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AZERBAIJAN AT A CROSSROADS: UNLOCKING THE CASPIAN'S NATURAL GAS WEALTH

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Countries throughout the world are increasingly reliant on a limited cohort of suppliers to meet their natural gas needs. Azerbaijan, which has long been a source of oil, is just beginning to exploit its vast natural gas reserves and potential as an energy corridor. It may serve as the catalyst for a new alternative to Russia's vast natural gas network, thus allowing Caspian producers to directly meet the needs of European consumers. This prospect would stabilize Eurasian energy markets by diversifying trading partners and pipeline routes, as well as link countries that had previously been divided along Cold War boundaries in an unprecedented economic and strategic relationship. The following is an assessment of Azerbaijan's central role in the emerging geopolitical contest for Caspian gas.

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INTRODUCTION

In an era of financial volatility, economic interdependence, and growing competition for limited resources, it is vital to establish stable energy markets. Unfortunately, hydrocarbon reserves are concentrated in an ever-shrinking pool of countries while tensions persist in many of the world's energy-rich regions. A particularly disturbing aspect of this trend is embodied by Russia's energy policy, which is often dictated by motives outside of the financial arena. With alarming frequency, Moscow signals its disdain for foreign adversaries with targeted reductions of its natural gas supplies. Such moves not only disrupt industrial activity and hamper electrical production but also pose a mortal danger to homebound citizens who rely on gas for heat. When the world's largest producer of natural gas uses its market power to exploit these vulnerabilities, there are few short-term remedies available beyond caving to Moscow's demands. Thus, natural gas can be a potent policy tool used to influence the economic wellbeing and national security of import-dependent states.

While Russia may be the most brazen in its approach, state-owned energy firms in other regions might be harnessed in a similar fashion. One of the key ways to mitigate these concerns and foster stability is to diversify the number of buyers, sellers and transit routes in the energy market. The greater the availability of such alternatives, the less likely it is that any one actor or incident could disrupt the overall flow of energy resources. Despite facing its own array of domestic challenges and simmering regional tensions, Azerbaijan can play a key role in this endeavor. As such, this nation of modest size, wealth and military strength undoubtedly deserves the prudent consideration of world leaders.

Although Azerbaijan has been an important oil producer for well over a century, it has only recently begun to reap the economic benefits and international attention that its resources merit. The oil sector, which is the traditional centerpiece of Azerbaijan's economy, has matured to a point that major investors, transit routes, and consumers have become clearly established. However, oil is just one of several energy-related assets that will drive the nation's continued economic growth and strategic importance. Azerbaijan's geographic location, which allows for an east-west gas corridor that bypasses Russia and Iran, and its natural gas deposits, which far exceed its remaining oil reserves, round out the country's energy portfolio. The nascent exploration of these options provides numerous opportunities for Azerbaijani politicians, foreign governments, international investors, and competitors to influence the development of the nation's natural gas industry and its status as an energy corridor.

While international oil companies (IOCs) vie for lucrative business deals and the chance to secure new hydrocarbon reserves, financial returns are not the only rewards associated with natural gas development. Given the economic and strategic importance of the energy trade, foreign governments also maneuver for control over the routing and destination of these resources. Fellow Caspian producers, including Kazakhstan, Turkmenistan and Uzbekistan have sizable gas deposits that are critical for the success of competing pipeline projects in the region. Within Azerbaijan, the nation's leaders must contend with these international pressures amidst a host of domestic challenges that could dampen its stunning economic growth.

The nation's energy assets can be effectively leveraged to respond to these domestic and foreign policy issues. Oil will continue to provide a financial windfall for the Azerbaijani economy, but the inflow will depend on crude prices beyond the nation's control. This is because buyers and sellers must compete in a global oil market, which limits the ability of any one party to monopolize this resource. Natural gas, on the other hand, is much more expensive to store and is most cost-efficient when transported via pipelines. Projects of this sort entail long-term interdependence amongst the relevant investors, producers, transit countries and consumers since it often takes decades to recoup the sizable upfront costs of such massive undertakings.

Once a pipeline reaches a particular market, a gas monopoly may arise since alternatives are unlikely to be built. This is of particular concern among former Soviet states, where Russia controls much of the gas infrastructure. Azerbaijan is in a unique position to the extent that it operates independently from this system and might one day diminish Russia's stranglehold on suppliers and pipelines in the region. Therefore, while oil revenues will continue to drive the economy for at least the next decade, Azerbaijan will also garner unprecedented strategic leverage vis-à-vis its natural gas prospects.

AZERBAIJAN'S EVOLVING ENERGY PORTFOLIO

Oil: The Backbone of the Economy

At the time it gained independence in 1991, Azerbaijan's command economy was centered upon oil production by state-owned companies with no experience operating in a free market environment or independently managing the nation's resource wealth. Consequently, Azerbaijan's rich fields produced far below capacity, and its output remained inextricably linked to the existing Soviet network of oil pipelines and transit routes. During the past decade, however, IOCs from various countries have been able to reinvigorate this sector by introducing high-tech equipment and competitive business practices to streamline the exploration, production and sale of Azerbaijani oil. International firms also invested heavily in new pipeline projects that eased Azerbaijan's dependence on Russian transit networks. These measures led to Azerbaijan's reemergence as an important oil producer and helped to revive the one sector that buttresses the nation's economy (Heydar Aliyev Foundation). The vast majority of Azerbaijan's energy exports now flow independently from Russia's transit network. This approach enables Azerbaijan and its investment partners to remove an unnecessary intermediary and export hydrocarbons to their customers in a more direct, cost-effective manner than ever before.

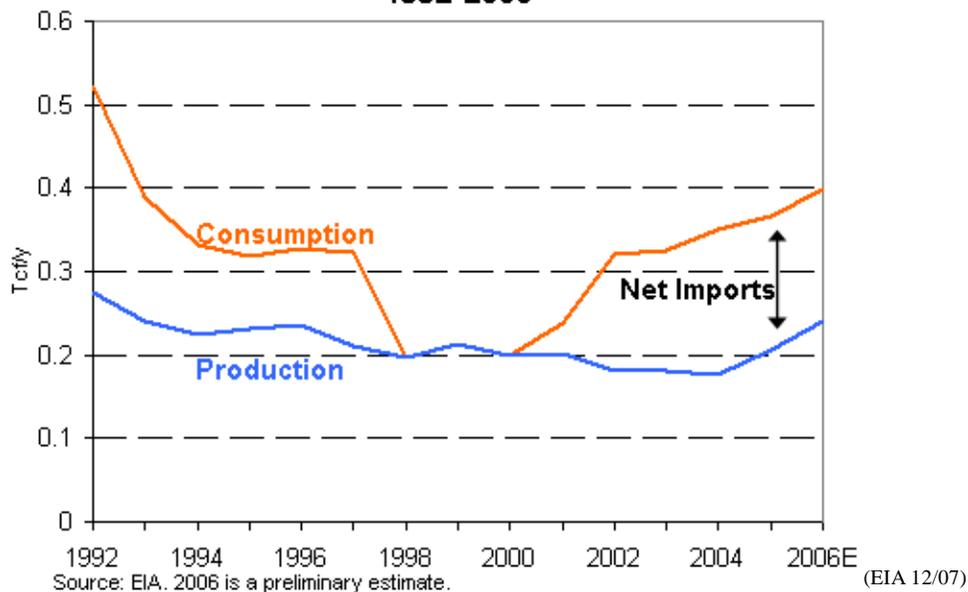
While the nationally-owned State Oil Company of Azerbaijan (SOCAR) is tasked with operating the country's two refineries, running several of its pipelines, and managing its oil and gas exports, nearly all oil and gas projects are financed and operated with a host of international partners (Energy Information Administration [EIA], 12/07). One of the nation's most important partners in this arena is the Azerbaijan International Operating Company; its list of investors includes BP, Chevron, SOCAR, Inpex, Statoil, ExxonMobil, TPAO, Devon Energy, Itochu and Delta/Hess. This consortium manages over 70 percent of Azerbaijan's total oil exports. Such receptiveness to outside investment stands in marked contrast to Russia, Venezuela, Bolivia and other oil-producing states that have nationalized their energy resources in recent years. As

international firms lose access to these resources, opportunities in countries like Azerbaijan are all the more critical for maintaining competitive and diversified energy markets.

Natural Gas: Establishing Geopolitical Leverage through Energy Policy

With contracts for major oil fields set through 2024, a modern processing and transit network in place, and diverse options for its exports, Azerbaijan's oil sector has matured to a point that its development outlook is secure. Its natural gas sector, however, has a much shorter history, a smaller role in the country's current energy portfolio, and a far less certain future. For much of the 20th century, Azerbaijan had little need or incentive to develop its domestic capacity for natural gas production. As an integrated member of the Soviet Union, Azerbaijan was offered direct access to Russia's unparalleled natural gas fields and extensive pipeline system. The latter's reserves, at an estimated 47 trillion cubic meters (tcm), are double that of the world's second largest holder of natural gas, Iran (EIA, 05/08). Clearly, these resources were more than adequate to meet the long-term needs of even the most voracious gas consumers among the Soviet Republics. Consequently, Azerbaijan continued to import Russian gas as recently as 2007, despite the fact that its own natural gas reserves far exceed domestic needs and may outlast its remaining oil supplies (EIA, 12/07).

**Fig. 2 Natural Gas Balance in Azerbaijan
1992-2006**



Currently, investments in oil projects continue to outpace those made in the gas sector. This may be a temporary phenomenon, however, as sizable, untapped gas deposits are assessed for development over the next few years.

DOMESTIC IMPEDIMENTS TO AZERBAIJAN'S NATURAL GAS DEVELOPMENT

With the massive potential of its current fields and expandable processing capacity at the Sangachal oil and gas terminal, Azerbaijan is finally poised to exploit its most promising energy

resource. Nevertheless, while President Ilham Aliyev and his administration can now boast of a rejuvenated oil industry and an emerging gas sector, many domestic problems have been exacerbated in recent years and newfound challenges continue to emerge. How its leaders capitalize on their past success and initiate much needed reforms may very well dictate Azerbaijan's course as a natural gas producer and its prospects as an east-west energy corridor.

If Azerbaijan seeks to increase the scale and reach of its natural gas exports without traversing Russia's pipeline system, far more international cooperation and funding will be needed. The country's recent successes in energy development, however, do not guarantee that IOCs will assess future projects as worthy of investment. The massive costs and enduring nature of pipeline projects underscore the importance of economic and political stability, fiscal responsibility, and regional security in all partner countries. Unfortunately, serious shortcomings plague each of these key risk areas. Unless necessary reforms are implemented and transit corridors remain secure, Azerbaijan may jeopardize its chance to exploit the Caspian's natural gas reserves and pipeline potential.

Azerbaijan's development over the past decade yielded oil sector revenues of nearly \$3 billion per year, which accounts for roughly 25 percent of the annual budget (Sipila et al., 2008). These funds are critical in a nation where a lack of economic diversification and development outside the capital, Baku, has driven nearly half the population below the poverty line. Meanwhile, the disparity of wealth has expanded. With the economy traditionally pegged toward oil production, few opportunities beyond the energy sector exist for Azerbaijanis to emerge from a cycle of poverty. Moreover, since Transparency International's survey of 180 countries ranks Azerbaijan as one of the most corrupt nations in the world, many of the financial resources dedicated to alleviate these problems might never reach those most in need (Transparency, 2008). The country's ranking on the Reporters Without Borders' Press Freedom Index is indicative of a disturbing trend. It slid in the rankings over each of the past three years, and for 2008 is listed in 150th place out of 173 countries (Reporters, 2008).

In anticipation of these concerns, the government established The State Oil Fund of Azerbaijan (SOFAZ) in 2001 to properly manage the influx of oil revenues and joined the Extractive Industries Transparency Initiative to reduce corruption and promote data transparency. However, as SOFAZ grows and Azerbaijan relinquishes its need for IMF funding, many requirements for financial reform may disappear (Cohen, 2006). The fund is expected to reach \$18 billion by 2009, from which a sizable chunk will be transferred to cover nearly half of the national budget. Whether the government can rein in the resulting inflation and diversify the economy on its own accord remains to be seen. Nevertheless, with oil trading well below the U.S. \$70 per barrel benchmark used in the 2009 budget, the government may have no choice but to forego such massive budget infusions from the State Oil Fund (Sipila et al., 2008).

Amidst these financial concerns, Azerbaijan's energy boom has aggravated a host of other systemic problems. The unresolved conflict over the Nagorno-Karabakh region of western Azerbaijan has had dire consequences, as 12 percent of its population remains internally displaced following a 1994 cease-fire agreement that officially ended its hostilities with Armenia. Although ethnic Azerbaijanis and Armenians jointly settled in Nagorno-Karabakh for

centuries, they clashed for control over this region as the Soviet Union began to unravel in the late 1980s (Cohen, 2006).



While a portion of SOFAZ assets are earmarked to assist Azerbaijani victims of the conflict, relatively little has been accomplished to negotiate a final settlement. Instead, the Government's decision to use 10 percent of its budget on defense has garnered Azerbaijan a potential military advantage over its cash-strapped adversary (Sipila et al., 2008). This shift may destabilize the balance of power and provoke a confrontation that exceeds the sporadic border clashes that now occur along the ceasefire line. According to Azerbaijani President Ilham Aliyev, "As long as our lands are under occupation, a policy of total offensive against Armenia will be continued in the diplomatic, political, economic, transport, military, propaganda, and other [arenas]. This is unequivocal" (Lider TV, 2008). His October, 2008 comments underscore the intractable nature of this decades-old struggle.

The threat of renewed fighting over Nagorno-Karabakh is representative of other potentially destabilizing situations that envelop Azerbaijan, such as the 2008 Russia-Georgia conflict, Iran's ongoing nuclear pursuits, the historic rift between Turkey and Armenia, and a host of separatist movements in the North Caucasus. In comparison, Azerbaijan is relatively secure. Yet despite its overtures toward Europe and the United States, government crackdowns on religious freedom, privacy rights, political debate, and the press continue to undermine the political and social stability necessary for long-term energy infrastructure investments. In and around Baku, these quality of life concerns are compounded by rampant environmental degradation, pollution and congestion. Failure to address these inter-related issues might diminish Azerbaijan's appeal to investors and foreign governments, both of whom are critical for the expansion of its natural gas sector.

AZERBAIJAN'S POTENTIAL AS A NATURAL GAS PRODUCER

Shah Deniz, Azerbaijan's premier natural gas field, began phase 1 operation in 2007, with production volumes of adequate size to justify the creation of the Baku-Tbilisi-Erezum (BTE) pipeline (BP, 06/07). With a current annual capacity of 8.8 billion cubic meters (bcm/a), BTE represents an important step toward independence from Gazprom's stranglehold on gas transit in the region. Prior to its construction, Azerbaijan's only transit options were to export gas to Iran and to import it from Russia. The country is now free to move Shah Deniz phase 1 gas to customers in Georgia and Turkey, while future developments will undoubtedly expand the size and reach of these exports (EIA, 12/07).

According to BP, a major stakeholder in this development, Azerbaijan has proven natural gas reserves of 1.4 trillion cubic meters (tcm), and IHS Energy estimates ultimate recoverable resources of 1.9 tcm (EIA, 12/07). Khoshtakht Yusifzade, First Vice-President of SOCAR, stated during the 15th International Caspian Oil and Gas Conference in Baku that gas production would reach nearly 28 bcm/a in 2008 (Azerbaijan Embassy, 2008). At this rate, proven natural gas reserves will last approximately fifty years. Given the relative immaturity of this sector, there are ample opportunities for further exploration and advancements in technology to yield new discoveries and expand Azerbaijan's energy outlook.

While Azerbaijan's recent achievements ended its dependence on Russian gas and Soviet-era pipelines, its most significant milestones may lie ahead. Within the Shah Deniz field, there remains a massive natural gas and condensate reservoir that may yield twice the production capacity of the phase 1 project (EIA, 12/07). However, an ongoing dispute over gas volumes and prices between Turkey and Azerbaijan may delay the start of this second phase of development (Eurasia Insight, 2008). Once it is finally underway, BTE will be ramped up from its current flow of 8.8 bcm/a to its maximum capacity of 20 bcm/a. At this volume, gas exports are sufficient for proposed extensions beyond Turkey's shores (Upstream, 2006). In July of 2007, a \$1.4 billion deal was signed for the construction of the 11 bcm/a Turkey-Greece-Italy (TGI) pipeline. When TGI is complete and joined to BTE around 2012, it will signify the first direct gas pipeline from Azerbaijan to Europe (Cambridge, 2008). A third phase of development may also be possible at Shah Deniz sometime after 2012, though such an option is contingent on the technical feasibility and commercial success of phases 1 and 2.

In addition to the prospects at Shah Deniz, the recently discovered ACG Deepwater gas reservoir may significantly increase Azerbaijan's future production capacity (IHS 02008). Outside investors will be critical to the development of these new projects, which are expected to cost tens of billions of dollars before any gas reaches consumers. The Shah Deniz production sharing agreement (PSA) is illustrative of this approach, as SOCAR holds a 10 percent stake, while 6 IOCs share the remaining 90 percent (APS, 2008). Azerbaijan is thus able to remain actively engaged with domestic gas development, secure much needed investment, and maintain greater independence with a diverse set of partners than it would if it was beholden to a narrow group of interests.

As the ACG Deepwater and Shah Deniz fields and associated pipelines develop, Azerbaijan will be able to provide an alternative supply of gas to many customers. Even if this

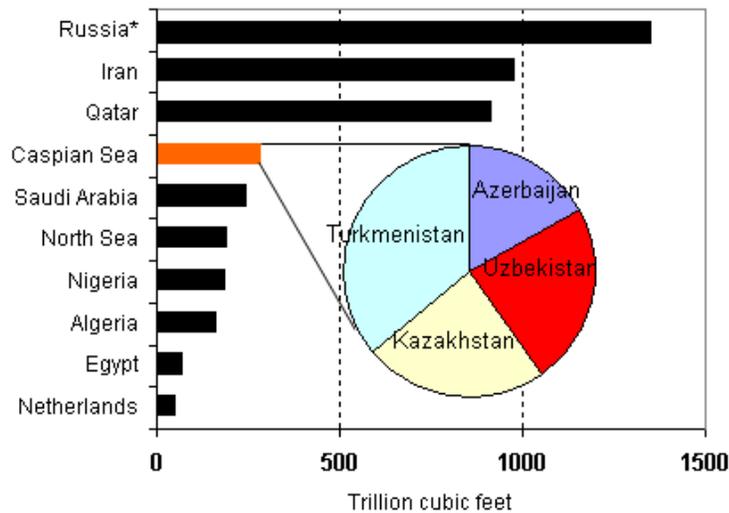
equates to a modest share of a customer's imports, such diversification is advantageous, as suppliers have an incentive to compete on prices and production rates to satisfy demand. Moreover, diversification diminishes the inherent danger of relying on a single supplier for a crucial resource. The same holds true for exporting nations, which benefit from having multiple clients, investors, and transit routes through which they can sell their products. Azerbaijan can facilitate the transit of a much larger flow of Caspian resources, such as Kazakh oil and Turkmen gas, than it can produce on its own. If it follows this path, Azerbaijan will enable both consumers and producers to diversify their energy portfolios while securing an important role for itself in the Caspian region.

In the spirit of diversifying the economy, Azerbaijan may also choose to explore domestic options for capitalizing on its resource wealth. For example, there would be ample supplies to develop a petrochemical industry or to revamp the electrical sector by constructing a host of new gas-fired power plants. Each of these options would generate jobs outside of the oil sector and diminish some of the nation's reliance on oil and gas revenues to drive the economy. Nevertheless, even with such hypothetical domestic projects, Azerbaijan's available gas supply far exceeds its domestic needs. Since BTE is earmarked for Shah Deniz phases 1 and 2, new transit options must be created to allow for any new developments in the natural gas sector.

AZERBAIJAN'S POTENTIAL AS A NATURAL GAS CORRIDOR

Situated between the resource-rich countries of Central Asia and the hydrocarbon-deprived lands to the west, Azerbaijan is in a unique position to serve as an east-west energy corridor. By way of the proposed Nabucco Pipeline and Trans-Caspian Pipeline (TCP), it can provide the necessary link between a vast array of producers and consumers that had previously remained elusive. The true importance of this corridor is defined by the size of the markets that it can bring together without traversing Gazprom's entrenched energy network. Uzbekistan (1.9 tcm of reserves) and the littoral Caspian countries of Turkmenistan (2.0 tcm), Kazakhstan (1.8 tcm) (EIA, 07/06) and Azerbaijan (1.4 tcm) (EIA, 12/07) (heretofore, the Caspian States) are estimated to hold the world's fourth largest proven reserves of natural gas.

Fig. 2: Caspian Sea Natural Gas Reserves in Context (2006)



*Does not include Eastern Siberia, Sakhalin reserves

Source: Cedigaz (2006), World Gas Conference (Amsterdam, June 2006)

(EIA, 01/07)

The biggest potential markets for these resources include Pakistan and India, China and Japan, and Turkey and Europe. Each of these linkages presents a unique set of challenges (i.e. difficult terrain, vast distances, security risks, territorial disputes, and competition from rival projects) and rewards (i.e. revenues, strategic and geopolitical gains) that affect the commercial and political viability of potential gas pipeline projects.

Given Azerbaijan's geographic setting in relation to these potential gas markets, constructing a new pipeline is much more cost effective than liquefying and shipping natural gas. While this calculation is fairly straightforward, the more nebulous question is whether Shah Deniz phase 3 and ACG Deepwater will provide gas in sufficient volumes to justify investment in such a costly project. If the pipelines were only intended to reach Russian or Iranian gas networks, as opposed to Europe, the costs would fall considerably. However, if the goal is to go west without the involvement of Azerbaijan's northern or southern neighbors, supplemental gas supplies from across the Caspian Sea will almost certainly be needed to fill the remaining production gap. This is because the greater the distance is between the supplier and end user, the larger the capacity required to recoup the initial investment in a reasonable timeframe. Europe thus needs Kazakh, Turkmen, or Uzbek gas, in conjunction with that which is provided by Azerbaijan, if a new, independent Caspian pipeline to the continent is to become commercially viable.

TCP would offer this vital link amongst the Caspian states, while Nabucco is envisaged as the artery to channel their combined resources from Azerbaijan to the continent. Azerbaijan may have to forego the development of Shah Deniz phase 3 and ACG Deepwater altogether if Caspian partners for these projects fail to materialize. However, given the focus of the 2008 energy summit in Baku and the consistent stream of senior American, European and Russian officials and investors visiting Azerbaijan to discuss energy projects, it is highly unlikely that these fields will go undeveloped. As with any pipeline project, the Azerbaijani government must

conduct a careful appraisal of its options, since its choice will set an important economic and strategic course for the country, its partners, and its rivals for years to come.

If Azerbaijan decides to serve as an east-west corridor for Caspian gas, it must overcome the daunting obstacles now facing its proposed pipelines. First, the sub-sea Trans-Caspian Pipeline, which would run from Turkmenistan to the Sangachal gas terminal in Azerbaijan, has to be constructed. According to a 2006 U.S. Trade and Development Agency feasibility study, the entire TCP project would cost nearly \$4 billion for a 30 bcm/a pipeline (S.H. Lucas, 2006). One potential hurdle is the unresolved status of the Caspian Sea, which has already hampered the development of several offshore fields that straddle contested territorial boundaries. If it is considered a sea, each littoral nation is entitled to twelve miles of territorial waters off their coasts, as well as a 200-mile exclusive economic zone. Conversely, if the Caspian is defined as a lake, offshore resources are evenly divided amongst the littoral states. Despite these differences, the TCP only requires a bilateral agreement to define the Azerbaijan-Turkmenistan border. Azerbaijan and Kazakhstan have already made similar bilateral treaties with Russia, while Iran, which appears to have the least offshore reserves, expresses vehement opposition to any further development of Caspian resources before this issue is resolved (Bahgat, 2007). Given that bilateral solutions have already been found and gas projects are underway, there appears to be little incentive to renegotiate these borders under the terms of either definition.

From Sangachal, the gas would pass through the proposed Nabucco pipeline, which would traverse 2,100 overland miles to Baumgarten, Austria along a route known as the Southern Gas Corridor (Pogany, 2008). The pipeline would have the same capacity as TCP but triple the price tag (S.H. Lucas, 2006), making the total estimated cost of TCP and Nabucco \$16 billion. Even if Azerbaijan is able to acquire the requisite investments, corral the support of every country that lies along the proposed transit route, and secure long term gas supplies from other Caspian states, it must also overcome the challenges posed by potential rivals. The economic and diplomatic stakes for the TCP and Nabucco projects are incredibly high, so those left out of the deal have a vital interest in its failure. Azerbaijan is thus in a race against time, as its competitors vie for the same resources and customers that are needed to make the Southern Gas Corridor a commercial success.



RIVAL PIPELINES AND PRODUCERS

The following provides a background on possible alternative pipeline projects from the Caspian States to a series of regional markets. The purpose is to assess the prospects for the Southern Gas Corridor given the level of feasibility of alternative options. Since analyzing financial data and technological constraints is fairly straightforward, each synopsis reviews the possible route, capacity, cost, and investors for the project. Geopolitical and strategic calculations, on the other hand, are more difficult to assess without direct access to key decision makers. As such, these considerations will be supported with insights expressed by national leaders and energy ministers in the following section.

Pakistan and India

In 1997, Turkmenistan and Uzbekistan signed a memorandum of understanding on a 900 mile-long Trans-Afghan Pipeline (TAP) pipeline that would originate at the Turkmen gas deposit at Dauletabad, traverse Afghanistan and terminate in Multan, Pakistan. From there, TAP would extend to India, diversifying the array of potential project partners and offering a much larger customer base. The 19.8 bcm/a project was expected to cost \$2 billion, but it never progressed beyond the initial planning stages. TAP suffered from a variety of setbacks, including a lack of financing; the departure of Gazprom, which was one of the consortium's key partners; and the persistent volatility of Afghanistan following years of civil war. Moreover, relations between Pakistan and India never thawed to the extent that the proposed extension would be tenable. Even though a decade has passed since the outset of this bold proposal, many of these obstacles remain. Barring any major security and diplomatic improvements along the route, TAP looks to be an improbable option for Caspian gas for the foreseeable future (EIA, 01/07).



(EIA, 10/07)

China and Japan

In August of 2007, construction began on a Central Asia-China pipeline that will transport Turkmen, Uzbek, and Kazakh gas 1,130 miles to the Xinjiang region of China. From there, it will likely connect to a new west-east gas pipeline that will transmit these resources an additional 2,800 miles to the population centers along the country's east coast. This connection could facilitate the transit of Caspian gas to Japan as well, though no plans for such a project have been put forth. Stroitransgaz, a subsidiary of Gazprom, and state-owned KazMunaiGas and Uzbekneftgas will construct the pipelines across each of the producer's territories, while state-owned China National Petroleum Corporation will complete the Chinese span of the project. Once it is complete in 2010, the pipeline will carry an estimated 30 bcm/a over its 30-year lifespan (CNPC, 2008). Specific details about the route, capacity, PSAs and cost have yet to be released, though the latter is expected to exceed \$20 billion (Cutler, 2008). Given that the project is largely under the auspices of state-owned enterprises, and thus bankrolled by national coffers, there is little need to justify the commercial viability of the Central Asia-China pipeline.



(EIA, 02/08)

Turkey and Europe

Exporting Caspian Gas via Iran and Turkey – In 1997, the 124-mile *Korpezhe-Kurt Kui Pipeline* was completed at a cost of \$190 million, thus enabling 13.5 bcm/a of Turkmen gas to flow to Iran (EIA, 02/08). Price disputes resulted in a temporary shutdown in early 2008, but the pipeline resumed operation following subsequent price negotiations. Korpezhe-Kurt Kui connects to the 745-mile long Iran-Turkey pipeline, which terminates in Ankara (EIA, 12/07). As such, Caspian gas is linked to Turkey, and extensions west could provide access to European markets. However, its operation has been intermittent following sabotage by Turkish militants

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(Reuters, 09/07), adverse weather conditions (Reuters, 01/08), and the aforementioned cessation of gas exports by Turkmenistan over the pricing dispute. Perhaps more importantly, U.S. sanctions on Iran remain in effect, and Tehran's ongoing nuclear program isolates it from the international community, neither of which is conducive to attracting risk-averse investors for expansive pipeline projects.



Exporting Caspian Gas via Russia and Ukraine – Due to Russia's historic role as the hub of the Soviet Union's energy transportation network and its more recent endeavors to buy up, and thus eliminate, foreign competition, Gazprom now dominates the Eurasian gas trade. With vast domestic reserves and a monopoly on numerous supply networks, the firm has few incentives to allow for any change in the status quo. Despite Iran's vast energy reserves and proximity to other resource-rich nations, it has little chance of challenging Russia's near total control of these markets. Iran's economy is crippled from decades of economic embargos and its government is internationally isolated (EIA, 10/07). Azerbaijan, by virtue of its location and the actions of its northern and southern neighbors, thus holds the key to diversify these markets, guaranteeing its strategic and economic vitality. In turn, Russia undoubtedly has the most to lose from the Southern Gas Corridor, so it is from the north that Azerbaijan will find its most determined adversary.

Currently, the primary route for Caspian gas to reach Europe is via the Central-Asia Center Pipeline. Ongoing refurbishments are expected to yield a capacity of roughly 28 bcm/a for the western branch and 91 bcm/a for the eastern branch of the pipeline. A series of contracts were recently signed to ensure an adequate threshold of supplies for these expansions. In September of 2006, Turkmenistan agreed to provide up to 76 bcm/a to Russia from 2009 to 2028. Although specific details are not available, the bulk of this gas could transit Gazprom's pipelines to Ukraine, where a joint venture between Gazprom and Ukrainian stakeholders, RosUkrEnerg, would disperse it to European markets. RosUkrEnerg has solidified its role as an intermediary between Caspian gas suppliers and European consumers, having entered similar deals with Kazakhstan for 8.5 bcm/a and Uzbekistan for 7.0 bcm/a (EIA, 02/08).

Exporting Caspian Gas via the Black Sea - Gazprom is also proposing the South Stream project, which would deliver Caspian gas to Europe via an underwater pipeline from its Black Sea coast

to Bulgaria, then overland through Romania and Hungary before terminating at Austria's Baumgarten storage and distribution hub (Baran, 2008). This route avoids Ukrainian territory and thus serves as a direct link to European customers. Regardless of which route to Europe is chosen, Gazprom's contracts obligate a massive volume of Caspian gas for decades. In this sense, Russia, China, and to a lesser extent Iran are competitors for resources that might otherwise be routed west through Azerbaijan.



(The Economist, 2008)

THE COMMERCIAL VIABILITY OF AZERBAIJAN'S SOUTHERN GAS CORRIDOR

The two arteries of the Southern Gas corridor, Nabucco and TCP, cost roughly \$8 billion less than Russia's proposed rival, South Stream. Although both projects would have similar capacities and target markets, South Stream would take a much costlier route along the floor of the Black Sea before reaching the overland stretch from Bulgaria to Austria (Baran, 2008). While the price differential is in favor of the Southern Gas Corridor, it has the disadvantage of requiring a consortium of investors that are willing to share the costs and risks of such a monumental project. This challenge is all the more palpable given Azerbaijan's aforementioned internal challenges and the risks present along the potential corridor. Any one of these issues presents a potential threat that could undermine the security of the pipelines before they reach mainland Europe. Since the Southern Gas Corridor requires a guaranteed gas supply that might exceed Azerbaijan's capabilities, its success is likely to hinge on the availability of resources from the TCP. However, with the Caspian States already obligated to contracts with Russia, Iran, China, and beyond, proponents of Nabucco may be hard pressed to secure a quantity of gas that would justify its construction. Securing sufficient gas supplies for this series of pipelines will, therefore, be one of the project's biggest challenges.

South Stream, on the other hand, is backed by Gazprom, which can tap into Russia's massive financial reserves to cover the initial investment. With the Central Asian Center Pipeline undergoing expansion, Gazprom already has its equivalent to the TCP in place, so only South Stream will need to be constructed. In this light, many of the hurdles facing the Southern Gas Corridor are of little concern to the proponents of South Stream. Moreover, in March of 2008, Gazprom secured a 50 percent stake in Austria's Baumgarten storage and distribution hub, which is the final destination for both pipelines. Gazprom can undoubtedly use its position at this critical intersection for leverage against its rival. While the size of the European market justifies new supplies, it is unlikely to require both Nabucco and South Stream to satisfy demand in the near term (Baran, 2008). Should the Nabucco and TCP projects fail to come to fruition, Azerbaijan's prospects as an east-west gas corridor will be relegated to the success of its TGI pipeline.

INSIGHTS OF KEY LEADERS ON AZERBAIJAN'S NATURAL GAS OUTLOOK

The fate of the Southern Gas Corridor ultimately rests with Azerbaijan, as it provides the only link for Caspian gas to reach Europe without crossing Iranian or Russian territory. Nevertheless, Nabucco and TCP will fail without the full support of any one of the requisite investors, suppliers, transit countries, and consumers. Throughout 2008, Russia made repeated offers to preemptively purchase all of the Azerbaijan's gas exports, which would effectively kill the pipelines. Amidst these overtures, President Ilham Aliyev actively engaged with a host of potential energy partners and noted that all options would be considered "equally" (ITAR, 11/26/08). On November 14, 2008, Aliyev hosted the Baku Energy Summit, which is the latest in a series of multinational gatherings intended to set priorities and flesh out proposals for cooperative energy projects. In essence, the summits are geared toward nations that advocate for diversifying the delivery of Caspian energy resources to Europe (Abassov, 2008). Russia, therefore, has made a point to lure key players, such as Turkmenistan and Kazakhstan, away from these events.

The declaration from the Baku summit, which was negotiated and signed by dignitaries from Azerbaijan, Bulgaria, Estonia, Greece, Georgia, Hungary, Italy, Latvia, Lithuania, Poland, Romania, Turkey, Ukraine, Switzerland, the United States of America, and the European Commission, sheds light on the level of support for the Nabucco project. Key statements in this regard include the following:

We express our support for projects to create a multi-vector infrastructure for the transport and transit of Azerbaijani natural gas to regional and European markets....

We emphasize ... that energy projects diversifying the sources and routes of transportation of oil and natural gas [and] linking the vast reserves of the Caspian basin to world and European markets ... create more favorable conditions for a competitive environment and for the mutual interests of energy producers, consumers and transit countries.

We agree to continue efforts to coordinate actions by the parties in implementing joint projects aimed at strengthening energy security in Europe, especially gas transit projects including the

Turkey-Greece-Italy Gas Interconnector (TGI), Nabucco and others routes through Georgia and Turkey and other projects (Azerbaijan Press Agency, 11/08).

Perhaps as important as the declaration itself is the list of countries that chose not to lend it their full support. The Presidents of Turkmenistan and Kazakhstan attended the Summit but withheld from signing the declaration due to unspecified misgivings with the final wording. Despite this setback from the key prospective suppliers of trans-Caspian gas, it is important to note that both Presidents avoided previous energy summits altogether (Socor, 2007). In this sense, they signified their interest in the discussions without publicly endorsing Russia's competitors. Since these countries are heavily integrated with the Russian gas network, this may be a pragmatic approach to appease their dominant energy partner while tacitly exploring ways to diversify their transit options.

In any case, momentum appears to be building for the Nabucco project. While Azerbaijan did not explicitly reject Russia's offer to purchase its exports, this reaction seems evident, since it subsequently entered a deal to supply gas to Georgia for the next five years (U.S.-Azerbaijan Chamber, 2008). Moreover, according to Lithuanian President Valdas Adamkus, President Aliyev noted during the Baku Summit that, "From a business point of view, the [Moscow-proposed gas] agreement should be signed and everything given to Russia. But there are other goals and values that override a good business proposal" (Socor, 2008). Soon after the summit, Azerbaijan's energy minister, Natig Aliyev, admitted that while his country could not meet European gas needs on its own, it would serve as the vehicle for initiating the Nabucco project. According to Aliyev, "In the first stage of the project, Azerbaijani gas will become a significant source so that other sources could join..." He went on to note that, "... we have built a powerful transit corridor and are in [a position] to present this corridor to Turkmenistan for exploitation" (UPI, 2008).

Following the Baku Summit, Aliyev and Turkish President Abdullah Gul visited President Gurbanguly Berdymukhammedov of Turkmenistan for a tripartite meeting to discuss cooperation on a host of issues. The meeting is particularly important since Azerbaijan and Turkmenistan only recently reestablished diplomatic relations following years of mistrust over gas debts and their ill-defined border in the Caspian. Although no official agreements were signed, the Turkmen President stated, "We stand for diversification..." when it comes to the development and transportation of natural gas (Neff, 2008). He also noted that the meeting was "...symbolic because the Caspian Region has a unique energy potential and is a linking chain between Europe and Asia" (ITAR, 11/30/08). As for the other major prospective supplier for trans-Caspian gas, Kazakh President Nursultan Nazarbayev previously expressed that "Azerbaijan, for us, is very interesting as a transit territory because... in the future we will be taking part in gas projects and railway lines via [its territory]" (Caspian Energy, 2007).

The support of both Georgia and Turkey are paramount for Nabucco, as the pipeline will traverse both of their territories. Aside from President Gul's participation in the aforementioned meeting in Turkmenistan, he also noted during the Baku Energy Summit, "After the commissioning of the Baku-Tbilisi-Erzurum gas pipeline, the Southern Gas Corridor is the priority on our agenda" (Interfax, 2008). The Turkish Energy Minister went further by claiming, "Nabucco will work. We will implement it. The Nabucco project will strengthen not only

Turkey's energy security, but Europe's, too" (Pannier, 2008). Georgia consistently supports this project, as Nabucco would further integrate the country with its neighbors and the EU, which might serve as an economic and strategic hedge against Russian aggression.

Despite these encouraging signs from potential suppliers and transit countries, the EU persistently fails to garner sufficient support for Nabucco, as key member states seek more advantageous bilateral gas agreements with Russia (Walker, 2007). However, the 2008 EU Energy Strategy indicates a renewed focus to develop "... an effective external energy policy; speaking with one voice, identifying infrastructure of major importance to its energy security and then ensuring its construction" (European Commission [EC], 2008), which EU special representative Pierre Morel attributes to the Russia-Georgia conflict (Associated Press, 2008). In many ways, the Baku Energy Summit declaration mirrors the objectives put forth in the EU Energy Strategy, as the latter affirms that "... a southern gas corridor must be developed for the supply of gas from ... partners such as Azerbaijan and Turkmenistan ... with the joint objective of rapidly securing firm commitments for the supply of gas and the construction of the pipelines necessary for all stages of development" (EC, 2008). The EU's support for this project was further underscored in December 2008, when the European Commission proposed the establishment of an Eastern Partnership to promote energy sector development in former Soviet countries, including Azerbaijan. As noted by EU external relations Commissioner Benita Ferrero-Waldner, "On energy, it is for their own energy security, but it's exactly also for our energy security" (RFE/RL, 2008).

The United States consistently supports both TCP and Nabucco. According to Deputy Assistant Secretary of State Matthew Bryza, U.S. policy is to advocate for the diversification of energy markets through the most commercially viable means available. In the case of the Southern Gas Corridor, he stated, "The goal is not to hurt Russia or Gazprom. It is to help the countries that either export the gas or buy the gas position themselves to have more negotiating leverage by relying on the force of competition, so that over time, Gazprom becomes a more market-based competitor rather than a monopolistic competitor that uses its [power to]... keep prices high" (Bryza, 2008). In the end, this support may prove critical to surmounting the myriad of political, financial, and strategic obstacles that now face Azerbaijan in its bid to develop its natural gas industry and its capacity as an east-west energy corridor.

CONCLUSION

As illustrated by Azerbaijan's turbulent past in the oil sector, its natural gas development is by no means destined for continued success. Just as the war in Georgia spurred new momentum for diversifying gas supplies and addressing Nagorno-Karabakh, future conflicts may just as easily jeopardize Azerbaijan's existing energy infrastructure and dash investors' interest in long-term pipeline projects. At the same time, supplemental gas from across the Caspian may fail to materialize, the EU may be unable to forge a uniform front in support of the Southern Gas Corridor, or the government of Azerbaijan may simply choose to sell its future production to Russia rather than risk its ire on an uncertain venture. Azerbaijan is therefore at a monumental point in its energy development. Where it goes from here deserves the steadfast attention of world leaders, as its path may redefine the strategic and economic balance of the Eurasian energy market for years to come.

If history offers an accurate gauge for the future, Russia will continue to make energy-related decisions with an eye toward achieving its foreign policy objectives. Unfortunately, as Gazprom increasingly consolidates its control over Eurasia's gas networks, the opportunity and incentive to use these tactics will only grow. The declaration from the Baku Energy Summit embodies the common cause of consumers and producers to redefine the region's natural gas market and blunt Russia's approach, but words are not enough. What is needed now is action, in the form of political and capital investments in the TCP and Nabucco pipelines. History is also indicative of how insurmountable it may become to generate genuine, lasting support for the Southern Gas Corridor. Perhaps if leaders truly understand the gravity of this situation and the repercussions for inaction, they will finally seize upon the opportunity to exploit Azerbaijan's natural gas potential.

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