

CENTRAL ASIA'S ENERGY RISKS

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CENTRAL ASIA'S ENERGY RISKS

EXECUTIVE SUMMARY

Oil and gas are proving as much a burden as a benefit to Central Asia. The three oil and gas producers in the region – Kazakhstan, Turkmenistan and Uzbekistan – are showing signs of the “resource curse” under which energy-rich nations fail to thrive or develop distorted, unstable economies. Geography and their history in the Soviet Union have bound them to Russia, through which most of their energy exports must be transported. Moscow is proving to be an unreliable partner for foreign consumers as it has been willing to cut off pipelines to apply commercial or political pressure. Low investment, corruption and gross mismanagement in Uzbekistan and Turkmenistan may mean that their supplies run low before they can diversify their links to markets or their economies. Central Asia is likely to see energy create instability within the region; the chances are low that it will be a factor in improving European energy security any time soon.

Foremost among the energy problems is the resource curse. Kazakhstan has been the most skilful in the use of its money but it is showing all the signs of problems to come: more has been spent on Pharaoh-like projects such as the new capital Astana than on healthcare or education. Corruption infuses the government and oil-producing regions are already restive over what they see as unequal development. Growth has been impressive but the wealth gap has widened faster. The country now has about the same income per person as Bulgaria but life expectancy is a full decade lower. The economy remains undiversified, manufacturing has been stunted by an over-valued currency and the whole country will be subject to a shock if energy prices come down.

All these problems are even more extreme in Turkmenistan, a major gas exporter that was pillaged by the eccentric and brutal dictator Saparmurat Niyazov who ran the country as his personal fiefdom until his death in December 2006. Gas was mostly sold to the Russian firm Gazprom, which kept prices low while Niyazov amassed a fortune outside the country. Despite a relatively high per capita income, most Turkmen live in poverty. Investment in energy production has faltered and the country lacks key technical skills. It remains to be seen if this will change under the new leader, a close protégé of Niyazov, who came to power in a rigged election.

Uzbekistan has the least oil and gas of the three producers. It is a net oil importer and much of its declining gas output has been sold to Russia at low prices. The energy sector has a number of deleterious effects on the Uzbek people; most of the money goes to the elite and stays outside the country, while some is used to support a massive and brutal security system. On top of this, domestic gas supplies are often cut in winter so the gas can be sold abroad raising about half a billion dollars; entire cities sit unheated in freezing weather, often provoking protests.

Resource curse issues are likely to worsen tensions over presidential succession in Kazakhstan and Uzbekistan; neither country has developed institutions that could weather any price shock or manage the tensions that resource windfalls create. As money flows to powerful presidencies, competition is likely to be keen when the current leaders leave the scene. In Uzbekistan, the security services will want to keep a hand in the business that provides them with a major share of their income.

Despite these problems, Europe and China have been looking to the region to ease anxieties over energy security. European policy-makers plan to expand their relations with the Central Asian states and energy security is a key factor driving this. To some degree this is legitimate: Kazakhstan has the eleventh largest oil reserves in the world and probably has the greatest capacity for production growth of any non-OPEC member. The country is the only one apart from Russia that can supply China with oil by direct pipeline. But current oil flows to China are dependent on Russia, and more importantly, the amount of gas that could potentially flow from Central Asia to Europe is not enough to change the paradigm of Europe's energy relationship with Russia. Fuller engagement with Russia, improvements to creaking infrastructure, an end to Russian domestic subsidies to cut domestic demand and conservation would do more to ease European concerns than attempts to expand purchases from Central Asia.

The concern should be less about the West's energy security and more about these countries as a source of generalised insecurity for the region and the human security of their inhabitants. The enormous revenues being generated need

to be translated into commensurate outcomes. In order to do this, good governance, effective spending, and the development of the rule of law are priorities. Oil and gas may be shortcuts to wealth, but there is no shortcut to the

political and economic development that will take these countries on paths to peace and prosperity.

Brussels/Bishkek, 24 May 2007

CENTRAL ASIA'S ENERGY RISKS

I. INTRODUCTION

Three of the five Central Asian republics, Kazakhstan, Turkmenistan and Uzbekistan, have substantial oil and/or natural gas resources.¹ With the increase in energy prices, international interest in the region has risen.² Increased state control of Russia's oil and gas sectors and concerns about the reliability of its gas supply to Europe have led companies and policy-makers to look elsewhere for supplies and investment opportunities. Kazakhstan's substantial oil reserves attracted investment even when prices were much lower.

This rising interest has often failed to take account of the potential for instability in the region. Oil and gas are linked to violent conflict in a number of ways:

- ❑ the risk of interstate conflict over reserves and supply routes, though this has become less common in recent decades, and Central Asia's disputes over pipelines and gas and electricity trade have not turned violent;³
- ❑ the "resource curse" in which energy-rich countries waste the income in corruption and spending on security forces, while failing to diversify their economy, educate their people and develop effective institutions or stable democracies; and

- ❑ grievances surrounding production: oil-producing areas often suffer poverty, repression, environmental degradation and labour tensions without seeing benefits from the wealth that is created.

Central Asia shows signs of particularly the latter two. Combined with poor governance, worsening poverty in many areas and widening political gaps among the states, they put it at risk of a variety of forms of conflict.

Hydrocarbons can be important contributors to economic development. There are, however, pitfalls. The paradox that developing countries with large endowments of resources, particularly minerals and hydrocarbons, often not only fail to develop economically but suffer lower economic growth than other nations and are at a higher risk of internal conflict is caused by a number of factors. International commodity prices are notoriously volatile, so countries that depend on these revenues are susceptible to price fluctuations. They are also at risk of "Dutch disease", in which increased natural resource revenue causes a currency to appreciate rapidly, making other exports less competitive. The lack of economic diversification that often accompanies such dependency makes matters worse. An abundance of valuable resources creates opportunities for government corruption, especially as money floods into a country without structures to manage it. A rentier state can develop, whose political and economic activity is focused on getting a share of resource revenues rather than promoting economic and social development.

¹ Recent Crisis Group reports and briefings on these countries include: Asia Briefing N°60, *Turkmenistan after Niyazov*, 12 February 2007; Asia Briefing N°54, *Uzbekistan: Europe's Sanctions Matter*, 6 November 2006; Asia Report N°113, *Central Asia: What Role for the European Union?*, 10 April 2006; Asia Briefing N°45, *Uzbekistan: In for the Long Haul*, 16 February 2006; Asia Briefing N°38, *Uzbekistan: The Andijon Uprising*, 25 May 2005; Asia Report N°93, *The Curse of Cotton: Central Asia's Destructive Monoculture*, 28 February 2005; and Asia Report N°85, *Repression and Regression in Turkmenistan: A New International Strategy*, 4 November 2004. Tajikistan and Kyrgyzstan are the regional states without substantial oil or natural gas.

² Benchmark crude oil West Texas Intermediate that averaged less than \$20 per barrel (nominal) in the mid to late 1990s has averaged over \$40 since 2004 and over \$65 in 2006.

³ These disputes are mostly between Uzbekistan on the one hand, and Tajikistan or Kyrgyzstan on the other, though there have occasionally been some disputes involving Kazakhstan.

Reliance on income from resource exports, as opposed to income from taxation, can inhibit development of effective bureaucracies and political institutions essential in conflict prevention and resolution. Instead, revenues are often channelled to security forces with the intent of stifling internal dissent. In cases where resources are concentrated in a particular region of a country, a feeling that the region does not benefit adequately or is being exploited can create grievances which, in worst cases, can lead to separatism and civil war.⁴

⁴ For a more detailed discussion, see Michael Ross, "The Natural Resources Curse: How Wealth Can Make You Poor", in *Natural Resources and Violent Conflict: Options and Actions*, ed. Ian Bannon and Paul Collier (Washington: The World Bank, 2003). The long war between the Sudanese government and the

Governments have created stabilisation funds to contain part of the revenues from resource exploitation, either to prevent Dutch disease or to allow the economy to weather price fluctuations. This is usually done for oil – Kuwait, Norway, Venezuela, Azerbaijan and the U.S. state of Alaska are examples – but some countries have also created funds for other resources, such as copper (Chile) and coffee (Colombia). There are problems as well as benefits from these funds; the fact that they are outside the national budget can lead to a lack of transparency and new corruption opportunities. Much depends on management; they are not in themselves guarantors of good governance or rational resource use.⁵ Some have criticised the use of Norway or other rich countries as a model for poor countries. For nations like Kazakhstan whose present needs are enormous, putting too much money away for the future is problematic. Other, more efficient measures can be taken to control for Dutch disease, while properly handled revenues can be used for economic development and debt repayment.

In 2002, UK Prime Minister Tony Blair launched the Extractive Industries Transparency Initiative (EITI). Intended to promote openness in payments to host governments and governmental transparency with regard to revenues from extractive industries, it was started in Azerbaijan, Guinea and Nigeria, and has since been signed on to by some twenty countries.⁶ Participants are expected

Sudan People's Liberation Army (SPLA) was in part driven by southern Sudanese belief they were not benefiting from the oil fields located in their region. See Crisis Group Africa Report N°39, *God, Oil and Country: Changing the Logic of War in Sudan*, 28 January 2002. In the Indonesian province of Aceh, disputes over oil and gas profits contributed to another long civil war. See the reports produced by Crisis Group's South East Asia Project from 2001-2007 at www.crisisgroup.org. Similar grievances have led to the rise of rebel movements in Nigeria's Niger Delta. See Crisis Group Africa Reports N°118, *Fuelling the Niger Delta Crisis*, 28 September 2006; N°115, *The Swamps of Insurgency: Nigeria's Delta Unrest*, 3 August 2006; and N°113, *Nigeria: Want in the Midst of Plenty*, 19 July 2006, especially Section V.A.

⁵ For more information, see Philip Swanson, Mai Oldgard and Leiv Lunde, "Who Gets the Money? Reporting Resource Revenues", in *Natural Resources and Violent Conflict: Options and Actions*, ed. Ian Bannon and Paul Collier (Washington: The World Bank, 2003). The oil fund of Norway, which was founded in 1990 and had a market value of NOK 1.78 trillion (roughly \$290 billion) by 31 December 2006, is often thought to be particularly exemplary in terms of both management and transparency. The fund invests part of the revenues from oil exports in various non-Norwegian financial instruments. See the official website of the Norwegian Government Pension Fund-Global at www.norgesbank.no/nbim/pension_fund/.

⁶ Current EITI participants are: Azerbaijan, Bolivia, Cameroon, Chad, Congo, the Democratic Republic of Congo, Equatorial Guinea, Gabon, Ghana, Guinea, Kazakhstan, Kyrgyzstan, Mali,

to give public reports on payments from companies and revenues, with civil society participation.⁷ Transparency is a tool for reducing corruption and mismanagement. The global nature of EITI and its targeting of countries, not just companies, is meant to overcome the classic problem of governments granting concessions only to those firms willing to be complicit in corruption. However, even if EITI ensures transparency in revenues transferred to the budget, there remains the problem of corruption in their use.⁸

Information for this report has been gathered from a wide variety of sources, including published materials and interviews with current and former representatives of the oil and gas industries, NGO staff, and former and current government officials in the U.S., Europe and Kazakhstan. Direct access to Turkmenistan and Uzbekistan has been impossible, so Crisis Group has relied on extensive experience and, where possible, contact with persons currently or recently in the two countries. The report does not cover energy issues arising from hydropower, uranium or coal.

THE HYDROCARBONS INDUSTRY: A NOTE ON TERMINOLOGY

This report uses some oil and gas industry jargon and measurements. It also presupposes an understanding of a few key concepts. One is fungibility of world oil markets. Oil and its major products are global commodities linked together and largely interchangeable. Energy security in terms of oil is more about making sure that oil reaches the world market than assuring supply from a particular place. Natural gas is somewhat different: because its markets are "stranded", there is not a single world market. Oil is more fungible than gas as it is liquid and can be transported easily by ship; for gas to be transported in this way, it

Mauritania, Mongolia, Niger, Nigeria, Peru, São Tomé and Príncipe, Sierra Leone, Timor Leste, and Trinidad and Tobago. Donor countries include Australia, France, Germany, the Netherlands, Norway, and the United Kingdom. Industry supporters include, among others, a number of major international energy companies such as BP, Burren Energy, Chevron, Eni, ExxonMobil, Shell and Statoil. A number of international financial organisations (IFIs) also support the EITI, including the World Bank, the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD), and the European Bank for Reconstruction and Development (EBRD). Partners from non-governmental organisations (NGOs) include Global Witness, Transparency International, and the "Publish What You Pay" coalition.

⁷ For more information, see the EITI website, www.eitransparency.org.

⁸ Additionally, EITI or other transparency measures can sometimes be used by a country to give itself legitimacy when in fact that country has endemic corruption on the spending side.

must be cooled to -162°C .⁹ Such liquefied natural gas (LNG) is a relatively small part of the gas market. Most gas is carried by pipeline networks, which physically limit markets.

Oil is usually measured in barrels, because that is the unit of price in most markets. However, it is sometimes measured in metric tons, and conversion is not simple, as the former is a measure of volume, the latter a measure of mass. Crude oil's value generally depends on how easily it can be refined and the spread of products that can be obtained from a given amount. Hence, how dense it is ("light" means less dense) and how high its sulphur content is ("sweet" is low-sulphur) versus "sour" (higher sulphur) is usually indicative of value, as light, sweet crude oil is easier to refine and generally yields a greater spread of high-value products. "Sweet" and "sour" are also gas terms.

Hydrocarbon fields that contain both oil and gas are referred to as "associated" fields. When it is not economical to process associated gas, it is sometimes disposed of by "flaring" (burning off). Another use of the gas is "re-injection", pumping it into an underground oil reservoir to maintain pressure and ensure higher recovery.

Other liquid hydrocarbons exist. Natural gas liquids (NGLs) such as propane and butane occur in "wet" gas – gas with other compounds mixed in – and are separated at processing plants. Gas that does not contain NGLs or other non-hydrocarbon compounds is "dry" gas, more or less ready for use without further processing. "Condensate" refers to light hydrocarbon liquids found both in oil wells and some natural gas fields and often distinguished from NGLs by the fact that they are extracted as liquids at the well head, not a processing plant.¹⁰ Condensate has some industrial uses and can be refined into other products.

II. A POLITICAL AND ECONOMIC OVERVIEW

Central Asia's energy exporters are all autocratic states. Kazakhstan and Uzbekistan have been ruled by the same presidents – former Communist Party chiefs – since independence; so was Turkmenistan until the sudden death of Saparmurat Niyazov in late 2006. They have taken distinct paths but the question of eventual – in Turkmenistan, current – political transition and possible instability is present in all three.

A. KAZAKHSTAN

Kazakhstan is Central Asia's economic leader. Its gross domestic product (GDP) is greater than the other four republics combined; if a true exchange rate is used for Turkmenistan, it also has the highest per capita GDP. The UN's Human Development Index (HDI) ranks it 79th in the world, far above its neighbours and equal to Ukraine and Lebanon.¹¹ It has a rapidly growing middle class and signs that the hydrocarbon prosperity is being felt widely. President Nursultan Nazarbayev announced in November 2006 plans to make it one of the world's 50 most economically competitive countries.¹² It is lobbying for chairmanship of the Organisation for Security and Cooperation in Europe (OSCE) in 2009.

Political reforms have not kept pace with economic development. Power remains concentrated in Nazarbayev's hands, and opposition politicians – themselves, increasingly, former members of the government who have fallen out of favour – come under intense pressure. In 2004 the Otan ("Fatherland") party, of which Nazarbayev is honorary chairperson, received 61 per cent of the votes in elections to the *mäzhilis*, the lower house of parliament, which OSCE's Office of Democratic Institutes and Human Rights (ODIHR) deemed "short of OSCE commitments and other international standards for democratic elections in many respects", despite improvements over the 1999 elections.¹³ The ODIHR had a similar judgement on the December 2005 presidential elections, which Nazarbayev won with 91 per cent.¹⁴ In February 2006, a prominent opposition politician,

⁹ At atmospheric pressure.

¹⁰ Unfortunately, many in the press do not always make a clear distinction between NGLs and condensates, and sometimes refer to one when they mean the other. Condensate is often very similar to a very light crude oil. For example, the condensate at the Karachaganak field is 45° API (a measure of the gravity or density of liquid petroleum products: the higher the number, the lighter the liquid), compared to a typical light crude oil such as Brent being 38° API.

¹¹ UN Human Development Report 2006 (UNHDR 2006).

¹² Kazakhstan was ranked 56th out of 125 countries in the 2006 Global Competitiveness Report from the World Economic Forum.

¹³ See the full text of the ODIHR report at www.osce.org/documents/odihr/2004/12/3990_en.pdf.

¹⁴ See the full text of the ODIHR report at www.osce.org/documents/odihr/2006/02/18133_en.pdf.

Altynbek Sarsenbayev, was murdered.¹⁵ Otan has begun absorbing other pro-Nazarbayev parties, including the Asar party of his daughter, Darigha Nazarbayeva, and has recast itself as the Nur-Otan party.¹⁶

Nazarbayev is not openly opposed to democratisation and political reform – as many of his counterparts in neighbouring states unambiguously are – but is reluctant to relinquish control. The instability in Kyrgyzstan since the March 2005 ouster of President Askar Akayev is cited as proof of need for a strong, centralised state.¹⁷ Nazarbayev must balance carefully between powerful, often fractious political and economic elites.¹⁸ A Kazakh analyst said:

These groups are always lobbying Nazarbayev... and they're constantly forming and dissolving coalitions among themselves. Right now I'd say no one has the upper hand in terms of influence, and some of them have irreconcilable differences of their own. The question is whether this balance will be maintained after Nazarbayev.¹⁹

It was expected that Nazarbayev's present seven-year term, expiring in 2012, would be his last, since current law does not permit re-election. However, on 18 May 2007 the parliament approved a constitutional amendment that would waive term limits for Nazarbayev but impose a two-term

limit on future presidents.²⁰ Nazarbayev had put forward a series of proposals ostensibly to strengthen democracy, including shortening the presidential term to five years, giving the parliament a voice in the selection of the cabinet and changing some seats to proportional representation by party. Some observers see these steps as the beginning of preparation for a transfer of power – indeed, the question of what comes next hangs over the country. Much will depend on whether the interest groups can work together. There is a common interest in preserving stability that may go far towards mitigating disputes. "If political transition were to become an issue tomorrow, I'd be very concerned", a foreign analyst said. "But, hopefully, there is time to prepare. Nazarbayev knows the risks, and I think he's thinking about the issue. Fortunately, the country as a whole is stable, and the leadership realises the potential problems".²¹

B. TURKMENISTAN

Under President Saparmurat Niyazov, Turkmenistan was Central Asia's most repressive and isolationist state.²² Styling himself "Turkmenbashi" ("Leader of the Turkmen"), he became the centre of an all-pervasive cult of personality. No dissent was tolerated, severe restrictions were placed on access to information, and the country had one of the world's worst human rights records. Educational opportunities were limited as the years of study were cut, foreign degrees were not recognised, and ideology, in particular Niyazov's omnipresent book the *Ruhnama*, dominated the curriculum. Niyazov, who had a chronic heart condition, enjoyed the best foreign medical care money could buy while healthcare for ordinary citizens, particularly in rural areas, declined. Government purges were routine. Opposition politicians – mostly disgraced or disgruntled former members of Niyazov's shrinking inner circle – set up parties and movements in exile but could do nothing to influence the political environment at home. Niyazov's rule took a brutal turn after an apparent coup attempt in November 2002.

Niyazov's death of heart failure in December 2006 was followed by a short period of internal wrangling that resulted

¹⁵ Sarsenbayev's was the second apparent political killing in recent years; opposition leader Zamanbek Nurkadilov's death was ruled a suicide in November 2005, though he had apparently been shot three times. Gulmira Arabaeva, "Murder widens political gulf in Kazakhstan", *Reporting Central Asia*, Institute for War and Peace Reporting (IWPR), no. 436, 24 February 2006.

¹⁶ The opposition Aq Zhol ("Bright Path") has a single mǎzhilis seat, vacant since the elections because of a boycott.

¹⁷ For recent Crisis Group reporting on Kyrgyzstan, see Crisis Group Asia Briefing N°55, *Kyrgyzstan on the Edge*, 9 November 2006; Crisis Group Asia Report N°109, *Kyrgyzstan: A Faltering State*, 16 December 2005, and Crisis Group Asia Report N°97, *Kyrgyzstan: After the Revolution*, 4 May 2005.

¹⁸ Two factions within Nazarbayev's family are often pointed out as particularly important. One is formed by Nazarbayev's eldest daughter Darigha and her husband Rakhat Aliyev. The fortunes of this pair have waxed and waned repeatedly over the years, with Nazarbayeva amassing a vast media empire and founding an influential political party, and Aliyev rising to the rank of deputy foreign minister. Nazarbayeva's party, however, has been absorbed into Nazarbayev's Nur-Otan, and Aliyev has recently been demoted and dispatched to Vienna as Kazakhstan's OSCE ambassador. By contrast, the star of another faction, consisting of Nazarbayev's second daughter Dinara and her husband Timur Kulibayev, seems to be on the rise. They have major holdings in Halyk Bank, the third largest in Kazakhstan, and Kulibayev has recently become head of the state-run oil and gas company, KazMunaiGaz.

¹⁹ Crisis Group interview, Almaty, October 2006.

²⁰ "Reports: Kazakh Parliament Approves Amendment to Waive Presidential Term Limits", Associated Press, 18 May 2007. The term-limit waiver was not in Nazarbayev's original proposals, according to the state news agency, Kazinform.

²¹ Crisis Group interview, October 2006.

²² For previous Crisis Group reporting on Turkmenistan, see Crisis Group Asia Briefing N°55, *Turkmenistan after Niyazov*, 12 February 2007; Crisis Group Asia Report N°85, *Repression and Regression in Turkmenistan: A New International Strategy*, 4 November 2004; and Crisis Group Asia Report N°44, *Cracks in the Marble: Turkmenistan's Failing Dictatorship*, 17 January 2003.

in the arrest of Parliamentary Speaker Öwezgeldi Atayev, who was in line to be acting president, and the designation of Gurbanguly Berdimuhammedov, a deputy prime minister. With the apparent backing of several powerful ministers, including Defence Minister Agageldy Mametgeldiev, changes to the constitution were pushed through legitimising Berdimuhammedov's assumption of power, and he won a carefully orchestrated presidential election in February 2007 with 89 per cent of the vote.

On 16 May 2007 the head of the presidential security service, Akmurad Rejepov, was removed from office by presidential order, according to reports on state television. The dismissal seems to indicate that Berdimuhammedov is feeling increasingly secure in his position and is creating his own network of power distinct from his predecessor's.

More interesting than the election and its pre-ordained outcome were promises Berdimuhammedov made during the campaign that hinted the new regime would turn from Niyazov's self-destructive course. He said he would restore ten-year school education and extend university to five years; reverse the disastrous pension "reform", which had pushed tens of thousands to the brink of poverty; expand internet access; and address agricultural problems. He also hinted at reform of the oil and gas sector when first taking office, and in mid-March created a new state agency to oversee the industry.²³ Berdimuhammedov has made good on some promises, including pensions and teacher salaries. There is a long way to go, however, to reverse the damage done by Niyazov. There has been no sign of political liberalisation.²⁴ While the transition has been peaceful, questions remain whether the new president can maintain control.

C. UZBEKISTAN

Uzbekistan is probably at greatest risk of instability.²⁵ The regime of President Islam Karimov is one of the most repressive in the former Soviet Union. More than anything,

its economic policies have angered the population of over 26 million. Discontent comes not merely from policies and corruption that have led to grinding poverty for most, but even more from attempts to disrupt alternative networks created to cope with the situation. Matters came to a head in May 2005 in the eastern city of Andijon, when the trial of 23 influential local businessmen accused of Islamic radicalism ended in a jailbreak and an armed uprising apparently organised by their supporters, largely part of one such alternative network. Security forces put down the uprising with indiscriminate force, killing hundreds – if not more – of mostly unarmed civilians. Since then the regime has made cosmetic changes to appease Western critics (particularly the EU, which imposed limited sanctions), while continuing to crush dissent.

Uzbekistan is not quite a one-man state. The regime must appease powerful internal interests,²⁶ although the opaque nature of the political and economic scene make it difficult to point to specific individuals or factions. Karimov keeps power by carefully apportioning export income from cotton,²⁷ gold and gas among key elites, in particular the National Security Service (SNB) – the KGB successor – and the interior ministry, which controls the police.²⁸

Succession haunts the political scene, though the apparent public apathy reflects the fear and hopelessness that pervades much of society. According to the constitution, Karimov's presidential term expired on 22 January 2007, seven years after his last inauguration. The law states that a new presidential election can only be held in December of the year the term expires – leaving the country technically without a president for eleven months. There is speculation a referendum will be held to extend Karimov's term. A second scenario has Karimov stepping aside for a designated

²³ This is a potentially important step, as Niyazov had dissolved the Competent Body on the Use of Hydrocarbon Resources in September 2005, putting decision-making in the sector on the far less competent Ministry of Oil and Gas Industry and Mineral Resources. In order to attract foreign investment, the success of this new State Agency for the Supervision of Hydrocarbon Resources will be key.

²⁴ Cf. Jean-Christophe Peuch, "Turkmenistan: Still Waiting for Berdimuhammedov's Thaw", Radio Free Europe/Radio Liberty (RFE/RL), 27 April 2007.

²⁵ For previous reporting on Uzbekistan, see Crisis Group Asia Briefing N°54, *Uzbekistan: Europe's Sanctions Matter*, 6 November 2006; Crisis Group Asia Briefing N°45, *Uzbekistan: In for the Long Haul*, 16 February 2006; Crisis Group Asia Briefing N°38, *Uzbekistan: The Andijon Uprising*, 25 May 2005; Crisis Group Asia Report N°76, *The Failure of Reform in*

Uzbekistan: Ways Forward for the International Community, 11 March 2004; Crisis Group Asia Report N°46, *Uzbekistan's Reform Program: Illusion or Reality*, 18 February 2003; and Crisis Group Asia Report N°21, *Central Asia: Uzbekistan at Ten – Repression And Instability*, 21 August 2001.

²⁶ Recently, the independent Uzbekistani news website Uzmtronom speculated that one reason for Uzbekistan's continuing failure to sign on to an agreement to combat money laundering – a requirement for Uzbekistan's membership in the Eurasian Economic Community, or EurAsEC, an economic cooperation organisation of six former Soviet states, including Russia – is fear of angering powerful elites in Uzbekistan who would prefer not to have some of their activities subject to external oversight. See Sergie Ezhkov, "Proshchai, nemytaia Rossiia?" [Farewell, unwashed Russia?], Uzmtronom, 5 March 2007, www.uzmtronom.com.

²⁷ In 2005, Uzbekistan exported \$1.03 billion of cotton fibre, roughly 21 per cent of its total exports. "Uzbekistan at a Glance", The World Bank, available at http://devdata.worldbank.org/AAG/uzb_aag.pdf.

²⁸ See Crisis Group Asia Report N°93, *The Curse of Cotton: Central Asia's Destructive Monoculture*, 28 February 2005.

successor or restructuring government while retaining de facto power. There is no clear sign as yet but on 5 March 2007 the Legislative Chamber (lower house of parliament) passed a law on the roles of political parties and parliament that may foreshadow a symbolic restructuring.²⁹

While there has been speculation about Karimov's daughter Gulnora, SNB chief Rustam Inoyatov, Prime Minister Shavkat Mirziyoyev, Deputy Prime Minister and Minister of Finance Rustam Azimov and Moscow-based oligarch Alisher Usmonov as possible successors to Karimov, there is no front-runner. Animosity toward the regime has grown steadily. Andijon sent an unambiguous message as to how unrest would be dealt with but the underlying tensions have not subsided. Uzbekistan has an active, radical Islamist underground, as well as wealthy and influential individuals outside the regime, many involved in organised crime. Some of the latter may decide to make independent bids for power once Karimov is gone. In sum, there are serious concerns for profound instability, even violence, after Karimov, which could have disastrous consequences for Uzbekistan's neighbours.

III. ENERGY EXPORTS: AN OVERVIEW

In 2004, hydrocarbons were 65 per cent of Kazakhstan's exports, 83 per cent of Turkmenistan's, and 10 per cent of Uzbekistan's.³⁰ Oil, mostly Kazakhstan's, is the region's most valuable energy product.

A. OIL

1. What is present

Kazakhstan

Kazakhstan is estimated to have between 30 and 40 billion barrels of crude oil reserves, about half those of Russia and 11 per cent of those of Saudi Arabia and eleventh in the world, between Nigeria and the U.S.³¹ It is also a significant producer of NGLs, such as ethane, propane and butane.³² Almost all its producing oil fields are in

³⁰ "Central Asia: Between Hope and Disillusion", *BNP Paribas Conjoncture*, 20 April 2006. Percentages are by economic value. In Kazakhstan, about 80 per cent of the over \$45 billion invested in the country by foreigners since 1991 has been in the energy sector. Kyrgyzstan and Tajikistan have tiny reserves and produce oil and gas in quantities that are barely consequential even for their small domestic markets. Both countries must import almost all their oil and gas, chiefly from Uzbekistan, and have recently made efforts to strengthen their own energy independence by seeking investment to develop their hydroelectric sectors.

³¹ According to *Oil and Gas Journal*, Kazakhstan's crude oil reserves as January 2007 were 30 billion barrels, with major international oil company British Petroleum (BP) stating in its "Statistical Review" that the country's crude oil reserves as of year-end 2005 were 39.6 billion barrels. Using the *Oil and Gas Journal* estimate ranks Kazakhstan eleventh in the world, between Nigeria and the U.S. For comparison purposes, U.S. oil reserves are 21.8 billion barrels; Russia's are 60 billion barrels. According to Kazakhstan's National Statistics Committee, production of crude oil in 2006 was 54.342 million tons. "Oil Production in Kazakhstan Grows to 54.3 Mln T, that of Gas – 25.65 BCM", *NOVECON: Russia/CIS Energy Digest*, 15 January 2007. The U.S. Energy Information Administration (USEIA) estimates that 2006 crude oil production averaged 1.12 MMBbl/d for the year, an increase of 6.8 per cent over 2005. Kazakh oil production growth has slowed notably since the first half of this decade, due to severe weather which caused some wells to be closed, output curtailment from restrictions on "flaring", and export capacity limitations. Growth was stronger in the second half of 2006.

³² According to the National Statistics Committee, Kazakhstan produced 5.69 million tons of NGLs in 2006 (about 162,000 bbl/d), a 9 per cent decline.³² This has been attributed to cold weather causing equipment problems and decline at the Karachaganak field. Kazakh production is about 1.5 per cent of world oil production of some 85 million barrels per day.

²⁹ Such a symbolic restructuring could involve Karimov switching from president to prime minister in a new system making the prime minister the most powerful position. For more on this, see "Will Uzbek Leader Become Prime Minister?", BBC Monitoring Former Soviet Union, 12 March 2007.

the west,³³ near or off the shore of the Caspian Sea. The major exception is the Karachaganak field in the north west, near the Russian border.

Since 1995, when it bottomed out at 352,000 bbl/d, discoveries, foreign investment, and new technology and management at older fields have resulted in a more than three-fold increase in crude oil production. Kazakhstan now is the eighteenth-largest producer in the world. Production in 2006 of crude oil was 54 million tons and of condensate 10.5 million tons (about 1.3 million barrels per day).³⁴ According to the government, oil production (including NGLs) is expected to rise to about 1.74 MMbbl/d by 2010,³⁵ about a 45 per cent increase on current levels.³⁶ Most of this growth will come from four large projects.

The Tengiz field. Discovered in Atyrau province in 1979, it is often ranked as the world's sixth-largest, with recoverable reserves estimated by Chevron at six to nine billion barrels. Chevron is the leading partner (50 per cent) in the Tengizchevroil (TCO) consortium that has developed the field since 1993 and operates a 50/50 production sharing agreement (PSA) with the government.³⁷

The Karachaganak field. Also discovered in 1979, it is an oil and natural gas and condensate field located in Western Kazakhstan province, not far from the Russian border, with reserves of about 1.2 billion tons of oil and

condensate (approximately 8.76 billion barrels), according to Karachaganak Petroleum Operating (KPO).³⁸ It has significant growth potential, as certain deep geological structures are not even included in current reserve estimates.

The Kashagan field. Discovered in the northern Caspian in 2000, it is the largest oil field outside the Middle East. There have been enormous cost overruns, and it has been much more difficult to develop than expected.³⁹ Production had originally been expected to begin at 75,000 bbl/d in 2008, but operator Agip KCO announced in February 2007 that it would likely start in the third quarter of 2010.⁴⁰ Even this target may not be met. In April 2007 Energy Minister Baqytqoja Izmukhametov said that oil might not be produced until 2011.⁴¹

The Kurmangazy field. This field, in the earliest state of development of the four, is in the Caspian, on the maritime border with Russia. A 1998 agreement and a 2002 protocol granted Kazakhstan sovereignty over it, while Russia obtained two nearby fields.⁴² All three will be developed under 50:50 PSAs. The Kurmangazy partners are KazMunaiGaz (KMG) and Rosneft. Expected investment is \$23 billion, with estimated reserves of one billion tons. The first well, in 2006, did not strike oil. The companies are revaluating and have stated that the

³³ Oil is produced in five provinces: Aqtöbe, Atyrau, Kyzylorda, Mangghystau, and the Western Kazakhstan province.

³⁴ Kazakhstan State Statistics.

³⁵ Kazakhstan Ministry of Energy and Natural Resources presentation at Kazakhstan International Oil and Gas Exhibition (KIOGE), Almaty, 4 October 2006. However, given delays at Kashagan, the Ministry is likely to reduce this figure.

³⁶ Production is expected to reach 84 million tons per year. The USEIA forecasts total liquids production of 1.5 million barrels per day by 2008. The inclusion of some condensate production not in the ministry of energy figure accounts for some of this discrepancy. Energy Minister Baqytqoja Izmukhametov cautioned in January not to expect a rise in oil production in 2007. Kadyr Toktogulov, "Kazakh Oil Output Won't Rise in 2007 – Prime-TASS", Dow Jones, 18 January 2007. If production does not rise but refinery utilisation increases, as expected, crude oil exports could fall slightly for 2007.

³⁷ Tengiz produced about 13.5 million tons of oil (296,000 bbl/d) in 2005 but production slipped to 13.3 million tons in 2006. "Kazakh Tengiz '06 Oil Output Slips to 13.3 mln T", Reuters, 23 January 2007. TCO is working on a \$3 billion Sour Gas Injection and Second Generation Project, which when complete is expected to boost production capacity to 450,000 to 550,000 bbl/d by the end of 2007, with further expansion to as much as 700,000 by 2010. Some analysts assert that Tengiz expansion is being held up by the inability to obtain an expansion of the CPC pipeline.

³⁸ KPO is a consortium operating the field under a 40-year PSA with the government. The operators of KPO are BG Group of the UK and Eni of Italy. Various well expansion and stabilisation train schemes are underway or planned to boost liquids production from about 295,000 bbl/d in 2005 to 700,000 bbl/d by 2011. (A "stabilisation train" removes hydrogen sulphide and reduces vapour pressure by removing gases from crude oil, making it suitable for refining and transport.)

³⁹ The cost estimate of the first phase of production has risen from \$10 billion to \$19 billion. Challenges include extreme climatic changes from summer to winter, with freezing of the shallow seas, a deep reservoir – 5,000 metres; high reservoir pressure – 800 bar; high H₂S (Hydrogen Sulphide) content (16-20 per cent); management of by-products, such as sulphur; and the use of sour gas re-injection into the reservoir.

⁴⁰ James Batty, "Eni Still Confident in Costly Kashagan Field", *International Oil Daily*, 26 February 2007. (Eni is the operator and owner of Agip KCO on behalf of the other members of the consortium.) Also, Crisis Group interview, London, 13 December 2006. Some reputable analysts think production may not start until 2011. The Kazakh government is requesting an audit and has announced that the Agip KCO consortium (Eni, KazMunaiGaz, ExxonMobil, Shell, Total, ConocoPhillips and INPEX) will be fined for the delay. Raushan Nurshayeva, "Kazakhstan Wants Audit of Rising Kashagan Oil Costs", Reuters, 30 November 2006. Plans envision a production capacity of 1.5 MMbbl/d by 2019, with investment of at least \$31 billion.

⁴¹ "The Date to Commence Production from Kashagan Will Be Certain Mid-Year", *Azer-Press*, 5 April 2007.

⁴² The five littoral states have not yet agreed on maritime boundaries for the Caspian Sea.

geological structures are more complex than previously thought. Some analysts label Kurmangazy a “fiasco” that will never produce near initial expectations.⁴³ Successful development of this field and realisation of the others’ full potential is essential if Kazakhstan is to become one of only eight non-OPEC countries with daily production over 2 million barrels.

There has also been a recent discovery at the Qarabulag and Sarybulag fields in Eastern Kazakhstan province near the border with China.⁴⁴

Kazakhstan uses about ten million metric tons of domestic crude oil annually in three refineries and imports relatively small amounts of products to make up for slightly inadequate domestic refinery output, notably at harvest time.⁴⁵ Given crude oil production in 2006 of 54 million metric tons, net crude oil exports would be about 41 million metric tons (about 820,000 bbl/d). Outside OPEC, only Russia, Norway and Mexico export more.⁴⁶

The country is one of a handful of large, non-OPEC producers that are not expected to reach peak conventional crude oil production for at least another two decades.⁴⁷ It is possible that it has the greatest conventional oil production growth potential of any non-OPEC country. Of course, oil consumption will grow slightly in the future, but given the small population and the large additions in expected production, most of the increase will translate into exports as long as the means are there to get the hydrocarbons to market.⁴⁸

⁴³ Crisis Group interview, Atyrau, 8 October 2006.

⁴⁴ “Kazakhstan’s Oil Co Kuant Finds Oil near Chinese Border”, Dow Jones Newswires, 24 March 2006.

⁴⁵ “Kazakhstan – The Domestic Market”, *APS Review Downstream Trends*, 24 July 2006; “Kazakhstan – The Domestic Market”, *APS Review Downstream Trends*, 24 July 2006; and Crisis Group interview, Atyrau, 8 October 2006. Total product demand is about 14-15 million metric tons, with name-plate product output (“Name-plate” output capacity refers to the maximum rated output for the refinery’s equipment as specified by the manufacturer.) capacity of the three refineries at about 20-21 million metric tons. Crisis Group interview, Atyrau, 8 October 2006. The Pavlodar refinery uses about two million tons per year of imported Russian crude oil, as it is not connected to western Kazakhstan, as well as crude oil from a nearby field discovered in 1998. U.S. Department of State cable, 23 February 2000 and “Pavlodar Refinery”, *APS Review Downstream Trends*, 31 July 2006. The recent upgrade of the Atyrau refinery is expected to reduce this need for imports somewhat.

⁴⁶ USEIA 2006 figures.

⁴⁷ Other large non-OPEC producers that have not peaked yet include Russia, Azerbaijan and Brazil.

⁴⁸ Kazakhstan’s oil consumption is forecast to grow slightly less than 4 per cent from 2006 to 2010. Crisis Group interview, Washington DC, April 2007.

Turkmenistan

Although natural gas is Turkmenistan’s most important export, it also produces oil and has about 600 million barrels of proven reserves.⁴⁹ Some government claims of reserves are excessive. It recently assessed combined reserves at 45 billion tons of oil equivalent,⁵⁰ an incredible amount even though it is a major natural gas producer.

Turkmenistan’s oil is both on- and off-shore. Current production (including all liquids) is about 200,000 bbl/d according to some analysts,⁵¹ though the U.S. Energy Information Administration (USEIA) says production peaked at that level in 2004 and has been declining.⁵² A number of important fields are in the east but the main producing area is the Cheleken peninsula, in the western province of Balkan. The state oil company, Turkmenneft, has most of its production in the onshore Garashsyzyk block, where six of the more than 40 producing oil and gas fields are.

The Kyapaz/Serdar oil fields in the Caspian are disputed with Azerbaijan. Niyazov considered the risks of trying to settle this or explore other possibly contested offshore blocks not worth it from the perspective of stability and personal enrichment.⁵³ With recent signs of re-engagement between Turkmenistan and Azerbaijan, the dispute may now be addressed.⁵⁴ This could also open up other areas for exploration and possible production, including geological extensions of Azerbaijani fields that are already producing substantial quantities of oil.⁵⁵

There has been some foreign investment in the oil sector, though volumes produced are small. Turkmenneft produces about two thirds of the oil, mainly offshore. It

⁴⁹ *Oil and Gas Journal* reports it as having proven crude oil reserves of 600 million barrels in its most recent estimates; BP mentions 546 million barrels in a slightly older estimate. It is well known that Turkmenistan does not have the massive oil reserves of Kazakhstan but this estimate gives the country roughly the same reserves as Uzbekistan, despite Turkmenistan’s higher production. Considering that careful independent geological study of reserves has only been carried out in the past few years, it is quite possible that these are conservative estimates.

⁵⁰ “Turkmenistan – The Oil & Gas Reserves”, *APS Review Gas Market Trends*, 18 September 2006. Most likely this is an estimate of “oil in place”, a much broader definition of reserves. However, the 45 billion tons is not credible to most analysts.

⁵¹ Crisis Group interview, Washington DC, 17 October 2006.

⁵² The USEIA estimates total liquids production at 173,000 bbl/d.

⁵³ Crisis Group interview, Vienna, 11 January 2007. Niyazov had claimed 100 per cent of the field but Azerbaijan has indicated that a 50/50 split would probably be acceptable.

⁵⁴ “Turkmenistan, Azeri Presidents Decide to Resume Mutual Visits”, ITAR-TASS World Service, 14 March 2007.

⁵⁵ There is the additional possible advantage that such fields could be connected to existing Azerbaijani export infrastructure.

appears foreign companies will be able to get PSAs only in offshore areas; Niyazov said: "Take it as law: land is not to be given away, at sea we can work as equal partners".⁵⁶

Without significant new investment and renewed competence being brought to the sector, production is expected to be stagnant. Given the small population (about 6 million), oil consumption (and intensity)⁵⁷ is high for a developing country, however, and following the Soviet pattern, use is inefficient, so there is some potential for additional exports.

Uzbekistan

Uzbekistan is a net oil importer, with production from its estimated 600 million barrels of reserves expected to continue to decline slowly.⁵⁸ The fields are mostly near exhaustion; hence the decline in production since the late 1990s, after an initial spurt in the post-Soviet period made the country temporarily self-sufficient. It is quite possible

the government and the state oil and gas company, Uzbekneftegaz, exaggerate reserve estimates. There is no credible public independent analysis.⁵⁹ Investment is insufficient, in 2005 only \$114.1 million for both oil and gas exploration, mostly gas.⁶⁰ Current oil production is about 120,000 bbl/d, half crude, half condensate,⁶¹ down some 16 per cent from 2004.

The country's refineries run at well under their 222,000 bbl/d capacity since the government does not want to use hard currency for imported oil, and with a price-controlled government refining and retail monopoly, shortages of products are frequent, except in Tashkent.⁶²

2. How the oil reaches markets

Kazakhstan is landlocked and not near major consumers.⁶³ About 84 per cent of its oil exports pass through Russia to market, although with the advent of the independently owned Caspian Pipeline Consortium (CPC) pipeline in 2001, the majority no longer transit the Russian state-owned Transneft system.⁶⁴ The CPC pipeline carries about 24.5 million metric tons per year from Tengiz through Atyrau to the Russian Black Sea port of Novorossiisk.⁶⁵ Given expected increases in Kazakh production, volume through the Transneft system (mostly to Samara) will increase from the current eighteen million tons; Karachaganak began sending oil this way in July 2006.

There are, however, several other means to transport most of the increase. One is an expansion of the CPC pipeline, to perhaps as much as 67 million tons per year. After an April 2006 meeting with Russian President Vladimir Putin, Nazarbayev announced agreement on expansion of this pipeline but it soon became apparent that Russia was not in accord. In July 2006, Moscow froze CPC accounts over a back-tax claim, which some

⁵⁶ "President: Turkmenistan's Oil and Gas Fields on Land Are Off-Limits to Foreign Companies", Associated Press, 21 April 2006. On 5 January 2007, then acting President Berdimuhammedov echoed this, stating "we can sometimes use foreign investments in developing our offshore areas". John Robert, "Foreigners still Have a Role in Turkmenistan; Acting President Berdimuhammedov Says Country Open to Investment", *Platts Oilgram News*, 9 January 2007. However, it appears that Russian companies will be involved in the onshore gas sector (see Section III.B.1 below). The foreign companies producing offshore are Dragon Oil of the UAE/UK and Malaysia's Petronas. Burren Energy of the UK and Maitro International of Austria/Russia (part of Khazar consortium with Turkmenneft) produce onshore but if the new government maintains Niyazov's position on onshore operations, such deals are unlikely in the future. In May 2007 Berdimuhammedov invited Chevron to explore for oil and gas offshore. The volume of oil exports is small compared to Kazakhstan but analysts disagree on the precise amount, and government statistics are not reliable. Given domestic consumption of about 110,000 bbl/d, only about 100,000 bbl/d are free for export, including export of crude oil, condensate and petroleum products, with a substantial share being products for Iran, USEIA estimate. Some analysts believe actual consumption is somewhat lower but if production is also lower, net exports would be about the same. According to the *APS Review* of 2 October 2006, Turkmenistan's consumption is about 80,000 bbl/d and exports 115,000-120,000 bbl/d, with 75,000 bbl/d of that products. This is consistent with reports of some investment to improve refineries in recent years and high product import demand in Iran. Reportedly, Dragon Oil opened a small (less than 50,000 bbl/d) refinery in March 2007, meaning the new regime has allowed foreigners into the refining sector. It may also mean a higher percentage of exports as product.

⁵⁷ Intensity here meaning oil consumption per unit of GDP.

⁵⁸ At the beginning of 2006, Uzbekistan's proven crude oil reserves were estimated by *Oil and Gas Journal* and by BP at 594 million barrels. This is only a small fraction of Kazakhstan's proven reserves, though comparable to those of Turkmenistan.

⁵⁹ Crisis Group interview, London, 18 October 2006. To be precise, Uzbekneftegaz is 99.7 per cent state owned – a Ukrainian Industrial Union and employees own the tiny remainder.

⁶⁰ "Report – Uzbekistan's Oil and Gas Industry", *Asia Pulse*, 30 June 2006.

⁶¹ Crisis Group interview, Washington DC, 17 October 2006 and USEIA.

⁶² Ian MacWilliam, "Uzbekistan 'Facing Oil Crisis'", BBC, 10 November 2005. Consumption of oil products is about 150,000 bbl/d.

⁶³ See Appendix E for a map of pipeline routes.

⁶⁴ The Russian state's 24 per cent stake in CPC was transferred to Transneft in May 2007. "Transneft to Control CPC Stake", *Upstream*, 11 May 2007. It is likely not coincidental that this was done just as the deal on expansion of the CPC pipeline seems to have been concluded.

⁶⁵ Assessments of current capacity/usage of the CPC pipeline in the industry press vary from 22 to 31 million metric tons.

interpreted as resistance to the expansion.⁶⁶ Moscow was reported to have made permission for expansion contingent on its preferred Bosphorus-bypass pipeline, Burgas-Alexandroupolis. In March 2007, that deal was finally reached, after years of negotiations, between Russia, Bulgaria and Greece.⁶⁷ In May 2007, Putin met with Nazarbayev during his trip to Central Asia, and it appears Russia may have finally agreed to an expansion of the CPC pipeline to at least 40 million tons per year, in return for Kazakhstan agreeing to use the Burgas-Alexandroupolis pipeline for transport of that additional oil on the Black Sea.⁶⁸ However, a combined CPC expansion and Burgas-Alexandroupolis utilisation deal could not yet be confirmed.⁶⁹

A new pipeline to China was inaugurated in December 2005, and the first oil flowed in June 2006. Running from the Aqtöbe fields to the Chinese border town of Alashankou, it is a 50:50 joint venture of KMG and China National Petroleum Corporation (CNPC), though CNPC paid over 85 per cent of the \$800 million cost.⁷⁰ The current flow is a small fraction of the pipeline's twenty million tons per year capacity – only 2.2 million tons in 2006. Until an additional connecting pipeline is built in China and within Kazakhstan (Phase 3), plans are for no more than ten million tons per year to flow. This pipeline is not solely a Kazakh-Chinese venture. To function, Russian oil must supplement Kazakh because of insufficient fill and viscosity issues, so even exports to China involve Russia. It may make more economic sense to add more Russia crude than to expand the pipeline westward but Russian involvement may be cause for delays in further phases of the pipeline.⁷¹ Energy Minister Izmukhametov also announced in October 2006 that an

export pipeline to Iran via Turkmenistan is being considered.⁷²

There are several other ways Kazakhstan's oil is or could be exported. One is rail shipments, although with higher costs and new pipelines, including the one to China, this is less important. Another is to ship to the Iranian Caspian Sea port of Neka, where crude is blended and swapped for Iranian light crude at Kharg Island in the Persian Gulf for a per-barrel fee. KMG has a 300,000 ton per month contract with a subsidiary of the Iranian state oil company, NIOC, and additional Kazakh oil and product goes to Neka,⁷³ some for consumption in Iran.

Oil can cross the Caspian to Azerbaijan by tanker, where a pipeline or a rail route takes it to Georgian ports on the Black Sea.⁷⁴ With the new Baku-Tbilisi-Ceyhan (BTC) pipeline, it could potentially go to Turkey's Mediterranean port of Ceyhan. As Azerbaijan's output begins to decline, the Kashagan field's output should begin to surge (around 2011), and BTC's capacity could be expanded.⁷⁵ As mentioned above, it appears likely that expansion of the CPC pipeline has been agreed to, or at least will be before or at the next summit of the leaders of Kazakhstan, Russia and Turkmenistan in September 2007. If so, there will be greater capacity to deliver Kazakh crude to world markets, and the BTC pipeline may be less important for Kazakhstan. Some analysts argue Russia seeks to undermine the BTC pipeline⁷⁶ but with Turkey keen to limit flows through the dangerous straits and expectations for huge increases in Kazakh production, there may be need for both CPC expansion and Kazakh use of BTC, albeit at somewhat lower volumes.⁷⁷

⁶⁶ "Russia Rejects Expansion of Chevron Oil Link – Paper", Reuters, 13 November 2006.

⁶⁷ Russia will have 51 per cent of the pipeline.

⁶⁸ "Kazakhstan, Russia Agree to Increase CPC's Capacities", *Russian Financial Control Monitor*, 11 May 2007. Nazarbayev told Interfax that given such a deal, "a seventeen million-ton [per year] increment could be channelled to the Burgas-Alexandroupolis Pipeline".

⁶⁹ "Source: No Concrete Deal to Expand CPC Pipeline – Vedomosti", *Dow Jones Emerging Markets Report*, 11 May 2007. It is probable that some financial sweetener for Russia would be included to obtain an expansion deal. It has also been suggested that Russian agreement on CPC expansion was linked to Kazakhstan agreeing to Russian objectives regarding gas pipelines that were also discussed during the same visit by Putin (see Section III.B.3 below).

⁷⁰ Oil flowed because Phase 2 from Atasu to Alashankou had been completed. Phase 3 from Kengkiyak to Qumkök still needs to be completed to have an uninterrupted flow from the western oil fields to the Chinese border.

⁷¹ Kimberly Marten, "Disrupting the Balance: Russia's Efforts to Control Kazakhstan's Oil", RFE/RL briefing, Washington DC, 16 March 2007.

⁷² KIOGE 2006 conference materials.

⁷³ Paul Sampson, "Neka Netbacks: Iran Makes The Most Of Rising Caspian Oil Exports", *NEFTE Compass*, 14 September 2006.

⁷⁴ In total, about ten million tons was shipped to Caspian ports in Azerbaijan, Russia and Iran in 2006 (some Kazakh crude is shipped to the Russian port of Makhachkala).

⁷⁵ The presidents of Kazakhstan and Azerbaijan signed a preliminary agreement to this effect on 16 June 2006.

⁷⁶ Stephen Blank, "The Burgas-Alexandroupolis Pipeline and its Implications", Central Asia-Caucasus Institute Analytical Article, 4 April 2007.

⁷⁷ This depends on the size of the CPC expansion as well. Expansion to 67 million tons (as opposed to 40) would seriously undermine plans to fill the BTC pipeline with Kazakh crude when Azeri crude supply declines sharply within a decade. Azerbaijan's industry and energy minister, Natiq Aliyev, asserted that because major production companies in Kazakhstan own shares in the BTC pipeline and BTC has favourable tariffs, the companies will still want to direct their shares of production through BTC. "Caspian Pipeline Deal Will Not Affect BTC Operations: Minister", *Platts Commodity News*, 13 May 2007. There are plans to expand the capacity of the BTC pipeline as well in

Turkmenistan has two export options. One is to use oil swap deals at Iran's port of Neka. Much of the country's product exports also go there, though some go to Azerbaijan for rail transport to Georgian ports. The remainder of exported oil is taken by tanker to the Russian Caspian port, Makhachkala, where it enters the Transneft system. Turkmenistan has increased its export of refined products. A pipeline connecting the Korpeje fields in Balkan province with the regional capital Balkanabat (formerly Nebitdag) is expected to be online soon, enabling greater flows of crude oil to go to the Turkmenbashi refinery in the Caspian port city formerly known as Krasnovodsk.

3. Possible alternative routes

There are several possible alternative routes for the region's oil exports:

- ❑ Kazakhstan could increase flows to China through the new pipeline, though this is subject to the limitations discussed above.
- ❑ Kazakhstan could send additional exports to Iran, by barge or tanker across the Caspian to Neka. Although a small increase could occur with current infrastructure (Neka can handle about 170,000 to 200,000 bbl/d of imports), Iranian officials say they can easily expand it to handle 500,000 bbl/d and believe that the economics justify the greater exports.⁷⁸ Turkmenistan could also send slightly more to Iran, but not enough to justify infrastructure expansion. A pipeline could also be built from Kazakhstan to Iran via Turkmenistan. Preliminary studies are under way, according to Energy Minister Izumkhambetov,⁷⁹ though it would be contingent on other export routes being at capacity for enough years to make construction worthwhile, stability in Turkmenistan and, possibly, resolution of the Iranian nuclear issue. Given alternative export routes, including expansion of the CPC pipeline, and forecasts of growth in Kazakhstan's oil production, such a pipeline would probably not be economical before 2015.⁸⁰
- ❑ Kazakhstan could use the Baku-Tbilisi-Ceyhan pipeline to transport oil from the Caspian to the Mediterranean. It already carries oil there from Azerbaijan's offshore fields but the planned Kazakhstan Caspian Transportation System would allow oil from the Kashagan field to be piped to Quryq and shipped to Baku, for unloading into the BTC pipeline. The expectation is that as the Azerbaijani fields that currently utilise BTC begin to decline, the Kashagan field will increasingly fill the gap. There could also be BTC expansion to allow the flow of more Kazakh oil. Another possibility is an undersea pipeline (the trans-Caspian oil pipeline) from Kazakhstan to feed directly into BTC.

BTC capacity is expected to reach one million barrels bbl/d in 2008 or 2009 but Azerbaijan indicated in December 2006 it could be expanded to 1.5 to 1.7 million bbl/d to accommodate Kazakh oil or ensure sufficient capacity for both Azerbaijani and Kazakh exports.⁸¹ On 16 June 2006, the two presidents signed an agreement for Kazakh production to supply the BTC pipeline, starting at 150,000 bbl/d, and rising to 500,000. It is expected to come from the Kashagan field, but given delays in the start of its production, large amounts of oil from Kazakhstan via the Mediterranean will not be a reality until at least 2011. However, as noted above, a large expansion in the CPC pipeline would undermine efforts to transport Kazakh oil through BTC and be the death knell for the construction of a trans-Caspian oil pipeline.

- ❑ For oil that makes it to the Black Sea, either from Georgia or piped to Russian ports, there is the possibility of a reversal of the Odessa-Brody-Gdansk pipeline. Central Asian oil from Georgian ports could be taken by tanker to Odessa (Ukraine) for transport to the EU (specifically, Poland) without passing through Russia, the Russian-owned Burgas-Alexandroupolis line or the crowded Turkish Straits. This would require an estimated \$667 million expansion to Gdansk. Nazarbayev initially indicated lukewarm support for this but his insistence on Russian participation defeated the whole purpose from the perspective of the other participants.⁸² The

order to transport more Kazakh oil. A maximum expansion of the capacity of both pipelines is highly unlikely, however.

⁷⁸ "Iran Woos Central Asians as Oil Export Route", Reuters, 5 October 2006.

⁷⁹ "Kazakhstan Will Export Oil via Iran and Greece", *Oil & Gas of Kazakhstan*, 13 October 2006.

⁸⁰ Calculations would also have to consider how much export capacity is available in the Black Sea. Sending more oil through Russia via the CPC pipeline when the Turkish Straits are already at capacity would likely require a pipeline that bypasses the Turkish Straits, such as the planned Burgas-Alexandroupolis pipeline.

⁸¹ "Kazakh Oil to Raise BTC Capacity to 1.7m barrels", *Assa-irada Newsfeed*, 11 December 2006.

⁸² The countries supporting this option are Azerbaijan, Georgia, Lithuania, Ukraine and Poland. Without Kazakhstan, all the oil would have to come from Azerbaijan, and it is questionable whether it would be enough to make the expansion to Gdansk viable. However, the existence of this project gives some leverage to Kazakhstan in its negotiations to expand the CPC pipeline. Kazakhstan did send a representative to the meeting, and another summit on Odessa-Brody will be held in Vilnius in October 2007, at which time it may be clearer what is viable.

fact that Nazarbayev declined an invitation to the Krakow summit of leaders in support of this option on 11 May 2007 in order to host Putin was a sure signal that Kazakhstan would not bypass Russia. Indeed, Nazarbayev stated: "Kazakhstan is absolutely committed to shipping most of its oil, if not all of it, through Russian territory".⁸³ In any case, for commercial reasons, if not political ones, Moscow will want to make sure that any expansion of the CPC pipeline does not lead to Odessa-Brody-Gdansk taking precedence over Burgas-Alexandroupolis for offloading oil from the Black Sea.

B. NATURAL GAS

Natural gas reserves and production are more evenly spread among the three countries. Although exports are relatively small compared to consumption of a large EU state such as Germany, they are important given the tight Eurasian market. The hard currency earnings are perhaps even more essential for Turkmenistan and Uzbekistan.

1. What is present

The following table shows several estimates of natural gas reserves (trillion cubic meters, Tcm).⁸⁴ The two public sources (*Oil and Gas Journal* and CEDIGAZ) indicate the total is about 4 per cent of total world gas reserves.⁸⁵

	Oil & Gas Journal	CEDIGAZ	Other Estimate
Kazakhstan	2.83	1.90	3.00
Turkmenistan	2.83	2.90	6.00
Uzbekistan	1.84	1.85	1.50
Total	7.50	6.65	10.50

Total natural gas production in 2005, shown below in billion cubic meters (Bcm), is also about 4 per cent of world supply. Official figures are used only for Kazakhstan.⁸⁶

Kazakhstan	25.2
Turkmenistan	63
Uzbekistan	35
Total	123.2

Kazakhstan

Kazakhstan's proven reserves are eleventh in the world and roughly the same as those of Turkmenistan and Indonesia (using the *Oil and Gas Journal* estimate).⁸⁷ Almost all are in the four western oblasts (Atyrau, Mangghystau, Aqtöbe and West Kazakhstan), which include the Kazakh sector of the Caspian. About 25 per cent are in one field, Karachaganak.⁸⁸

Kazakhstan was a net importer until 2004, when foreign investment started to raise production gradually, to an

⁸³ Quoted by Interfax, as cited in "Kazakhstan, Russia Agree to Nearly Double CPC Capacity", Dow Jones Commodity Service, 10 May 2007.

⁸⁴ *Oil and Gas Journal* as of January 2007; CEDIGAZ as of January 2006 (both referenced on USEIA website). As to the other estimates, the Kazakhstan estimate is from the government (Ministry of Energy); Crisis Group interview, November 2006 for Turkmenistan; Uzbekistan's is a modified *Oil and Gas Journal* estimate based on Crisis Group interview, London, 23 November 2006. The interviewee on Uzbekistan's reserves had worked extensively in its gas sector in executive positions; he observed that 1.8 Tcm was too high but said a very good estimate is probably not available; hence 1.5 Tcm is a conservative downward adjustment. IHS Energy lists the same figure for Turkmenistan as *Oil & Gas Journal* but as proven plus possible.

⁸⁵ Using other standards for estimating reserves, however, gives different figures. The industry standards in the West are proven (the most conservative estimate), probable and possible; each is larger, as proven is the most conservative estimate. These estimates take into account economics and technology, so that an increase in price or new technology could increase estimates by changing the calculation on reserves previously uneconomic or too difficult to extract. Other conceptions of reserves, including Soviet ones, may be estimates of oil or gas in place and not take into account whether extraction is economically or technically feasible. Sometimes such looser conceptions are used by Central Asian governments. At other times, things are not as clear; for

example, Kazakhstan's ministry of energy and natural resources states that current "explored and estimated" natural gas reserves are 3 Tcm, but other Kazakh government publications use the word "proven" to describe that estimate.

⁸⁶ Figures for Kazakhstan from ministry of energy and natural resources; figures from Turkmenistan and Uzbekistan from Crisis Group interviews. The figure for Uzbekistan includes much gas never consumed but lost through leaks and other problems.

⁸⁷ *Oil and Gas Journal* substantially increased its estimate of Kazakhstan's reserves from January 2006's estimate of 1.84 Tcm, about the same as Cedigaz's, so it is likely Cedigaz will have a higher reserves figure as well for 2007. Hence, the 2.83 to 3.0 range is probably quite accurate, not merely by consensus, but also because Kazakhstan's hydrocarbon's sector has extensive foreign participation by Western oil majors (the largest international oil companies, with global operations – sometimes known as IOCs) that must be transparent about reserve estimates. Hence, it is much more difficult to obscure total reserve estimates. "CEDIGAZ is an international association dedicated to natural gas information, created in 1961 by a group of international gas companies and the Institut Français du Pétrole (IFP). It is based in Paris", CEDIGAZ website: www.cedigaz.org/.

⁸⁸ Some reputable sources assert that Karachaganak may have as much as 1.35 Tcm.

estimated 25.7 Bcm in 2006.⁸⁹ The slow growth is caused by a lack of transport infrastructure.⁹⁰ The country's most populous southern region is not connected to the western fields and relies on imports. This is a legacy of the Soviet system, which created links based on proximity and Soviet-defined needs, not internal borders.

On 3 October 2006, Kazakhstan and Russia agreed to form a joint venture between state-owned KazMunaiGas (KMG) and Gazprom. It will own the Orenburg gas processing plant in southern Russia and build new pipelines to it, enabling at least 15 Bcm per year of gas, mostly from Karachaganak, to be processed, with 7 Bcm pumped back to Kazakhstan and the rest exported through the Gazprom system.⁹¹ Karachaganak's gas production is projected by its consortium to grow to 25 Bcm by 2012.⁹² Gas consumption is rising but with the expected growth in production, Kazakhstan will be an important natural gas exporter by the end of the decade.⁹³

⁸⁹ "Oil Production in Kazakhstan Grows to 54.3 Mln T, that of Gas - 25.65 BCM", *Russia/CIS Energy Digest*, 15 January 2007.

⁹⁰ Kazakhstan's gas is often more difficult to extract than that of neighbouring countries, as much of it is associated. Much gas is flared or reinjected. "Flaring" refers to the burning off of gases in an "associated" oil field. "Reinjection" refers to the re-introduction of released gases into an underground oil reservoir to maintain pressure and ensure a higher oil recovery rate. The government has put pressure on companies to reduce flaring, at times even at the cost of production. TCO is in the process of testing sour gas reinjection facilities at the Tengiz field as part of a \$1 billion effort to double production there the next few years but this will also reduce gas supply to the Atyrau region. TCO and Karachaganak are about two thirds of dry gas production.

⁹¹ "Russia, Kazakhstan sign gas processing complex agreement", ITAR-TASS World Service, 3 October 2006. At the Putin-Nazarbayev talks on 10 May 2007, it was also reported that gas from Orenburg will be sold to Europe by a joint venture of KMG and Gazprom called KazRosGaz, rather than just by Gazprom, thus giving Kazakhstan a share of the profits from the differential between the price at the Kazakh-Russian border and Europe. "Kazakhstan Offers Russia to Expand CPC in Exchange for Refusal to Build Gas Pipeline Across Caspian", *NOVECON*, 11 May 2007. This, too, was likely part of the 12 May 2007 gas deal (see below).

⁹² With gas consumption for 2006 estimated at 11-13 Bcm, Kazakhstan's current net exports are equivalent to about half its production, slightly more than 13 Bcm. KMG has a swap deal with Uzbekneftegaz and Gazprom to take 3.5 Bcm from Uzbekistan to southern Kazakhstan and deliver an equivalent volume of gas to Gazprom from Karachaganak, starting in 2007. "Gazprom handles Uzbekistan, Kazakhstan gas swap", Reuters, 21 September 2006. Total gas production in Kazakhstan is expected to reach 52.5 Bcm by 2010, according to the energy and natural resources minister. "Kazakhstan 2006 oil growth forecast of 1%; Export constraints cited while gas growth rises", *Platts Oilgram News*, 29 June 2006.

⁹³ Perceptions of the political reliability of Kazakh gas versus that of some of its neighbours adds to its attractiveness to importing

Turkmenistan

Reserve estimates vary widely, but conservative proven figures still make the country a major source, at about Kazakhstan's level.⁹⁴ Niyazov said in 2006 that Turkmenistan has "from 22 to 24 Tcm of gas",⁹⁵ but his source is unclear. Since the 1980s, most gas production has been from fields in the Amu Darya river basin, including Dauletabad, one of the world's largest.⁹⁶ Other very big fields are Shatlyk and Yashlar in the Murgab depression of this basin.⁹⁷ In January 2007, Deputy Oil and Gas Minister Ishanguly Nuryyev said the Sag Kenar field, supposed to supply China if an agreed project moves forward, had reserves of 1.7 Tcm, but there has been no outside verification.⁹⁸

In November 2006 Niyazov announced discovery of a new field in the south east: "The day before yesterday a massive gas field started gushing, with reserves of seven trillion cubic metres. It is the South Yolotan field....So the world's biggest field is already flowing in our country".⁹⁹ The estimate is too large to be credible (and even if it were 7 Tcm, it would not be the world's largest¹⁰⁰) but analysts

countries, though all of it must pass through Russia to go west.

⁹⁴ *Oil and Gas Journal*, 1 January 2007 estimates show Turkmenistan with identical reserves to Kazakhstan (see table above).

⁹⁵ "Turkmen Leader Orders More Money for Oil, Gas Prospecting amid Doubts over Reserves", Associated Press, 7 August 2006.

⁹⁶ Dauletabad has been estimated at 1.0 to 1.7 Tcm according to reputable sources. Crisis Group interview, Washington DC, April 6, 2007.

⁹⁷ One analyst breaks down regional distribution of Turkmenistan's reserves as: west 1.5-2 Tcm; central 1-1.5 Tcm; north 1.5-2 Tcm; Dauletabad and southeast 1.4-1.7 Tcm, Crisis Group interview. Another analyst, who claimed to have seen confidential reserves data for Dauletabad, asserted its reserves are much higher, about 3-4 Tcm. Crisis Group interview, London, 23 November 2006. Arguments about audits of reserves of Dauletabad are thought to be one reason for Niyazov's purges of energy officials. See Section IV.C below.

⁹⁸ "Turkmen Official Publicises Sag Kenar Reserve Estimate", *AFX News Limited*, 24 January 2007. This figure is higher than reliable estimates of Turkmenistan's total reserves would seem to allow for.

⁹⁹ "Turkmen Leader Claims Massive New Gas Find", Reuters, 2 November 2006. An analyst noted that only one test well has been drilled on the field, so it would seem very premature to make such a claim. Crisis Group interview, November 2006.

¹⁰⁰ The world's largest field, the North Field/South Pars in the Persian Gulf, which is shared by Qatar and Iran (respectively), has reserves of over 39 Tcm. For comparison, total U.S. proven gas reserves are about 5.8 Tcm; so Niyazov was claiming that South Yolotan had more gas reserves than the world's second-largest producer. Heren Energy recently said that South Yolotan is probably closer to 4 Tcm, but even this is a very large field. "Turkmen Claim another Giant Gas Discovery", *European Spot Gas Markets*, 15 March 2007.

do not know the size. In March 2007 the Turkmen exploration company Turkmengeologia announced discovery of another field near South Yolatan, called Osman. A reliable estimate of its reserves has not been made public but reported characteristics are very promising.¹⁰¹

Ashgabat hired the respected U.S. consulting firm DeGolyer and McNaughton to evaluate the remaining potential of Dauletabad in 2005 but has not released the findings.¹⁰² This is likely because reserves are less than what the government would like in order to encourage development of a pipeline. One analyst noted that some of Turkmenistan's reserves may not be accessible or in sufficiently large groupings to make development economical, though another noted that, overall, there is enough gas to justify the international interest.¹⁰³ Gazprom, which has access to Soviet studies, at one point seemed to be sceptical of Turkmenistan's reserves.¹⁰⁴ However, given the 12 May gas pipeline deal agreed to by Putin and Berdimuhammedov (see below), it would appear that it is now more confident in those reserves. Certainly, the government of

Turkmenistan is publicly confident – when asked if Turkmenistan had enough gas to send increased amounts to Russia, supply China and continue sending a significant amount to Iran, Berdimuhammedov replied: “Don’t worry, we have enough gas”.¹⁰⁵

Turkmen production had declined by 1998 to less than a quarter of the 1993 level, when Gazprom, which controlled the only export route, shut it out of the market in a pricing dispute. This coloured Niyazov's relations with Gazprom and prompted construction of a pipeline from Dauletabad to Iran. Since bottoming out in 1998, gas production has increased steadily every year except 2004, when there was a very slight decline. In 2006 it was 66-68 Bcm, well below the government's target of 80 Bcm for 2006-2007, but still high relative to exports.¹⁰⁶

Oil and Gas Minister Gurbanmyrat Atayev announced in 2006 the equally unlikely target of 120 Bcm by 2010, along with a goal of doubling oil production by 2010.¹⁰⁷ Easily exploitable sweet gas that sustains production will start to decline sharply in the next few years; sizeable foreign investment will be needed not only to develop or increase output of sour gas deposits but also for the infrastructure to bring it to market.¹⁰⁸ Given the difficult political and business environment and the public relations risks of dealing with the regime, foreign companies did not invest heavily in the sector during the Niyazov years. However, since Berdimuhammedov assumed power, there has been something of a renewal of interest. Chevron, Buried Hill Energy and the Zarit Consortium of Itera, Rosneft, Zarubezhneft and Turkmenneft, as well as a parade of foreign officials, have come looking at investment in the hydrocarbons sector. Gazprom and Russia appear to be most successful, though, in view of the important gas pipeline and export deal concluded on 12 May 2007.

¹⁰¹ Initial flow on a test well was reportedly five million cubic metres per day; the production layer is preliminarily assessed at 450 to 500 metres thick. “Large Natural Gas Fields Are Discovered in South-eastern Turkmenistan”, *Oil & Gas of Kazakhstan*, 27 March 2007. Some geologists speculate that Osman and South Yolatan are part of one geologic system that together contains the largest gas deposit in the country; in May 2007 the Turkmen exploration company Lebapnebitgazgozleg announced a significant new influx at South Yolatan. “New Gas Influx Discovered at Turkmenistan Yuzhniy Iolatan Deposit”, *Energy and Commodities Digest*, 4 May 2007. However, a new report released 7 May 2007 calls into question claims that the Osman field has reserves in quantities anywhere near approaching those claimed by the exploration companies. “Gas and Oil in Turkmenistan: A Fairy Tale or the Truth?”, Eurasian Transition Group, 7 May 2007. An analyst familiar with the field did not assert reserves of 4 or 7 Tcm but was confident they justified large investment. Crisis Group interview, May 2007.

¹⁰² John Roberts, “Analysis: Central Gas”, *Energy Economist*, 1 May 2006. Allegedly, Niyazov kept the results of this report in a personal safe; it is not known who may have gained access to it since his death.

¹⁰³ Crisis Group interview, London, 30 October 2006; Crisis Group interview. The first is a scientist and engineer at a top UK university. Both analysts agree that significant new production and transport infrastructure will be required to take advantage of much of Turkmenistan's reserves.

¹⁰⁴ “Turkmenistan should confirm its gas reserves...”, Gazprom (then) Deputy CEO Alexander Ryazanov, “Russia's Gazprom Plans to Up Central Asia Pipe Capacity”, *Prime – TASS Energy Service*, 17 May 2006. Ryazanov, one of the few non-siloviki top executives at Gazprom, was summarily dismissed without explanation in November 2006 (Siloviki are high officials who were formerly in the KGB or other Russian military/security services). Arkady Ostrovsky, “Gazprom Fires Top Oil Executive”, *Financial Times*, 16 November 2006.

¹⁰⁵ “Turkmenistan's Participation in Trans-Caspian Gas Project not Taken off Agenda”, Interfax-Kazakhstan, 12 May 2007 (translated from the Russian).

¹⁰⁶ “Turkmenistan Baffles Experts and Looks to Produce 80 Gm³ in 2007”, *European Gas Spot Markets*, 26 March 2007; and Economist Intelligence Unit data. The government has not published data since July 2006; this would mean domestic consumption is very high, though the production figures may reflect wasted gas. There is not currently export capacity to handle 80 Bcm production. This is likely just propaganda; even massive investment in 2007 would not yield immediate results.

¹⁰⁷ “Authoritarian Turkmenistan Celebrates Energy and Democracy”, Agence France-Presse, 25 October 2006.

¹⁰⁸ Crisis Group interview, 5 September 2006. This is largely the result not only of lack of investment, but increasing incompetence because of the “dumbing down” of Turkmen society and purges of competent officials in favour of politically expedient ones. Also, additional future production will be from more difficult to exploit fields. See Section V.B below.

As noted, Berdimuhamedov promised reforms in the hydrocarbons sector following Niyazov's death. The main one so far is creation of the State Agency for the Supervision of Hydrocarbon Resources, along with some leadership changes.¹⁰⁹ The agency restores a role once played by the "Competent Body", which was intended to be an elite institution outside the regular ministerial structure, with the skills and leadership to manage the economy's most important sector. No reforms improving transparency have yet been made. It was reported that in a 24 March 2007 cabinet meeting, Berdimuhamedov presented a plan for major new investment to raise gas product by 20 per cent.¹¹⁰ The size of this investment was not specified but, if substantial and accompanied by other reforms, it would represent a major shift in Turkmenistan's energy policy. Though exact spending has not been revealed, there is a government program this year to increase prospecting and exploration activities such as drilling by 70 per cent compared with 2006.¹¹¹

Minister Atayev announced at a 28 December 2006 cabinet meeting that Niyazov's death had not affected the oil and gas sector, and all export commitments would be honoured, a statement clearly designed to appease Moscow.¹¹² Most gas is still produced by state-owned Turkmengaz. Gazprom buys most of the country's gas and looks set to continue to do so. Niyazov seemed to be content to maintain the status quo with Gazprom, and Berdimuhamedov has continued the privileged relationship by the 12 May agreement.

The recent history of the gas trade involves not only Russia but also Ukraine. Gazprom has long-term contracts with Turkmenistan dating back to 2003 that entitle it to annual deliveries of up to 90 Bcm through 2028, though it appears

prices must be negotiated separately. In September 2006, after reportedly acrimonious negotiations,¹¹³ a deal was reached with Gazprom for deliveries of 50 Bcm per year through 2009 at \$100 per 1,000 cubic metres.¹¹⁴ In October 2006, the gas trading company RosUkrEnergo (50 per cent Gazprom) signed an agreement with UkrGazEnergo to sell 55 Bcm of Turkmen gas to Ukraine at \$130 per 1,000 cubic meters in 2007.¹¹⁵ Gazprom can use the gas in Russia or export it; much of the gas from Turkmenistan likely has gone to Ukraine under a January 2006 deal between Gazprom and Ukraine in which RosUkrEnergo¹¹⁶ became Ukraine's sole supplier of imported gas. The October 2006 deal indicates that most Turkmen gas exports will go to Ukraine. According to Gazprom CEO Alexei Miller, with the May 2007 pipeline construction and expansion agreement, Russian imports of Turkmen gas will rise "to 80 billion cubic metres per year, in agreement with the contract we have until 2028".¹¹⁷

The remainder of 2006 exports went to Iran (about 5.2-8 Bcm had been contracted) but it is difficult to

¹¹³ "Turkmenistan – Dependence on the Russian System", *APS Gas Market Review Trends*, 2 October 2006.

¹¹⁴ Some sources indicate Gazprom may be paying less than \$100 per 1,000 cubic meters but \$100 was agreed upon publicly as a face-saving measure. Crisis Group interview, November 2006. Given Turkmenistan's export potential, this would seem to make Gazprom its main buyer.

¹¹⁵ UkrGazEnergo is a 50-50 joint venture between RosUkrEnergo and the Ukrainian state gas company Naftohaz Ukrainy. Given that export capacity on the CAC pipeline is at most 55 Bcm, and some will be used by Kazakhstan and Uzbekistan, it seems likely that exports to Ukraine will be no more than 42 Bcm. In any case, the fungibility of gas in the Gazprom pipeline system means that more is available for export to places with higher prices, which is basically why Turkmenistan is so important to Gazprom. Relatively cheap gas from Turkmenistan allows huge profits to be made because of higher prices in the European Union.

¹¹⁶ Swiss-registered RosUkrEnergo is owned 50 per cent by Gazprom and 50 per cent by several private investors. It has been associated with allegations of corruption and criminal investigations but it describes itself as a sort of guarantor between Ukraine and Gazprom. See the NGO Global Witness on corruption associated with the Turkmenistan-Ukraine gas trade, www.globalwitness.org/media_library_detail.php/479/en/its_a_gas_funny_business_in_the_turkmen_ukraine_g. The former head of Naftohaz Ukrainy (and current member of parliament), Oleksiy Ivchenko, was indicted by Ukrainian prosecutors in late November 2006 for using his position as head of Naftohaz to benefit himself or unidentified third persons, causing material losses to the state. Prosecutors also accused Ukrnafta, a subsidiary of Naftohaz Ukrainy, of cheating the state out of over \$250 million. For more on this, see Pavel Korduban, "Corruption Probes in Ukraine: Tables Turned", *Eurasia Daily Monitor*, 7 March 2007.

¹¹⁷ "Russia, C Asia Leaders Agree Landmark Gas Pipeline Deal", *Agence France-Presse*, 12 May 2007.

¹⁰⁹ For example, Tachberdy Tagiyev, who has a strong background in the hydrocarbons industry, was appointed as a deputy prime minister with responsibility for oil and gas, as well as chairman of the state gas company Turkmengaz.

¹¹⁰ "Turkmenistan Aims to Boost Oil, Gas Production", RFE/RL Newsline, 27 March 2007. A \$120 million pumping station that processes 12 million cubic metres of associated petroleum gas per day to boost production at gaslift wells at Koturpede came online in February 2007.

¹¹¹ "Turkmenistan to Boost Drilling by 70%", *European Spot Gas Markets*, 30 March 2007.

¹¹² "Turkmenistan Fully Meeting Gas Export Commitments", ITAR-TASS World Service, 29 December 2006. Even if Gazprom does not present the best long-term technical and economic prospects for Turkmenistan, its lack of concern about internal politics and its less transparent way of doing business were pluses for Niyazov and likely the present leadership as well. This is in contrast with the experience of Kazakhstan where the presence of many IOCs and Nazarbayev's desire for a counterweight to Russian interests probably go a long way to explain why measures such as EITI were in the end accepted.

determine whether Iran will receive 8 Bcm in 2007 as in previous years, let alone the 14 Bcm planned for export this year.¹¹⁸

Uzbekistan

Uzbekistan ranks seventeenth worldwide in reserves.¹¹⁹ However, as with oil, there is scepticism; a thorough, independent appraisal has never been done, and the government-controlled Uzbekneftegaz has reason to exaggerate reserves and production to attract investment.¹²⁰ Most gas fields are in Bukhara and Qashqadaryo provinces and the Ustyurt plateau, in the Autonomous Republic of Qaraqalpaqistan in the west. The Ustyurt plateau is considered the most promising region for development and remains to be fully explored, with possible reserves estimated at 1.685 Tcm,¹²¹ nearly as much as the whole country's proven reserves by more conventional estimates cited above. However, former gas industry insiders say this figure is impossible given the geological conditions.¹²² An expert with extensive experience in the gas sector noted that the Ustyurt reserves are thinly spread, hence not very economical, and significantly less than the government's estimates.¹²³

The gas sector is mismanaged and deteriorating.¹²⁴ The transport and distribution system began breaking down in the late 1990s, and an estimated 20 Bcm per year was lost.¹²⁵ Since then it has received little investment. Recently the government began charging for domestic gas flows in order to increase exports. The estimate of 35 Bcm per year of gas production is far below conventional estimates based on official statistics of 57-60 Bcm but adequately takes into account this deterioration.¹²⁶ Because pressure has

dropped since the 1990s, losses are now at about 15 Bcm, so gas available for consumption or export is now only about 20 Bcm per year. Given these much lower production figures, even estimates of 9 Bcm available for export to Russia or transit westward seem unlikely.¹²⁷

How much Uzbekistan exports is difficult to determine but recent agreements with Russia were for only 3 Bcm, and sources indicate the Russian company Itera was able to obtain only 1.5 Bcm in recent years.¹²⁸ Russian news agency ITAR-TASS refers to Russian purchases of Uzbek gas being about 5 Bcm in recent years.¹²⁹ Kyrgyzstan and Tajikistan each buy about 0.5 Bcm per year.¹³⁰ There does appear to be some reinvestment by Uzbekneftegaz to maintain the revenue stream, but not enough to restore the sector to Soviet levels. Investment is mostly Russian but some is from state-owned Asian companies.¹³¹ Gazprom is the largest investor, its stake apparently tied to import deals and development of transport infrastructure; it is also the largest importer of the gas.¹³² Foreign

¹¹⁸ The managing director of the National Iranian Gas Company (NIGC) commented in November 2006 that imports of gas from Turkmenistan would increase to 14 Bcm in 2008 but currently were at a rate equivalent to 6 Bcm per year. Turkmenistan charges Iran \$75 per 1,000 cubic metres, but there were discussions about raising the price in October 2006.

¹¹⁹ *Oil and Gas Journal*, 1 January 2007 estimate.

¹²⁰ Crisis Group interview, London, 18 October 2006.

¹²¹ "Report – Uzbekistan's Oil and Gas Industry", *Asia Pulse*, 30 June 2006.

¹²² Crisis Group interview, London, 18 October 2006.

¹²³ Crisis Group interview, London, 23 November 2006. However, the Korea National Oil Corporation (KNOC) has stated that the Aral field has about 0.22 Tcm in proven reserves, but significantly less than the 1 Tcm that the Uzbek government boasted of.

¹²⁴ Crisis Group Interview, London, 23 November 2006.

¹²⁵ *Ibid.*

¹²⁶ *Ibid.* Even when the system was in better shape in the early 1990s, production was just 48-49 Bcm. According to Crisis Group's research, most widely cited statistics concerning Uzbekistan's production and export potential have been based on incorrect conceptions of the state of the gas sector.

¹²⁷ Crisis Group interview, London, 23 November 2006. Gas exported to Russia's Gazprom system would be consumed in the southern industrial region around Volgograd and in lower Siberia so that more gas from the north of Russia can flow westward.

¹²⁸ Crisis Group interview, London, 23 November 2006. Itera imports for Gazprom.

¹²⁹ "Uzbekistan President, Russia Minister Discuss Economic Cooperation", ITAR-TASS World Service, 10 May 2007. This is four less than the 9 Bcm of Uzbek exports to Russia usually referred to in the press.

¹³⁰ Because Uzbekistan relies on these republics for water and/or electricity flows, and because Tajikistan controls the Sughd region that is useful for access to the Fergana Valley, these exports are not likely to decrease, though Tashkent did recently raise the price on its exports to \$100 per 1,000 cubic metres. The independent news website Uzmtronom.com reports that of a promised \$300 million in investments, Gazprom has delivered only 10 per cent; it speculates this may be due to Gazprom's uncertainty over the country's political future. See Sergei Ezhkov, "Optimisticheskaya retorika" [Optimistic rhetoric], Uzmtronom.com, 8 March 2007.

¹³¹ In August 2006 Lukoil, Petronas, CNPC of China, and KNOC of South Korea signed a PSA with Uzbekneftegaz to explore and develop resources in the Ustyurt Plateau near the Aral Sea, which calls for \$100 million for exploration in the first stage. "Uzbekistan Signs PSA with firms from China, Korea, Malaysia, and Russia", *European Spot Gas Markets*, 31 August 2006.

¹³² It is believed that President Karimov's daughter Gulnora and Uzbek Moscow oligarch Alisher Usmonov (president of Gazprominvestholding, Gazprom's investment arm) are largely responsible for negotiating Gazprom's entry into the Uzbek gas market. Crisis Group interview, London, 18 October 2006. The promised investments have been slow to materialise, however; Gazprom as of March 2007 had invested only \$30 million of the \$300 million it was supposed to have invested by then. Daniel

investment may one day increase Uzbekistan's diminished output slightly but it will be a major task just to make up for the existing decline rate and repair transport infrastructure. Uzbekistan will continue to transit far more of Turkmenistan's gas than its own in the Central Asia Centre (CAC) pipeline to Russia.

2. May 2007 gas pipeline summit

On 12 May 2007, the presidents of Kazakhstan, Russia and Turkmenistan met in the Turkmen city of Turkmenbashi (formerly Krasnovodsk) and agreed on two major gas pipeline deals: 1) to reconstruct a pipeline from the fields of eastern Turkmenistan and to build another one, parallel, to transport gas through Kazakhstan alongside the Caspian and north into Russia, for combined annual transport of 20 Bcm by 2012;¹³³ 2) in agreement with Uzbekistan,¹³⁴ to rehabilitate and otherwise expand by a date not specified the annual capacity of the main pipeline (CAC) from Turkmenistan and Uzbekistan to Russia to 90 Bcm.¹³⁵ Many details still have to be worked out before the next summit on the issue, in Turkmenistan in September 2007.¹³⁶

Despite the brimming confidence of the three presidents at the summit, and, above all, of Russian Minister of Industry and Energy Viktor Khristenko, the picture of a Gazprom triumph is not as clear as it might seem. Because Gazprom has had these large, long-term contracts with Turkmenistan for some time, an agreement to import more gas from the eastern branch of the CAC pipeline is not really new. What would be new is substantial investment to renovate the pipeline and exploit new reserves to fill the

increased capacity. How Gazprom, which is not investing sufficiently in its domestic market, will be able to make the necessary investment for increased transport capacity, not only with its Central Asian neighbours but also within Russia, to handle the increased flow is unknown.

There have been reports that Russia obtained commitments from Kazakhstan and Turkmenistan to finance the construction of the new pipeline beside the Caspian but this pipeline is as much in Turkmenistan's interests as Russia's, as it would use an existing 10 Bcm per year of associated gas that is currently being flared or otherwise hampering the expansion of oil production.

Gazprom will have a near-monopsony¹³⁷ from 2007 to 2009, and most likely beyond, for Central Asian gas exports, all of which in the near future will go through it, except for a small amount to Iran and tiny amounts to the other two Central Asian republics. There simply are no alternative agreements at this time. Russia is a very large consumer of gas itself – the world's largest after the U.S. It subsidises domestic prices, which inevitably increases consumption. Given that consumption, which is expected to grow, and domestic production, which will not keep pace, Russia will continue to rely on Central Asia to maintain export levels to Europe.

The table shows projected gas production and exports for 2010 (in Bcm). Production in Turkmenistan and Uzbekistan is left constant, reflecting an appraisal that sufficient investment will occur to maintain but not expand it. Significant new pipeline capacity could not really come online until after 2010, and given that the challenge of sweet gas decline could come in Turkmenistan by that date, constant exports is not overly pessimistic. Overall exports will rise due to a Kazakh production increase and little change in domestic consumption.¹³⁸

	Production	Exports
Kazakhstan	52.5	34.5
Turkmenistan	63	45
Uzbekistan	35	5
Total	150.5	84.5

Kimimage, "Uzbekistan: Is Tashkent's Foreign Policy Going Multivector?", RFE/RL, 10 March 2007.

¹³³ Alexander Vershinin, "Russia Strikes Natural Gas Pipeline Deal", Associated Press, 12 May 2007. However, this assumes the existing pipeline is already transiting gas, which is questionable. Putin spoke of adding 12 Bcm of capacity on this route by 2012, which may be closer to the potential total capacity by that date. Russian Minister of Industry and Energy Mikhail Fradkov stated at the summit that capacity on this route could eventually reach 30 Bcm but that would require new development, not merely using existing associated gas that will be the main fill of the pipeline.

¹³⁴ Uzbekistan President Islom Karimov did not attend the summit but signed the summit document during Russian Minister of Industry and Energy Mikhail Fradkov's visit to Tashkent on 9 May 2007.

¹³⁵ "Existing and Planned Pipelines Can Meet All Needs, Says Russian Energy Minister", ITAR-TASS, 12 May 2007.

¹³⁶ In order to complete the deal, Moscow had to make concessions such as agreeing to invest not only in transport but also in production in Turkmenistan and allow Kazakhstan to get some share of Gazprom's profits through the KazRosGaz joint venture. CPC oil pipeline capacity expansion, if it goes through, is probably linked to this as well.

¹³⁷ A monopsony is the reverse of a monopoly: there are many sellers, but only one buyer. Generally, a monopsony results in a loss in economic efficiency, as just one buyer has market power to affect the price by varying the quantity bought. The result is output and price are less than they would be under competitive conditions, which to a degree is what has occurred in Central Asia.

¹³⁸ For comparison, Russian net gas exports in 2004 (all to Europe) were about 201 Bcm, USEIA data. For forecast increase of Kazakhstan production from Kazakhstan ministry of energy, see footnote 92 above.

This production is about 4.5 per cent of projected world consumption in 2010.¹³⁹ Projected exports are equivalent to about 14 per cent of forecast OECD European consumption.

3. How the gas reaches markets

About 92 per cent of Central Asia's gas goes through Russia, most via the CAC pipeline.¹⁴⁰ Built in the early 1970s, it has two branches and feeds directly into Gazprom's system.¹⁴¹ Kazakhstan can send gas to Gazprom only from its western region northward. In May 2006, a deal was reportedly reached on price: \$140 per 1,000 cubic metres.¹⁴² Additional pipelines to the Orenburg processing plant are in the works to expand exports. Also under consideration are pipelines to China and a trans-Caspian one to avoid the Gazprom system. Mere consideration of these options gives negotiating leverage with Russia.

The May 2007 summit agreement does not really change the possibility of a trans-Caspian pipeline to bring gas to Europe from Turkmenistan and/or Kazakhstan through Azerbaijan, Georgia and Turkey. If the agreement leads to pipeline capacity much in excess of what would be supplied from associated gas, such that it would have priority over development of new reserves that could be used to supply a trans-Caspian pipeline, development might be affected. A relatively small pipeline along the Caspian using associated gas, however, would have little effect other than political. At the summit Russian Energy Minister Khristenko dismissed the trans-Caspian pipeline, saying "technological, legal, and ecological risks are so big that it will be impossible to find an investor unless it is a political investor who does not care how much gas there is to pump through".¹⁴³ This may be true but the new proposal agreed in Turkmenbashi does not change that. This was made clear when Berdimuhammedov, apparently to Russian surprise, refused to reject the possibility of a trans-Caspian gas pipeline someday becoming a reality.¹⁴⁴

Since most Turkmen production is in the east, and the western branch of the CAC is in poor condition, the country relies on the eastern branch of the pipeline for the bulk of its exports, although even this branch is not up to its Soviet capacity. Combined capacity on the CAC was designed to be 80 Bcm per year but is likely not much more than 42 Bcm now. The CAC is also Uzbekistan's main gas export option. Its eastern branch goes through it from eastern Turkmenistan in a north western direction to Kazakhstan, then connects at the Russian border with Gazprom's system.

Turkmenistan's other option is the Korpheje-Kurt Kuy pipeline to Iran. This 193km route, completed in 1997 when it was having difficulty exporting through Russia, enables it, in theory, to export up to 14 Bcm to Iran per year, although annual exports have not exceeded 8.5 Bcm.

Kazakhstan can also export a little to Kyrgyzstan and offered this after Uzbekistan threatened to cut off its neighbour in August 2005, though some of the gas may actually be rerouted from Uzbekistan.¹⁴⁵ Kazakh companies are looking for new routes for production increases. The director of the state gas transport company, KazTransGas, said: "Kazakh gas exports to Europe are constrained by...the necessity to obtain access to the gas transport system of Russia's Gazprom due to our geographic location".¹⁴⁶ However, Nazarbayev publicly stated after meeting with Putin in Astana that Kazakhstan planned to continue this dependence on Russian transit for most, if not all its exports.¹⁴⁷

The other important pipeline is Bukhara-Urals, with 5-6 Bcm per year capacity.¹⁴⁸ Uzbekistan has plans to expand its own pipelines by a few hundred kilometres, reconstruct and expand twenty gas distribution plants and four compressor stations and build additional branch lines in an effort to increase exports to 16 Bcm by 2014, though the funding for this has not been identified.¹⁴⁹ In August 2006 Ukraine Prime Minister Yanukovich announced his country would take part in upgrades of pipelines in Uzbekistan.¹⁵⁰ Uztransgaz and Gazprom have

¹³⁹ Forecast world and OECD Europe consumption from *International Energy Outlook 2006*, USEIA.

¹⁴⁰ Small amounts of gas are exported to Iran, Kyrgyzstan and Tajikistan. See Appendix E for a map of pipeline routes.

¹⁴¹ Only the eastern branch has much capacity at this point – about 40 Bcm. The western branch has a capacity of only about 2 Bcm. Crisis Group interview, April 2007. Often just the eastern branch is referred to as the CAC pipeline because the western branch is so insignificant at this point.

¹⁴² Anna Shiryaevskaya, "Russia, Kazakhstan agree to triple price of Kazakh gas supplies", *Platts Commodity News*, 22 May 2006.

¹⁴³ Oleg Shchedrov, "Russia Clinches Deal on New Caspian Gas Pipeline", Reuters, 12 May 2007. Khristenko made a number of other dismissive comments about the plausibility of a trans-Caspian pipeline.

¹⁴⁴ Alexander Vershinin, "Russia Strikes Natural Gas Pipeline Deal", Associated Press, 12 May 2007. In response to

Berdimuhammedov's statement, Khristenko said: "If the Turkmen president says so, then he has grounds to say so".

¹⁴⁵ Gulnoza Saidazimova, "Central Asia: Kazakhstan to Replace Uzbekistan in Gas Supplies to Kyrgyzstan", RFE/RL, 30 August 2005. Uzbekistan did cut off gas exports to Kyrgyzstan for a short while in retaliation for its not repatriating refugees from Andijon.

¹⁴⁶ "Kazakhstan Looking for New Gas Export Routes", Reuters, 28 November 2006.

¹⁴⁷ "No Kazakh Oil for BTC?", Associated Press, 10 May 2007.

¹⁴⁸ Crisis Group interview, London, 23 November 2006.

¹⁴⁹ "Report – Uzbekistan's Oil and Gas Industry", *Asia Pulse*, 30 June 2006.

¹⁵⁰ "PM Says Ukraine to Take Part in Uzbek Pipe Upgrades to Secure Gas Supplies", *Prime-TASS Energy Service*, 16 August 2006.

agreed that any spare capacity in the system after Uzbekistan has taken what it needs will be given to Gazprom, mostly to enable more Turkmen gas to flow northward.¹⁵¹ However, unless current capacity is expanded, this probably is not a significant amount.

4. Possible alternative routes

In April 2006 Turkmenistan agreed with China to build a pipeline with an annual capacity of 30 Bcm, to come online by 2009. The specifics are unclear, particularly since it would have to cross Kazakhstan and possibly Uzbekistan. As noted, it is to be sourced from the Sag Kenar field, which the government says has sufficient reserves.¹⁵² Berdimuhammedov has said on several occasions that Turkmenistan will honour its agreement with the Chinese but questions remain about whether there is sufficient gas to supply this pipeline, particularly if all the volumes now promised to Russia take precedence.

The U.S. has been advocating an export pipeline (TAP) from Turkmenistan to Pakistan via Afghanistan but it seems very unlikely in the short run: no companies have supported it; it has to compete for gas with deals with Russia and China that, unlike TAP, Ashgabat already supports; and it would face enormous technical and security problems even if commercially viable. It is presented as an alternative to an Iranian pipeline to South Asia¹⁵³ but Afghanistan is still unstable, as is its border region with Pakistan; Pakistan and India would have to improve relations to secure the onward flow. It is also debatable whether the economics make sense compared to importing gas from Iran; in June 2006, the energy adviser to Pakistan's prime minister said they do not.¹⁵⁴

Turkmenistan has seemed more interested in using TAP and the Chinese proposal as bargaining chips with Gazprom.¹⁵⁵ In any case, it will be unable to supply 30 Bcm to China, 50 to Russia/Ukraine, 14 to Iran and 33 to the TAP Pipeline (127 Bcm per year in total) by 2010, if indeed ever. This exceeds even its unrealistic production forecast of 120 Bcm and does not count domestic consumption. Looking further into the future, production would more reasonably

be expected to be higher, but promised exports to Russia are yet higher, and the possibility of a trans-Caspian gas pipeline is added in. Again, production will never be able to catch up with all the plans.

The only way to bring Central Asian gas to Europe without going through Russia or Iran is to build a new pipeline across the Caspian.¹⁵⁶ This could connect to the recently completed Baku-Tbilisi-Erzurum (BTE) pipeline (the South Caucasus pipeline). But this could not exceed the BTE's volume, and since Azerbaijan transports its own exports through the BTE, volumes from the east side of the Caspian would be limited to what it was not using. BTE annual capacity, currently 6.6 Bcm, may eventually be upgraded to 19.8 Bcm. If Kazakhstan and/or Turkmenistan had access to half that capacity, their share would be at most 9.9 Bcm. This is a small flow westward, equivalent to the consumption of the Czech Republic or one tenth Germany's. In any case, as explained above, the 12 May deal with Moscow might make the trans-Caspian option more unlikely,¹⁵⁷ and Russia's opposition could make things more difficult.

The BTE's maximum potential capacity is less than 4 per cent of the EU-27's 2004 consumption. It is possible that a parallel pipeline could be built so that gas from a potential trans-Caspian pipeline would not have to share BTE capacity with Azerbaijani gas but this would not exceed the BTE's size given compression constraints and economic considerations. Consequently, no more than 20 Bcm of Central Asian gas could be delivered to Anatolian Turkey for onward transit into Europe. This would be only 20 per cent of Germany's needs.¹⁵⁸ Such transit from Turkey is most likely contingent on the planned Nabucco pipeline being built to take gas from Erzurum, the endpoint of the BTE pipeline (Nabucco may take gas from Iran, and less likely, Iraq as well).¹⁵⁹

¹⁵¹ "Report – Uzbekistan's Oil and Gas Industry", *Asia Pulse*, 30 June 2006. In general, Gazprom views Uzbekistan mostly as a transit country. Crisis Group interview, London, 23 November 2006.

¹⁵² "Turkmen Official Publicises Sag Kenar Reserve Estimate", *AFX News Limited*, 24 January 2007.

¹⁵³ "U.S. Envoy Pushes for Turkmenistan-Pakistan Gas Pipeline", *Agence France-Presse*, 15 August 2006. The envoy was Principal Deputy Assistant Secretary of State for South and Central Asian Affairs Steven Mann.

¹⁵⁴ Event at the Woodrow Wilson Center for International Scholars, Washington DC, 23 June 2006.

¹⁵⁵ Crisis Group interview, London, 30 October 2006.

¹⁵⁶ Technically, LNG could also be brought by ship across the Caspian but the economics probably compare unfavourably with building a pipeline.

¹⁵⁷ Despite this and other issues surrounding Nabucco, negotiation on a trans-Caspian pipeline appears to have continued, at least until recently. Lawyers, consultants and engineers for the European Commission's INOGATE Program went to Ashgabat in March 2007 to discuss the possibility of Turkmen gas flowing through Azerbaijan to Europe.

¹⁵⁸ German consumption in 2006 was 98.5 Bcm according to the International Energy Agency's *Monthly Natural Gas Survey*, January 2007. Given projected OECD Europe consumption of 677 Bcm in 2015 (USEIA's 2006 *International Energy Outlook*), Central Asia might be able to supply about 3 per cent of consumption.

¹⁵⁹ Since gas from Turkmenistan already flows to Iran, if Iran is connected to Nabucco, Turkmen gas could possibly flow into Nabucco, or at least make it possible for more Iranian gas

IV. ENERGY AND DEVELOPMENT

A. ENERGY REVENUES' IMPORTANCE TO THE STATE

Energy revenues are enormously important to all three economies, though less so in Uzbekistan. The following table shows an estimate of 2006 net oil and gas export revenues for Central Asia:¹⁶⁰

	Oil Export Revenues in billion U.S. \$	Gas Export Revenues in billion U.S. \$	GDP in billion U.S. \$	Hydrocarbon Export Revenue as per cent of GDP
Kazakhstan	18.3	1.0	76.8	25.16%
Turkmenistan	1.5	3.4	7.5	64.43%
Uzbekistan	-0.5	0.4	13.1	-0.92%
Total	19.3	4.7	97.4	24.68%

In Kazakhstan, minerals and mining, including oil and gas, contributed about 16 per cent of GDP in 2005, oil alone 8-10 per cent.¹⁶¹ Combined, oil and gas is 30 per cent of the economy (GDP) and half of government revenues.¹⁶² With production and price increases, budget revenues have grown strongly: in 2003 about 25 per cent, in 2005 61 per cent, driven by a 36 per cent increase in average oil prices, a 6 per cent increase in oil production and the first full year of gas exports.¹⁶³ But the percentage oil revenues are of total budget revenues is shrinking. In 2006, they were 32 per cent, and the government expects them to be 28 per cent in 2007.¹⁶⁴ This reflects a robust increase in tax receipts, due in part to growth of other economic sectors but mostly consumer demand and hence value added tax (VAT) receipts.

In Turkmenistan and Uzbekistan, state budgets are not trustworthy. Significant revenues and spending are off-

to flow as that country takes more gas from Turkmenistan for itself.

¹⁶⁰ Figures from USEIA and Economist Intelligence Unit; Crisis Group calculations as specified. GDP is calculated using market rather than official exchange rates. The assumption is a \$45 price for oil and \$75 for 1,000 cubic metres of gas.

¹⁶¹ Crisis Group interview, Almaty, 7 October 2006. According to this economist, with the multiplier effect, oil is 23 to 25 per cent of the economy.

¹⁶² Crisis Group interview, Almaty, 5 October 2006.

¹⁶³ Kazakhstan State Statistics for budget revenue; USEIA for average price and Kazakhstan oil production.

¹⁶⁴ "Revenues of Kazakhstan from the Oil Production Sector will Make 28 per cent of Total Revenues", *Oil & Gas of Kazakhstan*, 1 March 2007.

budget. The IMF does have some recent statistics on Uzbekistan, though it admits their quality is not good.¹⁶⁵ They indicate energy exports in 2006 were estimated at \$810 million, and energy imports at \$268 million, for net export revenues of \$542 million. Using this estimate and the IMF's nominal GDP estimate of \$16.04 billion, energy exports (nearly exclusively gas) are about 3.4 per cent of GDP.¹⁶⁶ This estimate shows large positive energy net export revenues instead of small negative ones. It could be that the estimate above based on USEIA production and consumption figures shows larger oil import costs (caused by larger net oil imports) and smaller gas export revenues than is true, or it could be that what Uzbekistan reports to the IMF in this case is simply false. In any event, gross gas export revenues did not exceed about \$800 million.

Hydrocarbon revenues have been essential to preserving autocratic regimes through subsidies and security systems. Turkmenistan and Uzbekistan have used free gas as a popular benefit, though this has ended in the latter and is limited in the former. In Kazakhstan, oil and gas have created substantial development but there are sustainability doubts. Continuing widespread poverty, despite high per capita energy revenues, shows much more is to be done.

These revenues enable funding of vast security forces, particularly in Turkmenistan and Uzbekistan. Corruption siphons off large sums, indeed this is a key way in which the state allocates resources.¹⁶⁷ Access to ill-gotten money is used a means for exerting control by elites, as well as over them.¹⁶⁸ Powerful interests are bribed into compliance, which makes them vulnerable should they displease the regime – rule by greed and fear. All three countries have spent huge sums to fund unproductive projects in their capitals, with Astana and Ashgabat in particular full of grandiose new buildings reflecting large infusions of hydrocarbon revenues.

¹⁶⁵ "Republic of Uzbekistan: 2006 Article IV Consultation – Staff Report", IMF Country Report no. 07/133, March 2007. Under Article IV of its Articles of Agreement, the IMF usually has a bilateral discussion with each member country every year or two. According to a source, Turkmenistan has an arrangement with the IMF that the data it shares is not made public. Crisis Group interview, April 2007. Preliminary conclusions for Kazakhstan's most recent Article IV consultation were released 24 April 2007.

¹⁶⁶ While the people pay for oil imports, government collects gas export proceeds, so gross gas export revenues rather than net energy revenues may better illustrate the importance of the gas sector to the regime.

¹⁶⁷ Transparency International's 2006 Corruption Perceptions Index ranked Kazakhstan 111, Turkmenistan 142 and Uzbekistan 151 of 163 countries (the higher the ranking, the more corrupt).

¹⁶⁸ Crisis Group interviews, Almaty, October 2006, London, 23 November.

B. ECONOMIC DEVELOPMENT

Economic development is a sustained increase in living standards across a broad and representative swathe of population. GDP is an indicator of income but not necessarily economic development.¹⁶⁹ However, GDP per capita is often a proxy measure for living standards, such as health, security and quality of life. The following table shows nominal purchasing power parity (PPP),¹⁷⁰ GDP per capita and average annual real GDP growth.¹⁷¹

	Per Capita PPP GDP (nominal U.S. \$)			Average Annual Real GDP Growth (per cent)		
	1996	2001	2006	1991- 1997	1998- 2001	2002- 2006
Kazakhstan	3,705	5,380	9,367	-6.3	6.0	9.8
Turkmenistan	3,131	4,537	6,693	-8.9	15.6	9.2
Uzbekistan	632	1,013	1,673	-1.9	3.6	6.0

It is apparent the three countries diverge widely in their economic paths. Kazakhstan and Turkmenistan exhibit extraordinary growth from 1998 to 2006; Uzbekistan exhibits good but not outstanding growth.

1. Kazakhstan

Per capita income has grown dramatically, and there is real welfare improvement. But only 0.25 per cent of citizens work directly in the raw materials (extractive industries) sector,¹⁷² and much revenue that stays in the country goes to the government in taxes and royalties and to state-owned enterprises such as KazMunaiGaz (KMG).¹⁷³ State salaries, pensions and the minimum

wage are up, creating more credit and spilling into the housing sector. This has created a real estate boom in major cities, but growth in the construction sector, which combines lavish state spending on projects with private investment, will be difficult to sustain.¹⁷⁴ In the first three quarters of 2006, construction value added rose 35.2 per cent.¹⁷⁵ There is comparatively little private investment in productive sectors; other than foreign money in extractive industries, almost everything is paid by the state, a recipe for misallocation and corruption.¹⁷⁶

Another key indicator is the percentage of population living on less than \$2 per day. This data is only available for Kazakhstan, 16 per cent in 2003.¹⁷⁷ In Russia and Kyrgyzstan it was 12 per cent and 21 per cent, respectively. It is a fairly safe assumption that in Turkmenistan and Uzbekistan, the percentages would be much higher. The UN Human Development Index (HDI) aggregates such factors into a single indicator on which countries can be ranked. Kazakhstan is 79th of 177, Turkmenistan 105th and Uzbekistan 113th.¹⁷⁸ That Kazakhstan's ranking has increased since the late 1990s, whereas Turkmenistan's and Uzbekistan's have stagnated or declined, reveals the squandering of their revenues.

Oil has not translated into broad and equitable development:

- Per capita healthcare expenditure in Kazakhstan is \$315 per year,¹⁷⁹ and doctors' standards are declining due to low salaries and lower educational

¹⁶⁹ For example, a country could double income from a mineral windfall offshore, but if revenue remained abroad with one citizen and foreigners extracted the resource, there would be no economic development. Economic development usually also includes institutional and legal changes needed to promote and preserve improved life quality, including certain freedoms and human rights. A classic case of economic growth without development is Equatorial Guinea, with higher per capita GDP than the U.S. but most citizens living in dire poverty.

¹⁷⁰ A PPP exchange rate equalises purchasing power of currencies in their home countries for a given basket of goods. This allows for a better comparison of living standards of two or more countries than comparing GDP at market exchange rates.

¹⁷¹ Nominal value is expressed in that year's currency value; real is corrected for inflation to a base year, in this case 1994.

¹⁷² Crisis Group interview, Almaty, 7 October 2006.

¹⁷³ KMG net income was \$991.35 million in 2006, on revenue of \$3.33 billion. Kadyr Toktogulov, "Kazakh E&P Nearly Triples Net Profit on High Oil Prices", *Dow Jones Capital Markets Report*, 19 March 2007. The state uses the funds raised primarily to buy large shares of PetroKazakhstan and

KazGerMunai from CNPC of China. "KazMunaiGaz EP to Use Funds Raised in IPO to Buy Parent's Assets", *Platts Commodity News*, 5 October 2006. According to one reputable source, PetroKazakhstan (Canadian) was more or less forced by the state and, apparently, LUKOIL/Russia, to sell out to CNPC of China. CNPC found it had gotten a bad deal and sold out to the state. Samruk Deputy Director Kulibayev, who is reputedly close to LUKOIL, is alleged to be behind the whole deal. Crisis Group interview, Almaty, October 2006. KMG was partially privatised in a 2006 initial public offering that sold off 40 per cent of the company for \$2.3 billion.

¹⁷⁴ According to some analysts, the recent massive private investment in construction is a result of most other sectors having been taken over by powerful elites, leaving few opportunities. Crisis Group interview, Almaty, 6 October 2006.

¹⁷⁵ Global Insight country data.

¹⁷⁶ Crisis Group interview, Almaty, 7 October 2006.

¹⁷⁷ World Bank Development Report, 2007.

¹⁷⁸ Kazakhstan's HDI is 0.774, Turkmenistan's 0.724 and Uzbekistan's 0.696. UNHCR 2006.

¹⁷⁹ Ibid. Saudi Arabia, another country heavily dependent on the petroleum sector and with an HDI ranking just two places higher than that of Kazakhstan, spends nearly twice as much per capita on the healthcare sector at \$578. However, in 2006, the government did begin increasing healthcare spending.

standards.¹⁸⁰ In the second-largest city, Shymkent, at least 93 children were infected with HIV in 2006 because of negligence and corruption: doctors supplemented incomes by prescribing unnecessary blood transfusions on which they received kickbacks from blood banks. The tragedy resulted in a criminal investigation and the firing of the health minister and hundreds of doctors. Some 21 doctors and other medical workers are on trial in a case that has exposed deep flaws in the healthcare system.¹⁸¹

- ❑ Education is inadequate to develop the high-skill economy needed to put Kazakhstan among the 50 most competitive states. Standards have declined since independence, with many good teachers leaving the profession due to low salaries.¹⁸² An ex-senior cabinet official said the government hopes oil will last long enough to create a “more resilient society”.¹⁸³ Education is fundamental to this but little progress is seen.¹⁸⁴
- ❑ A ride to Almaty's outskirts brings one to shantytowns, and in Atyrau, the oil capital, gleaming new office buildings stand a few blocks from unpaved streets.¹⁸⁵ Residents complain bitterly of

¹⁸⁰ As an NGO activist put it, “if someone can make \$250-\$300 a month working as a maid at a foreign oil company's office, or around \$150 a month as a doctor or a teacher, which will they choose?” Crisis Group interview, Atyrau, October 2006.

¹⁸¹ Natalya Antelava, “Kazakh Medics HIV Trial Under Way”, BBC, 16 February 2007. See also Ilan Greenberg, “Doctors, and a Medical Procedure, on Trial in Kazakhstan”, *The New York Times*, 20 March 2007.

¹⁸² Crisis Group interviews, Almaty and Atyrau, October 2006. The government began increasing education spending in 2006.

¹⁸³ Crisis Group interview, Almaty, 5 October 2006.

¹⁸⁴ There have been some hopeful signs. In 1993, as Kazakhstan was in the midst of a deep economic crisis, Nazarbayev established the “Bolasahaq” (“Future”) program, according to which the best and brightest Kazakh students would be sent abroad for university study, on condition that they return to work. This program remains in place, sending some 3,000 students annually to such countries as the U.S., the UK, Germany, France, Japan and China, though some have expressed concerns about falling standards and rising corruption in the selection process.

¹⁸⁵ A 2006 study commissioned by the United States Agency for International Development (USAID) shows some of these discrepancies. Oil-producing provinces had 2004 per capita Gross Regional Products (GRPs) far in excess of other provinces (ranging from \$30,467 in Atyrau to \$17,479 in Mangghystau, \$9,274 in Western Kazakhstan, \$8,734 in Aqtöbe, and \$5,849 in Kyzylorda, as opposed to a national average of \$6,582). At the same time, many of these provinces had poverty rates which far exceeded the national average: 29.1 per cent in Atyrau, 26.5 per cent in Kyzylorda, and 21.0 per cent in Mangghystau, as opposed to a national rate of 16.1 per cent. The oil-producing provinces of Mangghystau, Atyrau, and Kyzylorda were among

growing discrepancy between their lives and those of oil-sector employees and of education and healthcare problems.¹⁸⁶

However, Kazakhs know their standard of living far exceeds that of their neighbours. An IFI representative noted:

It is true that the gap between the rich and the poor is growing. On the positive side, though, is the fact that the poor are not getting poorer. Life has gotten somewhat better for them. Pensions have increased, they are paid on time, and people can feed themselves and afford a few luxuries. The social system generally works. So there has been some trickle-down. Still, rural conditions are far behind those in the city.¹⁸⁷

2. Turkmenistan

Considering the small population and relatively small economy, the large increases in hydrocarbon revenues and investment in hydrocarbon infrastructure and government construction could be expected to have led to larger increases in GDP. Turkmenistan's GDP was only \$5.2 billion in 2003, yet Burren Energy alone invested several hundred millions in 2003-2005, with revenues from operations for 2005 alone of \$224 million.¹⁸⁸ This is indicative of how small the non-hydrocarbon sector of the economy is, as well perhaps of the fact that parts of the hydrocarbon sector do not appear in national accounts.¹⁸⁹ Most sectors not associated with energy and construction¹⁹⁰ are stagnant. Agriculture, one of the largest sources of jobs, has steadily declined, with harvests of the main crops – cotton and wheat – consistently failing to meet government quotas.¹⁹¹

It is clear hydrocarbon revenues have not benefited the people:

- ❑ The infant mortality rate is 80 per 1,000 live births, similar to Pakistan (80) and Congo (81), despite

the four with the highest rural poverty (as much as 47 per cent in Mangghystau); Atyrau and Kyzylorda also had the highest urban poverty rates. This is attributed to the fact that dependency on oil creates few high-paying jobs for local residents. Nonetheless, poverty rates are falling nationwide, most dramatically in Mangghystau, from 59.7 per cent in 2000 to 21 per cent in 2004. See “Kazakhstan Regional Disparities: Economic Performance by Oblast”, May 2006.

¹⁸⁶ Crisis Group interviews, Atyrau, 7-8 October 2006.

¹⁸⁷ Crisis Group interview, October 2006.

¹⁸⁸ Burren Energy PLC Interim Report 2006.

¹⁸⁹ See Section IV.C.2 below.

¹⁹⁰ Niyazov's grandiose construction projects were one of the few ways that significant hydrocarbon revenues stayed home.

¹⁹¹ Niyazov often set unrealistically high agricultural quotas; nevertheless, the sector is by all accounts in poor shape.

the fact Turkmenistan's per capita income is more than twice Pakistan's and nearly five times Congo's.¹⁹²

- ❑ Turkmenistan is ranked 105 out of 177 countries on the UN Human Development Index (HDI) in 2006, down from 83 as recently as 2001, when oil and gas revenues were substantially lower.¹⁹³
- ❑ GDP per capita, using purchasing power parity (PPP), peaked in 1988 at \$6,585. In 2004, it was \$4,584.¹⁹⁴ Given the oil and gas revenue increase, actual earnings of the average citizen declined substantially.
- ❑ In February 2006, Niyazov cancelled the pensions of 100,000 elderly citizens and ended maternity and sick leave payments.¹⁹⁵ Many of those still receiving pensions saw them reduced.¹⁹⁶ Other notable cuts included the closing of most music schools in 2006, following the closing of most public libraries in 2005.¹⁹⁷

The state provides free electricity, gas, salt and water to at least all ethnic Turkmen.¹⁹⁸ According to state-controlled Turkmen TV:

In accordance with the state budget for 2006 approved at a parliament session last December, Turkmenistan's population will be provided in 2006 with 3.92 Bcm of gas and 2.3 billion kWh electricity, all free of charge. It is a convincing evidence of how deeply President Saparmurat Turkmenbashi the Great cares about the people....

¹⁹² UNHDR 2006.

¹⁹³ Ibid; UN Human Development Report 2001.

¹⁹⁴ UNHDR 2006. There was not large population growth in this period that would create this effect. However, if Turkmenistan receives much higher prices for its gas in 2007, per capita income may be up substantially, though this does not necessarily indicate improvement unless some of those higher revenues actually benefit the people.

¹⁹⁵ "Turkmen President Cancels Pensions, Cuts Welfare Benefits", Dow Jones International News, 2 February 2006.

¹⁹⁶ Under the new government of Berdimuhammedov, a law was passed in March 2007 that, according to the government, will restore most of those pensions. Analysts question whether the pensions will actually be paid in full and on time.

¹⁹⁷ "Musical Schools Closed in Turkmenistan to Save Budget Money", *The Times of Central Asia*, 6 January 2006. This fits in with the general effort by the regime to reduce the general educational level. The new government has promised some positive steps to reverse this decline, including increasing schooling from nine to ten years, hiring new teachers and increasing their salaries, allowing study abroad and education in languages other than Turkmen, and increasing the years for a university degree from two to five.

¹⁹⁸ Non-ethnic Turkmen are discriminated against for many basic government benefits. Crisis Group interviews, November 2006.

This makes it possible for all Turkmen citizens to benefit from their share of the country's energy resources.¹⁹⁹

However, this sharing the wealth is not all it appears. Free gas is capped at 600 cubic metres per person per year, even though average family needs easily exceed this. Metering in a former Soviet state that originally had no use for individual metering is at best spotty, and poor calculations of consumption and outright overcharging occur regularly, creating resentment surrounding the one main benefit amid repression.²⁰⁰ An opposition website quoted a resident of Ashgabat on the gas benefit: "Now we understand the saying about the free cheese in the mousetrap".²⁰¹

3. Uzbekistan

Citizens have benefited even less from oil and gas revenues than those of Turkmenistan, though the much smaller volumes and much larger population mean the revenues could never be a fundamental economic driver. Uzbekistan is the poorest of the three countries, with a GDP that, at \$1,673 per capita, is one quarter Turkmenistan's.

- ❑ Infant mortality compares favourably to Turkmenistan, and per capita GDP has not declined sharply in recent years but the economy is in extremely poor shape, with gas revenues and exports of gold and cotton propping up a regime following an unsustainable path.²⁰²
- ❑ The economy is still largely state-run, in part because it facilitates control, but there is little potential for the growth necessary to lift citizens out of grinding poverty. There is a huge waste of human resources, with professionals reduced to menial work.²⁰³ At least 10 per cent of the labour force works abroad.²⁰⁴ That thousands of

¹⁹⁹ "Turkmen Population Gets Free Gas, Electricity in 2006", BBC Monitoring Central Asia, 6 January 2006.

²⁰⁰ Crisis Group interview, London, 18 October 2006. See also Crisis Group Asia Briefing N°55, *Turkmenistan after Niyazov*, 12 February 2007; Crisis Group Asia Reports N°85, *Repression and Regression in Turkmenistan: A New International Strategy*, 4 November 2004, and N°44, *Cracks in the Marble: Turkmenistan's Failing Dictatorship*, 17 January 2003.

²⁰¹ "Calculation of Price for Free Gas", 30 August 2006, available at www.chrono-tm.org.

²⁰² Crisis Group interview, London, 18 October 2006.

²⁰³ A former senior Western diplomat relates that his embassy's doormen were all highly trained surgeons but salaries are so low in Uzbekistan that their menial job was more lucrative. Crisis Group interview, London, 18 October 2006.

²⁰⁴ The exact numbers in Kazakhstan are not known, but up to a million Uzbeks are currently thought to be working illegally there. For comparison, the size of the official labour force is

Uzbeks are willing to work abroad in very harsh circumstances reveals the desperate conditions now common in Uzbekistan.²⁰⁵

- Health expenditures per capita are \$159, compared with \$221 in Turkmenistan. That infant mortality and life expectancy, though not good, are not worse than Turkmenistan reflects the sorry situation in Turkmenistan. But this level of spending is inadequate to achieve decent health and wellness.

C. REVENUES, TRANSPARENCY AND AUTOCRACY

The size of oil and/or gas revenues relative to the size of these economies is quite large but precise amounts are known only in Kazakhstan, where there has been some limited progress on increased revenue transparency.

It is impossible to determine what share of energy revenues are stolen or otherwise misdirected but in Kazakhstan estimates run as high as 20 per cent.²⁰⁶ Often the corruption is brazen;²⁰⁷ residents of Atyrau point to a small dome added to a municipal building, actually for \$50,000 but officially for \$1 million, with the difference enabling the laundering of stolen oil or gas revenues.²⁰⁸ The “Kazakhgate” trial in the U.S. of James Giffen, accused of channelling over \$78 million in bribes to Nazarbayev on behalf of American oil companies seeking to invest in Kazakhstan, is set to begin after five postponements.²⁰⁹ On 26 April 2007, U.S. oil service company Baker

Hughes pled guilty to bribery associated with obtaining contracts to work on the Karachaganak field, though Kazakh officials associated with the case were not named.²¹⁰ There are unsubstantiated reports that high officials received substantial bribes during the massive foreign investment of the 1990s but corruption is now considered more of a problem at the *akim* (governor) level.²¹¹

Hydrocarbon revenues, mainly from gas, have in large part made it possible for kleptocratic and authoritarian regimes to thrive in Turkmenistan and Uzbekistan. Niyazov purged many high officials, particularly in his last years, using the corruption he himself permitted as justification. Regardless of the relative corruption of officials, this reduced competence in many ministries, including those responsible for the energy sector.²¹²

Karimov is believed to use the gas revenues to control or placate the ministry of internal affairs (thought to control Uzbekneftegaz) and the public prosecutor's office (thought to control Uztransgaz).²¹³ Another important way in which powerful state actors are involved in the energy sector is through Zeromax, a Swiss-registered company of which Gulnora Karimova, the president's daughter, is reputed to be the major owner.²¹⁴ It has several joint ventures with Uzbekneftegaz, owns subsidiary Uzgazoil and has other oil and gas joint ventures. Its holdings in Uzbekistan are worth about \$400 million.²¹⁵ In February 2007 it was reported that Gazprom had agreed to purchase a controlling 51 per cent stake in Zeromax, though details were not disclosed.²¹⁶ If it goes through, the deal would

7.9 million. Crisis Group interviews, Almaty, October 2006; 2007 CIA World Factbook. Some 2.5 million Uzbek migrants are in Russia, according to Russia's Federal Migration Service.

²⁰⁵ Cf. Ilan Greenberg, “Central Asians Chase Jobs, and Endure Exploitation”, *The New York Times*, 15 May 2007.

²⁰⁶ Crisis Group interviews, Almaty and Atyrau, October 2006. 15 per cent is a more common estimate, though.

²⁰⁷ In addition to numerous Crisis Group interviews, Transparency International research also supports this. It ranked Kazakhstan 111th, meaning it is perceived as more corrupt than 110 other countries, with a rating of 2.6 out of 10, which indicates highly corrupt. In comparison, Belgium was rated at 7.3 and Turkey at 3.8. Corruption has also become more sophisticated in Kazakhstan, with less outright pocketing of bribes and more laundering and kickback schemes.

²⁰⁸ Crisis Group interviews, Atyrau, October 2006.

²⁰⁹ Ron Stodghill, “Oil, Cash, and Corruption”, *The New York Times*, 5 November 2006. On 3 May 2007, a civil forfeiture action was filed in U.S. courts against an \$84 million plus interest Swiss account related to the case, and agreement reached that the money be directed to charitable and transparency initiatives in Kazakhstan. “Government Files Civil Forfeiture Action against \$84 Million Allegedly Traceable to Illegal Payments and Agrees to Conditional Release of Funds to Foundation to Benefit Poor Children in Kazakhstan”, PR Newswire, 3 May 2007.

²¹⁰ Nikola Krastev, “Kazakhstan: U.S. Firm Pleads Guilty in Bribery Case”, RFE/RL, 30 April 2007. A Kazakh embassy official in Washington had no comment on the case but noted that there is an anti-corruption law in Kazakhstan.

²¹¹ Crisis Group interviews, Almaty, October 2006. “It's almost as though Kazakhstan were two countries”, an economist said. “The core people are there in the centre to implement policies, but many *akims* [governors] behave terribly”. Crisis Group interview, Astana, 24 October 2006.

²¹² See Appendix F for list of purged energy officials.

²¹³ Crisis Group interview, London, 23 November 2006. The ministry of internal affairs (MVD) is one of Uzbekistan's two main internal security forces, along with its rival, the national security service (SNB). That law enforcement and supervision is so deeply enmeshed in corruption is emblematic of the state of affairs in Uzbekistan.

²¹⁴ Crisis Group interview, London, 18 October 2006. Zeromax is involved not only in oil and gas, but also gold (owning 16.1 per cent of UK-based Oxus Gold), textiles, mining and beverages.

²¹⁵ “Gazprom Intending to Purchase Oil and Gas Assets of Zeromax in Uzbekistan”, SKRIN Newswire, 2 February 2007. \$400 million is substantial in an economy with a total annual GDP of \$13.1 billion (nominal, market exchange rates).

²¹⁶ “Gazprom Uzbek Deal”, *World Gas Intelligence*, 14 February 2007.

appear to cement Gazprom's status as the dominant foreign player in the gas sector.²¹⁷

1. Kazakhstan

Kazakhstan joined the Extractive Industries Transparency Initiative (EITI) in June 2005. Before this, it published budgets and at least gross revenue by sector but these could not be cross-checked.²¹⁸ The government initially resisted EITI, despite admitting transparency was a good idea.²¹⁹ NGOs and civil society groups formed a coalition, "Oil Revenues – Under Public Oversight!" in June 2004,²²⁰ which used the elections campaigns for the *mǎzhilis* in September 2004 and president in December 2005 to enlist EITI support.²²¹ Western companies could not be against it for image, if nothing else, and since much of the data was to be aggregated²²² saw no reason to oppose.²²³

The government invited NGOs to sign the memorandum of understanding for EITI implementation, but with somewhat laxer standards than desired.²²⁴ Nevertheless, the coalition signed in December 2005 (the government and companies did so on 5 October 2005), on condition that the National Stakeholders' Council would be set up.²²⁵

Among the problems with the EITI agreement is lack of disaggregated information (limiting true transparency) and lack of information on companies' social welfare payments to local governments, as well as a lack of transparency in the National Stakeholders' Council itself.²²⁶

In 2007 Kazakhstan will have to begin to pass EITI validation, which requires it to meet specific criteria, including the participation of all extractive companies and a fully funded implementation plan.²²⁷ It did not meet these requirements in autumn 2006 but it signed an agreement with the World Bank to speed up the process.²²⁸ Since then, some implementing legislation has been passed, and ten more companies have signed.²²⁹ Although the lack of civil society participation in writing legislation and the work plan is a concern, there will be another National Stakeholders' Meeting on EITI shortly to approve a work plan and allow an auditor to prepare the first report.²³⁰

Kazakhstan at least has a strategy for avoiding the "oil curse".²³¹ This strategy for diversification and management of oil revenues has been to use four principal institutions collectively called *Kazyna*: Kazakhstan Development Bank; the State Insurance Corporation for Export Credit and Investment; the National Innovation Fund; and the

²¹⁷ It also would seem to indicate the continuing powerful role of Alisher Usmonov in Uzbekistan. See footnote 132 above.

²¹⁸ When a former senior cabinet official was asked why Kazakhstan did not promote transparency until relatively recently, he replied that the government always knew transparency was a good thing but simply did not know how to manage improvements. Crisis Group interview, Almaty, 3 October 2006.

²¹⁹ Crisis Group interviews, Almaty, 3 and 5 October 2006.

²²⁰ The coalition includes more than 50 NGOs from various regions of Kazakhstan, including Soros Foundation Kazakhstan and Kazakhstan Revenue Watch. A full list can be found at www.publicoversight.kz/?content_id=3. The coalition also formed links with international NGOs such as Global Witness and the Publish What You Pay campaign.

²²¹ Crisis Group interview, Almaty, 3 October 2006.

²²² The total revenue received by the government from oil companies is published but not how much from each.

²²³ By late 2006, 38 oil and mining companies had signed on, including state-run KMG and internationals like Statoil, Chevron, Total, Shell and Agip. A further 174 – most apparently local – were invited to join but have not. The complete list is on Kazakhstan's EITI website, www.eiti.kz/index.php?page=content&id=31. An NGO activist said: "No one really knows how many [companies in the extractive industries] there are. We counted 212, including 48 oil companies, but they're constantly merging and splitting up, so it's impossible for anyone to really say". Crisis Group interview, Atyrau, 10 October 2006.

²²⁴ Crisis Group interview, Almaty, 3 October 2006.

²²⁵ Extractive Industries Transparency Initiative website: www.eitransparency.org/section/countries/_kazakhstan. The

NGO coalition was only one representative. Other members of the Council included the Civil Alliance of Kazakhstan, the Federation of Trade Unions, the Association of Students and other organisations brought in by the government.

²²⁶ Crisis Group interview, Almaty, 3 October 2007. Without information on companies' payments to localities, the potential for kickbacks is unchecked. Some have accused the ministry of energy of manipulating the Council. Also unresolved was the issue of who will pay for the high-quality audits necessary to meet EITI requirements.

²²⁷ Crisis Group interview, Almaty, 13 February 2007.

²²⁸ The signatory for the government was Karim Masimov, who was promoted from deputy prime minister to prime minister on 10 January 2007 and is considered one of Nazarbayev's closest advisers.

²²⁹ Crisis Group interview, Almaty, 13 February 2007.

²³⁰ Crisis Group interview, Almaty, 21 March 2007. KPMG terminated its agreement with the World Bank on auditing Kazakhstan's revenues in December 2006 so the selection process and development of terms of reference should start over again.

²³¹ Known as "The Innovative Industrial Development Strategy for the years 2003-2015 (New Industrial Development Strategy)", it aims to "to ensure sustainable development of the domestic economy through its genuine diversification, creation of new competitive industries, modernisation and expansion of the existing infrastructure with the ultimate goal of moving from an extraction-based industry to a service and technology based economy". Kazakhstan London embassy website.

Investment Fund of Kazakhstan.²³² Kazakhstan Development Bank is a typical state development bank, issuing loans for projects at interest rates lower than commercial banks.²³³ The Innovation Fund has capital of about \$68 million, which it uses to fund grants and loans for high-tech development and R&D activities. The Investment Fund has about \$300 million in capital to invest in non-extractive industries. It participates directly in the authorised capital of enterprises, purchasing up to 49 per cent of shares but not a controlling interest, and selling the shares as the enterprise matures.

These institutions have had some success on the micro level but the economy remains heavily centred on primary exports, with mineral products accounting for three quarters of foreign sales.²³⁴ A prominent Kazakh economist noted that the institutions are hampered by a lack of skilled personnel, little domestic technology start-up and a lack of innovative ideas, all things that government cannot quickly change.²³⁵ All too often though, new projects are put up "left and right", with insufficient questioning of their viability.²³⁶

Dealing effectively with the large revenues is vital. The National Fund of the Republic of Kazakhstan (NFRK), based on the Norwegian model, takes government earnings from gas, mining/metallurgy and, overwhelmingly, from oil.²³⁷ It increased from \$3.7 billion in January 2004 to \$13.2 billion in November 2006,²³⁸ with particularly robust growth in the latter half of 2006, due in part to a policy change. Formerly, the NFRK absorbed government oil revenues in excess of a certain price; since June 2006 all such income goes into it, with a certain amount then applied to the budget. The budget is divided into current expenditures and development spending. The NFRK is to contribute the equivalent of 4.5 per cent of GDP annually for development spending.²³⁹

The NFRK is managed by a council appointed by the president and including the prime minister, the finance minister, the Mäzhilis and Central Bank chairmen and other high officials. The Central Bank is the trustee

manager but actively manages only about 40 per cent of the NFRK.²⁴⁰ The rest is handled by large international institutions such as Citibank, UBS and ABN AMRO, with ABN AMRO providing overall custodial management. This is supposed to increase transparency,²⁴¹ though some analysts say it has the opposite effect.²⁴² It is not clear how these banks obtained the management contracts, their commissions and fees are not revealed and in general the structures and rationale of management are not open to public scrutiny.²⁴³

The NFRK has several functions. The three main ones are: it saves for future generations, insures the budget against a sharp downturn in world oil/commodity prices, and provides funds for the development portion of the budget. Its foreign investments accomplish additional important objectives: diversifying national wealth, from oil in the ground to financial assets; accumulating foreign currency so as to counteract somewhat pressure for currency appreciation due to the large dollar-denominated purchases of Kazakh exports (chiefly oil); and reducing the risk of over-concentration in any one place, particularly Kazakhstan itself. Investment abroad is perceived as bringing better returns.

While the NFRK accomplishes its three main functions, there is a question whether Norway is the best model for a developing economy. Norwegian officials say that while their experience may provide useful lessons, their system is not a model simply to be copied by other oil-rich countries.²⁴⁴ Unlike Norway, Kazakhstan has enormous development needs that should be addressed with every possible resource, within sensible guidelines. While there has been progress in reducing poverty, it is difficult to justify investing billions abroad for future generations when there are pressing unmet needs at home.²⁴⁵

²³² Crisis Group interview, Almaty, 7 October 2006. There are also three smaller institutions: The Centre for Engineering and Transfer of Technologies; The Centre for Marketing Research and Analysis; and the Small Business Development Fund.

²³³ The Development Bank of Kazakhstan has projects abroad as well. At end year 2005, it had 75 projects valued at \$1.7 billion, of which \$748 million was from its own funds, Kazakhstan London embassy website.

²³⁴ Economist Intelligence Unit 2005 data.

²³⁵ Crisis Group interview, Almaty, 7 October 2006.

²³⁶ Ibid.

²³⁷ The fund also earns income on its investments.

²³⁸ Economist Intelligence Unit data.

²³⁹ The NFRK also pays for its own management and auditing.

²⁴⁰ "Overview of Monetary Policy of the National Bank of Kazakhstan", National Bank of Kazakhstan press release N°20, 14 September 2004.

²⁴¹ Ibid.

²⁴² Crisis Group interviews, Almaty, 6 and 7 October 2006.

²⁴³ Ibid.

²⁴⁴ "The Challenges of Energy and Democratic Leadership", Club of Madrid Annual Conference, Madrid, Spain, 20-21 October 2006. Norway was already fairly prosperous when oil production surged, with stable and strong democratic institutions. The last UN Human Development Index survey ranked it first in the world. Its choice to set aside a large portion of revenues for future generations was fairly clear. But exactly how much oil revenue should go to the fund or to current government revenues is a matter of debate even in Norway.

²⁴⁵ More specifically, it is worth considering the appropriate social rate of time discount. This is the rate used to compare the well-being of future generations to the well-being of those alive today. A country that is currently very wealthy but expects to see the revenues creating much of that wealth drop precipitously within a generation, such as Norway, might expect

Stabilisation funds are not enough themselves to offset the oil curse. As a prominent development economist put it, "countries in the modern world need to learn to spend well. Otherwise it's better to leave the oil in the ground".²⁴⁶ The NFRK may be a second-best solution to the problem of preventing government revenue from being stolen or misspent but there are huge costs, including poor returns on very low-risk investments which limit potential growth,²⁴⁷ over-subsidisation of future generations and fiscal complacency. Real per capita purchasing power parity (PPP) GDP doubled from 1999 to 2006, to over \$7,500,²⁴⁸ yet doctors and teachers are paid pitifully low salaries. Spending well is perhaps the single most important task that Kazakhstan can undertake in the next few years.

For a developing country such as Kazakhstan, social funds, intermediaries for channelling resources to small projects for poor and vulnerable groups, can be an important component of spending well. Crucially, such funds usually include strong mechanisms to ensure that projects are well conceived, achieve results, and the money for them is not misdirected into illegitimate uses. On the macro level, funding should be controlled so as not to exceed what the projects can reasonably handle. Funds in excess of that amount should be redirected elsewhere.²⁴⁹ A better example for Kazakhstan than Norway might be Botswana,

future generations to be no better off and perhaps worse off than the current one. A country such as Kazakhstan, with expected considerable growth in revenues and GDP, may reasonably expect future generations to be better off than the current one. In the latter case, the social rate of time discount would presumably be relatively high; that is, the welfare of future generations should be given substantially less weight than that of the current one. The higher the social rate of time discount, the less should be saved for the future. So, using Norway as a model puts an inappropriately high amount of revenue in a future generations fund for a developing country.

²⁴⁶ Paul Collier, "The Challenges of Energy and Democratic Leadership", Club of Madrid Annual Conference, Madrid, 20-21 October 2006.

²⁴⁷ The NFRK has two components for investment purposes – stabilisation and savings. According to the Central Bank of Kazakhstan, the stabilisation component invests mostly in U.S. Treasury bills (at least 20 per cent of the fund); the savings component's investments are mostly in government bonds from OECD countries with a smaller component in index funds investing in those countries.

²⁴⁸ Economist Intelligence Unit. Real PPP GDP gives perhaps the best picture of consumption levels, as it adjusts for local prices and inflation (making years comparable). The base year here is 1996. Nominal PPP per capita GDP in 2006 was over \$9,300, placing Kazakhstan between Romania and Bulgaria, both EU member states.

²⁴⁹ It might be a good idea to decide what can go in to a foreign investment fund such as the NFRK only after social funds take what they can reasonably handle.

a country that also has had to deal with large resource (diamond) revenues.²⁵⁰

2. Turkmenistan

There is no transparency in Turkmenistan's oil sector: it is impossible to know how much money is available to the state from oil and gas.²⁵¹ Given low rates of reinvestment by Turkmenneft, Turkmengaz, the ministry of oil and gas industry and mineral resources and other state concerns, it is almost certainly in the billions. The table in Section IV.A above is a best estimate based on exports. The fondness for giant building projects of Niyazov, for whom personal and state revenues were indistinguishable, gives an indication of the amounts involved.

The government does not release a detailed budget and has not announced hydrocarbon export revenues since 2002; even then only gas revenues were released. According to overall figures, the 2006 budget was balanced at 81.3 trillion manat – \$15.6 billion at the official exchange rate, \$7.3 billion at a more realistic one.²⁵² Given GDP of about \$7.5 billion at the same more realistic rate, such a budget, even in a largely state-controlled economy, is obviously false. The official budget is divided into two parts for revenue purposes: "Level I", from traditional revenue

²⁵⁰ Positing Botswana as a model for resource-rich developing economies has been suggested by former and current World Bank economists such as Maria Sarraf, Moortaza Jiwanji and Paul Collier. Like Kazakhstan, it focused on steadying economic growth and diversifying the economy. Botswana put two conditions on development expenditure: 1) projects were not to be undertaken unless long-term recurrent costs could be recovered; and 2) domestic development investment was kept to that which could obtain a rate of return equal to or higher than what could be earned on alternative assets, including foreign investment; see Maria Sarraf and Moortaza Jiwanji, "Beating the Resource Curse: The Case of Botswana", Environment Department Working Paper #83, Report #24753, The World Bank, October 2001. These principles are quite applicable to Kazakhstan. The NFRK would still receive much money because the criteria would weed out wasted spending, and as the domestic economy grew and converged with developed economies, the disparity in rate of return would narrow, automatically putting more in foreign investment in line with the declining need for development spending. Central Asian leaders tend to see themselves as closer in developmental, cultural and political terms to Europe than Africa, sometimes leading them to prefer developed-country models even if much less applicable.

²⁵¹ The U.S. CIA refers to Turkmenistan's economic statistics as "state secrets" in its World Factbook.

²⁵² The official exchange rate is manat 5,200 = 1 U.S. dollar; a realistic weighted exchange rate according to the Economist Intelligence Unit is manat 11,100 = \$1. Other analysts assert that the black market rate is as much as manat 25,000 = \$1. Even at this lower exchange rate for the manat, the overall official budget figures are unrealistic.

sources such as taxation, and "Level II", from hydrocarbons, agriculture, petrochemicals and other sectors. According to the government, Level II accounts for 76 per cent of the budget but it is unclear how it fits into the spending side of the equation. Independent analysts agree taxes produce less than 25 per cent of total revenue.²⁵³

The CIA estimates total budget revenue at \$1.8 billion in 2006.²⁵⁴ If this is correct, much hydrocarbon revenue goes to off-budget accounts. Indeed, as the NGO Global Witness has documented, what is done with Level II revenues is even more opaque than for Level I. The level of expenditure is certainly not the combined value of Levels I and II revenues; the CIA estimates that in 2006 expenditure was \$2.06 billion. According to the Economist Intelligence Unit, about 70 per cent of budgeted spending is for social programs and subsidies. However, the meaning of "budgeted" is vague. It is perhaps most accurate simply to say there are no checks and balances and no transparency in the fiscal process. Niyazov and his cronies took the money and used it as they saw fit.

Much of the revenue not spent by the government went to foreign currency funds abroad de facto controlled by Niyazov, such as the Foreign Exchange Reserve Fund (FERF) and the Oil & Gas Development Fund (OGDF). Nearly all gas revenues first went to the main Turkmenistan Central Bank account at Deutsche Bank before being reallocated to special funds there.²⁵⁵ Half of gas revenues and 30 per cent of oil and cotton revenues went to the FERF and 25 per cent of gas revenues went to the OGDF.²⁵⁶ These funds, valued in the billions, were held for Niyazov in the name of the Turkmen Central Bank, as Deutsche Bank confirmed in May 2007.²⁵⁷ The remaining quarter of gas revenues seem to have been used for reinvestment in the industry, presumably to maintain production. Hence, no gas money was available for normal budgetary spending. The key question is: what has happened to the money in these funds, which could be so essential to putting Turkmenistan back on a positive development path?

Oil and gas revenues increased in 2006 in line with global and contracted prices but, though the new regime recognises money must be spent on things to keep the country running, fiscal policy remains largely opaque. Additional spending on education and pensions has been proposed, as

well as unspecified additional investment in hydrocarbons but there are indications spending in many vital areas continues to decline. High corruption and the likely existence of other secret foreign currency funds indicate that even gas revenues for industry reinvestment and oil revenues available for public spending may have been limited. The spending side of the equation and the lack of economic progress certainly suggest this. Close observers of the gas sector say that in as little as two years and certainly within ten, the lack of reinvestment and mismanagement will produce a sharp decline in sweet gas output unless sweeping changes are made.

3. Uzbekistan

The budget is nearly as opaque as Turkmenistan's. While the government releases its size and spending by area, only broad categories of revenue sources are known. In 2005, the most recent year for which the IMF has data, 60 per cent of total expenditure (equivalent to 32 per cent of GDP), was for the social safety net and elements such as health and education. "Public authorities" accounted for less than 2 per cent.²⁵⁸ This does not fit with the everyday reality of well-funded security forces and state doctors paid poverty wages. In March 2006 the World Bank stopped making new loans because of concerns the money would be misspent. Limited lending was restored in July after the government committed to reform, but the Bank's new interim arrangement focuses mostly on technical and analytical support.²⁵⁹

The government has announced tax cuts, mostly for business, to stimulate the economy. These include the oil and gas sector, indicating difficulty in attracting investment despite high global prices. The cuts make it unlikely the government can keep its promise to hold the budget deficit to about 1 per cent of GDP, despite increased export commodity prices and import tariffs, unless significant off-budget spending continues. Gas is an important revenue stream but given corruption and that powerful government or government-linked interests control the sector, it is difficult to say how much reaches the spending stream. The best that can be said about commodity exports is that some money filters into the general revenue stream and helps preserve modest welfare and pension payments.²⁶⁰

²⁵³ "Country Report – Turkmenistan", Economist Intelligence Unit, October 2006.

²⁵⁴ 2007 CIA World Factbook.

²⁵⁵ Crisis Group interviews, London, October 2006 and May 2006.

²⁵⁶ "It's a Gas – Funny Business in the Turkmen-Ukraine Gas Trade", Global Witness, April 2006.

²⁵⁷ Hugh Williamson, "Deutsche Bank Admits to Turkmen Accounts", *Financial Times*, 9 May 2007.

²⁵⁸ "Republic of Uzbekistan: 2006 Article IV Consultation – Staff Report", IMF Country Report no. 07/133, March 2007.

²⁵⁹ "World Bank to Resume Some Funding to Uzbekistan", Reuters, 27 July 2006. The World Bank never admitted that the cut-off was part of President Paul Wolfowitz's anti-corruption campaign, and Wolfowitz has been accused by some critics of picking out Uzbekistan from many corrupt countries that the bank deals with as retribution for closure of the U.S. air base in Uzbekistan. Steven R. Weisman, "Turmoil Grows for Wolfowitz at World Bank", *The New York Times*, 13 April 2007.

²⁶⁰ Crisis Group interview, London, 18 October 2006.

V. ENERGY REVENUES AND INTERNAL STABILITY

A. KAZAKHSTAN

Kazakhstan faces a number of dangers from the rapid development of its energy sector. A critical issue is sustainability; a second is a price shock or reduction in output growth that cuts revenues and economic growth; a third is a perception by many that they have not shared in prosperity. The country is ill-prepared to deal with any of these real or potential problems.

The costs of economic development are another concern. The serious environmental, health, and even aesthetic effects of oil and gas production, particularly in a sensitive area such as the northern Caspian Sea, are borne by the local people. The shallow, landlocked Caspian is more vulnerable to environmental damage than an ocean. The Soviet legacy was already poor but residents, ecologists and journalists in Atyrau oblast report new problems with the development of the Kashagan field, which requires construction of many small islands and the management of toxic hydrogen sulphide gas. Many thousands of seabirds and hundreds of seals are reported to have died in the past few years but there has been little or no study of the problem, let alone mitigation measures.²⁶¹ Environmental regulations and enforcement have been inadequate, at least until very recently. In February 2007, Minister of the Environment Nurlan Isakov reportedly informed oil and gas companies that they must comply with environmental laws and cut pollution.²⁶² Later that month, he reportedly threatened to suspend Tengizchevroil's licence if nine million tons of hazardous sulphur waste were not removed from the production site.²⁶³

Among the direct economic concerns are:

- Most domestic investment comes from state funds characterised by misuse and corruption. Guidelines such as development projects should only be undertaken if long-term, recurrent costs can be recovered and domestic development investment should obtain a return equal to or higher than what could be earned on alternative assets, including foreign investment, are missing. Thus the state is investing \$7 to \$8 billion in the Atyrau gas and

chemical processing complex without knowing if it is likely to be competitive.²⁶⁴

- Despite the impressive growth in the economy, the state budget is growing 10-15 per cent faster than GDP, and a budget deficit is projected in 2007.²⁶⁵ However, government projections of future spending show this trend slowing, so it may become less of a concern.
- Like all oil-dependent economies, a sharp, sustained drop in the price would have grave consequences, affecting revenues, foreign investment, the value of the currency and debt-servicing.
- The strong economic growth, consequent increased liquidity and large foreign investment can make inflation difficult to control. The 8.6 per cent rate in 2006 is somewhat high; with the continued oil boom, the central bank and government may have to choose – in a country that for all its wealth still has many unfulfilled basic needs – between keeping inflation in check or looser interest rates and spending policies.
- The tenge is expected to continue to appreciate, making the country less able to develop other, competitive sectors and thus ever more vulnerable to oil price shocks.²⁶⁶

There is a danger that the economy cannot withstand the misallocation of resources that results from top-down decision making, over-usage of state resources, lack of private investment and of public accountability for spending and local politicians who do not depend on constituents for advancement.²⁶⁷

As oil and gas revenues continue to grow, the issue of their distribution comes to the fore. As noted, almost all oil and gas production is from the west, especially around the Caspian. It is estimated, however, that only about 15 per cent of revenues remain in these areas.²⁶⁸ Nazarbayev's decision to build a new capital at Astana, estimated to have cost \$7 to \$15 billion already, is a prime example of the kind of spending oil money has made possible, but Astana is far from the Caspian,²⁶⁹ and is a

²⁶¹ Crisis Group interview, Atyrau, 8 October 2006. There was another die-off of hundreds of seals in the Caspian in March and April 2007.

²⁶² Kadyr Toktogulov, "Kazakh Govt Tells Oil, Mining Cos to Cut Pollution", Dow Jones International News, 13 February 2007.

²⁶³ "Kazakhstan Threatens to Suspend Chevron's Production at Giant Caspian Oil Field", Associated Press, 21 February 2007.

²⁶⁴ Crisis Group interview, Almaty, 7 October 2006.

²⁶⁵ In the first half of 2006, revenues grew 45 per cent, but expenditures grew 61 per cent for the same period. The 2007 budget deficit is expected to be more than 1 per cent of GDP.

²⁶⁶ It is not so much that Kazakhstan's non-commodity export sector is suffering as that the sector has not been able to develop, making the goal of a diversified economy ever more difficult.

²⁶⁷ Crisis Group interview, leading Kazakh economist, Almaty, 7 October 2006.

²⁶⁸ Crisis Group interviews, Atyrau, 8 October 2006.

²⁶⁹ One of the most grandiose projects is to build a 150m-tall climate-controlled dome-tent that will cover ten sq. km of the

cause for some resentment in provinces such as Atyrau and Mangghystau.²⁷⁰

Within the oil and gas sector, which directly employs less than 0.25 per cent of citizens, the disparity between its salaries and the much lower ones in other sectors is a cause for resentment, particularly in places such as Atyrau, where disparities can be stark.²⁷¹ Although laws encourage hiring of locals, foreigners still make up a significant percentage, not only of executives in gleaming office buildings in Atyrau, but also in the oil fields.

In October 2006, a dispute between several hundred Turkish and Kazakh workers in the Tengiz field led to a riot, with dozens injured and work stopped.²⁷² Many Turks left Tengiz afterwards. This is not the first riot between Kazakhs and Turks; there is much resentment of perceived Turk arrogance and their higher salaries.²⁷³ Similar concerns plague other industries. The foreign-owned Mittal Steel iron ore mines in Temirtau were the focus of local anger and strikes after 41 workers died in an accident. An analyst notes: "There is growing frustration among the ethnic Kazakh working class of Kazakhstan as the standard of living in the country improves, and life becomes more expensive. For the ethnic Kazakh working class, it is particularly frustrating to see foreigners living better and

supervising their work in what is now proclaimed as a Kazakh nation-state".²⁷⁴

Some politicians, such as the president's daughter, Darigha Nazarbayeva, have tried to focus that anger for political ends: "Kazakhstan must stop acting like an obedient colony, kneeling before a foreign gentleman from the Forbes' list [of the world's richest people]".²⁷⁵ Whether such anger, sharpened by inequalities and increased expectations created by the oil and gas boom, will lead to more serious conflicts is unknowable but the trend is worrying.²⁷⁶

Prime Minister Karim Masimov has recently attempted to deal with some of these issues by auditing contracts to ensure companies comply with clauses encouraging economic diversification (such as local content laws)²⁷⁷ and setting up Almaty as a regional financial services hub. He is also considering steps to restrain economic growth in order to avoid overheating an economy that grew 10.3 per cent in the first quarter of 2007.²⁷⁸ Importantly, the government recently raised health and education spending but it remains to be seen whether that spending will be effective.

B. TURKMENISTAN

With Niyazov's death, positive changes are conceivable. However, hydrocarbon revenues made his misrule possible, and years of that misrule created conditions that make it challenging to maintain stability. The contrast between the way the small population could live given the resource endowment and how they in fact do live may eventually produce a volatile political environment.

city, making for a consistent outdoor experience in one of the world's most extreme-temperature capitals. The dome, named Khan Shatry, will be transparent and designed by Lord Norman Foster, noted for designing the transparent glass dome above the German Bundestag. That was intended to symbolise the transparency of the institution but it remains to be seen whether the Khan Shatry conveys any equivalent message in Astana.

²⁷⁰ Responding to a question about such concerns, a KMG representative said: "There is a certain idea that if one region is rich in resources, then the resources should go to develop that region first. But it must be remembered that Kazakhstan is a unitary country. All revenues go to the national fund, and money is allocated to the regions based on analysis of local needs and local development strategies. The national budget committee meets regularly, and it is always analysing the needs of the regions and seeing to what extent they are meeting their strategic development goals. We want to avoid paternalism". Crisis Group interview, Astana, 24 October 2006.

²⁷¹ Crisis Group interviews, Atyrau, October 2006.

²⁷² "V Kazakhstane proizoshla massovaia draka na mezhnatsional'noi pochve" [A Massive Fight on an International Basis Has Taken Place in Kazakhstan], Ferghana.ru Information Agency, 20 October 2006, www.ferghana.ru/news.php?id=3769&mode=snews.

²⁷³ Crisis Group interview, Aqtau, October 2006. Such tensions were mentioned by some Atyrau residents well in advance of the Tengiz fight. Crisis Group interviews, Atyrau, 7-8 October 2006. A previous riot occurred at the Atyrau refinery in May 2005. Chinese and other foreigners are also reported to be paid several times that of Kazakh workers for the same work.

²⁷⁴ "The Roberts Report", 20 October 2006, www.roberts-report.com. Crisis Group interviews with residents of Atyrau and Aqtau confirm this.

²⁷⁵ Ibid.

²⁷⁶ Commenting on this, a KMG representative said: "The question of how foreign companies treat local staff is a real one. We didn't think about these things at all in the 1990s, when we didn't really realise how powerful and influential [some international companies] are. Fortunately, as we acquire more and more experience, we can speak more and more openly about these problems. Our local content laws are much better now. At the beginning, we did face a major influx of foreign workers with a standard of living we weren't used to seeing. Yes, this created tensions, and yes, some tensions remain. We need to find a compromise path to address these tensions and resolve them peacefully". Crisis Group interview, Astana, 24 October 2006.

²⁷⁷ Raushan Nurshayeva, "Kazakhstan to Review Energy Contracts", Reuters, 17 April 2007.

²⁷⁸ "Kazakhstan to Create Financial Hub to Rival Russia, *Kommersant International*, 12 February 2007.

Turkmenistan also has regional and ethnic issues that have been subsumed only partially under Niyazov's system. Most oil is produced adjacent to the Caspian Sea (Balkan province), and most gas is produced in the Caspian region or in the Amu Darya river basin, in Lebap province, where the two refineries are, but 70 per cent of the revenue is spent in the showpiece capital.²⁷⁹ Balkan province residents are aware of and resent this.²⁸⁰

Most importantly, Turkmenistan has mismanaged its energy sector in a way that means revenues will almost certainly decline sharply. Some observers point to an impending crisis point, as gas production begins to decline in two to ten years without significant reinvestment in infrastructure, improved management and outside expertise.²⁸¹ Exact investment in the sector is unknown but industry insiders are certain it is insufficient. Lack of investment has been compounded by the regime's mismanagement and purges, and the educational decline that has created shortages of engineers and other personnel.

On 2 September 2005, Niyazov abolished the Competent Body, the agency that managed the hydrocarbons sector. Responsibility was transferred to the more politicised and technically challenged ministry of oil, gas and mineral resources. Deputy Prime Minister for Oil and Gas Yolly Gurbanmuradov was fired in May 2005 and later sentenced to 25 years on corruption charges. That he may have been corrupt is no surprise but he is considered one of the few ministers to understand the sector, which now lacks capable management.²⁸² Many energy bureaucrats and often their replacements as well were also fired and arrested.²⁸³ Soon, Niyazov himself was personally signing all contracts²⁸⁴ – however small – and management became increasingly chaotic.

A sharp decline in revenue from the energy sector and associated components, which are more than half the economy, would be disastrous and probably destabilising.²⁸⁵ In a sign that Berdimuhammedov may take competence in the sector seriously, it was reported

on state television that he reprimanded the power, engineering and industry minister, Yusup Davodov, for "serious shortcomings" and for powercuts in Ashgabat but did not fire him, as was Niyazov's style.²⁸⁶ Georgian Prime Minister Zurab Noghaidei reportedly promised in Ashgabat on 23 March 2007 that Georgia "will create all conditions for Turkmenistan to find a short and cheap way [to export gas] to Europe".²⁸⁷ On 13 March 2007, Berdimuhammedov reportedly agreed with Azerbaijan President Aliyev on cooperation that may lead to a reestablishment of diplomatic ties.²⁸⁸ These are significant changes from Niyazov, who was reluctant to speak with anyone opposed to Russian/Gazprom policies in the region, such as the Georgians.

C. UZBEKISTAN

Gas revenues are not enough to make or break the Karimov regime but a sharp decline combined with commodity shocks involving gold and cotton would leave it vulnerable.²⁸⁹ The regime suffers from lack of legitimacy already and keeps power through commodity-funded repression and payoff networks. Nearly 90 per cent of gas is in the south, in rural Qashqardaryo province.²⁹⁰ Like other rural areas in a country in which large numbers of people are press-ganged into picking cotton for little or no pay and gas has been cut off to entire towns so it could be exported, it has seen little benefit from its production.²⁹¹ In October 2006 the regional government announced that 60 per cent of homes in Andijon, as well as most of the city's schools or hospitals, would get no gas for the winter.²⁹²

²⁷⁹ This includes only revenue spent in Turkmenistan; not that kept in foreign accounts. Crisis Group interview, November 2006.

²⁸⁰ Crisis Group interview, November 2006.

²⁸¹ Crisis Group interview, November 2006.

²⁸² Two successors to Gurbanmuradov were also sacked and arrested on corruption charges.

²⁸³ "Turkmenistan: Oil Sector Purges", Russia/CIS Daily Brief, Oxford Analytica, 26 April 2006.

²⁸⁴ Michael Denison, "Turkmenistan", paper presented at Centre for European Policy Studies conference, "The European Union and Central Asia: Building Stronger Ties, Meeting New Challenges", Brussels, 2 March 2007.

²⁸⁵ For more on post-Niyazov prospects for Turkmenistan, see Crisis Group Briefing, *Turkmenistan after Niyazov*, op. cit.

²⁸⁶ "Turkmen President Reprimands Energy Minister", RFE/RL Newswire, 2 March 2007.

²⁸⁷ "Georgian Premier, Turkmen President Discuss Gas Imports", RFE/RL Newswire, 26 March 2007. Similar issues were discussed that day with Kazakhstan Energy Minister Izmuhambetov. "As Kazakh Minister Visits Ashgabat for Energy Talks". Ibid.

²⁸⁸ John C. K. Daly, "A New Day for Turkmen Energy", *Eurasia Daily Monitor*, 4 April 2007. Restoration of diplomatic relations between Turkmenistan and Azerbaijan will likely be the first step to resolving the disputed Serdar/Kyapaz field in the Caspian, as well as for any pipeline that might link the two countries.

²⁸⁹ Crisis Group interview, London, 18 October 2006. For more on the role of cotton, see Asia Report N° 93, *The Curse of Cotton: Central Asia's Destructive Monoculture*, 28 February 2005.

²⁹⁰ "Uzbekistan – Gas Production and Reserves", *APS Review Gas Market Trends*, 16 October 2006. Qashqardaryo was also the location of the U.S. air base in Uzbekistan from 2001 to 2005.

²⁹¹ Crisis Group interviews, London, 18 October and 23 November 2006.

²⁹² "Uzbekistan: Andijan Braced for Winter Fuel Crisis", *The Kazakhstan Monitor*, 6 October 2006. Andijon is Uzbekistan's fourth-largest city.

Energy cuts caused increasing protests in Uzbekistan prior to the 2005 Andijon uprising,²⁹³ and they have begun to break out again.²⁹⁴ In March 2007 women in Andijon tried to demonstrate over gas but were quickly dispersed, with several arrested.²⁹⁵ Small protests have been increasing over denial of gas to most of Uzbekistan's Autonomous Republic of Qaraqalpaqistan. In November 2006 a sufficiently threatening protest was reportedly organised on a road near the capital, Nuqus, that caused officials to turn on the gas to the area, though it was soon shut off again to most parts of the republic.²⁹⁶

VI. CENTRAL ASIA AND ENERGY SECURITY

Gas accounts for 24 per cent of the EU-27's primary energy supply and powers 20 per cent of its electricity generation.²⁹⁷ The EU imports about 63 per cent of its natural gas, of which about 45 per cent is from Russia.²⁹⁸ For Eastern European member states, particularly those from the former East bloc, the percentage is higher.²⁹⁹ The EU's own production is declining, particularly from the UK sector of the North Sea, where output is set to fall sharply in the next ten years while consumption in the UK and many other EU countries continues to rise.³⁰⁰

In January 2006, Russian gas supplies to Ukraine were shut off for two days in a pricing dispute; as Ukraine re-exports gas to Europe (some 80 per cent of Gazprom's exports to the continent pass through Ukraine), this hit the EU.³⁰¹ Several member states, including France and Italy, reported a drop in deliveries. Russia had been selling Ukraine gas at only a fraction of the market prices it gets for its gas in the EU, in effect subsidising Ukraine. In what some observers saw as a politically motivated decision to end subsidies to a new Ukrainian government which politically was not as close to Russia, Gazprom demanded market prices from the expiration of the old contract on 1 January 2006. When Ukraine refused, it reduced the flow to what it calculated was required for transit. Ukraine, however, did not reduce its consumption, so transit volumes dropped until the dispute was provisionally settled on 4 January 2006. Under the agreement, Gazprom sold its gas to the trading company RosUkrEnergo at a higher price but the trading company also bought lower-priced gas directly from Turkmenistan, resulting in a compromise on the average price.

Disputes continued through January, however, with Gazprom blaming Ukraine for taking more than its share when a cold front hit. Again, various European countries reported delivery shortfalls, creating a realisation among

²⁹³ See Crisis Group Briefing, *The Andijon Uprising*, op. cit.

²⁹⁴ There are likely protests in Uzbekistan that are never reported on outside of the country.

²⁹⁵ www.uznews.net, 3 March 2007.

²⁹⁶ Description of Qaraqalpaqistan from www.uznews.net, 11 November, 1 and 3 December 2006.

²⁹⁷ "Commission Staff Working Document – EU Energy Policy Data" (2004 figures), http://ec.europa.eu/energy/energy_policy/doc/02_eu_energy_policy_data_en.pdf.

²⁹⁸ Ibid.

²⁹⁹ Russia is the sole gas supplier to Estonia, Finland, Latvia, Lithuania and Slovakia and the major supplier to Austria, Bulgaria, the Czech Republic, Greece, Hungary and Poland.

³⁰⁰ Of course, Norway is a large exporter of gas to the EU and has a few years before its production peaks but as the UK takes more and more Norwegian gas, less is available for other countries, and other EU members' production has already peaked.

³⁰¹ According to a UK-based energy analyst, the Ukraine dispute and its short-lived consequences "scared the hell out of Europe", a probably unintended consequence of Moscow's efforts to put pressure on Ukraine. Crisis Group interview, March 2006.

many for the first time of just how dependent they are on Russia for gas deliveries. A new contract was finally reached on 2 February 2006, which increased the cost of gas imports for Ukraine but also the transit fees it receives.³⁰²

A pricing dispute with Belarus in December 2006 raised more questions about Russian reliability. There are also doubts about long-term supply from Russia and, by extension, the Central Asian countries it relies on so it can sell more of its own gas to Europe. The International Energy Agency forecasts a growing gas supply gap from Russia as early as 2007 as its domestic consumption grows and its production stagnates.³⁰³ However, it is not just a question of reliability: some in Europe have begun to see a continent vulnerable to energy blackmail and that political disputes with Russia could threaten the continent's gas supply. This has created apprehension at Gazprom's presence in the downstream EU market and at its various bilateral deals with EU member states.

Price increases in Belarus, further price increases in Ukraine and promises of price increases in Russia may reduce demand somewhat, pushing off the date when Moscow cannot meet European demand. Russia has the world's largest natural gas reserves but declines in its three largest fields are only being made up for by one (Zapoliarnoe), whose output is expected to decline in 2008. Even Gazprom's rosy forecast is for only a 1.3 per cent growth in supply between 2006 and 2008.³⁰⁴ The inability to maintain export levels reflects insufficient investment,³⁰⁵ degrading infrastructure, inadequate management by Gazprom, large leaks in the pipeline system and reliance on relatively inexpensive imports from Central Asia.³⁰⁶ Russia has also resisted foreign

investment in the sector, with its subsoil law, a closed market and refusal to ratify the Energy Charter Treaty.³⁰⁷ Its leaders have also worried customers by discussing forming an international gas cartel.³⁰⁸

On the oil side, many new EU member states are also very dependent on Russia; because of existing transport infrastructure, it is very costly for them to import from elsewhere. For a small country such as Lithuania, which has not been able to import oil for its refinery since July 2007 due to reasons that Russia calls technical and Lithuania considers political, the cost of seaborne imports has been quite high. For Russia the cost of directing its oil exports away from such a small market is low.

As these concerns, and even fears, have prompted Europe to look for alternative supplies, particularly for gas,³⁰⁹ attention has increasingly focused on Central Asia.³¹⁰ However, existing networks carry virtually all exported gas through the Gazprom system. There are hopes that the BTE pipeline could provide a route that would bypass Russia with the aid of a connecting trans-Caspian pipeline but its current 8.6 Bcm capacity can provide only 3.4 per cent of EU net gas imports.³¹¹

With the Blue Stream pipeline from Russia (across the Black Sea) and the pipeline from Iran, Turkey has contracted to import more gas than it can consume. Thus, there is hope it will one day export from Azerbaijan, either

³⁰² "RosUkrEnergo and Naftogaz Ukrayiny Sign Five Year Transit Contract and Set Up UkrGazEnergo", *Gas Matters*, 28 February 2006.

³⁰³ Internal International Energy Agency (IEA) document made available to Crisis Group.

³⁰⁴ "Russia Country Analysis Brief", USEIA, at www.eia.doe.gov/emeu/cabs/Russia/NaturalGas.html.

³⁰⁵ According to Vladimir Milov, former Russian deputy energy minister, only \$4 billion of the approximately \$20 billion Gazprom will invest in 2007 will go toward maintaining and increasing upstream production, and only \$1 billion of that toward development in the Yamal Peninsula, Russia's main potential source of production growth, "Towards a Common European Foreign Policy on Energy?". Committee on Foreign Affairs, European Parliament, public hearing, 28 February 2007.

³⁰⁶ Crisis Group interview, London, 23 November 2006; and materials distributed at European Parliament, 28 February 2007. According to the IEA, "[A]vailability of this [Central Asian supply] relieves pressure on Gazprom to invest in huge, difficult to develop areas [in Russia] to ensure supplies for the domestic

and export market". Claude Mandil, IEA Executive Director, "Securing the Russian-European Energy Partnership", 2005.

³⁰⁷ According to the Energy Charter Treaty website, "the fundamental aim of the Energy Charter Treaty is to strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed by all participating governments, thereby mitigating risks associated with energy-related investments and trade". One of the main aims is to extend this from Europe to the former Soviet Union.

³⁰⁸ President Putin said: "We do not reject the idea of creating a gas cartel but this initiative requires more study". "Russia, Qatar to Mull Natural Gas Cartel", Associated Press, 12 February 2007. However, the sixteen-member Gas Producing Countries Forum indicated interest in reconsidering how gas prices are formulated rather than forming a cartel, at least for now. "Gas Exporters Soften Talk of Cartel", *The Washington Post*, 10 April 2007.

³⁰⁹ Moscow has publicly dismissed such concerns: Europe "will never have a more reliable energy supplier than Russia", Presidential Aide Igor Shuvalov said in November 2006. "Aide Says Russia 'Most Reliable' EU Energy Source – FT", Reuters, 27 November 2006.

³¹⁰ Though it would seem obvious that an emergency gas storage system is the solution for short-term supply issues (interruptions), along with, perhaps, maintaining relatively polluting coal plants for use in an emergency.

³¹¹ This calculation is based on the EU-27's 2004 imports of 251 Bcm. Of course, BTE does make a great difference in energy security for the countries on the western side of the Caspian, which no longer must rely on Russia.

from a liquefaction terminal or more likely through the proposed Nabucco pipeline. In this way, gas from the offshore Azerbaijani Shah Deniz field, or perhaps an equivalent amount from Central Asia, could reach Europe. The connector which in 2012 will allow over 11 Bcm to flow between Turkey and Greece is to be completed in spring 2007, though gas will not flow until the last quarter of the year at the earliest.

The rest of what would eventually be Nabucco is still in the planning stage but the EU has heavily promoted it, spending several million euros on feasibility studies through the Trans-European Networks-Energy (TEN-E) program. Energy Commissioner Andris Piebalgs has said "This pipeline will then transmit a sizeable proportion of Europe's gas to market".³¹² However, 16 or 20 Bcm of total consumption, sure to exceed 550 Bcm by the time Nabucco is fully operational, is certainly not enough to substantially change Europe's reliance on Russian gas.³¹³

In March 2007, Hungary reached an agreement with Gazprom on an extension of the Blue Stream pipeline. This would compete with Nabucco, possibly rendering it uneconomic, and take up capacity on existing European distribution pipelines. Defending the decision, Budapest has called Nabucco unreliable and too distant.³¹⁴

Nabucco shipments will necessarily involve Russia and Iran and a web of competing and complementary interests, including Russian nuclear sales to Iran and the division of the Caspian Sea. Nabucco does not free Europe from relying on Russia; it might actually increase reliance on Russian interests and gas exports to Turkey. If Nabucco facilitates natural gas from Iran to Europe, it would tend

to make it more difficult to put pressure on Iran over its nuclear program and possibly other issues. Gazprom is likely to be involved in the Nabucco project, destroying much of the political rationale.³¹⁵ Turkey relies on Russian and Iranian imports for its own gas through the Blue Stream and Iran pipelines, which came online in the early 2000s.³¹⁶ If Russia or Iran were to interrupt flows, Turkey would need any gas flowing through Nabucco to Europe. Since Nabucco may take Iranian gas, and potentially gas from Iraq and even Russia if Turkish consumption leaves Blue Stream capacity unused, Central Asia's contribution to European gas supply would be small.³¹⁷

There are other problems to consider. It will be a long time before Azerbaijan gives up much capacity to Kazakhstan or Turkmenistan.³¹⁸ There have been no negotiations on sharing BTE, though Baku has made some positive statements. Great technical difficulties must be overcome to bring a pipeline from Kazakhstan or Turkmenistan to Baku; Iran and Russia are sure to oppose, as Caspian territorial waters have not been agreed, and Turkmenistan-Azerbaijan relations are still difficult. If there is not enough gas in Kazakhstan alone to justify such a pipeline, the options are limited; uncertainty over Turkmenistan's future will probably give investors pause.³¹⁹ Finally, placing so

³¹⁵ "Nabucco Loses Its Plot", *Petroleum Economist*, 1 November 2006.

³¹⁶ The Blue Stream pipeline crosses the Black Sea from Tuapse in southern Russia to Samsun, avoiding Georgia. It has a capacity of about 16 Bcm per year. The Iran-Turkey pipeline runs from Tabriz to the Turkish border and has a capacity of about 14 Bcm per year. In both cases this is far more gas than Turkey can absorb, especially considering there is an older pipeline that brings Russian gas to it through the Balkans. This raises the question of the economic sense in bringing gas from Azerbaijan and Central Asia when there is unused capacity to bring it from Russia and Iran. It also raises the question why the EU would want to encourage Iranian gas exports, which could be used domestically, before the Iranian nuclear issue is settled. Iran claims it needs nuclear power in part because it has insufficient gas for the future but increased exports, of course, bring the day when its gas reserves are exhausted closer. Russian-Iranian competition over gas exports could also possibly affect Russia's positions on Iran's nuclear program, which has a heavy Russian involvement.

³¹⁷ There is also the possibility that a trans-Caspian pipeline could be built even without Nabucco, just connecting to the Turkish system, the Turkey-Greece Interconnector and the southern European system (sometimes referred to as the Southern Europe Gas Ring). This would still bring some gas to Europe – how much would depend on additional capacity built in Turkey – but would be an even less independent stream of gas for Europe.

³¹⁸ A parallel pipeline to BTE could be built, but that is an added complication and possibly not economical.

³¹⁹ Recently, talks over Turkmenistan's participation in a trans-Caspian pipeline have begun anew. There are reasons, however, to question how enthusiastic the Turkmen government is. "Niyazov was never serious about the trans-Caspian pipeline",

³¹² Speech at the Nabucco Energy Ministerial Conference, Vienna, 26 June 2006. Piebalgs later stated: "The EU will need an additional 200 to 300 Bcm per year in 25 years, so we have enough demand for at least seven Nabuccos". "Nabucco Gas Pipeline Is Approved", BBC, 27 June 2006.

³¹³ USEIA forecasts OECD Europe natural gas consumption in 2010 at about 600 Bcm. Some forecasts say that 30 Bcm could transit annually through Nabucco but even then, probably only 20 Bcm would reach the distribution point in Austria.

³¹⁴ Hungarian Prime Minister Ferenc Gyurcsany hinted at Gazprom's power and that the section to Turkey is already built: "Blue Stream is backed by a very strong will and a very strong organisational power. And there is capacity behind it", quoted in Judy Dempsey, "Hungary Chooses Gazprom over EU", *International Herald Tribune*, 13 March 2007. Even Turkey may not be as reliable as Europe hopes. On 5 April 2007 it announced that it was suspending talks with a key Nabucco partner, Gaz de France, in response to the passage by the French National Assembly of a bill making it a crime to deny there was a genocide of Armenians during the last years of the Ottoman Empire. "French Genocide Bill Prompts Turkey to Suspend Pipeline Talks", Reuters, 5 April 2007. This was supposed to be reviewed after the 6 May 2007 French presidential election.

much hope on Azerbaijan's stability is problematic. It has its own issues, including managing large oil revenues in the next few years and the unresolved Nagorno-Karabakh conflict with Armenia.³²⁰

Uzbekistan, which does not border the Caspian, could conceivably be connected to a trans-Caspian pipeline through another pipeline to either Kazakhstan or Turkmenistan. But its gas sector does not have the potential to make that project worthwhile, and Turkmenistan and Kazakhstan would likely not yield space they could use in a trans-Caspian pipeline. Hence, the only contribution Uzbekistan could make to European gas supply is what it does now: provide a small amount of gas to Gazprom that allows it to send gas from elsewhere in its system westward.

Technical issues can be overcome. There is certainly reason to question the economics of a trans-Caspian pipeline, but in the end that depends more on the profit potential of the fields that the pipeline unlocks than the pipeline itself. But, it is worthwhile to ask how it is that direct import of Central Asian gas, which could only represent a small amount of EU imports, and is still subject to some Russian and/or Iranian influence as it transits through Turkey, can play an important role in European energy security?

With the very recent agreement between Russia, Turkmenistan, and Kazakhstan (Section III above), a new pipeline is to be built along the Caspian from Turkmenistan and Kazakhstan to Russia, and the existing CAC pipeline in western Turkmenistan through Uzbekistan and Kazakhstan to Russia is to be revamped and expanded. If all goes as planned, even more Central Asian gas will flow to Russia, increasing the amount of that country's gas available for Europe but also increasing European dependence on Russia. The viability of a trans-Caspian pipeline probably does not change significantly, though it seems very much Russia's main accomplishment to create the understanding that everything has changed.³²¹

a former gas industry executive said. "He had made enough money; he had a good deal with Gazprom, and all he wanted to do was stay rich, stay in power and not antagonise Russia". Crisis Group interview, January 2007. If the famously independent-minded Niyazov was unwilling to risk antagonising Russia by laying new pipelines, his successor seems even less likely to do so.

³²⁰ Azerbaijan is not democratic and has rampant corruption. Cf. Isabel Gorst, "Azerbaijan Coup Charges Raise Oil Supply Doubts", *Financial Times*, 14 May 2007. A subsequent Crisis Group report will discuss some of these issues.

³²¹ As noted in Section III.B above, the pipeline planned along the shore of the Caspian would not use the same gas supply as a trans-Caspian pipeline; the Turkmen president has said that the new deal does not politically preclude a trans-Caspian pipeline.

A senior EU energy official commented: "Nabucco is virtually killed".³²² EU Energy Commissioner Piebalgs chose to look on the bright side, noting that it would make more gas available for the EU, "which is no bad thing".³²³

A trans-Caspian gas pipeline might not change the situation much for Europe's gas security but it could make it more difficult for Gazprom to meet its obligations to European consumers. In addition, the value of the Blue Stream gas pipeline from Russia to Turkey across the Black Sea would be reduced. The trans-Caspian pipeline was never going to change Europe's dependence on Russia; whether or not it has become much more unlikely does not change the fact that European importing countries must focus on a strategy that acknowledges what was already largely true: dependence on Russian gas cannot be avoided; Central Asia will not change that fundamental fact of life. But it also needs to be understood that Russia needs Europe as much Europe needs Russia. Russia cannot send its gas elsewhere, and the costs of reducing any significant flow for an extended period of time would be enormous.³²⁴ The 12 May 2007 Central Asia deal also does not change that. In fact, it may mean that more gas is available for Europe and even reflect Russian anxieties about Central Asia's gas flowing to China.

Politically, the real energy security issue vis-à-vis Russia is not so much for the EU as a whole. Russia would cut off the entire gas flow to Europe only in the most extreme circumstances, in which there would be even more serious things to worry about than gas. However, certain new, smaller member states of the EU, whose oil and gas requirements are not a major fraction of the overall amount supplied by Russia to Europe, could be vulnerable to cuts in retaliation for perceived acts against Russian interests. Again, a trans-Caspian pipeline would not change that.³²⁵ But EU energy security policy will have to focus on other measures having little to do with Central Asia to address this issue, including the need to ensure that Brussels can maintain political unity in the face of a problem that may

³²² Crisis Group interview, Brussels, 15 May 2007.

³²³ Sally Bogle, "U.S. Slams Russia's Caspian Pipeline Deal, Gazprom Exports to Europe Fall by 24% in Q1", *Global Insight Daily Analysis*, 15 May 2007.

³²⁴ Pipelines cannot simply be shut off – because of pressure, fields would soon have to be shut in, which is costly. The loss in revenue would be enormous, and a massive shut off of Russian gas as some sort of political retaliation would probably result in a huge effort to reduce gas consumption and find alternative supply and even alternative sources of energy.

³²⁵ A dedicated stream of Kazakh oil that went through Georgia to the Black Sea and then through a possible Odessa-Brody-Gdansk pipeline might be reassuring to Poland but it appears Kazakhstan is not willing to agree to it.

be serious for one or more – but not necessarily the larger – member states.³²⁶

This is not to say that building a trans-Caspian pipeline would be a bad idea. It might be economical some day and free up stranded reserves; diversity of supply routes is a good thing. The issues related to Iran may be settled by then. Another outlet for Central Asian gas could weaken Gazprom's monopsony slightly, perhaps encouraging some change in Russia's management of its gas sector, though this is far from assured.³²⁷ But in that time, as now, small potential gains will have to be weighed against a new perceived dependence on Central Asia that might dilute any further impetus for reform in the countries of that region or, worse still, prop up a political system such as that in Turkmenistan that still represents the antithesis of European values.³²⁸ In sum, Caspian energy development helps European energy security most when it is part and parcel of efforts to push these countries further along in terms of good governance, economic development, human rights, and ultimately, stability.³²⁹ It adds very little if it is promoted at the cost of these changes.

³²⁶ Solidarity of the kind expressed by European Commission President José Manuel Barroso at the 18 May 2007 Russia-EU Summit is a good place to start: "The Polish problem is a European problem. The Lithuanian and Estonian problems are also EU problems" (quoted by BBC News). EU Energy Commissioner Piebalgs has stated: "It is only when Russia establishes clear conditions for investment that we can speak about energy security", quoted in Judy Dempsey, "Russia Takes Heat over Energy Supply", *International Herald Tribune*, 12 February 2006. The key, of course, is operationalising such expressions of unity so that individual deals with Gazprom and projects such as the NordStream pipeline only go forward when it can be shown that one member state's energy security would not be enhanced at the cost of another's.

³²⁷ It does not seem likely that gas from Central Asia going through Azerbaijan rather than Russia would be in sufficient quantities for Gazprom to change the way it does business, particularly since, as explained, that flow would not be truly independent of Gazprom's influence.

³²⁸ However, if a trans-Caspian gas pipeline could realistically be an incentive/driver for the new regime in Turkmenistan to move toward substantial improvements in human rights and good governance, there might be reason to promote it for that reason, rather than for energy security reasons.

³²⁹ Berdimuhamedov's comments, even after the conclusion of the deal, that a trans-Caspian pipeline is still on the table indicate that the new regime, despite its continued harsh authoritarian ways, is eager to look beyond Moscow for economic relationships.

VII. CONCLUSION

Oil and gas in Central Asia raises two key questions: Will energy be a cause of instability in the region? Can the region help Europe improve its energy security in the face of anxieties over Russia? The answer to the first question is uncertain but the answer to the second is unequivocally no.

Regional Instability: The three hydrocarbon exporters in the region are all suffering from varying degrees of the oil curse. In Kazakhstan this has come in the form of macroeconomic problems, corruption and inequality. In Turkmenistan, oil and gas allowed for the development of one of the most dictatorial regimes of recent decades. In Uzbekistan, gas revenues have helped to sustain one of the most brutal police states on earth. In the long-term, the prospects for stability are not good in any of these nations just as other major energy producers around the world have suffered sustained unrest. Although there have been disputes over hydrocarbon fields in the Caspian, energy has not proven to be a cause for conflict amongst the three Central Asian exporting states. Rather, although they still depend on shared infrastructure, they have taken divergent paths in the development of their industries. The dangers are within each country.

Kazakhstan is at risk from all the macroeconomic and social effects of oil:

- ❑ Over-investment in prestige infrastructure projects that have the side benefit of being easy to pilfer while ignoring education and healthcare. The country is well below others of a similar wealth in these areas but is spending billions on a garish new capital.
- ❑ Ignoring the environmental and social impact of oil production while channelling benefits elsewhere. The oil is produced in Atyrau and Mangghystau but the regions are poor and benighted.
- ❑ Failing to create flexible and open state systems that can manage the tensions between the need for saving oil revenues to prevent Dutch disease and the pressing needs of development.

Turkmenistan, having seen oil and gas revenues siphoned off by its former leader, is now facing pressing new challenges:

- ❑ A lack of investment in infrastructure and training has meant that revenues may peak soon. Foreign investment to sustain output and improve outlets is unlikely unless political conditions change but the cushion of energy money that might allow that is deflating fast.

- ❑ Social policies put in place by Niyazov have created a generation that is ill-equipped to run a complex gas economy. The rest of the economy is derelict.

Uzbekistan's income from energy is not so great that it shapes the entire economy but is still critical:

- ❑ Declining energy income due to reduced prices or declining output would reduce the resources available to the security forces to maintain Karimov's repressive rule.
- ❑ The sale of gas to Russia has left the regime reliant on one international partner which will have implications in the transition after Karimov.

Energy Security: Central Asia's natural gas will not resolve Europe's energy security issues. Potentially, only a small amount of gas could get to Europe without passing through Russia, and this amount would not be enough to change the dynamics of Gazprom's power. On the oil side, it is in the interest of consuming countries everywhere for Central Asia's product to reach world markets unimpeded. Kazakhstan is currently the only neighbouring country from which China can directly import oil overland, making the country of special interest to Beijing. But geography and infrastructure mean that most of Central Asia's oil will pass through Russia for many years to come.

Russia continues to wield enormous influence in Central Asia, as the recent gas deal shows, but its weakening democratic institutions, over-reliance on the extractive sector, and booming economy with poor human development incomes are no model for the region.³³⁰ Gazprom's relationship with Turkmenistan was counterproductive in terms of transparency, incentive to improve the gas sector, and, above all, its enabling of Niyazov to keep most of the proceeds from the gas trade in offshore banks. Working with Russia for more positive engagement in Central Asia is just one part of a much larger policy of engagement. For Europe, the costs of not sourcing any energy from Russia would be \$40 billion to \$60 billion, but would be even higher for Russia, which would forego some \$50 billion to \$70 billion in revenue if its gas could not be sold in Europe.³³¹ Coherent engagement with Russia is needed on many levels, but, as a Europe without gas imports from Russia is not

foreseeable, steps to improve energy security with Russia are more of a priority than a Caspian shortcut.³³²

Concern should be less about the West's energy security and more about these countries as a source of generalised insecurity for the region and the human security of their inhabitants. Kazakhstan is at a point where the enormous revenues being generated need to be translated into commensurate outcomes: good governance, proper spending and the rule of law, particularly as a political transition is due.

As Turkmenistan possibly emerges from dictatorship, it remains to be seen whether the new leaders are up to the challenge of providing benefits to a population that has seen none to date. Gas revenues may not last much longer at current levels, giving the new regime little time to turn things around before discontent sets in.

Uzbekistan will never be a part of European energy security arrangements, so the country's gas sector should be seen as perpetuating a system that is impoverishing and repressing its people. Serious discontent has already set in across Uzbekistan, with Karimov maintaining a complicated but fragile web of power of which gas revenues are only part. Uzbekistan, the smallest energy exporter but the greatest centre of population of former Soviet Central Asia, may merit the least attention in terms of energy security, but merits the most attention in terms of internal and regional security.

Bishkek/Brussels, 24 May 2007

³³⁰ Russia and Kazakhstan are 59th and 74th in the world in per capita GDP but 115th and 122nd in life expectancy at birth. Turkmenistan shows a similar disparity, but Uzbekistan, although it is much poorer, achieves a similar (mediocre) life expectancy (for example, 66.6 years vs. 65.2 years in Russia).

³³¹ McKinsey & Company (net present value estimates).

³³² An example of this is the European Commission's assertion of a requirement that Russia open its pipeline network to foreign firms as part of any comprehensive cooperation agreement. "EU Says Russia Must Open its Pipelines to European Firms", RFE/RL, 2 April 2007.

APPENDIX A

MAP OF CENTRAL ASIA



APPENDIX B

MAP OF KAZAKHSTAN



Map No. 3771 Rev. 6 UNITED NATIONS
January 2004

Department of Peacekeeping Operations
Cartographic Section

APPENDIX C

MAP OF TURKMENISTAN



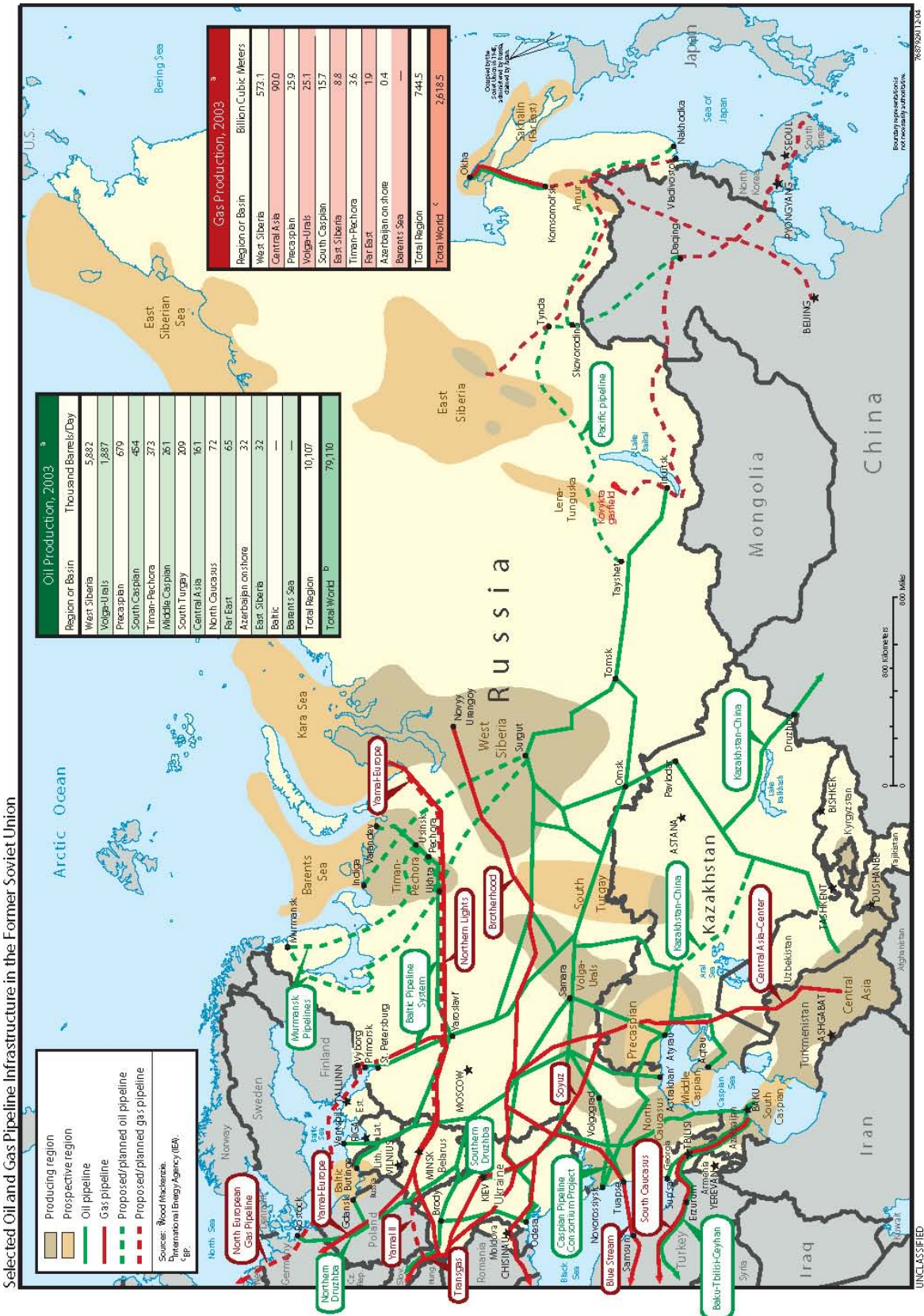
APPENDIX D

MAP OF UZBEKISTAN



APPENDIX E

MAP OF SELECTED OIL AND GAS PIPELINE INFRASTRUCTURE
IN THE FORMER SOVIET UNION



APPENDIX F

PURGES AND REORGANISATION IN THE TURKMEN ENERGY SECTOR IN THE LAST NIYAZOV YEARS

6 May 2005: Yolly Gurbanmuradov (deputy prime minister for oil and gas) is publicly reprimanded.

20 May 2005: Gurbanmuradov is dismissed and arrested. He is reported dead by the Gundogar opposition website and three other independent sources around 1 June. Some sources have backtracked on this, and his court hearing continued as if he were alive. He has not been seen publicly and was given 25 years for embezzling \$60-\$100 million and collaborating with an unnamed foreign intelligence service to sell gas cheaply in return for bribes. Guichnazar Tachnazarov (formerly chairman of Turkmengaz) takes over as deputy prime minister for oil and gas and is succeeded by Atamurat Berdiev (formerly minister of power engineering and industry) as deputy prime minister for energy, industry and construction.

31 May 2005: Shekersoltan Mukhammedova (head of central bank) is dismissed but not arrested for colluding with Gurbanmuradov on embezzlement and embezzling \$180 million herself. Jumaniyaz Annaorazov (former minister of finance) is her successor.

Early June, 2005: Ilyas Chariev (state minister and chairman of Turkmenneftegaz, the oil and gas trading entity) is dismissed and later arrested. Alamurad Ovezov is his successor. Chariev received a 25-year jail sentence, as reported by Associated Press on 19 September.

27-28 July 2005: Rejep Saparov (former head of the presidential administration) is dismissed and arrested and sentenced to twenty years for embezzlement. He is replaced by Aganiaz Akiev.

15 August: Saparmamed Valiev (chairman of Turkmenneft) is dismissed for a bribery scandal involving the Austrian-registered, Russian company Maitro. Valiev's successor is Kashgeldy Tashliev. Valiev received a 24-year jail sentence, reported by Associated Press on 19 September.

15 August 2005: Orazmuhammet Atageldiev (chairman of Turkmengeologia) is dismissed and replaced by Ishanguly Nuriyev.

25 August 2005: Niyazov says Tachnazarov admitted guilt in the Valiev scandal.

2 September 2005: The Competent Body on hydrocarbon resources under the president is abolished. The ministry of oil and gas and mineral resources takes over its duties.

14 September 2005: Guichmurad Esenov (head of Turkmenbashi Refinery) is dismissed for drunkenness and later arrested on charges of embezzling \$2 million. He is replaced by Amangeldy Pudakov (formerly minister for oil and gas). Pudakov is replaced by Tachnazarov, who retained his other duties.

October 2005: The Competent Body is unofficially re-installed and continues working, much as before except with less autonomy.

31 October 2005: Tachnazarov and Alamurad Ovezov (replacement for Chariev and head of Turkmengaz since May) are dismissed, Tachnazarov for embezzling \$266 million. The new head of Turkmengaz is Khojamukhammet Muhammedov. The replacement for Tachnazarov is Atamurat Berdiev.

31 October 2005: Amangeldy Bairamov (Ambassador to Ukraine) is recalled and dismissed.

7 December 2005: Mäzhilis session: Gurbanmurad Ataev is made acting chairman of Turkmengaz.

15 December 2005: Berdiev is relieved of his duties as deputy prime minister for oil and gas (reportedly at his own request) and appointed minister of economy and finance. He is replaced by Gurbanmurad Ataev.

15 December 2005: Ataev is reportedly told to learn English in six months or lose his position.

15 December 2005: Ishanguly Nuriyev is relieved of his duties as head of Turkmengeologia and succeeded by T. Khudaiberdiev. Nuriyev is appointed deputy minister for oil and gas and mineral resources

15 December 2005: Geldimurad Abilov (vice president of the central bank) retains position and is also given responsibility as executive director of the Oil Fund (under Competent Body).

22 December 2005: Novruz Durdiyev is appointed head of the Turkmennebitonumleri.

16 January: Gurbanmurad Gulov (head of state commodity and raw materials exchange) is dismissed for serious

shortcomings and replaced by Khojamukhammet Muhammedov.

25 January 2006: Aganiaz Akiev (head of presidential administration) is relieved of his duties and appointed governor of Dashoguz region. He is replaced by Yklymberdi Paromov, previously first deputy minister of foreign affairs. Paromov reportedly has a long intelligence history.

3 March 2006: Amangeldy Pudakov (former minister of oil and gas and current head of the Turkmenbashi and Seidi refineries) and Sapar Yoldashev (deputy head of Turkmengaz) are dismissed on and arrested on charges of corruption. Pudakov is accused of entering into unauthorised contracts with foreign oil companies at inflated prices. Criminal proceedings are ongoing.

10 March 2006: Atamurad Berdiev (previously deputy prime minister for oil and gas) is relieved of his post as minister of economics and finance and appointed chairman of the State Committee for Sport and Tourism.

26 April 2006: Bagtiyar Hajygurbanov is appointed chairman of Turkmengaz, and Annaguly Deryayev is appointed deputy chairman of Turkmenneft, both for a six-month probation period.

10 May 2006: Gurbanbibi Atajanova, chief prosecutor general, is dismissed and imprisoned for criminal misdeeds, bribe taking and embezzlement.

12 May 2006: Jumaniyaz Annaorazov, deputy chairman of the cabinet of ministers, head of the central bank, and an IMF and World Bank governor, is relieved of all posts as a result of his brother's (Nurniyaz Annaorazov) prosecution for crimes committed as prosecutor of Akhal province. Geldimurat Abylov takes over at the central bank and is succeeded as head of the oil fund by Gochmurat Muradov.

16 May 2006: Muhammetberdi Bashiyev, who was deputy head of the presidential administration, moves up to lead that body after Yklymberdi Paromov is relieved of that position and appointed minister of textiles.

APPENDIX G

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Agip KCO	Agip (Azienda Generale Italiana Petroli) Kazakhstan North Caspian Operating Company, the single Operator of the North Caspian Sea PSA
bbl/d	barrels per day
Bcm	billion cubic metres
BG Group	Formerly British Gas Group plc, renamed BG plc in 1997, and then BG Group plc in 1999
BP	British Petroleum
BTE	Baku-Tbilisi-Erzurum (pipeline)
BTC	Baku-Tbilisi-Ceyhan (pipeline)
CAC	Central Asia Centre (pipeline)
CEDIGAZ	Centre International d'Information sur le Gaz naturel et tous Hydrocarbures Gazeux
CNPC	China National Petroleum Corporation
CPC	Caspian Pipeline Consortium
EITI	Extractive Industries Transparency Initiative
EU	European Union
FERF	Foreign Exchange Reserve Fund
GDP	gross domestic product
HDI	Human Development Index
IFIs	International Financial Institutions
IMF	International Monetary Fund
IOCs	international oil companies
INOGATE	Interstate Oil and Gas Transport to Europe
KIOGE	Kazakhstan International Oil and Gas Exhibition
KMG	KazMunaiGaz
KNOC	Korea National Oil Corporation
KPO	Karachaganak Petroleum Operating
KSE	Kazakhstan Stock Exchange
kWh	kilowatt-hours
MMbbl/d	million barrels per day
MOU	memorandum of understanding
MVD	Uzbekistan's ministry of internal affairs
NGLs	natural gas liquids
NGO	non-governmental organisation
NIGC	National Iranian Gas Company
NIOC	National Iranian Oil Company

NOCs	national oil companies
ODIHR	(OSCE's) Office of Democratic Institutions and Human Rights
OECD	Organisation for Economic Co-operation and Development
OGDF	Turkmenistan's Oil and Gas Development Fund
OPEC	Organization of the Petroleum Exporting Countries
OSCE	Organization for Security and Co-operation in Europe
OSI	Open Society Institute
PPP	purchasing power parity
PSA	Production Sharing Agreement
SNB	Uzbekistan's national security service
TAP	Turkmenistan-Afghanistan-Pakistan (pipeline)
Tcm	trillion cubic metres
TCO	Tengizchevroil (consortium)
TEN-E	Trans-European Networks-Energy
UAE	United Arab Emirates
UNHDR	United Nations Human Development Report
USAID	United States Agency for International Development
USEIA	United States Energy Information Administration

APPENDIX H

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