

Summary: Since the 1990s, battles over the control of Ukrainian energy facilities and transportation routes have shaped the political landscape of the country. The major energy challenges the country faces include outdated equipment and energy facilities, a high level of energy consumption by the Ukrainian industrial complex, and increasing dependence on external energy sources, most notably natural gas. Compromises, agreements, and mistakes in dealing with natural gas suppliers are at the heart of Ukrainian foreign policy. Two common interests form the basis of Ukrainian-EU cooperation in the energy field. Ukraine remains the principal transit partner for Europe and Ukraine needs European technologies and investments to modernize its gas transportation system and decrease the level of internal energy consumption. But so far, Ukraine has been unable to convert its comparative advantages into long-time arrangements with both Russia and the EU. Minimizing risk is still possible, should Ukraine choose to fully implement provisions of the Energy Community and the Brussels Declaration and contribute fully to the creation of a transparent European energy market.

Ukrainian Energy Security: Between Mortgage and Profit

by *Mykola Kapitonenko*

Introduction

Since the 1990s, battles over the control of Ukrainian energy facilities and transportation routes have shaped the political landscape of the country. Energy is of utmost importance to Ukraine's national security, and it is often the key to its internal political developments. It is the basis for the country's most significant and fast-growing fortunes, and shelter to most influential oligarchs.

Ukraine developed important energy capabilities during the Soviet era. The republic pioneered hydroelectric plants in the USSR in the 1920s, accounting for about 17 percent of the total electric energy production in the Soviet Union by 1990. Ukraine is Europe's fifth largest nuclear power, possessing four nuclear power plants, one of which is the largest in Europe. The fifth nuclear power plant — Chernobyl — was closed following the disaster in 1986. Coal mining was another priority and specialization of Ukraine within the Soviet industrial complex: Ukraine mined about 30 percent of all coal produced in the Soviet Union. All this provided Ukraine with the leading role in energy production within the USSR — a role that Ukraine carried through the collapse of the Soviet Union in 1991. Subsequently, this role has been changed by a number of developments, which define the major chal-

lenges Ukraine is facing in the sphere of energy today:

- Outdated equipment and energy facilities, whose modernization requires substantial investment. Any slowdown in the modernization process dramatically reduces effectiveness of Ukraine's energy production industry.
- High level of energy consumption by the Ukrainian industrial complex, due to lack of technological improvements. This makes Ukrainian industry increasingly less competitive.
- Increasing dependence on external energy sources, most notably natural gas. By heavily relying on gas supplies from Russia, Ukraine limits its foreign policy options.

Currently, energy plays a pivotal role in Ukraine's foreign policy, specifically in its relations with Russia, the country's main supplier of oil and natural gas. Import and transit of energy resources determine Ukraine's list of key foreign partners. Compromises, agreements, and mistakes in dealing with natural gas suppliers are at the heart of Ukrainian foreign policy. The series of "Gas Wars" that started in 2005, the Kharkiv Accords with Russia in 2010, and the trial of Ukraine's former Prime Minister Yulia Tymoshenko in 2011 are all rooted in energy issues. These issues affect the entire



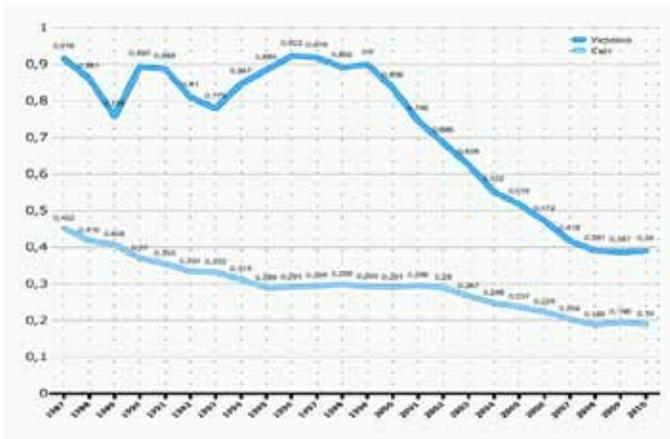
spectrum of Ukraine’s political choices and — not least — its European integration prospects. Nonetheless, regardless of future developments in the EU-Ukraine dialogue, both actors remain interdependent with regard to natural gas supplies and — more broadly — energy issues.

Strengths and Weaknesses in Ukraine’s Energy System

Owing both to its geographic location and to its Soviet-inherited infrastructure, Ukraine’s primary capacity in the energy field is transit. Ukraine possesses the largest system of oil and gas pipelines in Europe, capable of delivering around 56 million tons of oil as well as 180 billion cubic meters (BCM) of natural gas per year. Thirteen underground gas storage facilities make Ukraine Europe’s largest reservoir of natural gas. Along with an extensive energy infrastructure, Ukraine also developed a highly skilled labor force in the energy field. Its own reserves of coal and uranium are fully sufficient for Ukrainian industry, and they provide opportunities for the development of corresponding branches of energy production. Ukraine is also a net exporter of electricity.

These advantages, however, are not enough to ensure Ukraine’s energy security, which faces two main challenges. First, Ukraine’s economy consumes too much energy. It requires about two times more energy per GDP unit than the world average, and about four times than the European average. This problem is structural, and it resides with

Figure 1 Ukraine’s (dark-blue) and world’s average (light blue) energy consumption



Source: The World Bank (GDP per Energy Unit Indicator)

Figure 2 Current Energy Mix, comparative figures

	World	Ukraine	EU	United States
Natural gas	21%	41%	22%	24%
Oil	35%	19%	41%	38%
Coal	23%	19%	16%	23%
Uranium	7%	17%	15%	8%
Renewable resources	14%	4%	6%	7%
Total	100%	100%	100%	100%

Source: Energy Strategy of Ukraine - 2030

the lack of modernization of Soviet-era industrial parks. Recently, efforts have been taken to shift the energetic balance to new types of fuel and make the economy more energy efficient, yet significant improvements require time to occur.

Second, Ukraine is dependent on foreign sources of energy and, more importantly, critically dependent on one of them in particular — Russia. Ukraine’s general dependence on imports of energy has recently leveled off at about 60 percent, higher than European average at 50 percent, although equal to or smaller than that of some European states such as Germany, Austria, or Italy. A lack of diversity in supplies of gas and oil creates additional risks and weakens Ukraine’s economic and political standing. Along with this, Ukraine suffers from the high cost of oil and gas production, outdated equipment, and high levels of pollution. Unlike most countries in Europe, Ukraine relies more on natural gas (about 40 percent of all energy resources consumed) than on oil (about only 20 percent).

That makes Ukrainian industry particularly sensitive to gas prices, and, generally, places natural gas supplies at the heart of Ukrainian security policy. Ukraine’s own production covers only about 25 percent of its consumption, while the remaining 75 percent is imported, mainly from Russia and Turkmenistan.

In the long run, Ukrainian comparative advantages are deteriorating as prices for gas continue to rise, Russia’s Gazprom secures more control over European gas market,

and Ukrainian industry remains heavily dependent on non-renewable energy resources. With the construction of alternative pipelines, Ukraine is becoming more dependent on Russian energy sources. Geography provides constraints, since Caspian and Central Asian gas and oil, even if not contracted by Russia, would still have to be delivered through its territory, as matters stand now. Time is not on Ukraine's side either, as development of new energy sources is a long term endeavor, with few and small immediate results.

To move out of its increasingly weakening position, Ukraine has set as strategic objectives modernizing its gas transportation system and decrease of its energy consumption. These goals have been seen as an integral part of the country's closer association with the EU.

Ukrainian Energy Security in a Broader European Context

Two common interests form the basis of Ukrainian-EU cooperation in the energy field. 1) Ukraine remains the principal transit partner for Europe. Most gas and oil imported from Russia arrives in Europe through Ukrainian territory. Recent Russian initiatives to build alternative pipelines will lead to a decrease in the amount of energy transiting from Russia through Ukraine, yet this amount will remain significant. 2) Ukraine needs European technologies and investment to modernize its gas transportation system and decrease the level of internal energy consumption. These interests are interconnected: the more effective

Figure 3 Oil pipelines through Ukrainian territory



Source: Energy Strategy of Ukraine through 2030

the Ukrainian transportation system is, the more reliable it will be as a transit state. From an economic perspective, the Ukrainian gas transportation system can generate benefits for all parties involved: producer, transit route, and importer.

So far, Ukraine has been unable to convert its comparative advantages into long-term arrangements with both Russia and the EU, and achieve two of its strategic objectives: reasonable and stable prices for resources and modernization of its gas transportation system. As a result, since 2005, Ukraine has faced the increasingly tougher position of Russia, suffered from increased prices for natural gas, and gradually lost its advantages to construction of alternative transportation routes. Ukraine's weakening position affects all parties and results in a growing instability on the European energy market in general.

The 2009 EU-Ukraine Joint Declaration on the modernization of Ukraine's gas transportation system and Ukraine's consequent membership in the Energy Community in 2011 have been seen as two important steps in fulfilling joint interests in energy security. Full integration of Ukraine as a transit country into the European energy market was seen by the EU as a worthy goal, as it would also bring about more transparent rules for European energy supplies. Despite having signed the Declaration, neither of the two signatories is in any rush to fulfill its obligations. The EU has made modernization of the Ukrainian gas transit system less of a priority, as they have been taken aback by internal developments in Ukraine. In the meantime, the EU is not opposing Russian projects that aim to bring gas to Europe without passing through Ukraine. For its part, Ukraine is procrastinating on making required reforms in its energy sector. Only in March 2012, three years after the Declaration, the Ukrainian Parliament started drafting and debating the legislation required for the implementation of one of the main provisions of the Declaration, modernization of Naftogaz, Ukraine's most important energy company.

With the overall EU-Ukraine relationship deteriorating, Ukraine may stand to lose its most important, if not the only, ally in fulfillment of its strategic interests of modernization of its gas transit system and reduction of energy consumption.

Gas Pipelines as an Energy Security Barometer

The series of gas conflicts between Russia and Ukraine of 2005-2009 changed the nature of gas trade between Ukraine and Russia and revealed the vulnerability of European countries to Russian supply of gas. This led to the adoption of antagonistic strategies by the parties involved in and affected by the conflicts. For its part, Russia now seeks 1) control over European gas pipelines; 2) high European dependency on Russian gas (Europe is currently importing about 25 percent of gas it consumes from Russia); and 3) diversification of routes transporting natural gas to Europe, diminishing the role of Ukraine and Baltic states. Europeans, on the other hand, are seeking to 1) find alternative sources of natural gas (Norway, Algeria, and Central Asia are the primary alternatives); and 2) decrease its industry's dependence on gas consumption by diverting to renewable and new sources of energy. While at a different pace, Ukraine is also looking for alternative sources of natural gas, while trying to reduce its dependence on it. As a matter of economic survival, it is also trying to keep the importance of its gas transportation system as long as possible. As a secondary effect, the Gas Wars also led to the inflated importance of gas pipelines for Europe.

Transportation of natural gas is binding Russia, EU, and Ukraine into a real system of interconnected interests. With each party trying to maximize its gains and minimize its losses, the issues of price for Russian natural gas, of access to gas from Central Asian states, and of control of transportation routes are of major importance to all three parties. As per Russia's strategy, the basic factors of the energy equation — levels of consumption, volumes of imported gas, and available alternatives — are not dictated by the laws of economics as much as by those of diplomacy and political pressure. Gas pipelines have acquired political and geopolitical significance.

Europeans are advocating the construction of Nabucco, the pipeline that would allow supplies of Caspian natural gas to Europe through Turkey, bypassing Russia. With projected volumes of supplies at about 30 BCM per year, this pipeline, proposed in 2002, would decrease Europe's dependence on both Russian sources and transit of natural gas. Nabucco's second line — the White Stream — would give Ukraine extra capabilities in transit (the White Stream is supposed to deliver gas from Azerbaijan to Georgia and Ukraine and then to Europe).

Russia, on the contrary, is pushing forward two pipelines — the North Stream and the South Stream — that would weaken the positions of transit states, including Ukraine. The North Stream, planned to deliver 55 BCM per year, was put into operation in 2011. It goes under the Baltic Sea and delivers gas from Russia directly to Germany. European reaction to the construction of this pipeline was diverse, since it went against the interests of the transit states — notably Poland, Latvia, Lithuania, and Estonia — and those of European energy security in general. The South Stream — still in its planning phase — will have a capacity of about 60 BCM per year and it goes under the Black Sea from Russia to Bulgaria, being thus an alternative to the Nabucco pipeline. These “twins” are aimed at enhancing Russia's influence on the European energy market and decreasing the role of transit states, including Ukraine.

Along with these efforts, Gazprom is actively and, at times, aggressively, seeking more shares in the existing gas transportation systems to and within Europe. Its long-lasting campaign for Belorussian pipelines ended triumphantly in December 2011 with the purchase of 100 percent shares of Beltransgaz, which allowed a full control over transportation routes through Belorussian territory. Having accomplished that, Russia again increased political pressure to acquire control of Ukraine's gas transportation system. The current Ukrainian government has so far been firm on its position, yet Russia is not known for giving up easily, so pressure is expected to build. Gazprom is also trying to get deeper into distribution networks within European states, which would allow for more revenues.

The shares of gas pipelines owned by Gazprom not only produce economic results. Moscow is often suspected of using its energy capabilities for political purposes — most notably for expanding its influence over post-Soviet states and strengthening its political positions in dialogue with the EU. This has led to the current investigation of Gazprom by the European Commission, with all the accompanying tensions. It is the first official attempt of an EU body to bring energy back into the economic realm, and free it from geopolitical pressures. Its results remain to be seen, but any decision will be difficult to implement so long as member states continue to follow their individual immediate interests to the detriment of the long term common one.



Kharkiv Accords

The political implications of gas issues were demonstrated most vividly in the Kharkiv Accords, signed on April 21, 2010, by the presidents of Russia and Ukraine. Under these agreements, Ukraine received a 30 percent discount for Russian natural gas purchased between 2010-2019 in exchange for a 25-year extension of accommodation of the Russian Black Sea Fleet in Sevastopol. President Viktor Yanukovich, supported by Ukraine's most influential oligarchs, heavily dependent on Russian gas supplies, explained that the new agreement with Russia was a necessary response to Ukraine's inability to pay the price set by the Putin-Tymoshenko deal of 2009. However, the accords were heavily criticized since they did not provide any solutions to Ukraine's main problem of reducing dependence on Russian natural gas. Many accused Yanukovich of mortgaging Ukraine's independence in return for the illusion of cheap gas. In fact, gas price discounts offered by the treaty did not make much difference, since the setting of the price remains arbitrary and at Russia's discretion.

More importantly, Ukraine has made political concessions in exchange for vague economic benefits, and this was a mistake. When dealing with a stronger partner, one should avoid the spillover of that partner's advantage in one issue to another. Avoiding linking issues is usually at the heart of managing asymmetric interdependence. By trying to strengthen his position outside the price/volumes/transit/alternatives framework, Yanukovich has severely limited both his foreign policy options and resources for future negotiations with Russia over gas issues.

Today, we are witnessing the results. Ukraine is persistently trying to re-negotiate volumes and prices for natural gas supplies with Russia, but lacks arguments. Russia enjoys a formidable position, gained in Kharkiv two years ago. Ukraine, on the contrary, has dramatically narrowed its choices. Even worse, the current slowdown in Ukraine's dialogue with the EU further damages Ukraine's interests by depriving it of instruments to influence Russia.

Conclusion

Ukrainian geography and advantages in the energy field initially provided it with a very good position to build relations with both the EU and Russia. But due to mistakes of consequent governments, Ukraine has lost these advantages, and is currently facing serious economic and polit-

ical challenges. Minimizing risk is still possible, should Ukraine choose to fully implement provisions of the Energy Community and the Brussels Declaration and contribute fully to the creation of a transparent European energy market. Within this context, Ukraine's European aspirations would be given a practical dimension. Deeper cooperation with the EU in the field of energy would meet the country's needs of modernizing its economy, decreasing levels of energy consumption, and diversifying energy sources. The EU's interest in transparent and reliable system of interdependence among energy suppliers, consumers, and transit states would also be served by this cooperation.

About the Author

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