

## The Geopolitics of Natural Gas

Turkmenistan: Real Energy Giant or Eternal Potential?

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# TURKMENISTAN: REAL ENERGY GIANT OR ETERNAL POTENTIAL?

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## ABOUT THE STUDY

Some of the most dramatic energy developments of recent years have been in the realm of natural gas. Huge quantities of unconventional U.S. shale gas are now commercially viable, changing the strategic picture for the United States by making it self-sufficient in natural gas for the foreseeable future. This development alone has reverberated throughout the globe, causing shifts in patterns of trade and leading other countries in Europe and Asia to explore their own shale gas potential. Such developments are putting pressure on longstanding arrangements, such as oil-linked gas contracts and the separate nature of North American, European, and Asian gas markets, and may lead to strategic shifts, such as the weakening of Russia's dominance in the European gas market.

Against this backdrop, the Center for Energy Studies of Rice University's Baker Institute and the Belfer Center for Science and International Affairs of Harvard University's Kennedy School launched a two-year study on the geopolitical implications of natural gas. The project brought together experts from academia and industry to explore the potential for new quantities of conventional and unconventional natural gas reaching global markets in the years ahead. The effort drew on more than 15 country experts of producer and consumer countries who assessed the prospects for gas consumption and production in the country in question, based on anticipated political, economic, and policy trends. Building on these case studies, the project formulated different scenarios and used the Rice World Gas Trade Model to assess the cumulative impact of country-specific changes on the global gas market and geopolitics more broadly.

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## I. Introduction

Turkmenistan has enormous gas reserves, estimated at 13.4 trillion cubic meters (473.2 trillion cubic feet),<sup>1</sup> and is generally ranked fourth globally, behind Russia, Iran, and Qatar. The country's oil reserves, estimated at 600 million barrels,<sup>2</sup> are substantially smaller. The country has announced plans to increase gas production to 230 billion cubic meters per year (bcm/y), or 8,122 billion cubic feet per year, by 2030<sup>3</sup>—a threefold increase from its previous production high in 1990, and over 3½ times production levels in 2012.<sup>4</sup> The country obviously has the reserves to justify the optimism of its announced plans, but the natural challenges of exporting gas from this land-locked country and the self-imposed difficulty of doing business in the republic combine to make it far from clear whether Turkmenistan will be able to realize its full potential in the global gas market.

This chapter will discuss the development of Turkmenistan's natural gas sector and the difficulties foreign investors face in attempting to bring Turkmen gas to market. The chapter proceeds in four parts. Part II, "A Brief History," provides a very brief look at the development of independent Turkmenistan's political and economic structure. Part III, "The Challenge of Doing Business in Turkmenistan," describes how Turkmenistan's business environment has changed under the two presidents that have led the country since independence, the structure of political and economic power, and the pitfalls that foreign investors face. Part IV, "Turkmenistan's Export Challenge," examines three different primary export scenarios for Turkmen gas—to Russia, Iran, and China—as well as a variety of other planned or previously hoped for export routes that have not come to fruition. Finally, Part V, "Could a Libyan Scenario

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<sup>1</sup> As of 2010, according to BP, *BP Statistical Review of World Energy*, June 2012, 20, [http://www.bp.com/liveassets/bp\\_internet/globalbp/globalbp\\_uk\\_english/reports\\_and\\_publications/statistical\\_energy\\_review\\_2011/STAGING/local\\_assets/pdf/statistical\\_review\\_of\\_world\\_energy\\_full\\_report\\_2012.pdf](http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2012.pdf).

<sup>2</sup> Turkmenistan's oil and gas reserves are based on figures provided by "Worldwide Look at Reserves and Production," *Oil and Gas Journal*, December 5, 2011, <http://www.ogj.com/articles/print/volume-109/issue-49/special-report-worldwide/worldwide-look-at-reserves.html>.

<sup>3</sup> H. Hasanov, "Turkmenistan Masters Galkanysh in Order to Increase Gas exports," *Turkish Weekly*, August 10, 2012, <http://www.turkishweekly.net/news/140091/turkmenistan-masters-galkynysh-in-order-to-increase-gas-exports.html>.

<sup>4</sup> According to BP's *Statistical Review of World Energy* from 2012 and 2013, Turkmenistan produced 81.36 bcm in 1989, the highest amount between 1985 and 2012 (the period for which data is offered). Output dropped to 12.04 bcm in 1998, rose again to a high of 66.06 bcm in 2008, dropped to 36.38 the following year, and then began to rise again, reaching 64.4 bcm in 2011.

Occur in Turkmenistan?” discusses possible sources of social unrest and the potential for drastic political change in the country.

## II. A Brief History

When Turkmenistan unexpectedly gained independence in 1991, the country's leader, Saparmurat Niyazov, had already been in power since 1985. He had been placed there by Communist Party boss Mikhail Gorbachev as part of the *perestroika*-inspired effort to replace the Brezhnev-era leadership that still ran the USSR; Niyazov's predecessor, Muhammetnazar Gapurov, appointed in 1963, was viewed as running the republic as much to his own as to Moscow's advantage. Gapurov, though, did not control Turkmenistan's oil and gas industry. By contrast, Niyazov, following the collapse of the Soviet Union, was able to take advantage of Turkmenistan's vast hydrocarbon wealth and the infrastructure that the Soviets had built to exploit it. As a result, Niyazov was able to fashion a highly idiosyncratic, tightly controlled despotism that, by his last days, extended even to the renaming of the months of the year in honor of his own family.

When Niyazov died in 2006, he was replaced<sup>5</sup> by a deputy prime minister, Gurbanguly Berdimukhammedov, who has since twice won the Turkmen presidency. Berdimukhammedov faced only token opposition each time, getting 97 percent of the vote in February 2012.<sup>6</sup> Although Berdimukhammedov has reversed some of his predecessor's most peculiar edicts (the old names of the months have been returned, for example), the country, in many ways, remains one of the most closed and eccentric in the world. Niyazov's "cult of personality" has largely been transferred to his successor. In distinction from Niyazov, who was given the honorific title of "Turkmenbashi," or "Head of the Turkmen," Berdimukhammedov has begun to be called "Arkedag," or "Protective Mountain." Some sense of the country's eccentricity may be seen in

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<sup>5</sup> Indicative of Turkmenistan, the Constitution specified that the next in line was actually the Speaker of the Majlis, or parliament, but that person was arrested instead and sentenced to seven years in prison. See Congressional Research Service (CRS), "Turkmenistan: Recent Developments and U.S. Interests," August 17, 2012, 2, <http://www.fas.org/sgp/crs/row/97-1055.pdf>.

<sup>6</sup> Andrew E. Kramer, "Turkmenistan's President Re-Elected With 97% of Vote," *New York Times*, February 13, 2012, [http://www.nytimes.com/2012/02/14/world/asia/berdimukhammedov-re-elected-president-of-turkmenistan.html?\\_r=0](http://www.nytimes.com/2012/02/14/world/asia/berdimukhammedov-re-elected-president-of-turkmenistan.html?_r=0).



the fact that, in honor of the National Melon Day in 2011, a new strain of melon was developed in Berdimukhammedov's honor, named the "arkedag melon."<sup>7</sup>

For all the strangeness, however, Berdimukhammedov has made some progress in building up civil and legal infrastructure in the country. By most accounts he has managed to distance himself somewhat from Russia, which had essentially taken for granted through the 1990s and early 2000s that it had the same right to dictate Turkmenistan's economy as had the USSR prior to its collapse. Although, as is discussed below, Russia still remains the primary route by which Turkmen oil and gas reach world markets, the two countries have managed to reach more mutually beneficial agreements.

Part of the reason for these positive developments may be a growing sophistication among at least some of the Turkmen elite, but it is also clear that Turkmenistan has benefited from the interest that other powers have shown in the country's gas reserves. As is explained more fully in the Export Challenge section, Turkmenistan was long presumed, or at least hoped, to be a major supplier for the Nabucco project, which would allow Europe to receive gas that did not have to pass through Russia and Ukraine. Although the likelihood of Turkmenistan becoming a major contributor to any major European gas pipeline project in the foreseeable future grows ever dimmer, the country continues to be courted by European interests, and also, to a greater or lesser extent, by Iran, Pakistan, and India.

Turkmenistan's most important suitor, however, is now China, which is generally regarded as the most successful foreign investor in Turkmenistan. CNPC, the Chinese national oil company, began construction of the Central Asia-China pipeline in 2009. Initially projected to cost more than \$8 billion, the first leg now connects eastern Turkmenistan to Xinjiang via Uzbekistan and Kazakhstan, and is planned to eventually carry Turkmen and other Central Asian gas through to Shanghai and Hong Kong. China is also the only foreign investor that has been granted direct access to a major onshore gas field, perhaps in recognition of that country's ever-growing energy needs, and the commensurate size of their investment.

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<sup>7</sup> Annette Bohr, "Turkmenistan," Freedom House Nations in Transit Report 2012, 556, [http://www.freedomhouse.org/sites/default/files/Turkmenistan\\_final.pdf](http://www.freedomhouse.org/sites/default/files/Turkmenistan_final.pdf).

### III. The Challenge of Doing Business in Turkmenistan

The business environment in Turkmenistan is best described as challenging, idiosyncratic, and so potentially lucrative that most of the world's major energy companies continue trying to do business there, in spite of the many hurdles they face.

President Saparmurat Niyazov fostered a political system that hinged entirely on his own cult of personality. Formally, the president was granted near-limitless political and economic powers by the country's 1992 constitution, which allows the Turkmen president to appoint and dismiss cabinet members, judges, and heads of local administration. Niyazov led both houses of the legislature, and the presidency maintains this power today, though the parliament was made unicameral in 2008 with the abolishment of the People's Council.

In spite of his near-complete formal power, tribal and regional elites wielded a significant amount of influence over various economic sectors during Niyazov's presidency. Ashgabat, Turkmenistan's capital and commercial center, had been the domain of the dominant Ahal Teke clan since before Soviet times. Much of the oil and gas elite, however, were Yomud Turkmen from the Balkan region on the Caspian Sea. Yomuds were particularly dominant in the technical elite of the oil and gas industry, in part due to the establishment of a branch of Gubkin State University of Oil and Gas in the western city of Nebitdag (Balkanabat).<sup>8</sup>

Niyazov, himself an orphan, countered the political and economic sway of traditional clan allegiances by centering the political system on himself. No particular clan played a dominant role in Niyazov's inner circle.<sup>9</sup> Ensuring that no person or group would be able to consolidate enough power to present a legitimate challenge, Niyazov would often purge large sections of the elite, sometimes broadcasting high-profile public reprimands and firings on national television. While clan structures continued to play an important role in Turkmenistan's economy, the president was at the center of all decision-making.

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<sup>8</sup> Kristin Fjæstad and Indra Øverland, "Energy Elites in Central Asia," RussCasp Working Paper, August 2012, 12, [http://www.fni.no/russcasp/Energy\\_Elites\\_in\\_Central\\_Asia.pdf](http://www.fni.no/russcasp/Energy_Elites_in_Central_Asia.pdf).

<sup>9</sup> Slavomir Horak, "The Elite in Post-Soviet and Post-Niyazov Turkmenistan: Does Political Culture Form a Leader?" *Demokratizatsiya* 20, no. 4 (2012): 376.

During Niyazov's presidency, business was understood to be almost entirely based on backroom intrigues and behind-the-scenes dealings, most often including the president himself. Niyazov's personal approval was required for all foreign investment agreements, and the "rubber stamp" parliament ensured that there would be no domestic resistance to his economic policies.

The history of the proposed trans-Afghan pipeline, now known as the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, is instructive for just how fickle an investment climate in Niyazov-era Turkmenistan was.<sup>10</sup> The proposal for a trans-Afghan pipeline was first brought to Niyazov in 1993 by Argentinian oil and gas firm Bidas. Bidas had recently acquired a 75 percent stake in Mary Province's Yashlar field, which it proposed as a source for the pipeline. In October 1995, Niyazov unexpectedly about-faced on previous negotiations with Bidas, signing an agreement with Texas-based Unocal and its Saudi partner to develop the pipeline. Within several months, the Turkmen government began to seize Bidas' in-country assets.

After Niyazov's death, President Gurbanguly Berdimukhammedov took a number of steps designed to change Turkmenistan's business environment. He opened the country's political system, including mandating that there must be more than one political party (although all parties remain "pro-regime"),<sup>11</sup> and instituted constitutional modifications, including restoring the legislature, now enlarged to 125 members, elected for five-year terms from single-member districts. The responsibility of the parliament has also been increased. In 2010 and 2011, the criminal and administrative legal codes of the republic were amended. Efforts have also been made to render the business environment more transparent and to attract more foreign direct investment (FDI), and in July 2013 President Berdimukhammedov instructed parliament to revise the nation's law on foreign investment. While progress has admittedly been slow, some economic organizations in particular are also being allowed to play a larger role than previously,

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<sup>10</sup> For a more complete account of the trans-Afghan pipeline, see Martha Brill Olcott, *International Gas Trade in Central Asia: Turkmenistan, Iran, Russia and Afghanistan*, James A. Baker III Institute for Public Policy, Geopolitics of Gas Working Paper Series, Working Paper #28, May 2004, <http://www.bakerinstitute.org/publications/international-gas-trade-in-central-asia-turkmenistan-iran-russia-and-afghanistan>.

<sup>11</sup> Inga Sikorskaya, "Picking a Winner in Turkmenistan," Institute for War & Peace Reporting, RCA Issue 669, February 8, 2012, <http://iwpr.net/report-news/picking-winner-turkmenistan>.

including the reorganized Union of Entrepreneurs and Industrialists, in which representatives of the country's largest Turkmen-owned businesses participate.

But the apparent freeing of Turkmenistan's political system has been counterbalanced by a new power structure among Turkmen elites. While his predecessor positioned himself above clan politics, Berdimukhammedov has appeared to support the rise of the Ahal Teke clan, to which he himself belongs, to positions of political and economic power. The new president has reportedly filled 70–75 percent of the senior and even mid-level jobs in his administration with people from his own branch of the dominant Teke clan. These appointments have not only been in the so-called Ahal region (the area around Ashgabat that is traditionally regarded as “belonging” to the Ahal Teke), but also in all other parts of the country, including among the oil and gas industry elite, formerly dominated by the Yomud clan.<sup>12</sup> While Berdimukhammedov has not typically placed close relatives in high-power posts, the president did make a notable exception by appointing his brother-in-law, Dovlet Atabaev, as head of the presidential agency overseeing the country's oil and gas reserves.

It is unclear to what extent Berdimukhammedov exercises direct control over the “Ahalized” Turkmen elite. While Turkmenistan is definitely not immune to elite competition, the competition for economic control does not appear to extend into the oil and gas sector, and Berdimukhammedov has helped ensure this through his promotion of clan and family members to prominent positions in the industry. So there is no reason to believe that his control of the country's energy policy is any less complete than that of his predecessor.

A 2011 study by the Russian analytic service Stratagema argued that Turkmenistan's business climate had, in fact, deteriorated after Berdimukhammedov's ascension to power. The study noted that any promise held in the new Turkmen president's reforms was negated by “the appetites of local elites,” whose “corrupt and raider-style attacks on business” have made the

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<sup>12</sup> Horak, “The Elite in Post-Soviet,” 382.

business climate “even more unpredictable” than it had been under Niyazov.<sup>13</sup> But whether or not this is true, the business climate has not diminished the interest of Western companies like ExxonMobil, Chevron, or British Gas to attempt to get access to some of Turkmenistan’s vast gas reserves.

Most observers agree that substantial barriers remain for those who seek to develop the country’s oil and gas reserves or otherwise invest in Turkmenistan. Government data and statistics remain widely suspect, and such basics as the budgeting process, the state of national finances, and the enforcement of laws governing ownership remain deeply opaque. Potential investors still face numerous bureaucratic obstacles in developing their projects, and even when these are surmounted they will face the challenge of finding a way to export their oil or gas. For smaller and even substantial mid-size investors, there is no guarantee that gaining exploration and exploitation rights in a project will yield a ready export route. For example, Petronas, which has been working on projects in Turkmenistan since 1997, had great difficulty in finding a way to export its 5 bcm (176 bcf) of associated gas per year, which came online in 2011, even with the Turkmen government negotiating on their behalf.<sup>14</sup>

Turkmenistan is much less investor-friendly than Azerbaijan or Kazakhstan. The Turkmen government has never given a major U.S. or European oil company a license to develop onshore or offshore fields, nor been willing to entertain entering PSAs (production sharing agreements) with them, having preferred to enter into service or management contracts whenever possible.

Formally, there is a structure of laws and regulations in place to encourage and protect investment, including by foreign entities. The Law on Foreign Investments (amended in 2008, and set to be amended again in 2013), the Law on Business Activities (2008), the Law on Enterprises (2000), the Law on Corporations (1999), the Law on Investments (amended in 1993), and others all exist to regulate and control economic activities. In practice, however, the

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<sup>13</sup> Stratagema, *Issledovanie MIPE ‘Investitsionnyi potentsial Turkmenistana: analiz politicheskikh riskov’* (Study of the investment potential of Turkmenistan: analysis of political risks), February 8, 2012, [http://stratagema.org/exclusive/research/research\\_1220.html](http://stratagema.org/exclusive/research/research_1220.html).

<sup>14</sup> Eric Watkins, “New USGS report confirms big Caspian stakes,” *Oil and Gas Journal*, January 3, 2011, [www.ogi.com/content/ogi/en/articles/print/volume-109/issue-1/exploration-development/newusgs-report-confirms-big-caspian-stakes.html](http://www.ogi.com/content/ogi/en/articles/print/volume-109/issue-1/exploration-development/newusgs-report-confirms-big-caspian-stakes.html).

application of these and other laws and regulations is affected by the uneven level of professionalism in the judiciary, which, according to a U.S. State Department publication, operates under direct presidential instruction.<sup>15</sup> Also hampering efforts to protect investment is the continued, or even growing, tradition of rent-seeking corruption. None of the major debt-ranking services (Moody's, Fitch, and so forth) is willing to rate Turkmenistan's debt-worthiness, and such international indices as the TI Corruption Perceptions Index, the Heritage Economic Freedom Index,<sup>16</sup> and OECD Principles of Corporate Governance Survey<sup>17</sup> all place Turkmenistan near the very bottom, judging it to be among the most opaque and corrupt countries in the world.

Despite all its problems, Turkmenistan's hydrocarbon wealth, or at least potential wealth, is so great that it continues to draw would-be investors. According to the Russian analytic group Stratagema,<sup>18</sup> the most successful foreign investors in Turkmenistan—the Turkish companies Polimeks Inssat and Chalyk, the Israeli company Merhav, the French company Bouygues Batiment International, the German company Siemens, Dragon Oil (joint UAE-Irish), and the Petronas (Malaysia)—all function not only as business partners of the Turkmen government, but also as “geopolitical agents” working to advance the country's interests internationally.<sup>19</sup>

To a certain extent this may also be true of the newest and seemingly most successful entrants to the Turkmen business space, Chinese companies CNPC and PetroChina, which have committed to invest more than \$14 billion to construct the Central Asia-China pipelines across the three Central Asian countries, and are already moving to double its capacity. CNPC is described as a

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<sup>15</sup> U.S. Department of State Background Note, *Doing Business in Turkmenistan: Market Challenges*, 2012, <http://photos.state.gov/libraries/turkmenistan/49351/pdf/Doing%20Business%20in%20Turkmenistan%202012%20CCG.pdf>.

<sup>16</sup> U.S. Embassy in Turkmenistan, *2012 Investment Climate Statement—Turkmenistan*, February 16, 2012, 2, <http://turkmenistan.usembassy.gov/ics.html>.

<sup>17</sup> European Bank for Reconstruction and Development, *Strategy for Turkmenistan*, Annex 4: Commercial Laws of Turkmenistan, March 23, 2010, 40, <http://www.ebrd.com/downloads/country/strategy/turkmenistan.pdf>.

<sup>18</sup> While apparently carefully done, the report should be treated as the product of analysts from a country that has recently found it increasingly difficult to deal with Turkmen authorities.

<sup>19</sup> International Institute for Political Expertise (IIPE), *Investment Opportunities in Turkmenistan: Political Risks Analysis* (Moscow: IIPE, 2011), 27, [http://www.minchenko.ru/netcat\\_files/File/Print\\_eng\\_Preview.pdf](http://www.minchenko.ru/netcat_files/File/Print_eng_Preview.pdf).

consortium, which is also bringing investment from South Korea (LG International and Hyundai Heavy Industry) and the UAE (Petrofac and Gulf Oil and Gas).<sup>20</sup>

Even these more favored companies, however, appear susceptible to the solicitation of “gifts”<sup>21</sup> and also to support for President Berdimukhammedov’s pet project, the development of the expensive Avaza resort on the Caspian shore. Most observers find the project inexplicable—promised features include luxury cottages, indoor and outdoor swimming pools, sports fields,<sup>22</sup> an artificial river, a yacht club, and an oceanographic center<sup>23</sup>—while some speculate that the real purpose is to transfer and conceal funds, since construction is considered to be the most corrupt of all Turkmenistan’s industries.<sup>24</sup> Some accounts note that foreign companies (Dragon Oil was a specific example) are also investing in Avaza because this facilitates their ability to get their profits out of the country.<sup>25</sup>

The best summary of business conditions in the country may be that of an unnamed Ukrainian businessman, quoted in the Stratagema report: “You can make money in Turkmenistan, but it is risky money ... There are a lot of cases when businessmen are not able to get out the money they have invested. Contracts, especially for construction, can be profitable but there are always questions about payment periods and the export of money.”<sup>26</sup> Again, while this may be true for small- and medium-sized investors, the global oil and gas giants seem to feel that they could manage the challenging business environment if given the chance.

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<sup>20</sup> Ibid, 29.

<sup>21</sup> According to a U.S. State Department cable included in the WikiLeaks documents, the “going rate” for arranging a meeting with the president is \$100,000–\$300,000, while getting to see a lesser official costs “\$15,000 and up.”

<sup>22</sup> Natallia Moore, “Turkmenistan Weekly News Analysis,” *EurasiaNet.org*, July 19, 2012, <http://www.eurasianet.org/node/65683>.

<sup>23</sup> Bohr, “Turkmenistan,” 13.

<sup>24</sup> Ibid, 13.

<sup>25</sup> IIPE, *Investment Opportunities in Turkmenistan*, 74.

<sup>26</sup> Ibid, 39.

#### IV. Turkmenistan's Export Challenge: Some Scenarios

##### *Scenario 1: Export Via Russia*

As a landlocked country,<sup>27</sup> Turkmenistan is wholly dependent upon pipelines and transit rights through other states in order to bring its gas to market. Its traditional major export route is the Central Asia Center (CAC) system, which transports Turkmenistan's gas to Russia and the Gazprom distribution center. When Turkmenistan first declared its independence, officials in Moscow considered it their due that the country's gas would move to market via the old Soviet-era pipeline structure, at prices that suited Moscow rather than Ashgabat.

The government of the now-defunct USSR had spent the money to develop the republic's gas industry and its infrastructure, and most of the experts running and working in Turkmenistan's gas industry came from outside the republic. Thus, the authorities in the Kremlin believed that the inexperienced leaders of newly independent Turkmenistan would have little choice but to accept this situation. The Turkmen leadership was initially willing to accept a lot of direction from Moscow, or Moscow's agents, but has not been willing to invest in the old Soviet-era pipeline system, even in the first years after the Soviet Union's collapse.

In the period just after independence, Itera, a Florida-based company staffed mainly by ethnic Russians from Turkmenistan and since July 2013 wholly by Russia's Rosneft oil giant,<sup>28</sup> managed most of the republic's gas trade. This trade was conducted on a half-cash, half-barter basis on terms set by Russia's Gazprom. In 1997, Ashgabat cut off gas supplies in protest of these terms. Payment terms began to change in 2003, when Gazprom and Turkmenistan formalized an agreement that the republic would continue to supply gas to the Russian company through 2028, but at prices to be negotiated annually that would be closer to purchase prices in

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<sup>27</sup> The country is bounded on the west by the Caspian, which is itself landlocked, and the five littoral parties which share its shoreline have yet to decide whether the body of water should be considered a sea or a lake. If it is a sea, then each state in theory has a claim to nearly the entire body of water, as well as the resources that lie under it. There are almost no international treaties governing the status of a shared lake. See Luča Zs. Vasánczki, *Gas Exports in Turkmenistan*, Institute français des relations internationales (IFRI), November 2011, [www.ifri.org/downloads/noteenergielvasanczki.pdf](http://www.ifri.org/downloads/noteenergielvasanczki.pdf).

<sup>28</sup> "Rosneft consolidated ITERA Oil and Gas Company LLC," ITERA, July 2, 2013, <http://www.itera.ru/isp/eng/index/articles/634/6/>.



Europe.<sup>29</sup> The Turkmen, however, were so dissatisfied with the terms offered that in June 2006 they again threatened to cut gas deliveries to Russia.<sup>30</sup>

After Niyazov's death in 2006, relations with Russia quickly improved. This improvement stemmed not only from President Berdimukhammedov's interest in normalizing the Turkmen-Russian relationship, but also from a change in attitude by Russia's leading officials, who were increasingly wary of losing the chance to play a pivotal role in Turkmenistan due to China's rapidly expanding presence.

But this seems increasingly unlikely. The CAC system has two branches—one takes gas north from the Caspian Sea region to Russia, and the other moves gas from eastern Turkmenistan to southern Uzbekistan and western Kazakhstan and then north to Russia. The system is described as poorly designed and badly maintained; its current actual capacity is approximately half of the initial announced capacity of 90 bcm/y (3,178 bcf/y).<sup>31</sup> It was a portion of this pipeline (CAC-4, Dauletabat-Dariyalik) that exploded on April 9, 2009, near the Turkmenistan-Uzbekistan border. Although Gazprom charged that the explosion was the result of the pipeline's age and the Turkmen's negligent maintenance,<sup>32</sup> and the Turkmen government accused Gazprom of having sharply and unilaterally reduced gas volume, most observers have understood the explosion in the context of the ongoing battle over gas pricing and transit volume between the two countries.<sup>33</sup> Both versions likely contain elements of truth. The pipeline system was old and in relatively poor repair, but it was also the case that with less foreign demand, Gazprom was drawing off lower volumes of Turkmen gas than planned, and frequently did this with little forewarning.

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<sup>29</sup> For details on Russian-Turkmen gas relationship in this period see Martha Brill Olcott, *International Gas Trade in Central Asia: Turkmenistan, Iran, Russia and Afghanistan*, James A. Baker III Institute for Public Policy, Geopolitics of Gas Working Paper Series, Working Paper #28, May 2004, 23-27, <http://www.bakerinstitute.org/publications/international-gas-trade-in-central-asia-turkmenistan-iran-russia-and-afghanistan>.

<sup>30</sup> "Turkmenistan Threatens Gas Cutoff To Russia After Talks Collapse," Radio Free Europe/Radio Liberty, June 29, 2006, <http://www.rferl.org/content/article/1069552.html>.

<sup>31</sup> Vladimir Milov, "Ups and Downs of the Russia-Turkmenistan Relationship," in *Russian Energy Security and Foreign Policy*, eds. Adrian Dellecker and Thomas Gomart, New York: Rutledge, 2011, 97.

<sup>32</sup> Bruce Pannier, "Pipeline Explosion Raises Tensions Between Turkmenistan, Russia," Radio Free Europe/Radio Liberty, April 14, 2009, [http://www.rferl.org/content/Pipeline\\_Explosion\\_Stokes\\_Tensions\\_Between\\_Turkmenistan\\_Russia/1608633.html](http://www.rferl.org/content/Pipeline_Explosion_Stokes_Tensions_Between_Turkmenistan_Russia/1608633.html).

<sup>33</sup> Julian Lee, *Pipeline Politics in Turkmenistan*, Centre for Global Energy Studies, FSU Oil and Gas Advisory Service, June 2009, <http://www.cges.co.uk/resources/articles/2009/06/19/pipeline-politics-in-turkmenistan>.

Russia's interest in Turkmenistan has been greatest when gas prices in Europe were high, as in 2008, when Gazprom is reported to have offered prices that, for the first time, were equal to or better than those negotiated between Turkmenistan and China. But when world prices later dropped, Gazprom was no longer interested in buying the negotiated volumes of Turkmen gas. It was for this reason that most observers saw the explosion as a deliberate ploy orchestrated either by Ashgabat or by Moscow. In addition to the pricing dispute, Russia also disapproved of Turkmenistan's announced decision in 2010 to move ahead with construction of an East-West pipeline within the country (to be completed in 2014), designed to eventually feed the European Southern Corridor project, thus bypassing Russia's pipelines entirely,<sup>34</sup> rather than using the funds to build an extension of Russia's Caspian Coastal pipeline (planned to run parallel to the CAC-3 pipeline in western Turkmenistan), as Russia had presumed it would.<sup>35</sup>

After the explosion, Russia demanded that Turkmenistan either reduce its gas shipments by 80 percent or its price by 40 percent, which ran counter to Ashgabat's desire to increase exports, in part to take greater advantage of the massive, recently discovered Galkynysh (formerly known as South Yolotan) field. Gas supplies from Turkmenistan to Russia stopped entirely following the CAC-4 explosion, resuming only in January 2010, after the signing of a new long-term gas agreement between the two nations in December 2009. In retrospect, the essence of the dispute seems to have been that the Russians, who were facing declining demand for their gas in Europe, no longer wanted to pay Turkmenistan the higher prices that had been negotiated in 2007—rumored to have been upwards of \$300 per 1,000 cubic meters (35,315 cubic feet)—while the Turkmen were unwilling to accept substantially lower prices and opted for the loss of income resulting from refusing to sell to Russia for the last nine months of 2009,<sup>36</sup> a pill that was easier to swallow given the inauguration of the pipeline to China in late 2009. The new agreement offered a price that satisfied the Turkmen and reduced Russia's purchase obligations, as Gazprom was committed to buy “up to” 30 bcm (1,059 bcf) for 2010 and obliged to buy only

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<sup>34</sup> “Turkmenistan plans to complete construction of western line of East-West gas pipeline by 2014,” Embassy of Turkmenistan, October 22, 2012, <http://www.turkmenistan.ru/en/articles/16803.html>.

<sup>35</sup> Eric Watkins, “Watching the World: Turkmenistan's ‘lucky path,’” *Oil and Gas Journal*, June 7, 2010, 40, <http://www.ogj.com/articles/print/volume-108/issue-20/general-interest/watching-the-world.html>.

<sup>36</sup> These losses were upward of \$1 billion per month. See “Turkmenistan, Russia Agree to Resume Gas Supplies in 2010, Ending Impass,” *IHS Global Insight*, December 23, 2009, <http://www.ihs.com/products/global-insight/industry-economic-report.aspx?id=106594749>.

half that, effectively annulling earlier purchase agreements. Barring some unforeseen change, this is likely to remain the pattern for some years to come, with Russia a relatively stable destination for Turkmenistan's gas, but not one which is likely to require a sharp rise in the shipment of gas.

*Scenario II: Iran*

The first Turkmen gas export route to exclude Russia is the Korpezhe-Kurt Kui pipeline, built in 1997 with a maximum capacity of 8 bcm/y (282 bcf/y), which transports gas to Iran. A 25-year agreement between the two countries stipulates that 35 percent of the gas is to repay Iran for building the line. A second Turkmenistan-Iran line, the Daulteabad-Khangiran pipeline, with a capacity of 12 bcm/y (424 bcf/y), was completed in 2010.<sup>37</sup> These lines remain a major outlet through which Turkmenistan can bypass Russia, but industry experts note that Iran's own gas industry is in such disarray—even discounting the effects of international sanctions<sup>38</sup>—that it remains uncertain how much of Turkmenistan's gas Iran can absorb domestically or resell in the Arab world to the country's south.<sup>39</sup>

The Turkmenistan-Iran export route has hit a number of snags in its short history. Price disputes, as well as Iran's frequent inability to pay for the gas it imports, have led the Turkmen to shut off or drastically reduce gas supplies several times in recent years. Ashgabat has not been shy about pressing Iran for what it deems fair prices. According to Iranian sources, during the particularly cold winter in 2008, Turkmenistan shut off gas exports to Iran completely, demanding that Iran nearly double what it was paying for Turkmen gas to \$140 per thousand cubic meters, and did not restore gas flow until February 2009.<sup>40</sup> Recently, it has been reported that the two countries have moved to a barter system, in order to work around the financial troubles Iran faces due to international sanctions. The volume of gas Turkmenistan currently exports to Iran is believed to be well below its 20 bcm/y (706 bcf/y) capacity.

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<sup>37</sup> Vasánczki, 41–42.

<sup>38</sup> Vasánczki, 41.

<sup>39</sup> “Politics wreak havoc with Iran's gas-pipeline plans,” *Petroleum Economist*, February 1, 2010, <http://www.petroleum-economist.com/Article/2731321/Politics-wreak-havoc-with-Irans-gas-pipeline-plans.html>.

<sup>40</sup> Guy Chazan and Chip Cummins, “Fears Flow From Central Asia Gas Shutoff,” *Wall Street Journal*, February 4, 2008, <http://online.wsj.com/news/articles/SB120208969844439657>.

*Scenario III: China*

Newer and potentially even more important is the Central Asia-China pipeline, with an initial annual capacity of 30 bcm/y (1,059 bcf/y).<sup>41</sup> Built by the China National Petroleum Corporation (CNPC), the pipeline connects Turkmenistan's eastern fields to the West-East pipeline in Xinjiang. China has provided Turkmenistan more than \$8 billion in soft loans, much of it for development of the gas transportation network, and also for development of the Galkynysh field, which could prove to be among the five largest in the world.<sup>42</sup> The capacity of the Central Asia-China line is projected to rise to over 60 bcm/y (2,100 bcf/y) by 2015,<sup>43</sup> with most of this gas to come from Turkmenistan, making it a significant supplier for China. Although industry analysts assert that actual throughput is likely to be well below capacity in the pipeline's first years of operation (mostly because Xinjiang's demand figures are lower than the pipeline's capacity), once the second portion of China's West-East line, linking Xinjiang to Shanghai, is complete, Chinese imports could rise dramatically, potentially from Kazakhstan as well as from Turkmenistan. A third pipeline to carry an additional 30 bcm (1,059 bcf/y) is also being discussed as a possibility.<sup>44</sup> Ashgabat appears to favor China as an energy development partner, although there are reports that China is not only balking at paying more than \$200 per 1,000 cubic meters (35,315 cubic feet), but is also pressing for offsetting credits as a payment form.<sup>45</sup> Nevertheless, in 2012 the Turkmen government was reported to be seeking Chinese partners for a second pipeline to China, this one to pass through Kyrgyzstan.<sup>46</sup> China is, to date, the only country to have been granted direct access to an onshore development (the Bagtyarlyk project, subject of a 35-year PSA),<sup>47</sup> leading one commentator to describe the Chinese as "light-years ahead"<sup>48</sup> in the competition for Turkmenistan's energy resources.

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<sup>41</sup> Vasánczki, p. 37.

<sup>42</sup> "Turkmenistan puts its foot on the gas," *Petroleum Economist*, September 30, 2010, <http://www.petroleum-economist.com/Article/2730968/Turkmenistan-puts-its-foot-on-the-gas.html>.

<sup>43</sup> U.S. Energy Information Agency, *Country Analysis Briefs: Turkmenistan*, January 2012, <http://www.eia.gov/countries/country-data.cfm?fips=TX&trk=m>.

<sup>44</sup> Siamak Adibi, "Development constraints limit Turkmen gas export options," *Oil & Gas Journal*, April 26, 2010, 54, <http://www.ogj.com/articles/print/volume-108/issue-15/technology/development-constraints.html>.

<sup>45</sup> IIPE, *Investment Opportunities in Turkmenistan*, 70.

<sup>46</sup> Natallia Moore, "Turkmenistan Weekly News Analysis," *EurasiaNet.org*, August 9, 2012, <http://www.eurasianet.org/node/65770>.

<sup>47</sup> U.S. Energy Information Agency, *Country Analysis Briefs: Turkmenistan*, 6.

<sup>48</sup> "Turkmenistan puts its foot on the gas," *Petroleum Economist*.

*Scenarios Under Development, Discussion, or Merely Wished For*

The potential of Turkmenistan's gas riches has stimulated a number of other pipeline projects. Perhaps the oldest is the East-West pipeline, which will transport gas from the country's eastern fields to the Caspian Sea. This pipeline was widely viewed as necessary for providing the volume of gas necessary to make the highly touted Nabucco (Turkey-Austria) pipeline possible. The Turkmen government has long wanted to be able to ship gas directly to Europe, bypassing Russia, but to date, the country has lacked a pipeline capable of moving substantial volumes of gas. But when Azerbaijan selected the Trans-Adriatic (TAP) pipeline to transport its gas from the end of the proposed Trans-Anatolian (TANAP) pipeline to Greece and Italy in June 2013, plans for Nabucco collapsed, introducing new obstacles for those hoping to get a quick entry of Turkmen gas into the European market.

Nabucco had long struggled to prove its financial tenability. Bringing Turkmen gas to any project aiming to circumvent Russia in supplying gas to Europe requires the construction of a trans-Caspian pipeline, an idea that has been around since the mid-1990s. This plan gained more immediacy during the several stand-offs between Russia and Ukraine in the 1990s and 2000s. Western Europe suffered significant shortages as a result of these confrontations, because CIS (Confederation of Independent States) gas flows west through the Soviet-era Druzhba gas pipeline system, from Russia and then across Ukraine. This vulnerability provided a new incentive to realize plans for the proposed Nabucco pipeline, a project with strong political support from the EU<sup>49</sup> and commitments of participation from Turkmenistan, Azerbaijan, Romania, Hungary, Austria, Bulgaria, and Germany. Transgaz (Romania), MOL (Hungary), OMV (Austria), Botas (Turkey), RWE (Germany), and the Bulgarian Energy Company formed a consortium to build the 3,300 km<sup>50</sup> pipeline, originally scheduled to begin construction in 2011, with plans to move 8–10 bcm/y (280–350 bcf/y) of gas in late 2013, and 31 bcm/y (1094 bcf/y) of gas by 2018.

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<sup>49</sup> European officials have beaten a trail to Ashgabat. For an account of the April 2010 visit of EU Energy Commissioner Gernot Erhard, see Eric Watkins, "EU energy chief touts 'Southern Corridor' from Caspian region," *Oil and Gas Journal*, April 15, 2010, 32, <http://www.ogj.com/articles/2010/04/eu-energy-chief-touts.html>.

<sup>50</sup> As the pipeline route isn't fully set, there are conflicting accounts of the final length of Nabucco. This figure comes from Eric Watkins, "European Union energy chief touts 'Southern Corridor' projects," *Oil and Gas Journal*, April 26, 2010, 32, <http://www.ogj.com/articles/2010/04/eu-energy-chief-touts.html>.

Whether Nabucco will be built depends upon both supply and demand. European demand has to warrant it, and there has to be enough gas committed to be shipped through this route to justify the expense of construction. Azerbaijani gas was assumed to be a given for this pipeline, because the Shah Deniz gas field in the South Caspian would enter phase II in 2012. The potential second source was initially presumed to be either Turkmen gas (the Turkmen government's preference) or uncommitted gas from Iraq, Egypt, or somewhere else in the Middle East. New gas discoveries in Azerbaijan could obviate this.

However, major problems with this plan have been clear from the outset. While both Azerbaijan and Turkmenistan professed enthusiasm about the project, disputes over the Serdar (Kyapaz) oil field in the Caspian caused their bilateral relationship to completely deteriorate in the 1990s and early 2000s. Following the death of Niyazov in 2006, negotiations over the field resumed, but a resolution remains far off. In recent years, both Azerbaijan and Turkmenistan have increased their military presence in the Caspian, and standoffs between naval vessels have been reported.

The challenge of shipping large volumes of Turkmen gas across the Caspian was also never resolved. Estimates for the cost of constructing a trans-Caspian pipeline range from \$1 to \$5 billion, and the project faces political opposition from both Russia and Iran. Russia also, unsurprisingly, opposed the idea of constructing the Nabucco pipeline (unless it includes some form of Russian participation),<sup>51</sup> and instead pressed for the construction of a new South Stream pipeline to serve the same market.

The emergence of two cheaper and shorter "southern routes" (including the ultimately victorious Trans-Adriatic Pipeline<sup>52</sup>), and the sudden arrival of European shale gas as a potential market disruptor, the volume of which one study says could be as much as 60 bcm/y (2,119 bcf/y) by 2030,<sup>53</sup> combined to make some industry commentators conclude that Nabucco was dead long

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<sup>51</sup> Francesco Guarascio, "Azerbaijan doubts pipeline for Turkmen gas to be built soon," *Reuters*, July 25, 2012, <http://www.reuters.com/article/2012/07/25/azerbaijan-turkmenistan-pipeline-idUSL6E8IPM4X20120725>.

<sup>52</sup> "Trans-Caspian gas pipeline vital to Nabucco," *Petroleum Economist*, October 17, 2011, <http://www.petroleum-economist.com/Article/2918721/trans-Caspian-gas-pipeline-vital-to-Nabucco.html>.

<sup>53</sup> "Nabucco prays for a miracle," *Petroleum Economist*, October 25, 2011, <http://www.petroleum-economist.com/Article/2923680/Nabucco-prays-for-a-miracle.html>.

before the Azeri announcement in June 2013.<sup>54</sup> Nevertheless, some argue that Nabucco may, in the future, rise from its grave, quite possibly without Turkmen participation. In the aftermath of the TAP selection, EU commissioner for energy Günther Oettinger wrote in an editorial that “both [TAP and Nabucco] are required in the medium term. By 2020, we will need more gas, and the Caspian region can make an important contribution.”<sup>55</sup>

While hopes for Nabucco have sputtered in 2013, another major gas pipeline project has gathered renewed strength. The Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline, once considered dead, is making significant headway in negotiations, with the Asian Development Bank serving as the transaction advisor.<sup>56</sup> As presently conceived, Afghanistan will serve only as a transit site, with India and Pakistan as the downstream customers for what is projected to be as much as 30 bcm/y (1,060 bcf/y). Unlike a competing proposal for an Iran-Pakistan-India (IPI) pipeline, the TAPI has relatively strong U.S. support and is considered to be something of an international oddity, because of the willingness that traditional rivals India and Pakistan have shown to work together. A Gas Pipeline Framework Agreement and Inter-Governmental Agreement were signed in December 2010, and the project appears sufficiently alive that commercial support—estimated in 2008 to cost at least \$7.6 billion—is being sought. Project skeptics, however, note that the pipeline would have to pass through some of the most turbulent territory in South Asia, making security a considerable risk. Even if security were assured, there still is the question of financing, which—unless a commercial investor is found—will have to come from the uneven resources of the three governments involved.

## **V. Could a Libyan Scenario Occur in Turkmenistan?**

While Turkmenistan suffers the least open unrest of any country in the region, it still faces serious social and economic strains, making the rise of social instability far from impossible,

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<sup>54</sup> Alexandros Petersen, “Comment: The Nabucco Pipeline project is dead,” *Oil & Gas Journal*, November 7, 2011, <http://www.ogj.com/articles/print/volume-109/issue-45/general-interest/comment-the-nabucco-pipeline.html>.

<sup>55</sup> “Nabucco is dead, long live Nabucco,” *Interfax Global Energy Services*, July 5, 2013, <http://interfaxenergy.com/natural-gas-news-analysis/european/nabucco-is-dead-long-live-nabucco/>.

<sup>56</sup> “Upcoming road-shows of TAPI gas project: petroleum ministry approaches PM for guidelines,” *Business Recorder*, August 20, 2012, <http://www.brecorder.com/top-stories/0/1229412/>.

particularly if other Central Asian countries were to experience some version of their own “Arab Spring.”

To date, Turkmenistan has not seen unrest on the scale witnessed in Zhanaozen, Kazakhstan, in December 2011, when confrontations between striking oil workers and security forces resulted in 16 deaths (a figure that opposition groups put much higher, though without substantiating evidence). In contrast to the Kazakhs, the Turkmen leadership has been more interested in preserving public subsidies than in pursuing economic reforms.

This does not mean, however, that potential causes of social unrest do not exist in Turkmenistan. The economy is heavily dependent on the sale of oil and gas, which leaves the nation vulnerable to market fluctuations. The second largest industry—textiles—is antiquated and non-competitive. Apart from a miniscule private sector, most of which is engaged in small services, most of Turkmenistan’s economy remains a Soviet-style, government-owned command structure.

Most economic figures are government secrets, and the media is tightly controlled in the country, to the point that even satellite dishes have been forbidden, although the ban is apparently not widely enforced. The largest cell phone service provider, Russia’s MTS, was forced to suspend operations in late 2010, meaning that there were no international telecommunication providers and no unsupervised international connectivity. MTS returned to the country in 2012.<sup>57</sup> Most indicators of social problems are anecdotal, making it difficult to judge the depth of public dissatisfaction. That said, these anecdotal indicators suggest that life for average citizens may be relatively grim. The Economist Intelligence Unit estimates that inflation has averaged about 9.8 percent per annum over the past five years (rather than the 6.3 percent claimed by official figures),<sup>58</sup> and a leaked U.S. State Department report speculates that overall unemployment may be on the order of 50 percent for the general population and approaching 90 percent for those

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<sup>57</sup> “UPDATE 1-Russian mobile operator MTS returns to Turkmenistan,” *Reuters*, July 26, 2012, <http://www.reuters.com/article/2012/07/26/mts-turkmenistan-idUSL6E8IQJSV20120726>.

<sup>58</sup> Economist Intelligence Country Report, third quarter 2013.



between 16 and 24 years old.<sup>59</sup> In recent years, Turkmen men have been reported to be seeking work in Turkey in large numbers.<sup>60</sup> Infant mortality is high, and there was at least one major measles epidemic in Ashgabat in 2012, reported by outside sources but not by internal media or health officials. Turkmen leaders have apparently decided that the country will become a wheat exporter, even though the 2012 harvest was only about 90 percent of that in 2011. Flour subsidies were abruptly ended in 2012, causing flour and bread prices to jump 200–300 percent. The price of meat has also risen. Perhaps more indicative of the economy's distortions and potential hidden dangers is the state airline company, which—according to reports—has stopped paying its staff and no longer services its equipment, including the airplanes.

While the threshold for public unrest will be higher there than in neighboring countries, given the deeply traditional nature of Turkmen society, there are already some signs that popular dissatisfaction may be brewing in Turkmenistan. The Institute for War and Peace Reporting published a news briefing in late summer 2012 claiming that there had been a total of five strikes in several different regions of Turkmenistan caused by delays in the payment of salaries, most involving foreign workers. Interestingly enough, Turkmen officials appear to have responded to the foreign workers' demands. Two strikes appear to have involved Turkmen workers. In early August 2012 a group of Turkmen road workers went on strike in eastern Turkmenistan, and in April 2012 a group of Turkmen workers resigned from Dragon Oil in protest of unequal pay.<sup>61</sup> Another potential source for meaningful dissatisfaction is the small, but nevertheless growing, number of students (approximately 2,000 a year) who are able to leave the country to study in Russia or in other Central Asian countries. Most of these are reported to do all they can to avoid returning to Turkmenistan, but it is possible that some might come to play a role in a diaspora opposition.

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<sup>59</sup> Wikileaks State Cable#09ASHGABAT299, March 5, 2009. A Congressional Research Service report puts unemployment as being somewhere between one-quarter and two-thirds of the population, with approximately one-quarter to one-third "living in poverty." Congressional Research Service (CRS), "Turkmenistan: Recent Developments and U.S. Interests," August 17, 2012, <http://www.fas.org/sgp/crs/row/97-1055.pdf>.

<sup>60</sup> "Turkey a Magnet for Migrant Workers," Institute for War & Peace Reporting, TRK Issue 17, December 18, 2006, <http://iwpr.net/report-news/turkey-magnet-migrant-workers>.

<sup>61</sup> "Daring to Strike in Turkmenistan," Institute for War & Peace Reporting, News Briefing Central Asia, August 29, 2012, <http://iwpr.net/report-news/daring-strike-turkmenistan>.

Some observers assert<sup>62</sup> that, should political change come to Turkmenistan, it is more likely to follow the “Libyan model” of interclan fighting than the “Egyptian model” of large popular protest. Turkmenistan has a well-documented clan system that has definite expectations about how wealth and power should be distributed. Although Berdimukhammedov has followed the practice of his predecessor in not putting close relatives in prominent government or industry positions (with the exception of Dovlet Atabaev’s appointment as head of the presidential agency overseeing Turkmen oil and gas reserves<sup>63</sup>), the rise of Ahal Teke Turkmen in his administration is, at least anecdotally, said to irritate other clans. What it might take to turn that “irritation” into open opposition is, however, impossible to predict.

One source of political turmoil that seems unlikely is Islamic fundamentalism, although there have been rumors of Turkmen citizens fighting against pro-Assad forces in Syria, rumors that the government of Turkmenistan vehemently denies.<sup>64</sup> The population is 90 percent Sunni Muslim, the Constitution promises freedom of religion, and there is no official state religion. A number of large mosques have been built, but like all institutions in the country, the activities within them are closely monitored. Many Uzbek imams, who made up a large portion of the country’s small clerical elite, have been dismissed and in some cases arrested, leaving in charge the Turkmen clerics who are generally perceived to be more docile. One sign of this active state monitoring of religion came in August 2011, when Turkish-Turkmen schools in three towns were closed, reportedly because of concerns about the activities of the sponsor, Nurchilar, a Turkish Islamic group.<sup>65</sup> In addition, although much less prominent than it was under President Niyazov, the *Ruhnama* remained a central part of school and university curricula as a competitor for other religious texts for years following Niyazov’s death, although it is much less prominent now than it was under his presidency. Even so, however, a serious rise of Islamist-inspired political activism in neighboring regions of Uzbekistan could have a ripple effect.<sup>66</sup>

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<sup>62</sup> See for example, Stratagema, “*Issledovanie*.”

<sup>63</sup> Aisha Khan, “Turkmenistan’s Clannish Leader,” Institute for War & Peace Reporting, RCA Issue 634, November 23, 2010, <http://iwpr.net/report-news/turkmenistans-clannish-leader>.

<sup>64</sup> “Syrian Army Arrests Tens of Turkmen Armed Rebels in Aleppo,” FARS News Agency, July 17, 2013, <http://english.farsnews.com/newstext.aspx?nn=13920426001057>; “Ashgabat: No Turkmen Fighting in Syria,” FARS News Agency, July 14, 2013, <http://english.farsnews.com/newstext.aspx?nn=13920423000681>.

<sup>65</sup> Bohr, “Turkmenistan,” 4.

<sup>66</sup> “Turkmenistan: Religious leader arrested and imprisoned,” IRIN, March 18, 2004, <http://www.irinnews.org/Report/23877/TURKMENISTAN-Religious-leader-arrested-and-imprisoned>.

As a final consideration the potential for social unrest, the Internet and social media platforms that are widely assumed to have played a major, if still undefined, role in starting and sustaining the series of popular disturbances now called the “the Arab Spring,” barely exist at all in Turkmenistan. Internet access for ordinary citizens was not available at all until 2008 and did not really begin to spread until MTS, the Russian-owned cell phone service provider, began to offer 3G service in 2010. Soon after this, the company lost its operating license, and international Internet access became much more difficult. According to 2012 statistics, there are about 250,000 Internet users in Turkmenistan, representing about 5 percent of the population.<sup>67</sup> This is about the same percentage as in Afghanistan and Bangladesh.<sup>68</sup>

This is not to say, however, that greater availability of person-to-person communication devices will not affect the regime. An example of this potential was seen in July 2011, when an arms depot near the town of Abadan exploded. The event, which included fatalities, was ignored by state media, but a group of local citizens took photos and videos with their mobile devices, which they then uploaded to the Internet or e-mailed to people outside the country. Within a day or so of the event, official media had to acknowledge that the explosion had occurred, although the reasons given—and the number of resulting fatalities—were both different than those supplied by the “citizen journalists.” As a cautionary note, however, it should also be pointed out that within a few days, all of the “citizen journalists” had reportedly been imprisoned.<sup>69</sup>

The Internet has become at least an occasional threat to the regime’s monopoly on media. This was made clearly evident in April 2013, when President Berdimukhammedov fell from his horse after crossing the finish line of a race at Ashgabat’s hippodrome. While Turkmen state television cut footage immediately before the fall, it was not long before several versions of the full video, apparently recorded on cell phones, were uploaded to the Internet and made their way into

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<sup>67</sup> Turkmenistan’s population is estimated to be about 5 million, but there has been no census since 1995. Some accounts suggest that the population may have fallen as low as 3.5 million. In August 2012 it was announced that a new census would be conducted in December 2012. The census was reportedly completed in January 2013, though results will not be made public until 2014.

<sup>68</sup> See [internetworldstats.com](http://internetworldstats.com). The site asserts that there 10,120 Facebook users in Turkmenistan, representing a .2 percent penetration rate, but the ease with which locations can be claimed without verification on that site makes the figure seem unreliable.

<sup>69</sup> Bohr, “Turkmenistan,” 9.

international press, despite Turkmen efforts to seize the recordings and photos that were taken of Berdimukhammedov's accident.<sup>70</sup>

But, as with so much else in Turkmenistan, it is impossible to get a good handle on what is going on in the society, or for that matter among the ruling elite of the country, and what effect popular or elite dissatisfaction might have on the development of the country's vast gas reserves. If the last nearly hundred years are much of an indication, the Turkmen population has a tendency to absorb political and economic shocks without too much outward demonstration of stress.

From the time of the Soviet collectivization drives and purges of the 1930s to the present day, manifestations of protest were locally based and easy for authorities to put down. Then, as now, local elders, most of whom are still tied by kinship to the populations they lead or guide, have enormous weight in their communities. For this reason, a political coup would seem a far more likely outcome than would a popularly inspired revolt, and there is no strong evidence to suggest that such a coup might be a near- or even medium-term threat. Indeed, in a society as closed as Turkmenistan, we may never even know that such a coup has occurred—to outsiders, it might simply look like the natural passing of a leader.<sup>71</sup>

There is also no reason to believe that elite change, whenever it might occur, will lead to a government in Turkmenistan that will provide a business-friendly environment to Western investors. The fact that Berdimukhammedov has largely replicated so many of his predecessor's policies suggests that many in the Turkmen elite prefer the idiosyncratic political and economic choices that Turkmenistan has made, and that if wage increases can be kept in rough parity to price increases, the population may not have the incentive or the imagination necessary to seek a different form of political system.

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<sup>70</sup> "Turkmenistan: Arkadag's Day at the Races Redux," *EurasiaNet.org*, May 21, 2013, <http://www.eurasianet.org/node/66992>.

<sup>71</sup> This is not a veiled reference to Saparmurat Niyazov's death, as I really believe that he died of natural causes.

**Appendix A. Proved Natural Gas Reserves in Europe/Eurasia by Country (sorted by proved reserves at end of 2012)**

Country	At end of 1992 (tcm)	At end of 2002 (tcm)	At end of 2012 (tcm)
<b>Russian Federation</b>	n/a	29.8	32.9
<b>Turkmenistan</b>	n/a	2.3	17.5
<b>Norway</b>	1.4	2.1	2.1
<b>Kazakhstan</b>	n/a	1.3	1.3
<b>Uzbekistan</b>	n/a	1.2	1.1
<b>Azerbaijan</b>	n/a	0.9	0.9
<b>Netherlands</b>	1.7	1.4	1.0
<b>Ukraine</b>	n/a	0.7	0.6
<b>United Kingdom</b>	0.6	1.0	0.2
<b>Romania</b>	0.5	0.3	0.1
<b>Germany</b>	0.2	0.2	0.1
<b>Italy</b>	0.3	0.2	0.1
<b>Poland</b>	0.2	0.1	0.1
<b>Denmark</b>	0.1	0.1	0.0

Source: *BP Statistical Review of World Energy*, June 2013

## Appendix B. Operational Gas Export Pipelines

Name	Route	Length	Maximum Capacity	Status
Central Asia-China gas pipeline <sup>72</sup>	Samantepe – Horgos, Xinjiang (through Uzbekistan, Kazakhstan and connecting to China’s under-construction West-East pipeline to Hong Kong)	1,833 km (parallel lines A and B)	Up to 40 bcm/year, currently. Capacity is expected to expand to 65 bcm/year with construction of line C.	Line A completed in December 2009. Line B completed in October 2010. Construction of Line C began in December 2011 and is expected to reach completion in 2015. A line D is also planned for the future, running parallel to Line C.
Central Asia-Center (CAC) gas pipeline system (Lines 1, 2, 3, 4, and 5) <sup>73</sup>	Dauletabad gas field – Orenburg-Novopskov pipeline system in Russia	4,892 km (aggregate system length) <sup>74</sup>	90 bcm/year (current capacity estimates stand at about half)	A system of five lines, the first of which was completed in 1966 and the last in 1978.
Korpedzhe-Kurt Kui (KKK) pipeline <sup>75</sup>	Korpedzhe gas field – Kurt Kui, Iran	200 km	8 bcm/year	Operational since 1997
Dauletabad-Sarakhs-Khangiran gas pipeline <sup>76</sup>	Dauletabad gas field – Khangiran, Iran	182 km	12 bcm/year	Operational since January 2010

<sup>72</sup> Andreas Kohler, “Trans Asia Gas Pipeline from Turkmenistan to China,” Presentation for IPLOCA Convention 2012, Istanbul, <http://www.iploca.com/platform/content/element/14392/4AndreasKohler.pdf>.

<sup>73</sup> Michael Fredholm, *The Russian Energy Strategy & Energy Policy: Pipeline Diplomacy of Mutual Dependence?* (Conflict Studies Research Center: September 2005), <http://www.da.mod.uk/colleges/arag/document-listings/russian/05%2841%29-MF.pdf>.

<sup>74</sup> Intergas Central Asia Website, accessed November 19, 2012, <http://www.intergas.kz/eng/about/history/>.

<sup>75</sup> Bruce Pannier, “Turkmen Gas Exports to Iran a Boon for Both Countries,” Radio Free Europe/Radio Liberty, June 1, 2010, [http://www.rferl.org/content/Turkmen\\_Gas\\_Exports\\_To\\_Iran\\_A\\_Boon\\_For\\_Both\\_Countries/1921933.html](http://www.rferl.org/content/Turkmen_Gas_Exports_To_Iran_A_Boon_For_Both_Countries/1921933.html).

<sup>76</sup> Ibid.

## Appendix C. Major Natural Gas Deposits in Turkmenistan<sup>77</sup>

Name	Estimated Reserves <sup>78</sup>	Location	Development Status
Byashkyzyl	11 bcm	Southeastern Karakum	Development began in 2001. The 90-km Byashkyzyl-Uchagi pipeline links the field with the main pipeline system.
Darganata	<i>No data available</i>	Northeastern Turkmenistan	Turkmengaz began exploration in 2001.
Dauletabad-Donmez/Sovatabad field	Initial reserves at 1974 discovery 1.626 tcm	Near Seraghs on Iranian border	Production began in 1982. Central Asia Center (CAC) pipelines I, II, and IV originate at Dauletabad.
Gagarinskoye deposit	Reserves as of 1980 were 23.28 bcm <sup>79</sup>	Zaunguz Karakum	Discovered in 1978. Turkmengaz began exploration of deposit in 2001.
Galkynysh field (formerly South Yolotan)	13.1–21.2 tcm <sup>80</sup>	Mary Province (Southeastern Turkmenistan)	London-listed Petrofac was contracted by Turkmengaz to develop field in 2010. Extraction is expected to begin by the end of 2013. <sup>81</sup> Estimates put Galkynysh at second-largest field in the world.
Krichen (Korpedzhe) gas deposit	Initial reserves of 141.85 bcm	Southwestern Turkmenistan	The 200-km Korpedzhe-Kurt-Kui gas pipeline, completed in 1997, links field with Iran.

<sup>77</sup> Martha Brill Olcott, *International Gas Trade in Central Asia: Turkmenistan, Iran, Russia and Afghanistan*, James A. Baker III Institute for Public Policy, Geopolitics of Gas Working Paper Series, Working Paper #28, May 2004, <http://www.bakerinstitute.org/publications/international-gas-trade-in-central-asia-turkmenistan-iran-russia-and-afghanistan>.

<sup>78</sup> Estimates of gas reserves in Turkmenistan vary widely, particularly for the country's two supergiant gas fields, Galkynysh (South Yolotan) and Yashlar. While the latest available estimates have been included in this table, it should be noted that the high estimate for Galkynysh (21.2 tcm) already exceeds the country's total estimated reserves as cited in the BP Review of Energy. The opacity of Turkmenistan's energy sector, however, makes it impossible to tell if the country's estimates of its reserves are high, BP's estimates are low, or if both sides are inaccurate.

<sup>79</sup> James W. Clarke, *Petroleum Geology of the Amu Dar'ya gas-oil province of Soviet Central Asia* (Washington, D.C.: U.S. Department of Interior, 1994).

<sup>80</sup> "UPDATE 2-Gas field growth fuels Turkmen energy ambitions," Reuters, October 11, 2011, <http://www.reuters.com/article/2011/10/11/gas-turkmenistan-idUSL5E7LB1VY20111011>.

<sup>81</sup> Petrofac, *2012 Interim Results*, August 13, 2012, [http://www.petrofac.com/assets/files/cms/2012%20interim%20results/12\\_08\\_13\\_Interim\\_Results\\_Presentation\\_FINAL\\_website\\_roadshow\\_handouts\\_rev1.pdf](http://www.petrofac.com/assets/files/cms/2012%20interim%20results/12_08_13_Interim_Results_Presentation_FINAL_website_roadshow_handouts_rev1.pdf).

### Turkmenistan: Real Energy Giant or Eternal Potential?

Maiskoye field	Reserves as of 1980 were 11.6 bcm <sup>82</sup>	Murgab gas region (Southern Turkmenistan)	Discovered in 1964. Began supplying Ashgabat via pipeline completed in 1970, becoming one of first Turkmen fields brought into production.
Malai field	<i>No data available</i>	Left bank of Amu Dar'ya river	The Malai–Bagtyyarlyk, completed in 2009, links field with Central Asia-China gas pipeline, terminating in Xinjiang.
Samantepe field	Initial reserves as of 1964 discovery of 102 bcm	Right bank of the Amu Dar'ya river (Eastern Turkmenistan)	Prior to 1991, Samantepe supplied 4 bcm to the Burabek gas processing field in Uzbekistan. An on-site processing plant was completed in 2009.
Shatlyk field	1 tcm	Amu-Dar'ya basin	Production began in 1973, when a pipeline was laid, connecting the field to the CAC. The field will feed into the East-West gas pipeline upon its completion.
Yashlar deposit	1.4–5.0 tcm	Morghab river basin (Southeastern Turkmenistan)	An independent audit of the field was completed in December 2008.

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<sup>82</sup> Clarke, *Petroleum Geology*.