change of Guard," *Central Asia and the Caucasus* 44 (2007), 125-32, on 127.

³⁶⁰ *Caspian Investor* 9: 7 (August 2006), 35.

³⁶¹ *Russian Petroleum Investor* 16: 3 (March 2007), 68. According to the ArmRosgazprom web site, www.armrusgasprom.am, Gazprom at the time of writing (October 2008) has acquired a stake of 67.94 per cent, while 26.23 per cent of the equity is held by the Armenian government and 5.83 per cent belongs to Itera.

³⁶² See, e.g., Socor, "Russia Cements Control."

³⁶³ Najafov, "Iran and the Southern Caucasus," 41-2.

³⁶⁴ Therme, *Iran*, 20-21.

³⁶⁵ Stern, *Future*, 85-6; EIA, *Azerbaijan*, November 2007.

Azerbaijani border for further transportation to Baku. Its future use seems undecided. However, Iran has reported that future projects are planned for the entire series of old IGAT pipelines.³⁶⁶

To Turkey

The Iran-Turkey Pipeline, aka the Tabriz-Erzurum-Ankara Connector

In August 1996, Turkey and Iran signed a 25-year agreement that Turkey would buy first 3 bcm, then 10 bcm of natural gas from Iran per year. In December 1996, Iran, Turkey, and Turkmenistan signed an agreement for Turkmenistani gas to be delivered to Turkey by way of Iran. It was also decided to build a pipeline from Tabriz in Iran to Ankara in Turkey to deliver the gas. It became known as the Tabriz-Erzurum-Ankara Gas Connector. The Iranian section was completed by the end of 1999, but the Turkish section, the Eastern Anatolia Pipeline, suffered delays and the pipeline was operational only in December 2001, when Turkey was in financial recession and no longer needed as much gas as previously expected. The pipeline was officially inaugurated in January 2002. Already in September 2002, Turkey suspended imports to re-negotiate the price, in the same manner that Turkey later did with the Russian Blue Stream pipeline, which also is a one-customer pipeline.³⁶⁷

Despite the problems, Turkey did eventually contract 10 bcm of Iranian natural gas, as originally envisaged.³⁶⁸ A major reason was that from Ankara, the Tabriz-Ankara pipeline was expected eventually to connect to a planned Turkey-Greece natural gas pipeline.³⁶⁹

Unfortunately, the pipeline have at times been sabotaged by PKK terrorists.³⁷⁰ Whether the pipeline can be kept secure remains uncertain.

Yet another major problem for the plans to ship gas from Iran to Europe was the shortage of Iranian natural gas. In 2005, Iran exported less natural gas than it had before the revolution of 1979. Indeed, Iran was becoming a net importer of natural gas, despite the fact that Iran had the second largest natural gas reserves in the world (after Russia and just ahead of Qatar).³⁷¹ Especially in winter, Iran remains unable to satisfy even domestic demand for gas.³⁷² By 2006, there was no doubt that Iran was a small net importer of natural gas.³⁷³

Iran in 2007 exported about 6.2 bcm of natural gas to Turkey, which indeed was Iran's only export market for gas (except for the limited swap trade with Nakhchivan). At the same time, Iran imported roughly 6.1 bcm from Turkmenistan. Under its current agreement, Iran would pay \$75 for Turkmenistani gas, up from \$42 in 2003.³⁷⁴ However, Turkmenistan by January 2008 reportedly asked for a price of \$140.³⁷⁵ On 1 January 2008, Turkmenistan suddenly ceased delivering gas to Iran, attributing this to technical problems – although the low price is believed to have been the real reason. To compensate, Iran cut its deliveries to Turkey, which thus realised that it would find it difficult to meet its supply obligations to Greece (BP, as noted, is also aiming to move Shah Deniz gas through the SCP to Greece). On 27 January 2008, Iran resumed supplies to Turkey but only roughly ten per cent of the previous volume.³⁷⁶ On 14 February 2008, Azerbaijan had to come to the rescue, announcing a short-term deal with Iran,

³⁶⁶ See, e.g., Energy Information Administration (EIA), *Iran*, October 2007 (www.eia.doe.gov).

³⁶⁷ See, e.g., Hooman Peimani, "Turkish Gas Import Cutbacks Threaten Turkmen Gas Export," *Central Asia Caucasus Analyst*, 10 March 2004; Ahmed Rashid, *Taliban: Islam, Oil and the New Great Game in Central Asia* (London: I. B. Tauris, 2000), 239; EIA, *Turkey*, October 2006; Olcott, *International Gas Trade*, 11-16. On Blue Stream, see, e.g., Fredholm, *Russian Energy Strategy*, 25.

³⁶⁸ Bali, *Caspian Oil & Gas* 2005.

³⁶⁹ See, e.g., "Turkey-Greece Natural Gas Pipeline Project," *BlackSea Trend Review* 2: 3 (Spring 2003), 52-3.

³⁷⁰ See, e.g., EIA, *Turkey*, October 2006.

³⁷¹ Jonathan Stern, *The New Security Environment for European Gas: Worsening Geopolitics and Increasing Global Competition for LNG* (Oxford: Oxford Institute for Energy Studies, NG 15, October 2006), 14.

³⁷² Therme, *Iran*, 5.

³⁷³ *Petroleum Review*, 31 December 2007.

³⁷⁴ Yigal Schleifer, "The Iranian-Turkmen Gas Row: And the Winner is...Russia," *Business & Economics* (www.eurasianet.org), 28 January 2008; *BP Statistical Review of World Energy June 2008* (www.bp.com).

³⁷⁵ Therme, *Iran*, 7 n.11.

³⁷⁶ Schleifer, "Iranian-Turkmen Gas Row."

under which Iran would import 30 million cubic metres of natural gas for a price of \$300.³⁷⁷ This is reportedly the same price that Turkey pays for Iranian gas.³⁷⁸

Turkmenistan reportedly resumed exports to Iran on 25 April 2008 after the two parties had agreed to a substantially higher, but not yet disclosed, export price.³⁷⁹ Whether Turkmenistan will be able to sustain these exports remains to be seen.

To China

The Central Asia-China Pipeline Project, Turkmenistan-Uzbekistan-Kazakhstan-China: Bagtyyarlyk-Shymkent-Khorgos

The Project

The idea to build a gas pipeline from Turkmenistan to China was first considered in 1992, in a joint proposal to Turkmenistan's president by Chinese National Petroleum Corporation (CNPC) and Japan's Mitsubishi. An early feasibility study was completed in 1996. In 1997-1999, further studies for this project were carried out by Mitsubishi, CNPC, and Exxon. However, Exxon abandoned the project and since the costs seemed prohibitive, it led nowhere.³⁸⁰

For several years, little was heard of the project. Then, in February 2006, Kazakhstani newspapers again began to report plans for such a pipeline. Two goals would be achieved in one stroke: a gas pipeline would be built from western to southern Kazakhstan that first would supply gas to the south, then move the remaining gas further on to China. Besides, in southern Kazakhstan a pipeline from Turkmenistan would join the project to supply China.³⁸¹ It soon became clear that not only Kazakhstan but also Turkmenistan and Uzbekistan were planning ostensibly independent, national projects that yet were supposed, together, to coalesce into a grand plan: a Central Asia-China pipeline. No Central Asian leader said so openly, yet the co-operation was obvious. What with some irony might be termed a stealth pipeline was in the making.

On 3 April 2006, Presidents Niyazov of Turkmenistan and Hu Jintao of the People's Republic of China signed an intergovernmental agreement on building a gas pipeline from Turkmenistan to China and on gas exports from Turkmenistan to China. Turkmenistan agreed to deliver 30 bcm of gas per year for 30 years, starting in 2009, from gas fields on the right bank of the Amu Darya.³⁸²

By April 2006, Kazakhstan was also considering a new pipeline, but a purely domestic gas pipeline from Shalkar via Kyzyl-Orda to Shymkent, where it would link to the Bukhara-Tashkent-Almaty pipeline (see below). The purpose was to bring gas from western Kazakhstan to satisfy domestic demand, but as will be shown, there was also a plan to export gas.³⁸³

On 30 April 2007, China and Uzbekistan announced that Uzbekistan would build a 530-kilometer gas pipeline to China with a capacity of 30 bcm per year.³⁸⁴ This project had been discussed as a new China gas pipeline project from Uzbekistan to Kazakhstan to China, along the route Gazli-Shymkent-Almaty-Urumchi (Gazli since appears to have been dropped).³⁸⁵

On 2 May 2007, Kazakhstan's Prime Minister Karim Masimov discussed the pipeline with Turkmenistan's President, Gurbanguly Berdimuhammedov.³⁸⁶

³⁷⁷ Patsuria, "Georgia and Azerbaijan."

³⁷⁸ Therme, *Iran*, 7 n.9.

³⁷⁹ *BNE:investor*, 12 May 2008 (www.businessneweurope.eu); citing *FSU Energy*, 2 May 2008.

³⁸⁰ Erica Strecker Downs, *China's Quest for Energy Security* (Santa Monica, California: RAND, 2000), 24- 8, 38; Ulugbek S. Nazarov (General Director, Uzbek Scientific Research and Design Institute of Oil & Gas, Uzbekneftegaz), presentation, Oil & Gas Uzbekistan (OGU 2006), Tashkent, 17-18 May 2006.

³⁸¹ *Russian Petroleum Investor* 16: 3 (March 2007), 67-8.

³⁸² Tomberg, "Energy Policy," 49.

³⁸³ Igor Tomberg, "Central Asia and the Caspian: A New Stage in the Great Energy Game," *Central Asia and the Caucasus* 41 (2006), 20-34, on 27.

³⁸⁴ See, e.g., Caucaz news site, 30 April 2007 (www.caucaz.com).

³⁸⁵ Salikhov, OGU 2006.

³⁸⁶ See, e.g., (author anonymous) "Russia's Central Asia Energy Strategy Experiences a Few Setbacks," *Business & Economics* (www.eurasianet.org), 11 May 2007.

In June 2007, Turkmenistan's President Berdymuhammedov signed an agreement which offered CNPC a license for developing Bagtyyarlyk, said to be one of the country's most promising gas fields. China hopes that this field will yield sufficient gas to fill the pipeline.³⁸⁷ CNPC's subsidiary PetroChina expects the field to yield 13 bcm per year.³⁸⁸ Turkmenistan, however, has promised gas from other fields as well if needed.³⁸⁹ PetroChina announced earlier that it plans to buy the remaining 17 bcm per year from other fields in Turkmenistan for a period of 30 years.³⁹⁰ In July 2007, CNPC signed a PSA to develop the Turkmenistani sector of the Amu Darya Basin including the Bagtyyarlyk field.³⁹¹ Turkmenistan shrewdly placed all responsibility for transit on China.³⁹²

On 29 August 2007, Turkmenistan's President Berdymuhammedov went to Bagtyyarlyk to launch the project. By then, Kazakhstan had promised to add 10 bcm to the 30 bcm from Turkmenistan through its new, already mentioned domestic gas pipeline – as agreed by Presidents Nazarbayev and Hu Jintao in late August 2007. The project was to be completed by 2010.³⁹³ On 8 November 2007, KazMunayGaz and CNPC announced that they had signed an agreement on the principles of future work on the pipeline, according to which a joint venture would be formed on a parity basis to serve as operator.³⁹⁴

In the negotiations at the time, Kyrgyzstan attempted but failed to convince China to route the Turkmenistan-China pipeline through Kyrgyzstan.³⁹⁵

Since the pipeline will be built by the countries across which it will run, it will consist of separate pipelines, joined into one united system consisting of five core sections:³⁹⁶

1. Turkmenistan upstream and connection to Gedaim on the Uzbekistani border (30 bcm per year; 188 km of pipeline). Source: Bagtyyarlyk deposit on the right bank of the Amu Darya plus Samandepe and Altyn Asyr deposits. Pipeline begins (with an existing pipeline) at Malay on the left bank, then continues through Bagtyyarlyk to the border with Uzbekistan.
2. Transit across Uzbekistan (30 bcm per year; 530 km). From the border through Mubarek or Bukhara to the border with Kazakhstan.
3. Kazakhstani section from the border to Shymkent to Khorgos in northwestern Xinjiang (40 bcm per year of which 10 will come from western Kazakhstan; 1,300 km).
4. The China section (40 bcm per year; 4,500 km to market) from Khorgos through Dushanzi to Urumchi and onwards.
5. The pipeline from western to eastern Kazakhstan: the Beyneu-Bozoy-Shalkar-Samsonovka line (10 bcm per year; 1,650 km; at a cost of \$2.85 billion), with a spur to Akshabulak, which will connect to the Uzbekistan-Shymkent pipeline line. (This is the purely domestic Kazakhstani pipeline, projected to carry the extra 10 bcm to be exported.)

Pricing

Turkmenistan in 2006-2007 discussed a pricing agreement with China, with a price of \$90-100 being suggested. China then stated that it might provide the capital needed to build the pipeline, provided conditions were right. This means that all parties would have to agree on pricing,

³⁸⁷ Tomberg, "Energy Policy," 49.

³⁸⁸ Dow Jones Energy Service, 21 January 2008. On PetroChina Company, in which CNPC holds a controlling state, see the firm's web site, www.petrochina.com.cn.

³⁸⁹ Rustam Makhmudov, "The Growing Role of Natural Gas in the Eurasian Energy Games," *Central Asia and the Caucasus* 48 (2007), 51-68, on 65.

³⁹⁰ Dow Jones Energy Service, 21 January 2008.

³⁹¹ EIA, *Central Asia*, February 2008.

³⁹² Makhmudov, "Growing Role," 65.

³⁹³ Tomberg, "Energy Policy," 49-50.

³⁹⁴ Reuters, 8 November 2007.

³⁹⁵ (Author anonymous) "Russia Striking Back in Energy Game, Makes Play for Kyrgyz National Gas Company," *Business & Economics* (www.eurasianet.org), 31 January 2008.

³⁹⁶ Roberts, "What Makes a Pipeline Viable."

something that would entail complicated negotiations. Turkmenistan and Uzbekistan in 2007 got \$100 from Russia for gas. Kazakhstan in early 2007 got \$140, then \$165 for its gas.³⁹⁷ In comparison, China was then only prepared to offer \$90.³⁹⁸ This would clearly not be enough, especially so since the gas export price for Turkmenistan and Uzbekistan for 2008 was, as noted, raised to first \$130, then \$150 and will raise even more from 2009, while Kazakhstan in late 2007 asked for \$190 and will be able to take advantage of the 2009 price levels as well.

So to get its gas, China needed to offer more. Two Chinese firms, PetroChina and China National Oil and Gas Exploration and Development Corporation (CNODC), both subsidiaries of CNPC, will therefore share the \$10.5 billion expected cost for constructing the pipeline.³⁹⁹ Yet another CNPC subsidiary, CNPC Exploration and Development Company (CNPC E&D), will receive the funds and represent China in the development of the pipeline.⁴⁰⁰

In mid-January 2008, it became clear that China had agreed to pay \$195 for Central Asian gas, in addition to a transmission fee of \$50 for using the Turkmenistan-China pipeline. The parties had also apparently agreed to a formula that allowed the price of gas from Turkmenistan to change whenever the oil price fluctuated significantly. These costs would make the Turkmenistani gas more expensive than liquefied natural gas (LNG), even LNG transported by road from Xinjiang to Guangdong. It is likely that China would not be willing to pay more for pipeline-delivered gas, something which coincidentally has held up any final investment decision on the 68 bcm of Russian gas to be delivered to China. Aleksei Mastepanov, councilor of the deputy chairman of the board at Gazprom, in December 2007 stated that Gazprom was seeking a price “considerably higher” than CNPC was willing to pay. Hou Chuangye, vice-general manager of PetroChina, indeed noted that “the outlook was very uncertain” for Russian gas supplies. China has also reconsidered its need for gas, concluding that Russian gas would not be needed until 2010 and possibly not even before 2012.⁴⁰¹

It is not yet known how Russia’s decision, announced on 11 March 2008, to apply so-called European market prices will affect this pricing. One may, for instance, assume that Russia realises that Siberian gas for the time being will be unavailable for export in significant volumes, and that Russia wishes to push up the price of gas in anticipation of any future Siberian deliveries to China.⁴⁰²

However, the Turkmenistan-China gas pipeline as presently envisaged will be a one-customer pipeline. China will thus eventually, at least to some extent, be able to dictate the price to be paid for gas.

Construction Begins

On 22 February 2008, it was announced that Sroytransgaz some time previously had won a tender to build the Turkmenistani segment of the natural gas pipeline from Turkmenistan to China. It was due to open in 2009. State-owned Turkmengaz would conclude a contract with Sroytransgaz on the turn-key construction of the 188-km Malay-Bagtyyarlyk gas pipeline, with a diameter of 1,420 millimetres, across the Amu Darya, as well as a gas purifying and dehydrating facility and a gas metering station.⁴⁰³ The announcement came on the same day when Turkmenistan’s President Berdymuhammedov was in Moscow to sign the contract with Sroytransgaz and meet with Russia’s President Putin.⁴⁰⁴

On the same day, 22 February 2008, China announced that it had begun work on its second west-to-east natural gas pipeline (the first was the West-East Pipeline from Xinjiang to

³⁹⁷ Roberts, “What Makes a Pipeline Viable.”

³⁹⁸ Sergey Smirnov, “The Gas Pipelines: A Game of Caspian Patience,” *Central Asia and the Caucasus* 48 (2007), 77-84, on 81, citing “Turkmeniya otdala nedra Kitayu,” *Oil & Gas of Kazakhstan* 4-5 (2007), p. 177.

³⁹⁹ *Straits Times* (Singapore), 11 January 2008.

⁴⁰⁰ Interfax, 28 December 2007.

⁴⁰¹ Dow Jones Energy Service, 21 January 2008.

⁴⁰² See, e.g., Fredholm, *Gazprom in Crisis*. Russia wants to connect its gas export price to that of oil, which is the model used in Europe, while China prefers a price connected to the cost of Chinese coal, which would ensure a lower Russian export price.

⁴⁰³ Watan TV News (Turkmenistan), 22 February 2008; SKRIN Newswire, 19 February 2008; 26 February 2008.

⁴⁰⁴ Interfax, 22 February 2008.

Shanghai, in operation by 2005⁴⁰⁵), aimed at bringing gas from Turkmenistan and China's Xinjiang Uygur Autonomous Region to the Yangtze and Pearl River deltas (Shanghai and southern Guangdong Province). The Chinese section of the pipeline would start from Khorgos in northwestern Xinjiang and end in Guangzhou, capital of Guangdong Province. The western segment (from Turkmenistan to Khorgos in Xinjiang) would go into operation by 2009 or 2010, and the eastern segment (through the Chinese cities of Erdos, Urumchi, Lanzhou, and Xian to Guangzhou and possibly Hong Kong) by June 2011.⁴⁰⁶

Work on the Kazakhstani section of the pipeline began on 9 July 2008.⁴⁰⁷ According to KazMunayGaz, the first stretch (Uzbekistani border - Shymkent - Khorgos, with an initial capacity of 40 bcm per year) is planned to be completed in 2009.⁴⁰⁸ The Beyneu-Samsonovka pipeline is to be built in 2010-2011. It will have a first-phase annual capacity of 5 bcm by mid-2011 and full annual capacity of 10 bcm from 2014. Construction reportedly began on 4 August 2008.⁴⁰⁹

The Kazakhstan-China Pipeline Project: Atyrau-Makat-Zhanazhol-Atasu-Alashankou-Urumchi

The Turkmenistan-China pipeline was neither the first nor the only project to bring Central Asian gas to China. In 2003, the same year when it was decided to build an oil pipeline to China from Kazakhstan, China also took the initiative to sign an agreement with Kazakhstan to consider a gas pipeline as well.⁴¹⁰

China was then building its first gas pipeline from Xinjiang to Shanghai (the West-East Pipeline, as mentioned in operation by 2005) and wished to extend this to Kazakhstan for the import of gas.⁴¹¹ China and Kazakhstan for this reason began to consider the construction of a gas pipeline alongside the Atasu (Kazakhstan) -Alashankou (China) oil pipeline.⁴¹² At first, the proposed pipeline would have a capacity of 32 bcm per year. The project was, however, put on hold because of a lack of investments.⁴¹³ By March 2006, it was reported that KazMunayGaz and CNPC had in fact completed a preliminary study and that a feasibility study was in progress for a pipeline along the route Atyrau-Makat-Zhanazhol-Atasu-Alashankou-Urumchi. At this point, plans were made for a throughput capacity of 30 bcm per year. While the Kazakhstan-China gas pipeline that eventually did progress envisaged most of the gas to come from Turkmenistan, this pipeline instead assumed the use of primarily Kazakhstani gas but with additional supplies from Russia (as in the nearby oil pipeline). Thus, a pipeline with added gas from Russia (running along the route Ishim-Petropavlovsk-Kokshetau-Astana-Atasu) was projected to join at Atasu.⁴¹⁴

This pipeline remains at the analysis stage and has thus not progressed as fast as the Turkmenistan-China pipeline.⁴¹⁵

⁴⁰⁵ The West-East Pipeline was built to move gas from the Lunnan gas field in Xinjiang. It was first designed with a throughput capacity of 12 bcm per year but now reportedly has reached a capacity of 15 bcm per year. It was expected to be put into commercial operation in January 2005 but was reportedly in operation already in late 2004. Jens Wernborg, Seminar on China's Energy Sector, Stockholm, 4 November 2004; Makhmudov, "Growing Role," 63; Xinhua News Agency, 22 February 2008.

⁴⁰⁶ Xinhua News Agency, 22 February 2008; Dow Jones Energy Service, 21 January 2008.

⁴⁰⁷ *Upstream*, 9 July 2008 (www.upstreamonline.com).

⁴⁰⁸ Smirnov, "Gas Pipelines," 83, citing *Novosti KMG*, 2 October 2007.

⁴⁰⁹ *BNE: Eurasia Central Asia and Caucasus Daily*, 8 August 2008 (www.businessneweurope.eu).

⁴¹⁰ Sarsenov, OGU 2006.

⁴¹¹ Ingolf Kiesow and Kristina Sandklef, Seminar on China's Energy Sector, Stockholm, 4 November 2004.

⁴¹² Stephen Blank, "Energy at the Source of Sino-Kazakh Rapprochement," *Business & Economics* (www.eurasianet.org), 8 November 2004.

⁴¹³ Taleh Ziyadov, "Prospects of Caspian Gas and Its Potential Markets," *Central Asia and the Caucasus* 29 (2004), 52-60, on 54.

⁴¹⁴ Roberts, "What Makes a Pipeline Viable." Roberts quoted Sabr Yessimbekov (KazMunayGaz) at Wilton Park, March 2006; Salikhov, OGU 2006.

⁴¹⁵ Makhmudov, "Growing Role," 64.

The Russia-Kazakhstan-China Pipeline Project: Ishim-Petropavlovsk-Kokshetau-Astana-Atasu

As mentioned above, the Russia-Kazakhstan-China pipeline project, along the route Ishim-Petropavlovsk-Kokshetau-Astana-Atasu, is yet another China gas pipeline project.⁴¹⁶ However, there has been no progress yet. This project would in addition to its capacity to supply China also be able to supply the capital of Kazakhstan, Astana.

The Uzbekistan-Kyrgyzstan-China Pipeline Project: Mubarek-Yangiyer-Andijon-Osh-Kashgar

The Uzbekistan-Kyrgyzstan-China pipeline is yet another China gas pipeline project. It was planned to consist of two phases:⁴¹⁷

1. A gas pipeline along the route Mubarek-Yangiyer-Andijon-Osh. This means that the projected pipeline would start in Uzbekistan, then pass through Tajikistan, return back into Uzbekistan, and then continue into Kyrgyzstan.
2. A gas pipeline along the route Osh-Kashgar. This second phase would extend the first phase from Kyrgyzstan into Xinjiang.

However, there has been no progress yet with either of the two phases. Neither seems very likely to happen in the near future.

To Iran, Afghanistan, and South Asia

The KKK Pipeline, Korpjeje (Turkmenistan) - Kurt-Kui (Iran); and the Artiq (Turkmenistan) - Lotfabad (Iran) Pipeline

As early as 1992, plans were agreed to construct a pipeline for Turkmenistani gas from Korpjeje in Turkmenistan to Kurt-Kui and Tabriz in Iran and onwards to Turkey and Europe. As for the final phase of this project, with exports to Europe, a long-term perspective was adopted, with the project not expected to be completed until 2020, yet there have been few if any concrete developments since Iran, Turkmenistan, and Turkey signed an agreement on this project in 1994. However, the short-term goals have been realised. The parties agreed to build the pipeline in October 1995, and construction began in September 1996. The KKK pipeline was opened at the end of December 1997. Although used for gas swap deals only, the KKK is Turkmenistan's only real export pipeline that does not transit through Russia. In 1998-1999, exports through the KKK reached volumes of about 2.5 bcm per year.⁴¹⁸ In 2007, 6.1 bcm was sent to Iran.⁴¹⁹ However, by then Iran wanted an expansion of the pipeline to a capacity of 14 bcm.⁴²⁰

When the KKK pipeline was built, Iran provided 90 per cent of financing for building the pipeline and signed an agreement to purchase gas for 25 years. According to the terms of the agreement, 35 per cent of Turkmenistan's supplies of gas would be allocated as payment for Iran's contribution to building the pipeline.⁴²¹ In February 2007, Turkmenistan built a new gas processor to allow higher gas flows to Iran.⁴²²

However, on 1 January 2008 Turkmenistan, as noted, suddenly discontinued gas export to Iran, attributing this to technical problems – although the low price paid by Iran is believed to have been the real reason (see the section on the Iran-Turkey pipeline, above). While exports reportedly have resumed, it would seem foolish for Iran to rely on future supplies through this pipeline.

⁴¹⁶ Salikhov, OGU 2006.

⁴¹⁷ Salikhov, OGU 2006.

⁴¹⁸ Olcott, *International Gas Trade*, 11-16; Preyger and Omelchenko, "Problems of Turkmen Gas Export," 128-30.

⁴¹⁹ *BP Statistical Review of World Energy June 2008* (www.bp.com).

⁴²⁰ *APS Review Gas Market Trends*, 6 November 2006 (<http://goliath.ecnext.com>).

⁴²¹ Olcott, *International Gas Trade*, 12-13.

⁴²² EIA, *Central Asia*, February 2008.

The same would seem to apply to the less important Artiq-Lotfabad pipeline, which joins Artiq in Turkmenistan with Lotfabad on the Iranian side of the border. This pipeline was opened in late 2000.⁴²³

The Baku-Astara Pipeline

Azerbaijan, as noted above, exports natural gas to Iran via the Baku-Astara gas pipeline. Iran then delivers natural gas to Nakhchivan in exchange for a transit fee.⁴²⁴

The Turkmenistan-Afghanistan-Pakistan (TAP) Pipeline Project

A Turkmenistan-Afghanistan-Pakistan (TAP) pipeline has been proposed for some time by a number of quite different actors. Also known as the Central Asian Gas Pipeline, or CentGas, or indeed the Trans-Afghan Gas Pipeline, the project was first advertised by Argentina's Bidas Corporation in 1993-1994. The project was then taken over by the American firm Unocal, although it pulled out in 1998 due to the embarrassment of having to deal with the Afghan Taliban and Usama bin Ladin's Al-Qaida at the time of terrorist attacks against United States embassies and the subsequent launch of American cruise missiles against targets in Afghanistan.⁴²⁵

This has not prevented official governmental interest in the project. However, the TAP gas pipeline is unlikely to be built in the near future, and not only because of instability in Afghanistan. Without access to most or all Turkmenistani gas already contracted to Gazprom and China, this pipeline would be dead on arrival.

For Pakistan, natural gas is the second most important (after hydropower) as a source of energy and vehicle of modernisation. Pakistan has gas of its own, but wants to bring gas from Iran and Turkmenistan as well. By 2010, Pakistan will need gas from abroad.⁴²⁶

Afghanistan also needs additional gas for its own modernisation and reconstruction. Since the overthrow of the Taliban government, about 20 foreign gas companies have been working in Afghanistan, in addition to five local gas companies.⁴²⁷

However, as relations between India and Pakistan are improving, India would be the ultimate buyer of much gas brought in through Afghanistan.⁴²⁸ In October 2007, the Indian government decided to join the TAP project, so that it might evolve into what some then began to refer to as the Turkmenistan-Afghanistan-Pakistan-India (TAPI) project. Natural gas was expected to be brought from Dowlatabad in Turkmenistan. India needs the gas, but all other difficulties remain unsolved. And Gazprom supports the rival Iran-Pakistan-India pipeline project (which is outside the scope of the present work).⁴²⁹ Even so, in April 2008 the Indian government formally joined the TAPI project.⁴³⁰

⁴²³ Alexander's *Gas & Oil Connections* 6: 1 (11 January 2001, www.gasandoil.com); Centre for Global Energy Studies (CGES), *Natural Gas Pipelines of the Former Soviet Union* (London: CGES, 2007).

⁴²⁴ EIA, *Azerbaijan*, November 2007.

⁴²⁵ See, e.g., Rashid, *Taliban*, 237-42; Olcott, *International Gas Trade*, 16-22. At the time Unocal was involved with TAP, Taliban emissaries went to Ashgabat to assure Turkmenistan's President Niyazov that they could guarantee full security for the gas pipeline. *Ibid.*; Malashenko, "Russia and Turkmenistan," 3.

⁴²⁶ Nouraz Shakoore Khan (Minister of Petroleum and Natural Resources, Pakistan), "Overview of Export Options from Central Asia and the Caspian Region to the Middle East and Asia," *Caspian & Black Sea Oil & Gas Conference* 2004, Istanbul, 26-27 February 2004.

⁴²⁷ Shakoore Khan, "Overview of Export Options."

⁴²⁸ Shakoore Khan, "Overview of Export Options."

⁴²⁹ Tomberg, "Energy Policy," 46. India's Oil and Natural Gas Corporation (ONGC) previously (in 2002) proposed an alternative to both these projects: a natural gas pipeline known as the Energy Highway from Turkmenistan through Uzbekistan and Kazakhstan to Kashghar in Xinjiang, from which it should run to India's Kashmir and then onwards to New Delhi. For a number of economic, technical, and geopolitical reasons, not least the fact that such a project would divert gas that China wanted and already had decided to import through the same route, this turned out to be unfeasible. *Financial Times*, 29 May 2002; Aftab Kazi, "Is the Proposed Russia-China-India Pipeline Feasible?," *Central Asia Caucasus Analyst* (www.cacianalyst.org), 3 July 2002. On the ONGC, see the firm's web site, www.ongcindia.com.

⁴³⁰ *Forbes*, 25 April 2008 (www.forbes.com).

Intra-Central Asian Transit Routes

The Shymkent-Tashkent Petroleum Products Pipeline

A small petroleum products pipeline runs from the Shymkent refinery in Kazakhstan to Tashkent. It resumed exports to Uzbekistan in 2003.⁴³¹

The Bukhara-Tashkent-Bishkek-Almaty Gas Pipeline

The Bukhara (also known as Bukhara gas fields)-Tashkent-Taraz-Bishkek-Almaty gas pipeline carries Uzbekistani gas to Kyrgyzstan and Kazakhstan. In Kazakhstan, it is operated by KazTransGaz. Built in 1964, it has a capacity of 4.5 bcm per year. For Kazakhstan, this is an important pipeline since it provides gas to the major city of Almaty with surroundings and the southern districts of Kazakhstan. In addition, it supplies northern Kyrgyzstan and would have the potential to bring Uzbekistani gas to China (or at least would have had that potential).⁴³²

This pipeline was for historical reasons in the Soviet period built to cross Kyrgyzstani territory in three locations. This caused some tensions after independence. It was not only a question of who would control the pipeline. After all, this pipeline, which is the main source of gas for Kyrgyzstan and southern Kazakhstan, at times suffered from illegal tapping by Kyrgyzstan, which have resulted in significant supply disruptions to Almaty in the middle of the cold season.⁴³³ If Kyrgyzstan did not join a joint venture to operate the pipeline, Kazakhstan frequently said, KazTransGaz would need to build a by-pass pipeline for an estimated \$70 million. KazTransGaz suggested the formation of a Kazakhstani-Kyrgyzstani joint venture, on a parity basis, to restore the Kyrgyzstani stretch of the pipeline.⁴³⁴ Based on a 2003 agreement between Kazakhstan's President Nazarbayev and Kyrgyzstan's then President Askar Akayev, a joint venture, known as KyrKazGaz, was in March 2004 formed by KazTransGaz and its Kyrgyzstani counterpart, Kyrgyzgaz, to manage the existing pipeline. Funding was in 2006 provided by the EU.⁴³⁵ Even so, by 2006 the bypass was being projected, straight from the Bukhara region to Shymkent and Almaty in Kazakhstan.⁴³⁶ The bypass has come to serve dual purposes, since it will not only serve the needs of southern Kazakhstan but is envisioned as part of the China pipeline project.

The Mubarek (Uzbekistan)-Kelif (Turkmenistan)-Dushanbe (Tajikistan) Gas Pipeline; and the Mubarek-Shurabad-Dushanbe Gas Pipeline

There is also a Soviet-era gas pipeline running along the route Mubarek (Uzbekistan)-Kelif (Turkmenistan)-Dushanbe (Tajikistan). It was formerly used to supply southern Uzbekistan and Tajikistan. However, a bypass pipeline was completed in September 2003 through Uzbekistan along the route Shurtan-Shurabad, thus avoiding the need to cross Turkmenistan. This pipeline is used to supply Tajikistan with Uzbekistani natural gas only.⁴³⁷

The Shiberghan (Afghanistan)-Kolkhozobod (Tajikistan) Gas Pipeline Project

Discussions concerning deliveries of Afghanistani natural gas to Tajikistan took place already in 1993, when an Agreement on the Export of Natural Gas from Afghanistan to Tajikistan was signed during then Afghanistani President Rabbani's first official visit to Tajikistan. Afghanistan then agreed to deliver 1 bcm of natural gas per year to Tajikistan from gas fields in the province of Shiberghan. The fields at Jarkuduk and Yatimtak were estimated to be able to

⁴³¹ EIA, *Central Asia*, February 2008.

⁴³² EIA, *Central Asia*, February 2008; Sarsenov, OGU 2006. Others suggest an actual capacity of 6 bcm and a design capacity of 13 bcm. Government of Kazakhstan, Programme for Development of the Gas sector of the Republic of Kazakhstan for 2004-2010 (No. 669), 18 June 2004.

⁴³³ EIA, *Kazakhstan*, February 2008.

⁴³⁴ Saprykin, "Gazprom of Russia," 90 n.14.

⁴³⁵ *Kyrgyzstan Daily Digest*, 8 November 2004; *BBC Monitoring Central Asia*, 25 August 2006; citing Interfax.

⁴³⁶ Sarsenov, OGU 2006.

⁴³⁷ *Alexander's Gas & Oil Connections* 8: 18 (19 September 2003; www.gasandoil.com); citing Interfax, 2 September 2003.

provide 3 million cubic metres per day (roughly 1 bcm per year), and it was planned to build a pipeline to Tajikistan. Because of the recurring civil war in Afghanistan, the project could not progress further. It was not forgotten, however, and by October 2007, Tajikistan's Ministry of Energy held renewed talks on the project. The present plan is to build a pipeline, reportedly 110-120 km in length, from Shiberghan in Afghanistan to Kolkhozobod in Tajikistan, so that 2 bcm per year of natural gas can be sent to Tajikistan. For this, Tajikistan and Afghanistan are approaching sponsor countries to provide the required investments of an estimated \$15-17 million.⁴³⁸ Since an existing gas pipeline connects Shiberghan with Mazar-e Sharif in northern Afghanistan, it might be possible to use this as part of the project.⁴³⁹

Concluding Remarks

While it for now seems clear that the world of Central Asian oil and gas is firmly set on the path from barter deals to market forces, it cannot be denied that actors outside the region often can exercise considerable influence on pricing and investment decisions. The Central Asian states in most cases need both financial investments and investments in new technology from outside the region. At present, Russia and China wield particular influence on such decisions. Is there any way for the Central Asian firms to influence questions on pricing and investments more strongly than at present? For now, only major energy exporters such as Kazakhstan can impose their will on foreign investments (through legislation and decrees) while less strong countries cannot.

Since the key oil and gas firms of Kazakhstan, Uzbekistan, and Turkmenistan are government-controlled monopolies, a simple yet efficient way for them to take control of the export situation would be for these three firms to establish a joint venture for export and exploitation of oil and gas resources. This would give the Central Asians a stronger position on the international market and more leverage in negotiating export prices and investments. It would certainly help them to put the agreed switch to market prices, as promised by Russia's Gazprom, into effect. Russia has at times taken advantage of the energy reserves of the Central Asian states. But Russia is not the only major power that has done so.

In fact, the EU and United States in their wish to push new pipelines bypassing Russia on the Central Asian states also, inadvertently or not, create rivalry and competition among the suppliers, especially with regard to natural gas. Such competition may push prices downwards, which would be beneficial for the EU and United States but not for the producers. This is another argument for the Central Asian producers to harmonise their export policies.

Which Central Asian firms would be ideally placed to form such a joint venture? For practical and legal reasons, it would have to be the government-controlled monopolies: AO NK KazMunayGaz,⁴⁴⁰ which among its subsidiaries already counts the gas pipeline operator AO KazTransGaz and the oil pipeline operator AO KazTransOil as well as the Central Asia-Center gas pipeline operator AO Intergaz Tsentral'naya Aziya; NKhK Uzbekneftegaz,⁴⁴¹ which owns the Uzbekistani pipeline monopoly AK Uztransgaz; and GK Turkmengaz.⁴⁴²

While a joint venture consisting of government-controlled state firms no doubt would experience its own set of contradictions and inefficiencies, it could be created on the basis of commercial relations and would, if so, nonetheless form an instrument to wield a higher level of influence when it comes to development and exports of their energy resources.⁴⁴³ However, the question remains whether these state firms could be persuaded to form such a joint venture, and if so, to co-operate within it, despite often different national interests.

⁴³⁸ Kosimsho Iskandarov, "Tajik-Afghan Interrelations Today and Their Future Prospects," *Central Asia and the Caucasus* 49 (2008), 124-34, on 132.

⁴³⁹ See, e.g., Energy Information Administration (EIA), *Afghanistan*, February 2006 (www.eia.doe.gov).

⁴⁴⁰ Aktsionernoye Obshchestvo Natsional'naya Kompaniya KazMunayGaz, i.e., National Stock Company KazMunayGaz.

⁴⁴¹ Natsional'naya Kholdingovaya Kompaniya Uzbekneftegaz, i.e., National Holding Company Uzbekneftegaz.

⁴⁴² Gosudarstvennyy Kontsern Turkmengaz, i.e., State Concern Turkmengaz.

⁴⁴³ Some of these issues were suggested by Asuda Ibragimova at the Central Asian Studies Conference, 14-16 December 2007, University of Tsukuba, Japan.

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