

Energy Reform in Ukraine:

Issues and Recommendations



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The Nixon Center
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In the aftermath of the Orange Revolution, the new Ukrainian government, led by President Viktor Yushchenko and Prime Minister Yulia Tymoshenko, has a popular mandate to break the grip of the corrupt, oligarchic interests that have dominated Ukraine for much of the last decade. This government appears to be committed to ensuring that Ukraine acts independently in defining its regional economic and security interests.

However, if Ukraine is to achieve this goal, the Yushchenko government must undertake significant domestic reforms while redefining and normalizing Ukraine's relationships with its key trading partners—especially Russia. Ukraine's energy sector, the keystone of its domestic economy, well exemplifies Ukraine's great economic potential—and the significant political challenges faced by the government in striving to realize this potential. Successful reform of the energy sector, including the implementation of a comprehensive strategy of energy security, will be a critical measure of the government's success in the eyes of the Ukrainian people and of the West.

Ukraine is strategically located in southeastern Europe, bordering Russia to the east, Belarus to the north, Poland, Slovakia and Hungary to the West, and Romania, Moldova and the Black Sea to the south. It is also at the heart of the emerging Euro-Atlantic vision of promoting stability, democratization, and economic reform in the Black Sea region. In light of US President's push to expand democratic reform, the sustainability of democracy and freedom in Ukraine is of critical importance to the United States.

This nation of 50 million inhabitants is the key transit country for Russian and Central Asian oil and gas to European markets, and also has unexplored reserves of its own. Without significant reform of its energy sector, which has been hampered by large-scale corruption and mismanagement, Ukraine will not be able to attract the necessary foreign investment and technical

assistance it needs to fully exploit its own resources; it may also be bypassed by other transit routes. Given the huge impact of energy on Ukraine's economic and political future, its emerging democracy will not survive unless it takes quick and decisive steps on this issue.

This paper outlines the opportunities that have resulted from the change in political landscape in Ukraine. It then discusses the current energy picture, including Ukraine's major oil and gas pipeline projects. Finally, it recommends several steps the US can take to encourage Ukraine to follow, so that Ukraine can: end energy sector corruption and increase transparency; normalize the country's relations with oil and gas suppliers; attract foreign investment; and, ultimately, increase domestic security. Key recommendations fall into four categories:

- 1) **Reform and restructure Ukraine's oil and gas monopolies**, by privatizing non-essential components and replacing management as necessary.
- 2) **Monetize Ukraine's gas and gas transit industry**, by eliminating barter agreements with Russian companies; this move should be accompanied by the establishment of monitoring systems at the border as well as a viable tariff regime and distribution system.
- 3) **Attract Western investment, technical assistance, and drilling technology** by increasing domestic business transparency, opening local energy deposits to Western investors, and involving one or more Western companies in the International Gas Transit Consortium. Thus, overall capacity and production will increase, guaranteeing Ukraine further energy stability—and increasing the reliability of supplies to Western markets.
- 4) **Initiate discussions regarding a regional oil and gas transmission strategy** directly with Russia, Turkmenistan, Uzbekistan, Kazakhstan, Iran, the EU, and other relevant parties.

I. The Orange Revolution Ushers in a New Era

Following the November 2003 Rose Revolution in Georgia, the soon-to-be elected president Mikheil Saakashvili's first visit was to Kyiv, where he lent public support (in fluent Ukrainian) to his friend Viktor Yushchenko. While many observers at the time laughed at the idea of a peaceful Ukrainian civic movement, the pro-Western, pro-reform groups of students and government employees were inspired. They had learned from earlier events (most notably, the lesson not to use force) and had studied how the Serbian and the Georgian movements were successful in mobilizing domestic and international support.

A year later, after a brutal political campaign that included the nearly fatal dioxin poisoning of opposition candidate Yushchenko, election officials announced on November 1 that there was to be a runoff between the top two candidates. Neither Prime Minister Viktor Yanukovich (who was endorsed by President Leonid Kuchma and supported by Russian President Vladimir Putin) nor Yushchenko had won a majority. Both candidates declared victory after the second round of elections, held on November 21; official tallies gave Yanukovich a lead of two percentage points, while independent exit polls showed Yushchenko with an 11-point victory. International observers criticized the election, and opposition demonstrators began to fill Kyiv's Independence Square, the now-famous "Maidan."

Despite the biting cold, several hundred thousand people maintained a 24-hour protest in the city's center, surrounding the Verkhovna Rada (Parliament) building. By November 27, when an emergency session of Parliament declared the results invalid, there were more than 700,000 protesters in the streets.

Yulia Tymoshenko played a key role in mobilizing this support, especially among young people. New elections took place on December 26 and, despite official results showing him facing a seven-percentage-point loss, Yanukovich refused to concede the election and filed numerous appeals. The last of these was rejected on January 10, and Yushchenko was declared the official winner. His inauguration finally took place on January 23.

Over this crucial period, Yushchenko was strongly supported by the West, especially by the newer members of the European Union, such as Poland and Lithuania. Georgia also used its good standing in Western capitals to encourage support for the democratic forces. These countries were united in their shared values and shared goals of resisting Russian pressure, increasing ties to the West, and consolidating democratic and reformist programs, and they correctly believed that they would be strengthened if they supported each other.

In the run-up to the election, the US government helped bolster international monitoring with the largest observation effort it had ever made in the region. This included the sponsorship of both official and non-governmental monitors, as well as the support of groups performing exit polls and parallel vote counts. It also sent strong private messages to many people in the Ukrainian government, messages which were followed by public statements. As the election drew closer and the climate of intimidation persisted, the administration turned to other tools, such as the denial of visas for US travel that showed the personal price corrupt officials would have to pay for contributing to an unfair election. It is clear that these actions had a major impact on the ultimate successful outcome of the election—both directly upon the relevant officials concerned, and more generally, as Yushchenko supporters were reassured that they were “not alone” in their struggle for democracy.

For its part, Russia took a self-defeating position by strongly backing Yanukovich. Putin's international standing was particularly damaged, since he had so strongly lent his personal support to the defeated candidate. Nevertheless, Yushchenko began his presidency on a reconciliatory note. As promised, his first state visit (immediately following the inauguration) was to Moscow. (Yushchenko then proceeded to Poland, where he met with US Vice President Dick Cheney and with European leaders at the Auschwitz anniversary celebration on January 24. On February he participated in the NATO summit at Brussels and as of mid-March, also visited France, Switzerland and Germany.)

Although Yushchenko's slate of Cabinet nominees did not come as a surprise to most analysts, it still represented a significant departure from previous Ukrainian governments. In perhaps the most notable development,

Yushchenko appointed civilians to run the so-called "power ministries" of Interior, Defense and Security services—a first for the entire CIS. On economics and foreign policy, reformers have also been appointed to key positions, such as Serhiy Teriokhin at Economics and the ardently pro-Western Borys Tarasyuk, who has once again taken over the foreign ministry. While some observers have criticized concessions to the so-called "old guard", such as the posting of hard-line socialist Oleksandr Baranivsky to the Ministry of Agriculture, it seems likely that such moves, made for political expediency, will not have a significant impact on the performance of the new administration. There are apparent differences within the broad coalition that elected Yushchenko, but the clearly articulated anti-corruption, pro-Western vision of the new president should serve as a unifying factor for the cabinet's disparate elements—along with the very real need to prepare for what will be a closely-fought 2006 parliamentary election campaign against a viable, well-financed opposition with strong support in Southern and Eastern Ukraine.

Despite strong domestic and international support, Yushchenko faces a number of problems and challenges. In the field of politics, he must balance many competing interests, both those within his victorious coalition as well as those of disaffected Yanukovych supporters, as he seeks to craft a coherent domestic and foreign policy program. Yushchenko also needs to be careful not to disrupt the Ukrainian economy, generally seen as a success story within the former Soviet sphere due to several years of low inflation and a stable currency, while he implements needed programs of infrastructure development and poverty reduction. Finally, the new president must be especially cautious in addressing the country's precarious energy situation, which, although full of potential, is currently held hostage to rampant corruption and Russian dominance, two phenomena which are far from unrelated.

The most significant decision taken by Yushchenko in his first days in office was the decision to elevate Yulia Tymoshenko to the premiership—announced on the day he left for Moscow. Clearly the most controversial figure in Ukrainian politics, Tymoshenko is passionately despised by many in eastern and southern Ukraine, and passionately adored by the most committed elements of the Orange Revolution. Judging by her proposed policy program, as well as by the strength of the opposition it has attracted, it seems that

Tymoshenko will need to muster all the elements of support she can during the political battles ahead.

As the mid-1990s president of United Energy Systems (UES), a privately owned firm that was the principal Ukrainian importer of Russian fossil fuel supplies, Tymoshenko was known as the "Gas Princess." Her service as an energy executive has had some significant consequences; her former business partner, ex-prime minister Pavlo Lazarenko, remains in an American jail appealing conviction on 29 counts of corruption and money-laundering; her husband, Oleksandr Tymoshenko, has spent the last years in exile avoiding Ukrainian criminal charges; and finally Tymoshenko herself was accused by the Russian government for having allegedly bribed officials there; until recently, she was unable to travel to Russia due to the outstanding charges. (As Prime Minister, she currently is immune from arrest.) While Tymoshenko, her husband and Lazarenko have decried these judicial processes as politically motivated and confidently predicted full exoneration, these proceedings may distract Tymoshenko from the work ahead.

Yet, despite the seeming irony, Tymoshenko has announced her intention to fully prosecute any former office-holder guilty of corruption. On 28 February, her government reduced the privileges awarded to former president Kuchma. Furthermore, since neither Kuchma nor other former government officials enjoy immunity from prosecution, the Tymoshenko government fully intends to pursue any judicial avenues available against its predecessors. Perhaps more importantly for international players in Ukraine, Tymoshenko worked quickly to cancel the 2004 privatization of Kryvorizhstal, Ukraine's largest state steel producer, on the grounds that it was inappropriately sold to a consortium led by Viktor Pinchuk (member of the Verkhovna Rada and Kuchma's son-in-law) and Rinat Akhmetov (Ukraine's richest man and the chief contributor to Viktor Yanukovich's presidential campaign). In what Tymoshenko labeled "a bare-faced robbery", the Pinchuk-led consortium acquired Kryvorizhstal for \$800 million, even though a group of Indian, Russian, British and American companies had made a bid of \$1.5 billion; the government has now renationalized the company and plans to hold a "fair" privatization auction later this year.

Although the Yushchenko government plans no widespread reversal of past mistakes in the field of privatization, it has unveiled a detailed and ambitious plan of domestic and foreign policy goals. Based on a series of campaign promises, Yushchenko has promoted a "five-year plan" to fight corruption and improve living standards. He passionately elaborated on the latter during a speech in his home region of Sumy, rhetorically asking, "What were you doing? You could have created ten thousand jobs, but instead you have sixty thousand unemployed," before reassuring the crowd that the new administration would try to "make Sumy the example of the rebirth of a prosperous and beautiful Ukraine."

In terms of international affairs, Yushchenko and Tymoshenko have both made strong statements about the critical nature of Ukrainian bilateral relations with Russia, declaring that the latter is the "first and most important" of Ukrainian allies. Yet such statements, along with the gesture of Yushchenko's visit to Moscow immediately following the inauguration, need to be put into context; Ukraine cannot afford to alienate Russia, due to the need to ensure continued economic cooperation and to avoid further disaffection among the country's Russian-speaking population in the east and south. Yushchenko's and Tymoshenko's clear priority is closer integration with the West; while EU membership is a long-term goal, the more immediate need is to win recognition as a "market economy" (a designation currently enjoyed by the Russian Federation) from Brussels and the United States so that Ukraine can qualify for WTO membership by the end of 2005.

In both of these efforts, the Ukrainian government enjoys the full support of its western neighbors; Presidents Alexander Kwasniewski of Poland and Valdas Adamkus of Lithuania were particularly active in support of Ukrainian democracy during the election crises. Slovak Prime Minister Mikulas Dzurinda also supported Ukraine during the Bush-Putin summit in Bratislava on February 24. Furthermore, newly-elected Romanian President Traian Basescu owes his own surprising victory in part to the example of the Orange Revolution, and is keen to develop closer ties with his Ukrainian neighbors, especially in search of a resolution to ongoing problems in Moldova.

Perhaps the most salient and most challenging issue for Ukrainian foreign policy in the near future is that of relations with Russia. The long-simmering

conflict over the Crimean Peninsula, transferred in a grand gesture to the Ukrainian Soviet Socialist Republic by Nikita Khrushchev in 1954, has caused difficulties for Ukraine ever since independence due to its huge Russian-speaking majority. Many, if not most, Crimeans still favor reunion with Russia and, according to reliable third-round election totals, over 80 percent voted for Yanukovich. The most contentious issue of all, however, involves the Russian military presence on the peninsula. Russia's Black Sea Fleet is based in the Crimea (at the city of Sevastopol), since there are no Russian ports on the Black Sea or the Sea of Azov that can support the fleet. Russia's naval base at Sevastopol is its only warm water military port with access to the Mediterranean and Atlantic. These basing rights will very likely continue to be a key leverage point in negotiations between Kyiv and Moscow—negotiations that are likely to center, however, on the two countries' complex energy relationship.

Since independence, Ukraine has depended on Russian oil and gas exports to satisfy domestic demand; conversely, Russia has depended on Ukraine for the transportation of its oil and gas to markets in Western Europe and elsewhere. However, the relationship was never truly equal—since the power to turn off the tap is far more important than the ability to provide a direct access route to markets, there never really was a symbiotic relationship between the two.

Now that Tymoshenko has attained power, the relationship may change. While Kuchma was pressured into allowing in-kind payments to continue, rather than proceeding with plans to make the system more transparent by introducing prices, the former "Gas Princess" has the expertise and the will to fight harder for Ukraine's national interest. The best commercial strategy would be to get rid of intermediaries altogether and negotiate directly with Gazprom. However, the prime minister will not be able to cure Ukraine's energy ills through force of personality alone. The tainted nature of the relationship runs much deeper.

A persistent rumor in Kyiv is that for many years, billions of dollars of kickbacks from the Ukrainian gas transit system's operations were transferred to Russia. Some of this money allegedly was then funneled back into the Yanukovich presidential campaign. While it is not clear whether these rumors will ever be fully investigated, if Ukraine is to reduce

corruption, increase efficiency and tax revenue collection, and generally control its own affairs, it will have to address the current disadvantageous agreements that the Kuchma regime entered into with Russian companies.

One of the key challenges of the Ukrainian government is to move the country forward in a united way, balancing the economic interests of the western and eastern parts of the country, and maintaining links both to Russia and to Europe. First and foremost, the Ukrainian leadership needs to determine how to proceed with its desire to join WTO and the EU with ongoing engagement in the "Single Economic Space" (SES).

The SES was formed in September 2003 by Russia with the participation of Ukraine, Belarus, and Kazakhstan. Russia intends for the SES to serve as a regional economic organization with a single currency—much like the EU. However, Yushchenko's victory is a blow for this concept—in the election campaign, he drew a clear contrast between his support for NATO and EU accession and Yanukovich's backing of the SES. Implementing the SES would complicate Ukraine's entry into the WTO, since it would have to coordinate its pre-entry reforms with other SES member states. Likewise, such ties could make it more difficult for Ukraine to harmonize its laws and regulations with those of the European Union in anticipation of eventual accession to that body. That is why during the visit of Russian Foreign Minister Sergei Lavrov to Kyiv on February 21, as well as throughout his travels, President Yushchenko has made it clear that Ukraine will stand by its commitments to the SES—but only insofar as they do not complicate matters with the EU and WTO.

II. Ukraine's Critical Energy Sector

Russia is Ukraine's primary source of energy; it supplies up to 80 percent of Ukraine's oil and 75 percent of its gas needs. This concentration in supply is due mainly to inherited Soviet infrastructure that made Russia the hub of Eurasian oil, gas and electricity systems. In addition, Russia itself has become a major world oil and gas producer.

Ukraine is a major oil and gas transit country, but it does not yet take full advantage of its strategic position. While Russia has several options by

which it can export its oil, it currently sends some 85 percent of its exports to Europe via Ukraine. Even though Russia is considering alternative export routes, such as boosting capacity at its Primorsk facility on the Baltic Sea, Ukraine maintains substantial leverage on Russia; however, without the implementation of the right strategy, this leverage will remain only potential.

Ukraine is believed to have significant domestic oil and gas reserves that have not yet been properly developed. In order to fully exploit these resources, Ukraine needs foreign investment and Western technology to improve production efficiency and increasing penetration into reservoirs. The most significant potential source of oil is offshore, in the Black Sea; there may also be significant coal-bed methane reserves.

Under the Kuchma regime, however—especially during the last year, when the leadership wanted Russian support for the Yanukovich candidacy—Ukraine is rumored to have signed long-term agreements with Moscow that may increase its dependence on Russian oil and gas supplies for years to come. As renouncing existing contracts would create serious concern among investors, the new government should review Ukraine's options, in consultation with Moscow. More importantly, it must devise a coherent energy strategy that will ensure the security and stability of its energy supply.

This strategy will need to include the establishment of direct commercial relations with Transneft and Gazprom, which will bring much-needed transparency and efficiency to Ukraine's own energy companies, as well.

Naftohaz Ukrayiny

Ukraine's largest company in the energy sector is the state oil and gas holding company, Naftohaz Ukrayiny, which is chaired by newly-appointed CEO Oleksiy Ivchenko and which has a market capitalization of \$9.5 billion. This company accounts for fully 15 percent of Ukraine's GDP and for almost 20 percent of government revenues.

Through its subsidiaries, ChornomorNaftohaz, UkrTransNafta and UkrTransHaz, Naftohaz Ukrayiny controls an extensive oil and gas pipeline network. UkrTransNafta transports oil through two further subsidiaries:

Pridniprovsyky, in the southeast of the country, and Druzhba, in the northwest (which includes the Odessa-Brody pipeline).

Naftohaz Ukrayiny's other subsidiaries, Ukrnafta and UkrHazExtract, are in charge of oil and gas exploration and development, including offshore work in the Black Sea and the Sea of Azov. Ukrnafta was established in 1994 and is the largest oil and gas production company in Ukraine. It is responsible for 93 percent of the country's total oil production, 40 percent of its gas condensate, and 18 percent of its natural gas. It operates approximately one hundred oil and gas fields in the Carpathian and Dnipro-Donetsk regions of Ukraine. It also owns three gas processing plants and a network of filling stations.

Because of its central role, reforming Ukraine's energy sector and developing a new strategy of energy independence must begin with restructuring Naftohaz Ukrayiny. This is a significant political challenge, since the company has over 20 subsidiaries. Some, like UkrTransNafta, that control transit pipelines, need to remain under state control for national security reasons. However, there is no such obstacle to the privatization of firms such as Ukrnafta and ChornomorNaftohaz. A critical, ongoing challenge of privatization is that only Russian companies are prepared to buy these assets.

Restructuring Naftohaz Ukrayiny may also put the state at odds with powerful business interests that flourished under the Kuchma government. While the state currently holds a controlling stake of 50 percent plus one share in Ukrnafta, *de facto* control belongs to Pryvatbank (a subsidiary of the Pryvat Group) which owns 42 percent. The Kuchma government allowed Pryvatbank free rein in directing Ukrnafta, and Ukrnafta chairman Ihor Palytsia reportedly takes no action without Pryvatbank's approval.

Pryvat Group

Pryvat Group is a Dnipropetrovsk-based group that is a very active player in the Ukrainian energy sector. Formed in 1992, it has performed very well in the metallurgy, banking and oil sectors. Pryvat Group's leaders are: Ihor Kolomoysky, the head and co-owner of group (reportedly based in Geneva);

Hennadiy Boholyubov, the founder and co-owner (reportedly based in Germany); and Oleksiy Martynov.

The net value of Pryvat Group's companies is estimated at \$1.5 billion. Pryvatbank is the largest bank in Ukraine, with assets of over 14.8 million hryvnia (approximately US\$2.8 million) as of 1 September 2004. Along with Pryvatbank's shares in Naftohaz Ukrayiny, Pryvat Group's primary energy-related holdings have focused on refineries. Pryvat Group is the sole owner of the Nadvirna/Zakarpattya refiner, and it partners with Tatneft and Lutsk Kontinuum to control the Kremenchuk and Halychyna/Drohobych refineries, respectively. The Naftokhimik Prykarpattya oil company is also a Pryvat Group subsidiary, and Pryvat Group controls 700 retail gas stations, mostly in the East and the South.

Pryvat Group's corporate structure is not clear, and it uses a number of offshore subsidiaries as ownership vehicles. Equally unclear is the extent of Pryvat Group's residual political influence. As noted above, Pryvat Group benefited from the political support and *laissez-faire* attitude of the Kuchma government. The group's leadership was careful to remain apolitical during and immediately after the Orange Revolution (though it made a token show of support for the Yushchenko government by purchasing winter boots for the protesters in the Maidan). With a new, reformist government in place and the potential for significant energy sector restructuring, Pryvat Group may find itself at odds with the Yushchenko administration.

The kind of accommodation the Yushchenko government reaches with the Pryvat Group will also be a test of the government's ability to succeed in its reformist agenda. Like other Ukrainian oligarchic business interests, such as those controlled by Viktor Pinchuk, Pryvat Group maintains significant political influence, especially in its regional base of Dnipropetrovsk—the home region of Tymoshenko, with whom it reportedly enjoys good relations. Pryvat Group also controls the Ukrainian Interregional Fund Union, which plays an integral role in monitoring and regulating privatization deals. As such, the group could pose a significant challenge to efforts to restructure the energy sector.

Moreover, given her past involvement in the energy sector, Tymoshenko may face additional hurdles as she proceeds with these restructurings. In order

for the energy-sector reform initiatives to succeed, it will be essential for the prime minister to quickly establish her impartiality.

Oil Production and Transportation

Ukraine currently produces about 85,000 barrels per day (b/d) of oil, which account for 20-25 percent of domestic demand. Ukraine is believed to have 395 million barrels of proven oil reserves, mostly located in the eastern Donbas region. Although there have been exploration efforts, production has remained more or less flat since independence. This can be attributed mainly to a lack of technology and Western equipment, as well as, to some extent, the influence of oligarchs wishing to keep Ukraine dependent upon Russian imports.

Ukraine's additional oil production potential is primarily located in the Black Sea. ChornomorNaftohaz is exploring and looking for Western partners; the Texas firm Hunt Oil is its principal foreign partner.

Domestic oil consumption has fallen sharply, from 813,000 b/d in 1992 to 415,000 in 2004. However, Ukraine is still highly dependent on imported oil, which is obtained primarily from Russia and Kazakhstan, which together provide 350,000 b/d to Ukraine, or 80 percent of domestic demand.

Ukraine is also the key transit country for Russian (and, to a much lesser extent, Kazakh) oil exports to Western Europe, which relies on Russia for two-thirds of its oil. About a third of Russian oil crosses through the Druzhba ("Friendship") pipeline network, stretching from Russia across Ukraine and Belarus to Europe. Russia's Transneft oil transport company supplied 1.1 million barrels of Russian and Kazakh crude to Ukrainian refineries in 2004, and Ukraine transported around 650,000 barrels of that oil onwards to Central and Western European markets. The Ukrainian oil pipeline system can input 2.4 million b/d and output 1.4 million b/d. On the whole, Ukraine's oil transportation system handled 55.3 million tons in 2004.

As oil exports are at the core of the Russian economy, Moscow is looking for ways to increase its transport options. While in 2004 it began using the Odesa-Brody pipeline to send crude oil from the Urals to the Black Sea, Russia is also seeking ways to bypass Ukraine entirely; the Sukhodolnaya-

Radionavskaya line, which became operational in 2001, links two other pipelines and bypasses Ukrainian territory. This line decreases oil flow through Ukraine by about 500,000 b/d, or 30 percent of Ukraine's total. The pipeline has allowed Russia to save on transit costs.

In addition to pipelines, railways are also used to transport oil within Ukraine. Over 200,000 b/d of crude oil (mostly Russian and Kazakh) has been transported via rail in the last several years. However, the state company Ukrzaliznytsiya (UZ) has raised oil transit and export tariffs by 15% in 2005, which has made oil transportation via rail from Russia effectively cost-prohibitive. As with other areas, this lack of transparency led to speculation that the additional funds went to the Yanukovich campaign. The former Minister of Transportation, Heorhiy Kirpa, is believed to have committed suicide after the elections, partly out of fear that he would be prosecuted for his role in the alleged scheme.

The Odesa-Brody Pipeline

The pipeline from the Black Sea port of Odesa to the town of Brody, close to the border with Poland, was completed in August 2001 with the intention of transporting Caspian oil to European markets. Intended to tie Ukraine's economy closer to the West, the Odesa-Brody pipeline was also strongly supported by the West as a means of reducing the amount of oil that is transported via tankers from the Black Sea through the dangerously narrow, over-trafficked Turkish Straits to the Aegean and the Mediterranean. With the Turkish government's increased security measures in the Straits, which often lead to long delays (and, in turn, huge costs), there is certainly a need for a Bosphorus bypass; given that Odesa-Brody is already constructed, it would make logical sense to use the pipeline to take oil *from* the Black Sea, instead of adding to that waterway's traffic problem.

However, until very recently, geopolitical and commercial realities have been at odds. The pipeline's throughput capacity is 9 million tons per year, or 180,000 b/d. Ukraine was unable to obtain sufficient oil from Caspian suppliers to operate the pipeline profitably, and it remained dormant until 2004.

While under the Kuchma regime there were discussions with government officials and businessmen in Kazakhstan, the Ukrainians failed to offer an attractive financial agreement. Some analysts speculated that the Ukrainian side was not eager to make Odesa-Brody work in the original direction, and preferred instead to reach an agreement with Russia. The main talks were held with ChevronTexaco, which has a significant stake in Kazakh oil production as well as the capability of transporting oil to the Black Sea. As of April 2004, Ukrainian government statements indicated a desire to use the pipeline in the original direction. On April 17 in Astana, then-Deputy Prime Minister for fuel and energy Andriy Klyuyev agreed with the Kazakh Prime Minister Daniyal Akhmetov (who is not related to Ukrainian oligarch Rinat Akhmetov) to supply Kazakh oil to refineries in Ukraine and to use Ukrainian transport capacity to export this oil to Europe. The Kazakh side was also going to provide 2 million tons a year to be transported via Odesa-Brody. However, the agreement was not realized—unsurprisingly, Klyuyev was one of the strongest supporters of the Yanukovych campaign. Klyuyev, former Naftohaz Ukrayiny Chairman Oleg Boyko, and the head of UkrTransNafta, Stanislav Vasylenko, did nothing to make Odesa-Brody work; in fact, they are believed to have undermined it.

Consequently, as the Ukrainian presidential elections drew closer, the offer from Russia made more and more sense to the ruling regime. On July 5, 2004, the government removed the legal limits on transporting oil through the Odesa-Brody pipeline exclusively in one direction. Soon thereafter, UkrTransNafta announced that it had accepted an offer from the Russian-British consortium TNK-BP to ship oil from Brody south to Odesa, and then onwards to world markets via Black Sea tankers, which began in the fall of 2004. According to the agreement, annual output of up to 9 million tons of oil would be transported via the pipeline in a "ship or pay" condition. Under the agreement, if UkrTransNafta decides to re-reverse the pipeline to pump Caspian oil, it needs to repay the credit.

There are credible reports that Transneft is only providing half of the initially committed oil into the pipeline, which makes the pipeline commercially unprofitable. Transneft may be diverting its oil to other pipelines or to the rail system. According to reports, by the end of 2004, 1.2 million tons of crude oil were delivered via the Brody pipeline to the Yuzhny/Pivdenniy (South) Terminal; i.e., half the expected amount. Reports

indicate that 4.8 million tons will be pumped in 2005—about half of what was originally promised. In purely economic terms, Odesa-Brody is one of the more expensive export routes for Russia; further evidence that the reversal was done more for political reasons than commercial ones.

This was not the first time the Ukrainian and Russian government monopoly companies reached agreements in a non-transparent manner—nor, more importantly, was it the first agreement that appeared to jeopardize Ukraine's energy independence, which the US has actively supported. As was recently revealed, in June and December 2002, UkrTransNafta and Transneft had reached under-the-table agreements whereby the Ukrainian side ceded control over the Southern Druzhba shipping network.

Following the Orange Revolution, signs soon began to appear that the Yushchenko administration would no longer allow such schemes to continue. While in Moscow on January 25, Yushchenko said the pipeline would continue to operate in reverse mode, but made clear that "this is a temporary agreement which meets Ukraine's interest today...if tomorrow our interests change and the need appears to return to the initial project, we shall use it as it was initially designed". Two days later, while in Poland, he gave preliminary approval of the pipeline's extension over the border to Plock in Poland. On February 18, Foreign Minister Boris Tarasyuk called for a redirection of the pipeline's direction to deliver oil to Europe from the East, well as an extension of the pipeline to Poland's northern Baltic Sea port city of Gdansk.

For her part, Prime Minister Tymoshenko began working very actively with her Polish counterpart, Marek Belka, to make the extension viable—a good strategy, since Poland has been the biggest supporter both of the pipeline's reversal and of Ukraine's EU membership ambitions. As of September 2004, Sarmatia (the Ukrainian-Polish joint venture formed to construct the extension of Odessa-Brody to Plock) was looking for private financing. They were in talks with ChevronTexaco and the Kazakh Kazmunaigas company regarding the financing of the project; these talks may be revived in the near future.

Meanwhile, the European Investment Bank (EIB) announced on February 4 its potential willingness to help fund the extension of Odesa-Brody to

Gdansk. The European Bank for Reconstruction and Development (EBRD) has also expressed interest in assisting with the extension of the pipeline into Poland and even to Germany, or to utilize the connection at Brody to the Druzhba-Adria pipeline to Central Europe. The EBRD also announced it would finance a €2 million feasibility study—one similar to that rejected by the Kuchma government in March 2004. At that time, European Commission vice president Loyola de Palacio wanted to help activate the pipeline quickly by organizing consultations with Slovakia, Poland, and the European Commission, and by obtaining funds from the EBRD, the EIB, and others.

This announcement took on greater meaning after February 28, when in a joint statement, the prime ministers of Georgia and Ukraine announced that the pipeline will definitively be reversed. Tymoshenko spokesman Vitaly Chepinoga indicated to the *New York Times* that Odesa-Brody "will be used for oil shipments from Kazakhstan and Azerbaijan through Georgia to Western European markets." Georgia will benefit from the new arrangement due to transit fees, but the primary motivation for both is, to strengthen energy independence from Russia.

Most recently, on March 4, Tymoshenko and Belka reached an agreement to extend Odessa-Brody to Plock. This extension will help Poland diversify its own oil supply and reduce its dependence on Russia. Moreover, Poland may now supply oil to Slovakia, thus helping its neighbor with its own energy diversification effort. (Slovakia is also a strategic country for Russian oil and gas transport to Central and Western Europe; Russia currently pumps oil to the Czech and Slovak republics through the Druzhba pipeline.)

Refining

Ukraine has six crude oil refineries with a combined capacity of 1 million b/d. They are underutilized, with domestic demand representing about 30 percent of refining capacity, and are in need of further investment. The largest two (Kremenchuk and Lysychansk/Lynos) are utilized at less than 50 percent level and need investment.

Offering stakes to foreigners has been part of the effort to secure more crude supplies for refining, but to date only Russians have been interested due to the "unwelcoming" domestic business conditions, such as the lack of

energy-sector transparency. As a result, Ukraine's refineries have to a large degree come under Russian control—four out of six are currently in Russian hands:

- Russia-based Alliance Group and Kazakh state and oil company Kazmunaigaz are in charge of the Kherson refinery (with over a 7 percent share of the Ukrainian refinery market)
- TNK/BP is in charge of the Lysychansk/Lynos refinery (with over a 31 percent market share)
- Lukoil is in charge of Odesa refinery (with a nearly 11 percent market share)
- Tatneft (UkrTatNafta), in partnership with Pryvat Group, is in charge of the Kremenchuk refinery (with a 31 percent market share; all Polish oil goes to this refinery)

As noted above, Pryvat Group controls the other two refineries:

- It is sole owner of the Nadvirna/Zakarpattya refinery in Western Ukraine (with an over 8 percent market share)
- It is in partnership with the Lutsk Kontinuum in the Halychyna/Drohobych refinery (with an over 10 percent market share)

Pryvat Group/Ukrnafta reportedly has expressed interest in increasing its control over the country's refining capability. The Kuchma government initially planned to create a national, vertically-integrated oil and gas company (VIOC) by combining the remaining state-owned energy assets, including refineries and retail operations, under Ukrnafta. However, a September 2004 presidential decree indicated that the new company would instead be created under Naftohaz Ukrainy, ensuring more direct state control.

Plans to create the VIOC were put on hold during the Orange Revolution. According to a Ukrainian government official working on energy issues, "everything is frozen." A new energy minister, Ivan Plachkov, has been appointed. However, Plachkov's background is strictly in the power industry, and he likely will not be the government point-man on strategic energy issues. Instead, Prime Minister Tymoshenko is more likely to take the lead

on strategic decision-making, but she has been too busy with other priorities to focus on energy issues in depth.

Gas Production and Transportation

Ukraine's total natural gas reserves are estimated to be 1,133 billion cubic meters (bcm). Onshore gas fields are located primarily in central Ukraine (Dnipro-Donetsk Basin), though smaller deposits may be found in western Ukraine's Carpathian region. Additionally, offshore reserves in the Black Sea and Sea of Azov are estimated at approximately 73 bcm.

Gas production, however, is relatively low. Ukraine produces about 25 percent of its gas needs domestically and imports the balance. Under the Kuchma regime, Royal Dutch Shell expressed interest in gas exploration in Ukraine, but soon abandoned the idea due to the difficult business environment.

The new government has an opportunity to attract Western technology and investment to reduce dependence on gas imports and to improve efficiency at existing wells. As noted in the *Financial Times* on February 28, a small American firm, Carpatsky Petroleum, has already begun exploiting two gas fields in cooperation with Ukrnafta. As part of its gas sector development program, Carpatsky plans to upgrade existing Ukrainian rigs with Western technology to reduce drilling time from approximately 18 months to as little as eight months. Carpatsky's chairman, Robert Bensch, was quoted in the article as believing that the major oil companies might return to Ukraine "within 18 months, after they see how we do." Expanded opportunities for Western companies, including opening new gas fields for development and expanding the number of wells at existing fields, would likely lead to increased investment and help Ukraine to dramatically increase domestic gas production.

In addition to gas reserves, Ukraine may have 117 trillion cubic meters of coal-bed methane reserves that are largely untapped. If the government can put together a commercial Western consortium, it can use these reserves domestically. However, the Ukrainian economy is notoriously energy-inefficient; Ukraine uses 80 bcm of gas per year, while next door, Poland achieves roughly the same GDP with only 30 bcm of gas annually.

As a result, Ukraine is the largest gas importer of the former Soviet countries. Russia has historically supplied gas to Ukraine at below-world-market prices. Russia supplies Ukraine with about 25 bcm of gas annually as an in-kind payment for transit of Russian gas through Ukraine. Ukraine also imports gas from Kazakhstan and Uzbekistan (via the Gazprom network); however, in the past few years, Turkmenistan has become Ukraine's largest source of natural gas through long-term contracts. Turkmenistan currently supplies Ukraine with 32-34 bcm a year; it is expected to supply 36 bcm in 2005.

In the early 1990s Turkmenistan wished to use the Soviet-era transit pipeline from Central Asia to Russia to export gas to hard-currency markets in Europe, but Gazprom had no desire for Turkmen competition. Turkmenistan cut off gas supplies to Russia in 1997 over transit and price issues; Gazprom then declared that it would never allow Central Asian producers to use its pipeline system for exports to Europe. Providing Turkmenistan access to export pipelines has been a challenge: until 2000, the US supported a proposal to transport Turkmen gas to European markets via a Trans-Caspian gas pipeline; however, the project failed for commercial and political reasons. Turkmenistan now is transporting a small amount via Iran to Turkey. During her previous time in government, Tymoshenko attempted to secure supplies of Turkmen gas via the Caucasus to Ukraine, thus avoiding the Gazprom system; however, this project was also found to be economically unworkable. In recent weeks, however, the issue has been reopened, and cannot be ruled out for the medium-term future.

With no other option to get its gas to European markets, in April 2003 Turkmenistan reached a 25-year supply deal with Russia's Gazprom; the Hungarian-registered firm EuralTransGas was designated the intermediary for the shipment of the gas to Ukraine and western markets. According to the trilateral agreement, there would be a 50-50 cash barter system for Ukraine payments; the Russian purchase of Turkmen gas would increase from 6 bcm in 2005 to 10 bcm in 2006, and eventually reach up to 80 bcm by 2009. All payments were at first handled by EuralTransGas; last year, RosUkrEnergo replaced that firm, but is itself believed to operate a similar scheme that is alleged to skim off money to politically-connected players.

This is one of the clearly non-transparent arrangements requiring the new government's review.

Any new pricing and payment arrangement needs to be worked out with Turkmenistan in a trilateral manner—since Turkmenistan cannot get its gas to Ukraine without using the Gazprom system. According to the 2003 agreement, the price was \$44 per 1,000 cubic meters for both Russia and Ukraine, with half paid in cash and half in kind; in January 2005 Turkmenistan realized that this price is less than half the prevailing world market price, and demanded \$60 per 1,000 cubic meters. Ukraine agreed to \$58; when it was not able to reach agreement with Russia, Turkmenistan shut off gas supplies, but later resumed talks with Moscow that have yet to conclude.

Gazprom needs Turkmen gas more than ever before—its European export plans are based on buying cheap Central Asian gas for domestic use, and exporting Russian gas at higher prices (at \$130-135 per 1,000 cubic meters) to Europe. Gazprom controls at least 20 percent of the world's natural gas reserves, but it needs billions of dollars of foreign investment to pay for exploration; it suffers from lack of investment and production. Continuing to buy cheap gas from Turkmenistan and other Central Asian countries is the only way Gazprom can avoid making major investments in production. Otherwise, this high-cost, inefficient monopoly would not be able to meet its obligations.

In December the International Energy Agency (IEA) expressed concern that the EU as a whole was becoming too reliant on Gazprom, which could use its power as a monopoly supplier to push up gas prices. Russia's Gazprom monopoly is believed to control a third of the world's gas reserves, and it supplies approximately one-third of all gas consumed in Europe; any supply disruptions would have serious implications for Europe's economic security.

Gazprom also needs Ukraine for its European exports. Over 90 percent of Ukraine's gas imports are re-exported to the west and south; Ukraine transported about 120 bcm of natural gas through its territory in 2004. It is a significant intermediary for gas from Russia, the world's largest producer of natural gas, to the expanding markets of Europe. In 2004, 108 bcm of Russian and Turkmen natural gas moved through Ukraine for

European consumption, 29 percent of OECD Europe's gas imports and 78 percent of Russia's gas exports.

European demand for gas is expected to expand to 650 bcm in 2015, with 30 percent coming from Russia and the rest from Norway, North Africa and possibly the Caspian via Turkey. Since for the foreseeable future, the only way for Russia to meet its supply commitments is to continue utilizing Ukrainian transport corridors, the Yushchenko government has significant leverage over Gazprom—so long as it engages in a transparent, commercial relationship with this giant entity.

Gas Pipeline System

The Ukrainian gas pipeline system requires serious investment and reform. All gas transmission is conducted by Naftohaz Ukrayiny subsidiaries UkrTransHaz and ChornomorNaftohaz. Until recently, third parties like Itera or Naftohaz-Gazprom joint ventures such as EuralTransGas and RosUkrEnergo have been involved in non-transparent schemes.

So far the main initiative to address the needs of the gas pipeline system has been the formation of a multi-party International Gas Transit Consortium to deliver Russian gas via Ukraine to Europe and bring more investment. In October 2002, Naftohaz Ukrayiny and Russia's Gazprom signed preliminary agreements toward an international consortium to manage and upgrade Ukraine's natural gas infrastructure. The company was registered in January 2003, with the Russian and Ukrainian firms each holding a 50 percent stake. While the stated goals of the consortium were to include a Western company as well, and Germany's Ruhrgas was present at the consortium talks, in the end Russia wanted to keep the consortium at a bilateral level.

In March 2004, the consortium agreed to construct a \$2-2.5 billion natural gas pipeline from Novopskov, in the east, to Uzhhorod on the Slovakian border. Construction, which began in April 2004, is expected to take two years, and when finished will permit a 25 percent increase in the movement of Russian natural gas to the west. Ukraine plans to guarantee a zero tax rate on flows through the pipeline until the consortium members obtain a positive return on their investment.

Another major step the Kuchma administration took prior to the elections was the signing in Sochi of 15-year bilateral accords on oil and gas with Russia. The August 18, 2004 agreement was reached as part of Russia's SES initiative and further consolidated the position of the Russian companies Transneft and Gazprom in Ukraine; they also helped to exclude Germany from participating in the gas consortium.

Prior to the Ukrainian elections, during a visit of President Putin to Ukraine on October 27, 2004, Gazprom CEO Aleksey Miller and then-Naftohaz Chairman Boyko signed agreements to promote the gas transport consortium. They agreed to a \$300 million investment for construction and exploitation of the pipeline to Uzhhorod to boost gas transmission capacity by about 5 bcm annually. A Naftohaz-Gazprom joint venture, Gas Transportation System (GTS), will own the pipeline. Gas will come via pipelines that have remained idle since Russia began its Yamal-Europe gas line. The first phase is expected to be completed in early 2006 for \$54 million. The agreement also includes a ship-or-pay agreement for increasing gas volumes to be transported via Russia (based on Sochi agreements). The contract calls for an increase of 5 bcm to West European countries in 2005 and of up to 19 bcm after 2010.

The August 2004 agreement represented a step back for Ukraine. Earlier in 2004, Ukraine had reached a deal to provide Russia with gas transit services to make up for its 1998-2000 gas theft. However, demonetizing gas transit introduces in-kind, barter agreements, which foster corruption due to their opaque nature. Given that the August agreement will make the problem of corruption even worse, this is another issue the new Ukrainian administration needs to address—with the help of Western governments, particularly the United States.

III. Recommendations

The energy sector problems described above—opaque business relationships, unbalanced supply agreements with Russia, inefficient exploration and production, and a lack of Western investment—are a direct result of corruption, mismanagement, and dependence upon foreign political patronage

that persisted under the Kuchma regime. The Yushchenko government is faced with the challenge of convincing the Ukrainian people and the West that Ukraine can move forward and become a reliable partner in producing and transporting oil and gas while meeting EU and WTO business standards. Ukraine needs to attract Western investment and equipment and to diversify energy sources, supplies, and transit routes, while at the same time working towards a new energy partnership with Russia.

The dominant feature of Ukraine's energy situation is its reliance upon foreign oil and gas suppliers—especially Russia, which supplies over three-fourths of Ukraine's domestic oil and gas demand. Just as importantly, Russia's geographic position means that it controls most of the pipelines via which other suppliers (e.g. Turkmenistan) could export to Ukraine. While efforts to develop supply channels that bypass Russia—such as the Odesa-Brody pipeline—are finally proceeding under the Yushchenko government in partnership with key neighbors, such as Poland and Georgia, Ukraine will continue to rely upon Russian supplies to meet the majority of its energy needs, at least through the medium term.

US support is both needed and helpful. While encouraging Ukraine to diversify away from the Russian near-monopoly, the United States must nevertheless make clear that it is not pursuing an anti-Russian agenda. The US Caspian pipeline policy of the late 1990s was similarly aimed at supporting oil and gas pipeline projects that were intended to help Azerbaijan and Georgia to freely develop their economic and foreign policies without fear of economic reprisal. To date, however, Russian political leaders have considered these pipeline projects to be "against" Russian interests. Thanks to the ongoing US-Russian energy partnership, Washington has the ability to work closely with Moscow to ensure that Ukraine does not turn into an area of tension.

The US also needs to encourage the Yushchenko government to quickly take certain unilateral steps to reform the energy sector, improve efficiency, reduce corruption and attract Western investment. Domestically, there must be a thorough assessment of Ukraine's energy needs and, more importantly, of its obligations. There is a strong chance that Ukraine can join the WTO by end of 2005 if it succeeds in making pro-market reforms. For that to happen, the new government must move quickly—presidential

powers may be transferred to the parliament in January 2006, and the parliamentary elections in March 2006 may make already difficult reforms nearly impossible. Therefore, energy sector reform must be an early priority for the Yushchenko government.

Ukraine also can use those leverage points it has—e.g., its role as the key link between Russia and Western oil and gas markets, and its continued granting of Russian basing rights in the Crimean Peninsula—to renegotiate key Kuchma-era energy agreements and bring its relations with Russia into balance.

The US should urge Ukraine to urgently develop a new, comprehensive national energy strategy—one that will more effectively address domestic needs, but that will also be part of the larger Central European and Eurasian energy framework. The following recommendations should be key elements of this strategy:

- 1) Reform and restructure Ukraine's oil and gas monopolies**, privatizing non-essential components and replacing management as necessary.

The greatest threat to Ukraine's energy security is the endemic corruption in the sector. Inefficiency is also a huge problem, as the earlier comparison to Poland suggests; financial incentives should be provided to improve energy efficiency.

The most significant element to this strategy should be reform of the energy sector itself. Direct restructuring of Ukraine's oil and gas monopolies and the replacement of existing management where necessary is the most direct way to address energy sector corruption. The March 2005 replacement of Yuri Boyko as chairman of Ukrnafta is a critical first step in this process.

The top management of Naftohaz Ukrayiny, as well as of its various subsidiaries and other companies, also may need to be replaced. Reforming this firm would not only serve to reduce corruption, but also will be more effective in reaching more transparent agreements with Russia over oil and gas supplies and transit.

The Yushchenko government also must decide how to deal with energy sector assets that remain state-owned under Naftohaz Ukrayiny. For example, some Naftohaz Ukrayiny subsidiaries, such as Ukrnafta and ChornomorNaftohaz, could be privatized to reduce the corrupting influence of Ukraine's existing energy monopolies and to increase competition.

As noted above, the Kuchma government took steps toward the creation of a vertically integrated oil company (VIOC) on the basis of the state's shares in oil-producing and -refining enterprises. While still chairman, Boyko had proposed this Gazprom-style model, which promised a reduction in prices for oil products, to be achieved by a more efficient use of state assets. The Kuchma government initially planned to create such a company under Ukrnafta, but a September 2004 decree by Kuchma stated that the VIOC would instead be created from Naftohaz.

The bulk of Ukraine's domestic refining capacity is currently controlled by Russian companies. While the new Ukrainian government does not want all domestic refining capacity in any one country's hands, it also may not want either Pryvat Group/Ukrnafta or Naftohaz Ukrayiny to increase its monopoly power due to the prevailing corruption in both entities and to their lingering ties to the Kuchma government. If reform and restructuring bring sufficient transparency to the energy sector, involvement by a Western company in the privatization of remaining state assets could help Ukraine to diversify control of its refineries and other key energy assets.

The Yushchenko government has also already begun to address the corrupt privatizations conducted under the Kuchma government. While there has been much discussion on reopening privatization cases in the energy sector, it is important that the government not choose these cases randomly. Re-privatization needs to be part of the broader energy picture, as even one electricity distribution line can have significant impact on other parts of the energy strategy. For example, the recently created Energy Company in Ukraine is under the direction of the president and controls almost all state assets in the power sector. This entity could insure stability in the Ukrainian power sector and should be left in state hands as a matter of national security.

Finally, the energy sector should be included in a comprehensive tax reform program, and collection of payments for services needs to increase. For example, until recently the government received no taxes or revenue from transit fees from UkrTransNafta—in fact, the firm only began paying taxes during the past year.

2) Monetize Ukraine's gas and gas transit industry, a step to be accompanied by establishing monitoring systems at the border, instituting a reliable customs service for tariff collection.

Unless action is taken quickly, existing energy agreements can leave Ukraine with limited energy supply options for many years. If Ukraine is bound to fixed, long-term oil and gas agreements, it will be extremely difficult to attract Western investment and to implement policies recommended by Western governments. There was speculation, for example, that former Ukrnafta chairman Boyko signed a 15-year agreement with the Russian company Transneft to give up control of Ukraine's oil pipelines only days prior to the presidential elections in November. This sort of uncertainty and opaqueness is a significant barrier to attracting foreign investment.

The Yushchenko administration has pledged to review Ukraine's political and economic relationships with Russia and to try to approach the energy relationship as a partner rather than a subordinate. At the same time, recent agreements with Russian companies have only increased Ukraine's dependence on Russia in the energy sphere. These agreements, made prior to the Orange Revolution, appear to lock in oil and gas trade arrangements that are disproportionately favorable to Russia. As currently written, the terms of these agreements will survive the political changes that have occurred in Ukraine.

Elites on both sides of the border have so far gained enormous personal benefits from sustaining Ukraine's dependency on Russia for energy. The Kuchma government and its oligarchic supporters in the Ukrainian energy sector had no incentive to seek a fairer deal and balance the relationship by leveraging Ukraine's role as the major transit route for Siberian and Central Asian oil and gas. Kyiv to date has allowed Moscow to dictate the terms for the key structures and agreements that govern the transit of oil and gas

across Ukraine to Europe and, more importantly, that perpetuate Ukraine's energy dependence.

With US support, the Yushchenko government can make significant progress in addressing corrupt relations between Ukrainian and Russian energy companies by monetizing all gas-related transactions between Ukraine and Russia and eliminating Russia-imposed barter arrangements. Paying for all gas received from Russia and charging Russia for transit services would make this relationship transparent and reduce the possibility that such payments could be used for political purposes, as allegedly happened under the Kuchma government. This would also help address Russian complaints about Ukraine stealing gas.

The key is to "normalize" relations with Gazprom. For many years, there have been third parties involved, such as Itera, EuralTransGaz and RosUkrEnergo; these arrangements were nontransparent and enabled the diversion of cash or gas away from the Ukrainian government for general corruption or enrichment. To the greatest degree possible, all such agreements should be made directly with Gazprom and/or Transneft, bypassing the Kremlin. If there are direct relations with Gazprom, then the alleged back-channeling of funds to the Kremlin will more likely be brought under control. This should also be a key priority for the new government.

3) Attract Western investment, technical assistance, and drilling technology to increase exploration by increasing domestic business transparency, opening local energy deposits to Western investors, and involving one or more Western companies in the International Gas Transit Consortium.

As noted above, Ukraine has significant oil and gas potential. Ukraine's energy dependence can be reduced to a manageable, secure level within two to three years. But to accomplish that goal, Ukraine needs to ensure that exploration, especially in the Black Sea, takes advantage of the best available technology. This will require Western investment and direct participation. Local energy deposits need to be opened up to foreign investors who have the capital and expertise to develop them.

The biggest obstacle to date to attracting Western investment has been Ukraine's monopoly oil and gas companies, which have pressured the government to discourage competition. Under the new government, this needs to change. A good example is Russia, which, after it allowed Western service companies, increased its production from 6.172 million barrels/day in 1995 to 9.273 million barrels/day in 2004. The Ukrainian energy sector has the same prospects for growth, given the right kind of foreign investment.

While increasing domestic oil production is important, natural gas is of even greater strategic importance, as Ukraine is largely on Russia and Gazprom for imported gas. However, as mentioned in the press, Carpatsky Petroleum (the only American company that has been active in the oil and gas sector for the last five years, believes that Ukraine can increase gas production to meet up to half of its domestic demand by end of this decade.

Carpatsky Petroleum is already actively developing two natural gas fields in Ukraine: the Rudovsko-Chervonozavodskoye (RC) Field (in Central-Eastern Ukraine, Poltava Oblast) and the Bitkov Field (in Western Ukraine, Ivano-Frankivsk Oblast). In the RC field, Carpatsky has a joint activity agreement with Ukrnafta, and in the Bitkov field it has joint venture with Ukrnafta called Ukrcarpatoil Ukraine. (Ukrnafta holds the oil and gas exploration and development licenses for the RC field.) Additionally, according to company statements, Carpatsky Petroleum has identified approximately 40 proven undeveloped and probable reserves in these two fields. Carpatsky's proven and probable net recoverable reserves are 7.39 bcm of gas and 5.6 million barrels of crude oil and condensate. Development of these reserves would decrease Ukraine's dependence on foreign gas by five percent. Carpatsky Petroleum's program to develop the gas field alone would cost \$150 million. It is important for such smaller companies to succeed in Ukraine for the larger Western companies to come in with more significant investments.

Under the new government, the International Gas Transit Consortium could also be strengthened with the participation of a Western partner. In January 2005, President Yushchenko said that Ukraine would encourage a European state or major firm to take part in the consortium. Previously, in addition to Ruhrgas (which is a Gazprom partner), Gaz de France and the EBRD had expressed interest in participating in the consortium. Ukraine had

also previously suggested that regional producers Turkmenistan, Kazakhstan, and Azerbaijan could be invited to join, which again can be explored.

Finally, there needs to be Western training and technical assistance to Ukrainian energy sector workers—an area the US can assist through USAID. While many mid-level government bureaucrats in Ukraine are educated, management of the key companies and enterprises as a rule has practically no Western education, which contributes to inefficiency. For example, these managers do not want Western equipment because Ukrainian equipment is cheaper, despite the fact that using Western equipment could significantly expand Ukraine's oil and gas exploration and production.

4) Initiate discussions regarding a regional oil and gas transmission strategy directly with Russia, Turkmenistan, Uzbekistan, Kazakhstan, Iran, the EU, and other relevant parties.

Ukraine's international gas transmission strategy needs to be a corollary of its national energy strategy. To make this work, Ukraine needs to initiate discussions with Turkmenistan, Uzbekistan and Kazakhstan, as well as the EU and the US, to better position Ukraine as a regional partner in oil and gas transit while meeting its domestic supply needs.

The US was directly involved in the successful Caspian pipelines, and helped broker intergovernmental agreements among Azerbaijan, Georgia and Turkey. Now the US needs to extend such support to the Black Sea.

In order to make Ukraine an attractive export route, it must price its oil and gas transit fees—both pipelines and railways—competitively. If Ukraine can secure a commercially attractive supply option, Odessa-Brody could readily be part of a unified European energy market. Given that Ukraine has already committed to reverting the pipeline to its original use and can initiate this reversal with a 90-day notice to its partners, the government should locate all applicable agreements and then begin talks with Kazakhstan and Kazakh producers.

Likewise, Russia, as part of its WTO accession process, needs to provide access for third parties to its pipeline network. This requirement exists on paper, but it has not worked in reality. While Gazprom reportedly agreed to

unbundle its operations, it will nonetheless retain monopoly control over functions ranging from production to transportation to distribution, as well as over exports to Europe.

Despite preexisting US policy on Iran, the Yushchenko government can choose, Ukraine can also revive talks with Iran. Such talks usually take several years before any significant investment decision takes place; as long as the Yushchenko government is transparent about its discussions with Iran, Washington need not worry. In fact, on February 23, the Iranian ambassador met with Ukraine's energy minister; they agreed to cooperate on the transportation of Iranian gas to Europe via Ukraine. Earlier, during the World Economic Forum meetings in late January, Iranian Foreign Minister Kamal Kharrazi in his meeting with Yushchenko, urged cooperation in the energy sector, including the re-export of Iranian gas to Europe.

There is risk for Ukraine that if it were to negotiate too firmly with Gazprom, the monopoly company may decide to no longer provide Ukraine with subsidized gas. This would be a huge blow to Ukrainian economy in the short run; in the long run, however, it might prove to be the best step forward to further reduce Russian leverage—provided the payments can be made and debt is not accumulated in a way that can be turned into debt-for-equity deals like Russia did in Armenia and Belarus. It is critically important for Ukraine to maintain control over its pipelines and not give them up to Gazprom or any other monopoly company.

Russia's ability to use its Kremlin-controlled natural gas monopoly, Gazprom, to restrict Ukraine's access to natural gas—either through directly blocking the flow of gas or through price increases—is its most important leverage point in negotiations with Kyiv. Since the Druzhba Pipeline, which supplies oil from Russia to Ukraine, also supplies Western Europe, Yushchenko may be willing to bet that Russia will not jeopardize its European markets by turning off the tap. However, Yushchenko knows that Russia had previously set a precedent by stopping the flow of oil during a period in which Kuchma was seen as acting too independently from Moscow.

The bottom line is that, while there is some mutual dependence—Ukraine depends on Russian oil and gas, and Russia depends on Ukrainian transport—it is not an equal dependence, since Russia holds the final leverage. Ukraine

probably cannot fully modify its existing relations with Russia, but can make itself more secure by addressing its domestic issues (reducing corruption, improving efficiency, and increase production).

The new government also needs to quickly evaluate how to balance its membership in CIS and potential membership in the SES with its WTO and EU aspirations. On the question of the SES, the Yushchenko government has already upset Russia by declaring that it will become part of the SES only so long as it does not inhibit Ukraine's integration into the EU. This stands in sharp contrast with the Kuchma government, which signed many agreements with Moscow, such as the Sochi Agreement, to implement the SES. Due to the lack of transparency of SES talks under Kuchma, a key challenge for the Yushchenko government is to review these secret agreements and find out what is binding and what is not.

In conclusion, the US needs to urge Ukraine first and foremost to reform its energy structure domestically. At the same time, US policymakers should note, Ukraine must radically restructure its relations with Russian firms and diversify its energy-supply options. It is important to start by taking immediate action. It is also critically important not to take any action that could be perceived as anti-Russian; the necessary steps must be pro-transparency, anti-monopoly and in accord with the principles of the EU and WTO.

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