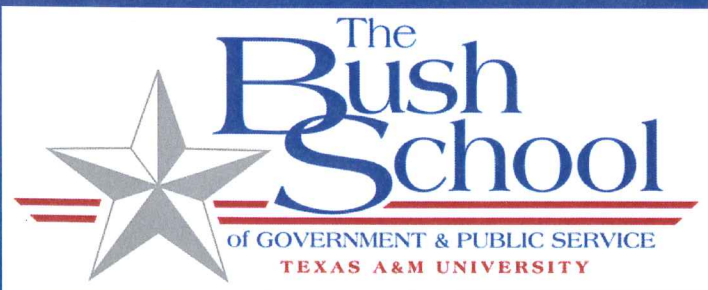




Pipeline Politics: Natural Gas in Eurasia



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Executive Summary

A secure global energy supply is imperative for stable growth in the world economy. Throughout European countries, the Caucasus, and Central Asia, a vast transnational network of pipelines has thrust Eurasia onto the world's geopolitical landscape. Russia has gained increased influence in Eurasia by consolidating control of regional energy production and infrastructure. The political leadership seeks great power status and is using its energy monopoly to further its geostrategic aims. Russia is predicted to pursue three main goals, regardless of negative short-term economic repercussions, including ensuring political reliability in its near abroad, obtaining a rise in commodity prices, and returning to multi-polarity in which Russia maintains clear regional hegemony.

The US has four key interests in Eurasia including averting tension with Russia, stabilizing the flow of oil and natural gas to Western Europe, maintaining US regional access for counterterrorism operations, and promoting democratic regimes to reduce Russian influence. Historically, these interests have been pursued through the use of economic packages while focus has shifted from democracy promotion to stabilization and security of energy infrastructure and delivery.

The US must promote development of pipelines that bypass Russian control and advancement of alternative domestic sources. These actions will ease European dependence on Russian energy, shielding it from disruptions in supply and decreasing Russia's ability to exert influence through energy policy. Other options include promoting a common European Union energy policy to increase influence in energy markets, pushing for increased gas storage across Europe to provide temporary relief against gas disruptions, and exploring increased cooperation with Russia on energy market access and natural gas production.

Ukraine in Focus

Ukraine is a key regional actor as the hub of the European gas pipeline system. The study evaluates the alternative energy sources available for exploitation by Ukraine, reaching the ultimate conclusion that it must pursue the development of domestic gas production. The reform of business and investment conditions are identified as imperative means of facilitating this recommendation.

Introduction

Since the end of the Cold War, few challenges have emerged with the same complexity as energy supply and production on the European and Asian continents. A collection of states formerly found across the old ideological battleground are now the gatekeepers to the extraction, refinement, and delivery of essential resources from East to West. Yet, even as smaller countries grow in stature because of their location along transnational energy routes, the two great powers in the area—Russia and the United States—still shape the context of interests, policies, and strategies for all other actors in the region.

The goal of this report is to analyze the positions of Russia and the United States concerning energy security, as they relate to the region and to one another. In Russia, one finds an enormous resurgence in economic reach, built primarily on its energy trade with Western Europe. Far from being innocuous, this economic power is held to a large extent by the state and is being used for geopolitical ends. Recent trends suggest that Russia's energy strategy is focused more on exploitation of its neighbors than cooperation for the common good.

Over the past two decades, American policy in the region has traveled across many planes at once—simultaneously attempting to repair and temper the relationship with Russia, while also promoting democracy, pursuing security, and protecting energy. The American response to Russia's energy strategy has been inhibited by the need to “reset” relations with Russia. The urgency of energy security demands that the US push for some degree of energy independence for the various Eurasian states. American leaders must press for the diversification of European energy supply away from Russia.

Russia in Eurasia

Russian influence in Eurasia, at one time based on military and political might, is now built upon large, state-run energy corporations. By monopolizing control of its natural gas supplies and controlling gas transit pipelines to much of Europe, Russia has developed a strong asset for use in geopolitics. Russia will likely use its control over Eurasian energy supplies to pursue its goals of ensuring political reliability in its near abroad while attempting to establish itself as a regional hegemon.

Building Gazprom

The Russian economy is built on a foundation of oil and natural gas, with these products comprising 65.2 percent of Russia's exports and approximately twenty percent of Gross Domestic Product (GDP). Natural gas alone accounted for 13.9 percent of exports in the first half of 2009.¹ Russia's extensive natural gas reserves afford the country a large asset to exploit. Additionally, the state's ownership of Gazprom, the world's largest natural gas producer, allows Russia to reap even more of the benefits of its natural gas endowment. While president, Vladimir Putin used his authority to consolidate the Kremlin's control over Gazprom and Russian gas reserves, effectively building a powerful arm of the state. The Kremlin has used the arm of the Russian gas sector as a means of political influence over its near abroad.

Accordingly, Gazprom holds the potential for tremendous influence in foreign affairs. With its control and ownership of extensive reserves of natural gas, transit system infrastructure throughout Eurasia, and large markets that depend on its supply, Gazprom can effectively serve as a powerful arm of the state. Gazprom's origins lie with the Soviet Gas Ministry. The ministry was created in 1965 with the purpose of regulating and increasing gas production and consumption. As the Soviet Union was collapsing in 1989, Mikhail Gorbachev consolidated the gas ministry's operations under one entity, Gazprom. A reorganization of the corporation occurred in 1993, allowing for partial privatization while the state maintained a 39.4 percent share in the company and control of the board of directors.²

When Vladimir Putin assumed the Russian presidency in 2000, he worked quickly to fill Gazprom's board of directors with supporters, including placing two of his closest allies, Alexei Miller and now-Russian President Dmitry Medvedev, as CEO and chairman, respectively.³ He continued appointing friends and allies, and by 2005 had effectively filled the board with

loyalists. In June 2005, the board, now controlled by Putin, agreed to the sale of a 10.7 percent share of its stock to the state, thus making the Russian government the majority shareholder of the company. With complete state control of Gazprom, Putin now had a free hand to increase the company's asset holdings and, consequently, its power. In October 2005, Sibneft, a privately held Siberian oil company, was sold to Gazprom for thirteen billion dollars. As a result, Gazprom came to own the fifth largest oil producing company in Russia. Additionally, the government now also controlled one-third of Russia's oil production through its ownership of Rosneft, the state-owned oil company, and the newly acquired Sibneft.⁴

Putin has used the Kremlin's authority to strong-arm several subsequent acquisitions that have built the Gazprom empire. For example, in 2006, the Russian Ministry of Natural Resources (MNR) nullified a Shell-led consortium's operating ventures on the gas-rich Sakhalin Island off Russia's east coast. The MNR cited environmental concerns and demanded compliance before the venture could continue but every time the consortium came into compliance, a new violation was allegedly discovered. Eventually, the consortium gave up, and Gazprom was able to acquire a controlling share of the venture. Immediately, the environmental concerns were announced resolved, and the venture was able to continue. The Kremlin has exercised its power in similar ways to gain greater control over gas assets in the Barents Sea and near Lake Baikal in southern Siberia.⁵ These actions have all handed Gazprom a significant portion of Russia's vast gas fields.

Russian Gas and Gazprom

Russia's proven gas reserves are extensive. In 2008, Russia possessed an estimated 23.4 percent of proven global gas reserves of approximately 43.3 trillion cubic meters (Tcm), the largest of any single country and nearly twice the reserves of the next largest in Iran.⁶ These

reserves have remained relatively unchanged since the mid-1990s, with the quantity remaining at or near forty three Tcm since 1997. The majority of Russia's reserves, as well as its production capability, rest in the extensive gas fields of the Yamal Peninsula. The Yamal Peninsula is located in the northwest Siberian Yamal-Nenets Autonomous Okrug (district) which contains over sixty percent of proven gas deposits in Russia.⁷ Russia's remaining reserves are found in three main areas: (1) the Volga-Urals Basin, which holds the second largest reserves, bordering Kazakhstan, (2) the Timan-Pechora Basin south of the Pechora Sea, and (3) the Northern Caucasus.⁸

Russia has been able to capitalize on its large gas reserves by producing 601.7 billion cubic meters (bcm) of natural gas in 2008, a 19.6 percent share of the global total production, also the largest of any single country. The Yamal Peninsula and surrounding area account for ninety percent of Russian gas production, making it the single most productive region in the world.⁹

Gazprom alone holds ownership of over sixteen percent of the world's natural gas reserves, approximately two-thirds of Russian gas reserves, eighty four percent of total Russian gas production, and provides one-fourth of Russia's federal tax revenues.¹⁰ Gazprom's reserves and principal areas of production, like Russia's in general, are located primarily on the Yamal Peninsula. However, the region's remote location and geographical conditions present significant challenges for Gazprom, specifically with accessibility of gas resources and infrastructure maintenance.¹¹ The continuous permafrost and prevailing, forty meters per second wind coupled with unstable, sandy land makes supporting infrastructure, such as pipelines, on a solid foundation extremely difficult.¹²

Gazprom's development of the Yamal region stalled during the 1990s as a result of low funding and insufficient demand for gas and did not begin again until 2007. Major investment must be undertaken by Gazprom before the next key fields are ready for exploitation as planned in 2011 and 2014. Gazprom's current investment is considered sufficient to make this schedule "technically and economically feasible."¹³ However, challenges remain in meeting the production timelines required for Russian gas supply to remain stable. Most importantly, the Ob-Bovanenkovo rail system must be completed to provide for a reliable means of transportation in the difficult weather conditions and remote terrain. While reports conflict over when the railway will be completed to transport materials for regional exploitation, the target date is set for late 2010.¹⁴ Delays in the construction process are unfavorable for Gazprom's ability to meet the production requirements necessary for maintaining supply to domestic markets and export consumers.

The challenges facing Gazprom in Yamal highlight a concern held by many in the gas industry that Gazprom is making insufficient reinvestments in transportation and extraction capabilities.¹⁵ As a result, Gazprom will be challenged to bring new fields into production to maintain supply rates as old gas fields decline in production. The possibility of a gas supply that is insufficient to meet demand materialized in the Russian "gas crisis" in 2006 that forced the shutdown of gas power plants. As Gazprom's existing main fields have begun to decline in production, new fields need to be exploited to meet growing domestic and foreign demand.¹⁶

In the short term, increased production by non-Gazprom Russian gas companies, and increased imports from Central Asia, have helped make up for the supply shortfall. However, both alternatives are prevented from providing the greatest benefit as a result of Gazprom interference or inefficiency. Although added production by non-Gazprom companies has

increased total output and is important for relieving supply shortages, these companies have been limited to supplying consumers in the immediate vicinity of their operations. Since they are denied access to Gazprom's far more extensive pipeline systems these companies cannot ease aggregate shortages in supply.¹⁷

The majority of the gas imported from the three central Asian states of Turkmenistan, Uzbekistan, and Kazakhstan serves as throughput and is transited on to Commonwealth of Independent States (CIS) markets to help fulfill Gazprom's export commitments.¹⁸ While these imports have helped to meet gas demands in Russia and elsewhere, insufficient reinvestment has again become a major concern. The Central Asia-Center pipeline, which connects Turkmenistan to Russia and eventually Ukraine, has deteriorated to the point of only being able to carry half its original intended capacity when constructed by the Soviet Union. The same holds true for the Caspian littoral pipeline that runs from Turkmenistan, through Kazakhstan, and into Russia. While agreements have been signed between Russia and the central Asian states to restore these pipelines' capacities by the early 2010s, it remains to be seen whether these updates will occur.¹⁹ The consequences of delayed investment came to the forefront in April 2009 when a gas explosion severely damaged the Central Asia-Tsentr-4 pipeline that connects Turkmenistan to Russia.²⁰ Further delays are likely to lead to additional such events.

Regardless of the condition of the current infrastructure, Gazprom serves as supplier to an extensive market. As of 2006, Russian gas pipelines supply approximately twenty six percent of total European gas supplies. Finland, for one, relied on Russian gas supplies for one hundred percent of total consumption. While most European states do not rely on Russia for all of their gas imports, almost all are heavily dependent on their supply. As an example, in 2006, Germany

depended on Russian gas for thirty six percent of its total consumption, France for twenty percent, Austria for seventy four percent, and Italy for twenty five percent.²¹

In developing European energy dependence and Eurasian energy transport on Gazprom, Russia has built not only an asset for its economy, but also a means of exerting geopolitical influence. Gazprom's control over extensive pipeline systems and its substantial exports to Eurasia give the Kremlin a powerful position from which to negotiate with its neighbors.

Russian Strategy

Russia approaches its international affairs prepared to use any and all tools at its disposal particularly when the "near abroad" area is concerned. In the past few years, Russia has interfered politically and economically in several of these states and invaded another. All the while, it is funding exploration and alternative routes in order to strengthen its most important tool in dealing with these countries: energy. This set of tools is not accidental; a careful study of Russian actions will help to determine its fears, assumptions, and ends.

Russian political and military interference in its near abroad—loosely conceived as the Baltic states, Belarus, Ukraine, Moldova, and the Central Asian and Caucasus states—is frequent and well-documented. One part of this interference has been to create international organizations meant only for the near abroad in order to tether them more completely to Moscow; these include primarily the CIS and the Collective Security Treaty Organization (CSTO), as well as the economic zones tied to these groups like the Eurasian Economic Community (EEC). In demanding the world's recognition of these organizations—as in Russia's demand, only recently dropped, that the WTO take only the CIS customs bloc (Russia, Kazakhstan, and Belarus) as a group or not at all—the Russian leadership hopes to show its unequivocal control over the region to two audiences, the other great powers and the states in the region.

More subversively, Russia's recent, unabashed support of authoritarians like Belarus's Alexander Lukashenko and its use of the "gas weapon" to affect regional elections, like those in Ukraine in 2004 that led to the Orange Revolution, have displayed its intentions to ensure that governments who take their cues from the Kremlin are in place. Without reliable support from neighboring regimes, Russia's geopolitical maneuvering is less conclusive and productive than it would be if the governments in power were loyal to Moscow. Take, for instance, the recent bribe trading in Kyrgyzstan concerning the American Manas Transit Center (formerly Air Base), where American money beat Russian money to keep the base open, albeit with nominal changes.²² Where carrots fail, other, more dramatic options are considered. The 2008 Georgian war has given rise to fears that Russia may attempt, as President Medvedev's expansive definition of Russian interests included in August of 2008, "to protect the lives and dignity of Russian citizens wherever they may be" in other places besides Georgia.²³

Russian economic interference comes in two forms: (1) massive loans and grants coupled with a punitive energy policy to buy influence and curtail dissent, and (2) foreign direct investment, whose motivations can be difficult to discern. The Anti-Crisis Fund within the Russian-led EEC is a perfect case of the first sort of interference. Kazakhstan, Kyrgyzstan, Belarus, Moldova, and Armenia have all received enormous loans and grants, with none of the frustrating transparency and austerity rules that are attached to the same sorts of loans given by the IMF.²⁴ Playing by the rules of the internationally sanctioned foreign direct investment regime, Russians have been investing heavily in other countries, especially those whose economies are small and nearby. This has led to the pursuit of controlling shares in Ukrainian and Kazakh banks, Belorussian, Lithuanian and Armenian energy infrastructure, and even Kazakh gold mining.²⁵

The energy interference is perhaps the most daunting to international observers. Russia's willingness to use energy resources to pursue a broader geopolitical strategy is, of course, no secret given that it was Prime Minister Putin's argument in his (plagiarized) master's thesis from 1997.²⁶ Making Gazprom a "national champion" and nationalizing the assets of or penalizing those foreign companies who have the temerity to oppose certain arbitrary fees are clear examples of the Russian leadership's willingness to use the power of the state to support its economic interests. But the reverse is also true. Its pursuit of pipelines that circumvent current throughput countries, as well as the nationalist display of planting the Russian flag on the Arctic floor, shows the leadership's willingness to put the state's energy power behind geopolitical maneuvers. Here, the recent arrangements with China and the plucking of European "power brokers" to add respectability to its Nord Stream and South Stream projects offer plentiful examples.²⁷

A series of perceived threats have helped Russia's leadership to conclude that the above courses of action are appropriate measures. The first is a fear of its crowded neighborhood, in which the European Union, China, and the US all seem interested in competing for resources, markets, and political favor. This competition has resulted in the general unreliability of Russia's usual dependents, all of whom now have an ample set of alternative patrons from which to choose. The second is its economy's dependence on the export of raw materials, whose prices have seen tremendous volatility over the past decade. Moreover, raw material-exporting economies have never provided the basis for great power status; this is seen clearly today in the economy and geopolitical standing of Saudi Arabia, which has been unable to translate its oil wealth into overwhelming world influence. The third threat is Russia's demographic challenges, amongst which the twin problems of sub-replacement fertility levels and extraordinary mortality

rates stand out prominently. This condition makes future Russian power projection far less certain, closing the window of opportunity. The fourth is the general weakness of the Russian state. Though the regime is quite strong, the state does not provide those services that might reverse the appeal of other geopolitical competitors, diversify the economy, and improve healthcare.

These threats would seem to point to an unavoidable reduction in Russian strength and a corresponding reduction in Russian interference in the affairs of other states. One would think Russia needs to focus on its internal problems before expanding its zone of influence further and more concretely. However, Russia's self-image must be accounted for before an accurate portrayal of its energy strategy can be made.

The Russian leadership desires equal standing with the other important global players—the EU, US, and China in particular—to be given their rightful place at the table. Since these other great powers do not allow for the internal interference of other powers in their own states, Russia expects not to be interfered with, chastised, prodded, or lectured to. But this prestige is a function of the equality among equals, which does not extend to all states, specifically not those in Russia's near abroad. There, the Russian leadership expects absolute political reliability; these states' actions must be consistently and predictably supportive of Russia's larger goals. In short, Russia's leadership views Russia as a Great Power, with all of the rights accorded that status, and the precedence above those who are not so powerful.

Russia's Great Power identity informs its interests and, accordingly, the means its leadership chooses to employ in pursuit of those interests. Not simply a materialistic, rational actor, recent examples in Georgia, Ukraine, and Estonia show that Russia's motivations are, at least some of the time, primarily geopolitical rather than what is in its best short-term, or even

long-term economic interest. Moreover, the perceived threats outlined above have the effect of forcing the hands of Russia's leaders. If they are to score geopolitical points, namely to achieve the ends of (1) political reliability in the near abroad, (2) a rise in commodity prices, and (3) a return of multi-polarity in which Russia maintains clear regional hegemony, they will employ means that seem jarring and rash in the liberal order.

First amongst these methods is the subtle, but expansive purchase of large swaths of foreign economies. Here, Russia is able to play by the rules of foreign direct investment, yet, because of the state ties of its companies, the investments are directed to advance and achieve political objectives, even as reciprocal investments into Russia are interfered with.²⁸ Second, energy supply is made a political tool. Under the guise of maintenance and payment discrepancies, the Russian cutoffs of natural gas to Belarus and Ukraine and oil to Lithuania, as well as the dramatic price hikes for the Caucasus and Baltic countries, show a clear determination to use its energy power as political power. Finally, though its leadership seems unlikely to use force again so soon after the Georgian conflict, Russia has not taken military action off the table in pursuit of political objectives.

Russia, through Gazprom, has monopolized vast energy resources and is continuously working to consolidate its control over the supply of energy to Europe. Russia's energy strategy—built upon fear, desirous of security and prestige, and armed with a complete array of tools—plays a primary role in shaping the pipeline politics emerging from Eurasia. Other actors will respond to Russian cues, given its regional power, meaning that even the US has an interest in tempering strains in its relationship with Russia.

The United States in Eurasia

US interests, recent policies, and strategic options combine to dramatically impact the nature of the pipeline politics in Eurasia. As the world's strongest economic and military power, whose ties to Western and Eastern Europe are deep, the US is the most important challenger to Russian dominance in the region. However, divisions have emerged within Europe as well as the transatlantic alliance over energy issues. The United States leadership must now balance carefully certain interests against others, employing policies that are simultaneously meant to ease tensions with Russia, promote development and democracy in the region, and help to secure a stable energy supply.

US Interests

In general, the US has at least four major interests in the region: averting a renewed Cold War, protecting energy markets, fighting terrorism, and safeguarding democracy. Though clearly espoused, these interests are not always perfectly delineated from one another, nor does serving one necessarily have the effect of serving the others.

Averting a New Cold War

One of America's priorities in the region is to avoid a new Cold War with Russia. Russia's desire to control the regional oil and gas market is a top national priority for the Kremlin, and they would strongly oppose any attempt by the US to impede their progress. While the pipeline transit countries of Eastern Europe and Central Asia are considered a key part of Russia's near abroad, the US has only tenuous energy ties to much of the region. The Obama administration's recognition of this fact has led to calls for an improved relationship with Russia. Russia also has little to gain from a new rivalry, but, since the cost of hostility between the two powers would fall heaviest on Russia's neighbors, it may serve other geopolitical interests to compete for leverage. It will be left to the US, then, to avoid dramatic escalation of current tensions.

Protecting Energy Markets

Although the US is not a major consumer of Russian oil and gas, its security relationship with Europe makes reducing energy disruptions on the continent an important US interest. As European energy demand grows, and reliance on sources from outside Europe increases, concerns over the continent's energy security have increased. Concerns include prices, potential disruptions, and lack of adequate supplies. European countries, especially those in Eastern

Europe, will remain vulnerable if they rely on Russia for large proportions of their fuel supplies. Similar to the way that Western countries are concerned about relying on the volatile Middle East for oil, some are concerned about relying on Russia for natural gas due to the leverage this grants Russia over European nations. Attempts by these countries to reach out to the West or to loosen ties with Russia could provoke a response from Russia that would detrimentally affect these nations' energy supplies. The presence of this threat may limit the independent action of Russia's neighbors. Additionally, while Russian firms are able to do business in the West, Western businesses are not granted the same freedom in Russia. This one-sided relationship reinforces Russia's unfair and opaque use of oil and gas to support its state interests, and undermines the potential for economic relationships to move energy from the political realm to the commercial realm.

Counterterrorism

Since September 11th, much of America's attention in the region, and especially in Central Asia, has been concentrated on prosecuting the War on Terror. The Manas Transit Center (formerly Air Base) in Kyrgyzstan has been a key asset for US operations in Afghanistan, but also a point of contention with Russia, with the latter recently and unsuccessfully attempting to have it closed.²⁹ NATO-sponsored security cooperation began in the region in the 1990s, but concern over the spread of terrorism in the region led to a substantially increased US military "footprint" after 2001.³⁰ Regional perceptions of US military involvement have varied over time, but some, including Russia, now see it as a potential check on their own interests. For instance, the Shanghai Cooperation Organization (SCO) between Russia, China, Kazakhstan, Kyrgyzstan, Turkmenistan, and Uzbekistan was set up ostensibly to deal with the threat of terrorism, but has since called for the withdrawal of US forces from the region.³¹

Promoting Democracy

The US has an interest in furthering the cause of democracy around the world. As the Color Revolutions from Georgia (2003), Ukraine (2004), and Kyrgyzstan (2005) have shown, a widespread desire for greater freedom and better government exists among the populations of the former Soviet states. Moscow's opposition to the victors of the color revolutions serves as a warning to the region not to seek integration with the West or to attempt to escape from Russia's grasp.

Conflicting Interests

While the US has deepened its security and energy ties to Eastern Europe and Central Asia, conflicts of interest have arisen regarding the need to reduce tensions with Russia and pursue a policy of democratization. Indeed, many states in the region, especially in Central Asia, have begun to retreat from democracy.³² Energy profits have allowed ruling parties in Russia, Kazakhstan, and Azerbaijan to tighten their grip over political opponents. In what Freedom House defines as "authoritarian propellant," the world's need for their oil and gas allows undemocratic rulers to shield themselves from international criticism.³³ Though Western values have been institutionalized as interests, the ranking of these interests remains fundamental to how US policy in the region has been and will be constructed.

US Involvement in Eurasia

Over the past two decades commercial and political entities have rushed to fill the vacuum left in the former Soviet satellite states. Even now, the United States continues to struggle against Moscow for influence and resources in Eastern Europe and Central Asia through diplomatic and economic engagement, as well as military involvement.

Diplomatic Efforts

The US State Department, in conjunction with the US Agency for International Development (USAID), issued a strategic plan for Europe and Eurasia for 2007-2012. Its proposed aims include engaging regional players in US interests beyond Europe, completing the work of consolidating reforms and resolving conflicts, and working toward better relations with Russia. The concerns about Russia are centered on Moscow's support for separatist regions in Georgia and Moldova, as well as its use of political, economic, and energy pressure against neighboring states to gain control of infrastructure and strategic assets. The State Department's suggested avenues for resolving these problems are diversifying energy sources, increasing transparency, and improving energy efficiency.³⁴

USAID runs multiple programs in Newly Independent States (NIS) to address state and economic strength, which includes promoting sustainable energy systems. This involves expanding the energy trade and integration of NIS energy systems with those of Western Europe and international energy markets. Energy efficiency programs have been initiated in Ukraine and Armenia. Pilot programs have also been begun in Georgia, Moldova, and Kazakhstan. The energy sustainability program in Ukraine worked with the World Bank and the European Bank for Reconstruction and Development (EBRD) to improve heat production, delivery systems, and municipal buildings.³⁵

Beyond energy policies, though, many other programs have been adopted in order to increase American presence in the region, especially in the face of criticisms following the cancellation of the Polish and Czech missile shields this fall. The NATO Parliamentary Association (NATO PA) has organized specially designed councils with Georgia and Ukraine which meet twice yearly. NATO PA delegations also travel to the region for election monitoring

and training on oversight of military and security policy.⁴⁰

The State Department's Bureau of Intelligence and Research also funds research and language training for American scholars and students studying Eastern Europe and Eurasia (Independent States of the Former Soviet Union) in a grant program called Title VIII. These programs, combined with large economic aid packages, demonstrate the U.S. attempts to show long-term commitment to the region.

Economic Aid Efforts

Table 1 provides a description of some major U.S. aid packages in the region. These packages revolve around the oil and gas sector as well as alternative forms of energy.

Both the SEED and FSA programs were designed to assist the region in building market-based economies and develop stable societies. Despite the programs, direct investment by Western companies has been

inhibited by a business culture which continues to reflect the closed Soviet mentality. This is

An Interview with Vanco Energy Company

A major example of the frustrating regional business climate is found in the arbitration between the Ukrainian government and a US deepwater exploration and development company. In 2007 Vanco Energy Company, headquartered in Houston, Texas, signed a multi-billion dollar Production Sharing Agreement (PSA) with the Ukrainian government through a Swiss subsidiary, Vanco International Limited; it was cancelled by newly elected officials a year later. This agreement would have spanned thirty years and was estimated to involve up to fifteen billion dollars in investment over the course of completion to survey, prospect and possibly extract oil and gas in Ukraine's Prykerchenska region of the Black Sea shelf.³⁶

Vanco's CEO, Gene Van Dyke, estimated the field to hold enough gas for Ukraine not only to become energy independent, but to become a leading gas exporter.³⁷ Vanco's contract, however, was terminated after Yulia Tymoshenko became Prime Minister. Tymoshenko unilaterally terminated the contract after taking office in 2008. She disputed the agreement because of the involvement of third-party partners whom she claimed were affiliated with Russia.³⁸ According to Van Dyke, she also required that Ukraine's national gas company, Transneft, become a partner in the endeavor.³⁹ The case is currently pending in arbitration with no exploration of the Prykerchenska fields in progress. The outcome of this arbitration could influence future investors and government officials alike.

Table 1 US Aid Packages to Eurasia	
Support for East European Democracy (SEED) Act was passed by Congress to promote political democracy, economic pluralism and social changes in Central and Eastern Europe and to integrate those countries into Europe as a whole. \$300 million was authorized by President Bush in 1989. ⁴¹	Freedom Support Act (FSA), of 1992, authorized \$1.2 billion in assistance to former Soviet republics to continue development of market-based economies. The act also encourages these countries to cooperate with US policies on nuclear nonproliferation and the Global War on Terrorism. Recipients of FSA include Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. ⁴²

seen in a litany of problems including corruption, government preference to state-sponsored companies, contract abrogation, tax laws that are constantly changing and burdensome and jurisdictional conflicts among federal, regional, and local governments. American and other Western companies have been squeezed out of contracts by government sponsored corporations, required to operate with local partners, and at times lost substantial investments due to this adverse political and business climate.

Regardless of the many setbacks, the US continues to promote social changes, transparent and pluralistic societies, and open-markets. Within and in addition to the SEED and FSA programs economic aid is often tailored to meet specific problems. Table 2 is a non-exhaustive list of recent economic aid packages granted to Eastern European and Eurasian countries.

Country	Package	Funds	Package Description
Azerbaijan	State Oil Company of the Republic of Azerbaijan (SOCAR) Waste Management Facility	\$572,068	Feasibility study for a proposed Waste Management Facility project in Azerbaijan to improve waste management practices in the oil and natural gas sector. Contractor selection is ongoing.
Georgia	Coal Bed Methane / Coal Mine Methane	\$824,342	Feasibility study on recovering methane from coal seams, active coal mines, and abandoned coal mines in the Tkibuli-Shaori and Vale Coal Basins. Advanced Resources International of Fairfax, VA, is conducting the study.
Kyrgyzstan	Datka-Kemin Transmission Line	\$537,595	Feasibility study on the proposed Datka-Kemin Transmission Line project in Kyrgyzstan. Auriga Corporation of Milpitas, CA, is conducting the study.
Lithuania	Liquefied Natural Gas (LNG) Import Terminal	\$826,501	Feasibility study on construction of an LNG import terminal along the Baltic Sea. Science Applications International Corp. of San Diego, CA, is conducting the study.

US Military Involvement

The US and its NATO allies have proven increasingly interested in stabilization of energy resources in Eastern Europe and Central Asia. Since the Cold War's end, NATO's primary concern in the region has moved from containing Russia to protecting energy infrastructure. Though these countries do not fall under Article V protection, the region's geostrategic importance has prompted continued US and NATO military presence.

Given the US interest in maintaining regional staging points for the War on Terror, the region has received heavy military and financial assistance from the United States. Military

bases in Kyrgyzstan and Uzbekistan, the U.S. Train-and-Equip program in Georgia, and development of Azerbaijan as an ally, have evidenced U.S. willingness to promote its global geostrategic interests in the region through military means.⁴⁴ The Obama administration has also issued new sea-based plans for missile defense in Eastern Europe in an effort to reassert its commitment to the region.⁴⁵ These military ties have been a major source of tension between the US and Russia. Both countries continue to use military and economic influence to vie for regional influence and access to natural resources and transport capabilities.

NATO

The first post-Cold War round of NATO enlargement occurred when Poland, Hungary, and the Czech Republic obtained membership in 1999. In 2002 the North Atlantic Council invited seven European states—Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia, to join the Organization. All seven officially became members in 2004 in the second post-Cold War enlargement. After further enlargement in 2009, the Former Yugoslav Republic of Macedonia is the only country that remains in the Membership Action Plan (MAP) phase.⁴⁶

On March 6, 2008 at the Bucharest Summit NATO ministers discussed future NATO expansion. Bosnia and Herzegovina and Montenegro were invited to start Intensified Dialogues on membership aspirations and reforms. Georgia and Ukraine were already engaged in discussions over membership. However, NATO made the decision not to offer MAPs due to the two countries not meeting political and military standards. Membership status for Georgia and Ukraine appears bundled and remains on the table. NATO ministers stated that both countries will become members at some point in the future.⁴⁷ Russia's invasion of Georgia revealed the country's lack of military preparedness and complicated their entrance into NATO sufficiently to cast doubt upon the likelihood of a membership offer being extended in the near future.

NATO Challenges

The issue of Georgian and Ukrainian NATO membership casts light on the major rift that has developed within NATO members. A sharp distinction can be seen between the energy policies of Western European countries, and the Eastern European countries and United States. More and more frequently Western Europeans are siding against the United States on issues that may strain their relations with Russia. Germany and France opposed the move to incorporate Georgia and Ukraine in NATO. This decision, made at the Bucharest Summit, was the first time Western Europeans have overturned a decision that was publicly supported by the United States. Similarly, the divisions concerning drawing up contingency plans for the defense of the Baltic members have shown the increasing importance of Western Europe's energy dependence on Russia.⁴⁸

NATO expansion consistently draws criticism and harsh responses from Russia. The 2004 expansion round including Latvia, Estonia, and Lithuania, brought threats of changes in military strategy from the Russian Duma to counter what it considered troop buildups on its border.⁴⁹ The expansion of NATO to include Georgia and Ukraine strikes a particularly sour note for Russia; these former Warsaw Pact members both touch Russian borders. In March 2009, Russian President Dmitri Medvedev announced a restructuring of its military to include increasing conventional and nuclear capacities. In explanation of the policy, Russian defense minister Anatoly Serdyukov, argued that "the military-political situation is characterized by the US leadership's desire...to expand its military presence and that of its allies in regions adjacent to Russia."⁵⁰

Facing a resurgent Russia, Eurasian leaders continue to seek reassurance that the US will maintain stability in their region. As the US moves to "reset" relations with Russia, US

policymakers are being careful to show support for Eastern Europe and Central Asia through substantial developmental and military aid packages. This requires a careful balance in their pursuit of US regional interests, as shown in the wide array of policies employed above.

Potential US Actions

The US has a strong interest in the political independence of former Soviet and Warsaw Pact states, and would like to see these countries join, or cement their place in, the global capitalist system. An important precursor to this outcome is energy security. In the West, the term “energy security” has come to include three elements: reliability of supply, affordability of resources, and friendliness to the environment.⁵¹ Given Russia’s use of its energy reserves as a political tool, as described previously, the first of these elements is potentially threatened by Europe’s deepening reliance on Russian natural gas. To reduce this reliance, Europe must pursue “diversity of energy type, country of origin, and transit.”⁵²

There are several actions the US can take to promote energy security in Eurasia in pursuit of its larger political objectives. These primarily involve pressing Europe and Central Asia to take actions and adopt certain policies. The US can wield its diplomatic and financial tools in the pursuit of necessary changes. Suggested policies include promoting a common European Union energy policy, promoting increased gas storage in Europe, and promoting alternative pipelines and gas sources. Additionally, the US should explore the possibility of cooperation with Russia on energy market access and production.

Promote A Common EU Energy Policy

An EU-wide energy policy allows Europe to speak with one voice as an energy consumer. Currently, Russia can play European nations against each other, as it has attempted to

do with proposed pipeline projects like Nord Stream (which would transport gas from Russia to Germany via the Baltic Sea), South Stream (which would transport gas across the Black Sea), and with shutoffs of gas supplies to Ukraine. See Figures 1 and 2 for illustrations of Nord Stream, South Stream, and Nabucco pipeline routes. This go-it-alone mentality is reinforced by the existence of “national champion” state-owned or supported energy companies in most European nations, such as Suez in France, E.ON in Germany, and Enel in Italy. National companies are free to make individual deals with Gazprom, which complicates attempts to coordinate gas purchases across the continent. Additionally, these companies receive economic protection from their governments, which reduces competition and efficiency and blocks the creation of interconnection between national gas markets on the continent. Such interconnection would alleviate price spikes and supply shortages that may occur in individual countries due to pipeline problems, severe cold weather, or antagonistic Russian moves.

Figure 1



Source: Reproduced with permission from Halliburton. Obtained in a presentation to the authors, Houston, TX, November 20, 2009.

Figure 2



SOURCE: Reproduced with permission from Halliburton. Obtained in a presentation to the authors, Houston, TX, November 20, 2009.

Europe has taken some steps towards unity in energy policy. In 1994, European countries signed the Energy Charter Treaty, setting rules for energy transit, trading, and efficiency across the continent and provided protection for investors.⁵³ In 2006, the European Commission released a Green Paper that set forth common energy goals for Europe. These goals include completing the internal electricity and gas markets, cooperating to guarantee security of supply, building a framework to help countries choose a mix of energy sources, forming an “integrated approach to climate change,” creating a coordinated energy technology plan, and agreeing on a “coherent external energy plan.”⁵⁴ Energy unity has been much discussed, but there has not been a corresponding level of action.

Europe has pursued the goal of a competitive internal energy market for ten years, and some progress has been made in the areas of efficiency and supply security.⁵⁵ However, the aforementioned protection of national markets in many European nations prevents market integration. The European Commission has launched infringement proceedings against twenty

member states for infractions such as regulated prices, discriminatory access to networks, and “insufficient unbundling of transmission and distribution system operators.”⁵⁶ Not only do these actions reduce competition, they also open the door for increased Russian influence on the European energy market. By investing in large European companies, Russia can gain control over large parts of the energy market of individual countries. Unbundling the sectors of the energy market decreases Russia’s ability to exercise undue control.

Uncoordinated energy policy in Europe allows member nations to deal unilaterally with Russia, which undermines any possibility of a joint energy security policy. One aspect of this is reciprocity of access to markets and pipelines for foreign companies. Since Russia refuses to ratify the Energy Charter Treaty, it is not required to allow foreign companies to use its pipelines to transport gas purchased elsewhere (e.g. Central Asia).⁵⁷ Foreign investors are also not permitted open access to invest in Russian energy resources. Gazprom, however, has made a number of investments in the European market, therefore obtaining some control over downstream distribution of gas resources and increasing Russia’s role in the provision of energy to Europe.⁵⁸ A united Europe is better suited to demand reciprocal treatment, and in the meantime deny Gazprom further access to European investments.

To encourage European energy unity, the US should pursue a transatlantic energy partnership. Such a partnership could be based on shared interests in increasing energy efficiency, an energy trade based on market principles, climate change, and energy security. Increased energy security in Europe also mitigates a flash point in US-Russia relations, which benefits a Europe that does not want to find itself caught in the middle of renewed US-Russia tensions. Such an agreement creates a platform for the US and EU to work together on issues like Nabucco and how to deal with the activities of Gazprom. The two parties can begin the

process of creating an energy partnership by instituting an energy dialogue and creating a plan of action.

In the past, the US has exhibited that it has the ability to obtain European cooperation on issues such as European market integration and NATO expansion. A sustained effort on the part of the US will be needed to move energy coordination forward. The EU-US Energy Council, which launched in November 2009 and includes the US Secretaries of State and Energy, provides a forum for future transatlantic cooperation.⁵⁹

While Western Europe has shown little fear of potential negative effects of energy dependence on Russia, as evidenced by several countries' participation in the Nord Stream and South Stream pipelines, Eastern Europe is concerned about this issue. This is due to this region's history of domination by Russia and its increased reliance on Russian energy supplies. These nations will likely be eager to see increased US interest and engagement in the region, and to take steps to improve their energy security. Western European nations, however, are likely more protective of their national energy prerogatives and less inclined to cooperate.

Nevertheless, there is one specific way the US can entice these countries to cooperate. The climate change issue may provide some common ground. The US has not acted as swiftly on climate change as the EU has; this may be a useful incentive for the US to offer Western Europe. German Chancellor Angela Merkel highlighted European desire for US action on climate change in her speech to the US Congress on 3 November 2009.⁶⁰ In exchange for further US climate change commitments, EU nations may agree to take steps towards a common energy policy.

Promote Increased Gas Storage in Europe

Just as the US Strategic Petroleum Reserve and the International Energy Agency's oil stocks provide cushions against disruptions in world oil supplies⁶¹, gas storage reserves can provide temporary relief against disruptions caused by pipeline failures, increased demand due to extreme weather, or geopolitical disputes. Essentially, these reserves can serve as a buffer against energy emergencies.

Gas storage is expensive, however. Gas stocks cost at least five times as much to store as oil stocks.⁶² Reliance upon private entities to store gas pushes these costs to the private sector, but the lack of government control means that these stocks may not be reserved solely for emergencies but, rather, utilized at a time of greatest financial gain. A trade group claims that in January 2009, commercial gas storage was able to provide supply to alleviate shortages during the Russian shutoff of gas to Ukraine.⁶³ However, some sort of public/private cooperation in the management of gas reserves, or government assurances that strategic reserves will only be tapped to respond to non-market risk, might allow these stocks to serve both commercial and security concerns.

Whether under private or government control, implementing gas storage is something individual countries can do. However, a continent-wide storage program spreads costs, increases storage capacity, and allows stored supplies to be delivered where they are needed. The European Bank for Reconstruction and Development (EBRD) is currently financing a strategic gas reserve in Hungary that energy company MOL will also use for commercial purposes.⁶⁴ When completed, this facility will provide forty five days of gas supply. The US could similarly provide financial support for such projects through government development agencies.

Promote Alternative Pipelines and Sources

Russia currently has a monopoly on natural gas pipelines entering Europe from the east for its own gas as well as that produced in Central Asia. Not only does this increase European dependence on Russia (particularly that of Eastern Europe), but the lack of alternative pipelines means that supply disruptions occur as a result of any pipeline breakdowns, like the aforementioned explosion in Turkmenistan. Alternative pipelines will allow Central Asian producers access to new markets, where they can sell their natural gas at market prices without intimidation. For these reasons, Europe should pursue pipelines that bypass Russia.

The Nabucco pipeline project, which has been in the works since 2002, is the most advanced effort to build an alternative pipeline to date. When completed, it has the potential to transport thirty-one bcm of gas per year from the Caspian Basin west through Turkey and Eastern Europe, terminating in Austria.⁶⁵ This represents six percent of the EU's total natural gas consumption in 2008, which amounted to 517 bcm.⁶⁶ While the nations collaborating on Nabucco signed a pipeline treaty in July 2009, the question of who will supply gas to the pipeline remains unanswered. Azerbaijan, Turkmenistan, and Iraq are potential suppliers, although Russia is making efforts to tie up some of these supplies to keep them out of Nabucco.

The US officially supports Nabucco, and can play an important role in bringing the project to fruition. First, the US can diplomatically press European nations to stay united and focused on the project and encourage potential suppliers to sign on to the pipeline. This can help prevent situations like that which occurred in May 2008, when European negotiators bungled an offer of gas from Turkmenistan by prematurely announcing it publicly.⁶⁷ Second, since construction of the pipeline will require commercial backers, the US can encourage American energy companies to take interest in the project, and make this option more attractive by helping

Turkmenistan improve its business climate and ensuring security in Iraq. Third, the US can provide loans to help finance the pipeline.

In a similar manner, the US played a central role in the development and construction of the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, which went into operation in 2006. The US used its political influence to bring participants on board, provided financing for the pipeline via the Overseas Private Investment Corporation (OPIC) and the US Import-Export Development Bank, and coordinated the participation of participating nations, companies, and financial institutions.⁶⁸ By taking similar actions, the US can play a vital role in making Nabucco happen.

As mentioned, Azerbaijan is one country that could increase its gas exports to the West. This nation already transports gas through Georgia to Turkey via the South Caucasus Pipeline, which has a capacity of about eight bcm annually.⁶⁹ Azerbaijan's Shah Deniz II field promises to supply an additional ten to twelve bcm of gas per year when completed.⁷⁰ This gas could be sent west through Nabucco or north to Russia. Deteriorating relations between Azerbaijan and Turkey, and Europe's sluggish attitude towards deal-making, put Nabucco at a disadvantage. However, the Azeri desire to increase its energy independence from Russia gives Europe a chance to capture these supplies if it acts more aggressively. This is another instance where a push from the US could make a difference.

Western European nations have made several moves to diversify their natural gas imports, including signing deals with Libya and Algeria and increasing liquefied natural gas (LNG) import potential. However, Eastern European nations are still largely dependent on Russian gas. The Baltic countries (Estonia, Latvia, and Lithuania) receive one hundred percent of their gas supply from Russia, while Austria, Hungary, the Czech Republic, and Slovakia all rely on Russia for more than sixty-five percent of their gas needs.⁷¹ The US can encourage these

countries, via monetary aid and technological assistance, to pursue alternatives appropriate to their specific situations. Lithuania is currently investigating, with US assistance, the construction of an LNG import terminal.⁷² Additionally, energy company OMV is conducting tests in search of shale gas in Austria.⁷³ Technical expertise from firms in America, where shale gas exploration is much more developed, can be beneficial in assisting European efforts to tap this potential domestic energy source.

Policy Towards Russia

Until recently, energy has not been a major focus in US-Russia relations. Instead, issues such as nuclear arsenals, NATO expansion, missile defense, and dealing with Iran and North Korea have taken center stage. These issues will continue to be the focus of the bilateral relationship. Additionally, it may be that American and Russian energy goals are incompatible. The US wants Central Asian nations to have access to multiple customers for its energy resources, and wants Europe to have access to multiple vendors. Russia, on the other hand, wants to maintain its dominance over the regional energy market, and indeed over former Soviet states as a whole. To achieve any cooperation on energy issues, the US and Russia will probably have to nibble around the edges.

As mentioned previously, Russia will need to invest in its energy infrastructure, and in new fields, in order to maintain and increase its production levels. Gazprom has neglected this. Additionally, Russia will require Western technologies to tap new fields. Western companies have the capital and technology to assist Russia, but market restrictions have kept these companies out, or made them wary of entering into new projects. If Russia allowed increased foreign investment, and did not interfere with the operations of these firms, it could benefit from increased gas production, which can also benefit Europe. Western nations would be more

comfortable with Gazprom's investments in their companies if Russia allowed mutual market access, and the relationships built by this commerce could reduce tensions and increase trust between Russia and the West.

For this to occur, it may be beneficial for the US to attempt to cooperate with Russia where possible. President Barack Obama's decision to adjust plans for a missile defense system is a step in this direction. A delay in pushing for further NATO expansion, and a drive to achieve Russian accession to the World Trade Organization (WTO), are other moves that could help improve the bilateral relationship. These steps will not significantly impair US security aims, yet they could lay the groundwork for some level of energy cooperation with Russia. Whether these steps will succeed remains to be seen, but they provide an indication of Russia's willingness, or lack thereof, to act in a collaborative manner.

The US has a number of interests in Eurasia, including energy security, limiting tensions with Russia, counterterrorism, and promotion of democracy. Some US actions in the region, particularly NATO expansion, have antagonized Russia in the past. Since coming to power, the Obama administration has made "resetting" the Russian relationship a priority, as evidenced by the decision on missile defense. Going forward, the US will have to strike a balance between its Eurasian interests. A desire to improve ties with Russia should not lead America to give up other important interests.

The US has a stake in European energy security, and can help increase and ensure the political and economic independence of European and Central Asian nations. In the end, it will be up to these nations to make the decisions necessary to achieve energy security. However, the US can take diplomatic and financial steps to encourage these countries to make these moves. By promoting a common EU energy policy, gas storage facilities, and alternative gas sources and

pipeline routes, while attempting to cooperate with Russia on energy market access and production, the US can help loosen the grip that Russia has on its neighbors due to its energy weapon.

Conclusion

While the days of mutually assured destruction and East versus West confrontation of the Cold War are passed, a different and equally challenging task has moved to the forefront: achieving energy security and independence in Europe. With numerous actors throughout Eurasia, securing energy supplies in the region is a complex and difficult problem to solve. Russia and the United States continue to hold tremendous influence in energy developments. Although the US is seeking to build stronger ties with Russia, it must not ignore the risks associated with allowing Russia to increase its energy grip on Europe.

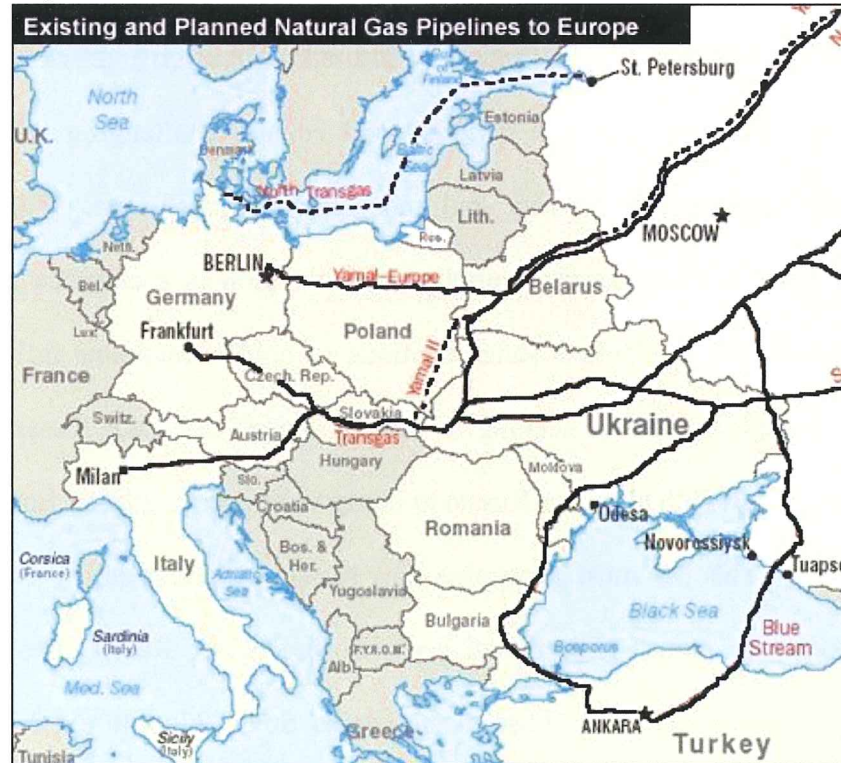
The US must recognize that Russia is manipulating economic power in the form of energy to pursue geopolitical goals in the region. Russia uses its energy ties with European countries, specifically those of the former Soviet bloc, to exert its influence and pursue greater regional hegemony. Russia will continue to use its national energy companies as an arm of the state and exploit its natural gas endowments for these purposes. For the US to counteract these events, it must help Europe overcome its dependence on Russian supplies of oil and natural gas.

Energy security in Eurasia must be a priority in US foreign policy. The diversification of European energy away from Russian supplies is a necessary step for achieving greater energy independence and security in the region. The drive to “reset” relations with Russia has inhibited American foreign policy makers from pushing the necessary initiatives for European energy diversification. Nonetheless, the US must prioritize its policies and take the initiative to assist the various Eurasian states in achieving independence from Russian energy supplies.

Ukraine in Focus

Ukraine is the linchpin in the entire European pipeline system, since eighty percent of the gas passing to Western Europe from Russia travels through Ukrainian pipelines. See Figure 3 for a map of natural gas pipelines traveling through Ukraine. Ongoing energy disputes

Figure 3



Source: University of Texas Libraries. https://www.lib.utexas.edu/maps/commonwealth/russia_europe_gas_pipelines_2005.jpg.

between Ukraine and Russia, which in the past have resulted in gas past shut-offs, greatly affect European energy security. Any efforts Ukraine can take to stabilize its own energy security will in turn benefit Europe as a whole.

The following micro-study examines the steps Ukraine can take to ease its energy dependence on Russian gas sources based upon the recommended actions of promoting alternative pipeline routes and energy sources. The study evaluates the primary alternative energy sources available for exploitation by Ukraine, reaching the ultimate conclusion that it must pursue the development of untapped domestic gas production, specifically the Black Sea. Important for accomplishing this goal is the improvement of Ukraine's business climate, which can be achieved by following these three steps: (1) eliminate domestic gas and other market-distorting energy subsidies to promote greater energy efficiency; (2) encourage increased

Foreign Direct Investment (FDI) in Ukraine's energy sector to increase domestic production; and (3) accelerate the privatization process to increase legitimate competition in the energy sector.

Alternative Energy Sources

Ukraine should develop domestic alternative energy sources to obtain greater energy independence to decrease its dependence on the Russia natural gas sector. The following alternatives are evaluated to determine the viability, benefits, and challenges facing their development.

Shale Oil and Gas

The extraction of energy from shale rock, which contains substantial amounts of oil and combustible gas, is a new development that holds the potential to revolutionize the global energy market.⁷⁴ Oil shale and shale gas have been cost prohibitive to extract, but breakthrough drilling methods pioneered in the US have the potential to decrease costs, thus allowing for increased sources of energy supply.⁷⁵ The shale revolution in the US has sparked major exploratory campaigns by ConocoPhillips, Shell, and Exxon Mobil in Poland, Sweden, and Germany with shale projects already financed in Argentina, Australia, China, and India.⁷⁶

Regardless of the potential it holds, oil shale and shale gas may not be viable options as alternative energy sources in Ukraine. The expertise and technological innovation that led to the breakthrough in US shale exploitation is not necessarily transferable to Europe due to differing geologic compositions. Additionally, the higher population density in Ukraine is not conducive to the large, invasive operations necessary for shale drilling. It will be beneficial to continue with exploratory operations in Western Europe and Eurasia, but neither oil shale nor shale gas will give Ukraine energy security or independence in the short term.⁷⁷

Nuclear Power

Nuclear energy holds the potential to serve as a means for Ukraine to achieve greater independence from Russian energy, but obstacles remain. Currently, Ukraine is heavily dependent on nuclear energy and is currently operating fifteen nuclear reactors that generate approximately half of its electricity production.⁷⁸ Its 2006 Nuclear Strategy approved the construction of eleven new reactors, promising to double its nuclear capacity by 2030 and greatly enhancing Ukraine's energy independence.⁷⁹ However, the Ukrainian nuclear industry is currently tied closely to Russia as plans for expansion are financed through a short term Russian loan. Additionally, Ukraine's modest uranium resources are sent to Russia for fuel cycle services, notably enrichment.⁸⁰ On a positive note, Ukraine is nearing completion of a US-funded joint nuclear fuel qualification project which will give Ukraine greater energy independence and a fuel cycle service free from Russia.⁸¹ Nevertheless, it receives most of its fuel and nuclear services from Russia, investing heavily in the Ukrainian nuclear sector will not accomplish the goal of energy independence in the short term.

Bioenergy

Bioenergy, energy produced from organic matter, has recently become one of the most dynamic and rapidly changing sectors of the global energy economy, Ukraine included.⁸² In an effort to stimulate this industry, President Viktor Yushenko signed a law in August 2009 exempting the biofuel industry from taxation and giving income tax breaks to individuals who recondition their vehicles to operate on biofuel.⁸³ Yet, while bioenergy is promising for Ukraine, "rapid growth in first generation liquid biofuels production will raise agricultural commodity prices, causing negative economic and social effects, particularly on the poor who spend a large

share of their income on food.”⁸⁴ Additionally, growth in biofuel demand, artificially boosted by tax provisions and credits from the Yuschenko administration, could also have a dramatic effect on Ukraine’s land and water resources, including forest depletion.

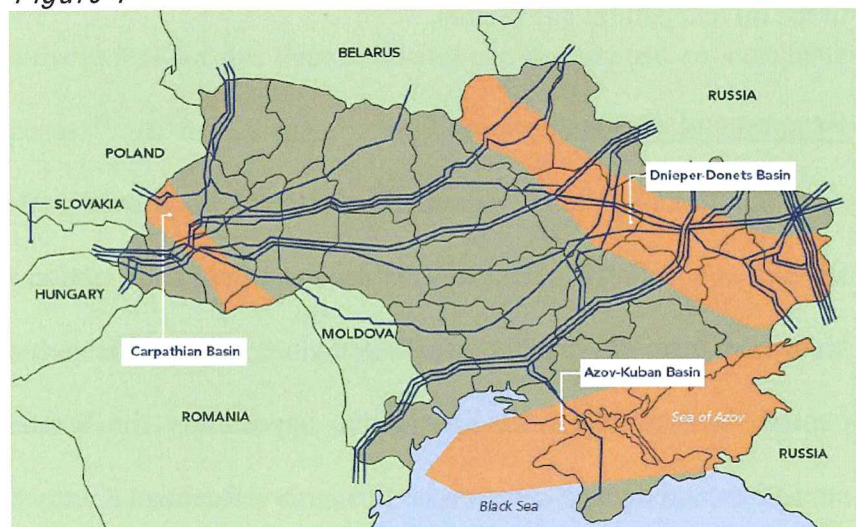
Coal Power

Recognizing the need to diversify energy supply, the Ukrainian government has made restructuring the coal industry a priority, but challenges remain.⁸⁵ For most of the 20th century, Ukraine’s industrial growth was fueled by coal. However, coal has been in decline for several decades, is not capable of meeting the country’s need for an alternative energy supply, and the cost of production “may be too high to make coal a competitive option for the volumes planned.”⁸⁶ A majority of Ukrainian coal mines were constructed forty years ago and are among the deepest, most dangerous, and most inefficient mines in the world.⁸⁷ The difficulty of mining coal in Ukraine and its huge environmental impact make investing in the coal industry a losing proposition for attaining energy independence.

Domestic Gas Production

Ukraine has three main hydrocarbon basins: onshore Dniper Donets basin, the Carpathian basin in western Ukraine, and the Black Sea/Sea of Azov Kuban basin. See Figure 4

Figure 4



Source: IUA1 LLP. <http://1ua1.com/energy/>

for a map of these regions. The Dniper Donets basin is believed to hold the largest unproven

reserves in Ukraine, while the Black Sea/Sea of Azov Kuban basin is mainly gas-prone and includes offshore fields in the Azov Sea and onshore fields in Crimea.⁸⁸ Developments in technology have now opened the third deposit, primarily the Azov Sea reserves, to Ukrainian development. Experts believe there is an estimated 343.8 million tons of oil equivalent in these reserves.⁸⁹

The hydrocarbon reserves of the Black Sea/Sea of Azov Kuban basin hold great potential for Ukraine. According to Vanco Energy Company, these oil and gas deposits would not only make Ukraine energy independent, but also allow Ukraine to become a net exporter of natural gas.⁹⁰ Although gas companies can utilize existing pipeline infrastructure for transport from the region, challenges remain. The largest reserves are at depths that require considerable investment and advanced technology for recovery. According to the Oxford Institute for International Studies, the Black Sea deposits are in waters too deep for Ukraine's current mining capabilities.⁹¹ While major international oil and gas companies have finances and technology that can access and develop these reserves, Ukraine has not attracted investment due to corruption and subsidies in the oil and natural gas sectors.

Recommendation

In the short term, increased investment in domestic oil and natural gas deposits in the Black Sea and Sea of Azov will be the most pragmatic option for enhancing Ukrainian energy security. Since Ukrainian companies do not possess the necessary technology and capital to exploit these reserves, this is a prime opportunity for Western countries and companies to strengthen and deepen commercial ties in the Ukrainian energy sector. To improve the operating climate for these companies, Ukraine must focus on three reforms: (1) eliminate domestic gas and other market-distorting energy subsidies to promote greater energy efficiency; (2) encourage

increased FDI in Ukraine's energy sector to increase domestic production; and (3) accelerate the privatization process to increase legitimate competition in the energy sector.

Eliminate Subsidies

Eliminating Ukrainian domestic gas subsidies, a curse left over from their Soviet, command-economy past, would go a long way towards addressing the important demand side problems.⁹² The legacy of below-market gas prices has made Ukraine the world's most inefficient user of energy per unit of output.⁹³ Cost-reflective pricing is necessary to curb wasteful consumption and correct perverse incentives that have promoted incredible inefficiencies. Additionally, market-based cost-reflective pricing would incentivize increased capital investment in energy-producing assets and likely lead to increased supply.⁹⁴ Moreover, the savings realized from cutting gas subsidies could finance alternative energy investment projects, create social programs to upgrade energy-conserving insulation of low-income housing, and fund the transition from gas to electrical heating systems.

Simply shifting from gas to electrical heating would free up a great deal of gas supply since households, which pay relatively less for gas than industrial consumers, use an inordinate amount of gas for heating purposes.⁹⁵ In fact, a plan to shift from primarily gas heating to electrical heating has already been drawn up by Ukraine's Ministry of Fuel and Energy.⁹⁶ This plan is attractive for strategic as well as economic reasons because it would allow for less gas imports and stimulate demand in the domestic electricity production industry. In turn, this would create growth in jobs and increase capital investment in domestic alternative energy sources. The US could help in this area directly by providing financial backing via loan guarantees for the construction, expansion, and modernization of Ukraine's nuclear power generating capacity.

Encourage and Incentivize FDI

On the supply side, the Ukrainian government stands to benefit tremendously from Western capital, expertise, and technology, and must do more to encourage FDI. By opening up to US businesses and embracing them as strategic partners, the government has an opportunity to significantly deepen commercial ties with the US. This, in turn, will serve to strengthen US-Ukrainian relations and interests vis-à-vis Russia. The exploitation of deep water Black Sea oil and gas reserves is heavily dependent on advanced Western technology and expertise to successfully drill and extract at the extreme depths involved in tapping these reserves.

Basic business conditions must be improved and correct incentives must be created to attract the levels of FDI Ukraine needs for economic development and diversification. Perhaps the most fundamental problem in this regard is the government's "weak enforcement of contracts by the courts," an absolutely critical component of promoting business and investment growth.⁹⁷ While cleaning up such corruption and unfriendly business practices is a difficult challenge requiring a great deal of time and commitment on the part of all stakeholders, there are other issues the government can quickly address.

Two straightforward initiatives that can be dealt with include tax reform and the elimination of burdensome bureaucratic red tape, which promotes corruption and stifles business activity, investment, and entrepreneurship in the country. A recent study by the World Bank found that Ukraine was "the second most difficult country in which to pay taxes out of 185 countries surveyed."⁹⁸ The tax system has been described as "volatile" and "unpredictable" due to the frequency with which the country's tax laws are revised.⁹⁹ Additionally, the number of work permits a start-up business requires to get off the ground—no less than forty seven—is a great example of the unfriendly business environment.¹⁰⁰ A streamlined tax code and business

permit process designed with an eye toward facilitating and expanding private business activity would undoubtedly bring in more FDI.

Privatization

Another attractive supply side solution to Ukraine's business climate problem is accelerated privatization. Since gaining independence in 1991 and shifting from a centrally planned Soviet economy to a market economy, the government's privatization efforts have progressed relatively slowly and unevenly, with the government maintaining controlling interests in many of the enterprises.¹⁰¹ Worse still, corrupt politicians have allegedly used the sale of state-owned enterprise assets to "finance their election spending and reward loyal allies."¹⁰² There must be a renewed focus on privatization reform, and the process must be carried out in a fully transparent manner. Auctioning state-owned assets to the private sector will likely serve to increase competition, efficiency, and productivity – as long as they are not purchased by the Gazprom monopoly.¹⁰³

Gazprom can easily step in to outbid potential Western companies and investors since it does not operate as a typical profit-maximizing firm. Thus, the possibility remains it would make uneconomic bids for projects in an effort to increase ownership and expand political control over targeted foreign markets (e.g. downstream oil and gas markets in Eastern Europe), and has a history of doing so.¹⁰⁴ To prevent this, the Ukrainian government could simply block Gazprom and their affiliates from participating in the bidding altogether. Such a policy would surely anger the Russians, but the government could use the investment reciprocity principle previously discussed in this paper as justification for this policy. Russia cannot have it both ways—if it wants to be able to buy controlling interests of foreign companies abroad, then it must similarly allow foreign access to Russian firms. It would be critical for the US and the EU to support

Ukraine publicly on this contentious point to prevent Russian retaliation against such a bold policy position.

Conclusion

If Ukrainian government officials are serious about achieving greater energy security in the future, it must begin to take realistic and aggressive steps to reduce its reliance on imported oil and gas. This means that the country must find ways to significantly expand its domestic energy production while simultaneously increasing energy efficiency. Increasing production and efficiency in the domestic market can be achieved through the elimination of costly gas subsidies, undertaking greater attempts to encourage and incentivize FDI in an effort to increase domestic energy production, and privatizing domestic enterprises while preventing Gazprom from increasing its holding in these firms. These necessary reforms will take strong and sustained political willpower on the part of the Ukrainian government, significant short-term sacrifice, as well as increased and continued US support.

Notes

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⁴ Klare, 96-7.

⁵ Klare, 99-101.

⁶ BP, *Statistical Review of World Energy: Gas: Proved Reserves History*, June 2009. <http://www.bp.com/statisticalreview>

⁷ S.V. Gmyzin, "Yamal-Nenets Autonomous Region: The Core of Russian Gas Security," (paper presented at the annual international conference of the Union of Independent Gas Producers, Paris, France, 25 November 2003).

⁸ Matthew J. Sagers, "Developments in Russian Gas Production Since 1998: Russia's Evolving Gas Supply Strategy," *Eurasian Geography and Economics* 48, no. 6 (2007): 667.

⁹ BP, *Statistical Review of World Energy: Gas: Proved Reserves History* and Stuart Williams, "Putin Opens Arctic to Foreign Energy Firms," *Associated Foreign Press*, September 24, 2009. The US is a close second in total gas production, producing 582.2 bcm in 2008, 19.3 percent of total global production. Comparatively, the Middle East as a whole in 2008 produced 381.1 bcm, or 12.4 percent of total global production.

¹⁰ Klare, 96; and Jonathan Stern, "The Russian Gas Balance to 2015: Difficult Years Ahead," in *Russian and CIS Gas Markets and Their Impact on Europe*, ed. Simon Pirani (Oxford: Oxford University Press, 2009), 55-6.

¹¹ Stern, 59.

¹² Sagers, 670.

¹³ *Ibid.*

¹⁴ Stern, 59-63. According to Stern, Gazprom's corporate journal listed the original completion target as end of 2009. Aleksandr Ananikov, deputy CEO of Gazprom, quoted the completion date as end of 2010.

¹⁵ Of greatest concern is not whether Gazprom has the ability to sufficiently fund reinvestment, but that funding is being directed toward non-energy investment. As an example, Goldman, on page 182, cites Gazprom's recent investment of \$375 million for a ski resort with three hotels, a 1,000 space covered parking lot, and a ski lift for the 2014 Winter Olympics to be held in Sochi. These resources should be directed toward infrastructure reinvestment.

¹⁶ Uwe Remme, Markus Blesl, and Ulrich Fahl, "Future European gas supply in the resource triangle of the Former Soviet Union, the Middle East and Northern Africa," *Energy Policy* 36 (2008): 1626.

¹⁷ Goldman, 183. Many of these companies, such as Novatek and ITERA, are officially independent; however, Gazprom owns a 20 percent share of Novatek.

¹⁸ Remme, Blesl, and Fahl, 1626.

¹⁹ Stern, 70. As described above, Gazprom has poured millions of dollars into non-gas production investments at the expense of the infrastructure necessary for natural gas production and transportation. According to Kupchinsky, in addition to its wasteful spending, critics have cited Gazprom's lack of transparency and corruption in its administration as other reasons for the failure to make sufficient reinvestment.

²⁰ Bruce Pannier, "Pipeline Explosion Raises Tensions Between Turkmenistan, Russia," *Radio Free Europe*, April 14, 2009.

²¹ "Country Analysis Brief: Russia," *Energy Information Administration*, <http://www.eia.doe.gov/emeu/cabs/Russia/pdf.pdf> (accessed 01 October 2009).

²² Michael Schwartz, "Kyrgyzstan Insists U.S. Base to Close," *New York Times*, June 11, 2009.

²³ President of the Russian Federation, "Statement on the Situation in South Ossetia," August 8, 2008.

²⁴ "Can't Buy Me Love: Will the Global Economic Downturn Help Russia Consolidate its Influence in Post-Soviet Eurasia?" Briefing Paper 38, Finnish Institute of International Affairs, September 4, 2009, 4.

²⁵ *Ibid.* and Goldman, 204-5.

²⁶ Goldman, 98-9.

²⁷ Edward Wong, "China and Russia Reaffirm Gas Deal Plans," *New York Times*, October 13, 2009 and Andrew E. Kramer, "Continental Divide: Russia Gas Pipeline Heightens East Europe's Fears," *New York Times*, October 12, 2009.

²⁸ See James Kanter, "Companies with Poor Track Records on Environmental Damage Try for Change," *New York Times*, October 13, 2009 and Andrew E. Kramer, "BP Faces Environmental Inquiry in Russia," *New York Times*, March 22, 2008.

²⁹ Michael Schwartz and Clifford J. Levy, "In Reversal, Kyrgyzstan Won't Close U.S. Airbase," *New York Times*, June 23, 2009.

³⁰ Mazan Labban, "The Struggle for the Heartland: Hybrid Geopolitics in the Transcaspian," *Geopolitics* 14, no. 1 (January 2009), 9-11.

³¹ Vladimir Socor, "Losing the Steppes," *Wall Street Journal Europe*, July 8-10, 2005.

³² Christopher Walker and Jeannette Goehring, "Nations in Transit 2008: Petro-Authoritarianism and Eurasia's New Divides," Freedom House, 28-31. See also Alexander Cooley, "Principles in the Pipeline: Managing Transatlantic Values and Interests in Central Asia," *International Affairs* 84, no. 6 (Nov. 2008): 1173-88.

³³ Walker and Goehring, 26.

³⁴ United States Department of State, *Europe and Eurasia: FY 2007-2012 Department of State and USAID Strategic Plan*, Bureau of Resource Management, 2007.

³⁵ United States Department of State, *US Government Assistance to and Cooperative Activities with the Newly Independent States of the Former Soviet Union: FY 2000 Annual Report*, Office of the Coordinator of U.S. Assistance to the NIS, 2001.

³⁶ Alexander Serafimovich, "Ukraine's Government Says: Vanco go home! But is the Rothschild family changing partners?" *Oil and Gas Eurasia*. no. 6, June 2008.
<http://www.oilandgaseurasia.com/articles/p/75/article/642/>

³⁷ Gene Van Dyke, interview by authors, Houston, TX, October 9, 2009.

³⁸ Tammy Lynch, "Obama's First Ukraine Test—Vanco vs Tymenoshenko?" *Union News Agency*, November 24, 2008.

³⁹ Van Dyke, interview.

⁴⁰ North Atlantic Treaty Organization Parliamentary Association, "Engagement in Central and Eastern Europe," Organization: Central & Eastern Europe. <http://www.nato-pa.int/default.Asp?SHORTCUT=54>

⁴¹ United States Agency for International Development, "Support for Eastern European Democracy (SEED)." http://www.usaid.gov/locations/europe_eurasia/countries/cz/seed_act.html

⁴² For further information on FSA and budgetary data see: United States Agency for International Development, "Account Overview: Assistance for the Independent States of the Former Soviet Union." <http://www.usaid.gov/policy/budget/cbj2007/an/freedomsa.html>

⁴³ The aid package information presented is representative of projects funded by United States Trade Development Agency (USTDA). The list is not exhaustive. Further information can be found on the UTSDA website within the Europe and Eurasia section. <http://www.ustda.gov/program/regions/europe&eurasia/>

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<http://www.cfr.org/publication/8440/#p13>

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