Chapter Five

Ukraine's Energy Security Challenges: Implications for the EU

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The decision by the European Union to cancel a high-level meeting with Ukrainian President Viktor Yanukovych on October 20, 2011 was a protest against the jailing of his political opponent and former prime minister, opposition leader Yulia Tymoshenko, who was sentenced to seven years imprisonment, and a signal that such actions threaten Ukraine's integration into the EU. It also highlighted the contradictory policies of the present Ukrainian President and government.

After the second round of presidential elections in February 2010 resulted in a narrow victory of the pro-Russian candidate Viktor Yanukovych, leader of the Party of Regions, he quickly improved Ukraine's relationship with Moscow, suppressed the political opposition and reduced political freedoms, including a tougher scrutiny of mass media.[1] But, instead of becoming too dependent on Russia, President Yanukovych has also sought to follow a "multi-vector foreign policy" by playing a balancing act of Ukraine between Russia and the EU and by using the differences and rivalries between them to strengthen Kyiv's position and leverage.[2] He even chose Brussels for his first foreign visit and declared European integration to be a strategic aim of his presidency. By recognizing Ukraine's independent national interests from Russia's, he had promoted an association

[1] See Pavel Korduban, 'Ukrainian President Yanukovych Determined Not to Let Tymoshenko Go,' *Eurasia Daily Monitor*, Vol. 8, Issue 191 (October 18, 2011) and Taras Kuzio, 'Can Ukraine Hold Free Elections Next Year,' *Eurasia Daily Monitor*, Vol. 8, Issue 191 (October 18, 2011).

[2] See also James Sherr, *The Mortgaging of Ukraine's Independence. Briefing Paper* (London: Chatham House, August 2010).

agreement instead of joining a Russian-led CIS Custom Union.[3] In August 2010, President Yanukovych stated:

> I believe Ukraine's future belongs in Europe. While our historical connection to Russia will continue to be very important, the key to prosperity for our people and the development of our national and human resources lies in a deeper and more developed integration with Europe and the West.... Our current exploration of shale and offshore reserves will diversify energy supplies and help avert future crises. Our strong economic ties with the EU will only increase after we finalize an Association Agreement later this year—a springboard to future EU membership.[4]

However, he did not recognize that an association agreement and a closer integration policy with the EU should be based not only on economic interests but also on democratic values and principles that would lead to an "Open Ukraine" as part of a European perspective for his country.

For the EU, the imprisonment of Yulia Tymoshenko has caused a complex dilemma in its relations with Ukraine, because its firm stand on human rights and democratic principles may compromise the EU's wider geo-economic and geopolitical interests and could drive Yanukovych closer into Moscow's arms. Furthermore, the real victim might not be so much the Yanukovych entourage and Party of Regions as an isolated Ukrainian society from Europe, a factor the Ukrainian opposition fears.[5]

Given its size, its geographic position, its population of almost 50 million, and its role as the main transit country for Russian oil and gas

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[3] See Joshua Chaffin, 'EU Postpones Ukraine Meeting,' *Financial Times*, October 18, 2011 and Stephen Castle and Ellen Barry, 'Europe Cautiously Signals Its Displeasure Over a Prosecution in Ukraine,' *New York Times*, October 18, 2011.

[4] President Viktor Yanukovych, 'Ukraine's Future Is with the European Union. Our Unpredictable Relationship with Russia Has Long Blighted Our Energy Security,' *Wall Street Journal*, August 25, 2011.

[5] See Silke Mülherr, "Janukowitsch isoliert unser Land". Die ukrainische Oppositionspolitikerin Korolewska warnt trotz des skandalösen Timoschenko-Urteils vor einer neuen Eiszeit," *Die Welt*, October 19, 2011.

exports to Europe, Ukraine has always been a critical strategic factor for European and Eurasian security. When the Soviet Union collapsed, Ukraine inherited an economic planning and decision-making system that was previously controlled by Moscow. From the very beginning, Ukraine's energy sector has been plagued not just by an aging infrastructure, inefficiency and widespread corruption, but also by "a disconnect between stated policy priorities and real actions, political games with utility rates during election campaigns, a flawed rate policy, the lack of foreign investment, and energy sector statistics that do not reflect the real situation."[6] These are typical phenomenon of Ukraine's culture as a "momentocracy" where short-term policies and lack of long-term visions dominate the country's elites.

It was only in 2006 that a Ukrainian government approved an "Energy Strategy of Ukraine to 2030" that outlined a vision for its future energy policies. However, government policies often contradicted the strategy's objectives, lacked effective mechanisms for its implementation and any market-oriented competition strategy that would remove monopolies and enact transparent regulations in the energy sector. The 2006 energy strategy envisaged a reduction of per-unit GDP consumption, strengthening government oversight to protect the interests of energy consumers, institutionalizing organizational and legislative changes and reducing Ukraine's energy dependence by increasing the production of domestic oil and gas reserves, modernising energy infrastructures (coal-fired and nuclear plants) and reducing energy consumption (i.e. gas). But the strategy lacked a qualitative approach and failed even to bring quantitative results. Some of Ukraine's figures have even declined in comparison with 2006.[7] Instead of defining its long-term national interests and guaranteeing the country's energy security, Ukraine's energy policies and energy sector became increasingly hostage to internal power conflicts. As Ukrainian energy experts have criticized, "Without investment in Ukraine's energy system, which can only be gained by ensuring a free energy market, the Strategy remains little more than paper wishes."[8]

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6 I. Patronyk and I. Zhovkva, *Energy Security Challenges in Ukraine: A Snapshot-2010. Policy Paper* (Kyiv: International Centre for Policy Studies (ICPS), 2010), p. 7.

7 See also Oleksiy Petrov, *Diagnostic Report: Ukraine's Energy Security and Policy Implementation: Oil and Gas* (Kyiv: ESBS-Project, October 2010).

8 Patronyk and Zhovkva, op, cit., p. 18.

Even in 2010, Ukraine's energy consumption per unit of GDP was still 3.9 times that of the EU and 2.6 times more than the average GDP energy consumption in the world. Together with Russia, Ukraine is one of the most energy inefficient economies in the world.

The Russian-Ukrainian gas conflicts in 2006 and 2009 have highlighted their direct implications for the EU's energy security and the EU-Russia-Ukraine triangular relationship. During the 2009 gas conflict Russia's disruption of gas supplies not only affected Ukraine, but 17 other European customers. If a gas pipeline supply disruption is taking place, there is hardly any diversification option available in the short-term, whereas a tanker can be re-routed to another oil producing country and/or oil terminal. Hence, pipeline dependencies may have very different crisis management implications for the security of energy supplies.[9]

The first gas crisis in January 2006 led to the birth of the EU's common energy policy. Just one year later, the EU adopted the world's most ambitious and first "integrated energy and climate policy" that focused on the security of the EU's future energy supplies by increasing energy efficiency and conservation and by diversifying energy mix and imports; in particular, due to its forecasted rising demand for gas. Moreover, the EU's new June 2007 Central Asia policy and its Neighborhood Policy in Eastern Europe and Eurasia has been perceived in Russia as a challenge to its own geopolitical interests in the former Soviet Union and South Eastern Europe.[10]

While the EU was hoping that the Orange Revolution would promote and quicken the transition of Ukraine's political and economic system to a democracy and market economy, Moscow perceived the Orange Revolution as a threat to its economic, energy and foreign and security interests in Eurasia and the wider European theatre. When the pro-Russian candidate Yanukovych won the presidential elections in the spring of 2010, Moscow expected a much closer economic and foreign policy orientation by the new Russian-friendly

[9] See Frank Umbach, "Global Energy Security and the Implications for the EU," *Energy Policy*, Vol. 38, Issue 3 (March 2010), pp. 1229-1240.

[10] See also Frank Umbach, "Energy Security in Eurasia: Clashing Interests," in Adrian Dellecker and Thomas Gomart eds., *Russian Energy Security and Foreign Policy* (Abingdon and New York: Routledge, 2011), pp. 23-38.

Ukrainian government. While the "Kharkiv Accords" of April 21, 2010 extended the lease of the Sevastopol harbour in Crimea for the Russian Black Sea Fleet until 2042 in exchange for a 30% discount of Russian gas prices and seemed to underline the new political rapprochement in their bilateral relations,[11] it was also the starting point of mutual disappointments.

This chapter will analyze Ukraine's energy policies in the wider context of an "Open Ukraine" vision within the common and competing interests of Ukraine and Russia. I will describe Ukraine's present energy dilemmas and mid- and long-term challenges. In this regard, I will also review the "Kharkiv Accords" as an example of "virtual gas discounts" and explain the on-going crisis in Russian-Ukrainian gas relations. Thereupon I will analyze Ukraine's diversification options for its gas imports and future energy dependence on Russia. Against this background and on-going discussions of Ukraine's choosing between an EU Association Agreement and a Russian-led CIS Customs Union, I will also highlight their strategic implications for Ukraine as the EU's main transit country for Russian gas to Europe. Finally, I will analyze what this means for Ukraine's future reform policies and energy dependency on Russia.

Ukraine's Energy Dilemmas and Challenges

Although Ukraine has oil, gas and coal reserves, it is only able to cover 47-49% of its energy demands. Russia has continued to be the biggest supplier of energy to Ukraine covering 85-90% of oil and 75-80% of natural gas imports.[12] Around half of Ukraine's total energy consumption comes from natural gas. Although Ukraine has larger conventional and unconventional gas resources, without deeper and comprehensive reforms and foreign investments it will unable to increase its domestic production of gas. Similar problems can be found in the coal sector. While Ukraine has coal reserves for another

[11] See also Frank Umbach, "The Black Sea Region and the Great Energy Game in Eurasia," in Adam Balcer ed., *The Eastern Partnership in the Black Sea Region: Towards a New Synergy* (Warsaw: demosEUROPA (supported by the Polish Foreign Ministry), 2011), pp. 55-88.

[12] See also Patronyk and Zhovkva, op. cit., p. 21.

100 years, the productivity of coal extraction is very low and its production costs are high.

Without restructuring, modernization efforts and liberalized market reforms, Ukraine will be unable to cope with its energy supply challenges, including reducing its extremely high energy consumption.[13] For Ukraine's energy security, raising energy efficiency is one of the most important tasks and challenges and Kyiv needs to recognize that the cleanest, most reliable and cheapest energy is the energy it doesn't use. Energy efficiency is about delivering sustainable economic growth that minimises economic, environmental and social costs, and thereby, reduces import demands and dependency on foreign suppliers. In 2010-2011, Ukraine's investment in energy efficiency projects increased but still only amounts to US$51 million.[14]

A major pre-condition for enhancing energy efficiency and reforming the energy sector within a market economy is the political will to raise prices. Subsidised gas prices have delayed long-overdue reforms of the country's inefficient and wasteful energy infrastructure, they have fuelled high-price gas imports from Russia, compromising its national energy security and its overall economic competitiveness. Most Ukrainian energy producers have been unable to finance even their replacement investments because their revenues from domestic sales do not cover all of their costs. Most energy prices only cover operating costs but do not include the longer-term costs of security of energy supplies and higher energy imports. Ukraine has never developed specific energy taxes except the value added tax (VAT) of 20%.

The lack of strong market reforms is linked to widespread corruption and politically connected business groups who have taken control of controlling stakes in state-owned enterprises through non-transparent insider privatization deals and other opaque economic activities. These groups and their vested short-term interests are not interested in market reforms and transparent privatization. As a critical Ukrainian study concluded:

[13]See also Teyana Kistnyuk, "Energy Efficient Ukraine: Is There a Light at the End of the Tunnel?" *Ukrainian Energy*, August 31, 2011.

[14]See "Investment in Energy Saving Projects Reaches USD 51 mln in 2010-2011," *Ukrainian Energy*, September 12, 2011.

> The key players in energy security in Ukraine, those who form or influence the formation of energy policy, include the government, international partners, business, and consumers. None of these players defends the country's national interests, nor have any of them guaranteed its energy security.[15]

As a result, Ukraine will also face an increasing environmental challenge as the share of coal in energy consumption is planned to grow from 22% in its energy mix in 2005 to 33% in 2030, which may double Greenhouse Gas Emissions (GHGE), according to its 2006 Energy Strategy.[16] In this regard, independent energy experts and NGOs in Ukraine have expressed their concerns about the closed and non-transparent update of Ukraine's Energy Strategy until 2030 appealing for a public discussion of proposals and inclusion of independent experts.[17]

The mechanism for adopting appropriate legislation and signing international agreements in the energy sector is ineffective and another factor that has contributed to an inadequate investment climate and the absence of structural reforms in the energy sector. One reason for the failure to attract investments is Ukraine's power grid system. This is essential for both raising energy efficiency and conservation as well as modernizing Ukraine's energy sector, industry and households as well as diversifying its national energy mix by expanding renewable energy sources.

The only sector that has received substantial investments is the nuclear power industry which currently is operating 15 nuclear power blocks in the country. Ukraine is the seventh largest nuclear power producer in the world and the fourth largest in Europe. But, its electricity grid is also aging rapidly and at present, electricity is being exported to only Poland, Hungary, Romania and Slovakia. To increase its electricity exports from 11.35 billion (bn) kWh in 2010 to 25 bn

[15]Patronyk and Zhovkva, op.cit., p. 7.

[16]See Patronyk and I.Zhovkva, op. cit., p. 24.

[17]See "Appeal to the President of Ukraine Concerning the Update of the Energy Strategy of Ukraine," *Ukrainian Energy*, October 17, 2011. Available from http://ua-energy.org/en/post/12522.

kWh by 2030 and integrate its power grids with European UCTE standards will only be realistic through massive modernization and investments. In 2010 Ukraine signed agreements with Russia to build two nuclear reactors giving Russia a monopoly on the supply of fuel to Ukrainian reactors until they cease operation and plants producing nuclear fuel will be constructed on the basis of Russian technology. Taking this path, the Ukrainian government gave up the option of receiving alternative deliveries of American or other foreign fuels and technologies[18] and ignored its own energy strategy that calls for the diversification of deliveries of nuclear fuel, as well as technologies. This may result in Russia's complete domination of Ukraine's nuclear energy sector as the energy agreements will not only make Ukraine more dependent on Russia but also threaten its declared and urgent reform policies in the energy sector.

The 2010 "Kharkiv Accords:" Virtual Gas Discounts

On April 21, 2010, Russia and Ukraine signed the "Kharkiv Accords," which extended the lease of the Sevastopol harbor in Crimea for the Russian Black Sea Fleet from 2017 until 2042 in exchange for a 30% discount of Russian gas prices. Despite Yanukovych's claim that the Accords were a success, the new gas deal maintained higher gas prices than those paid by Belgium and Germany. Indeed in summer 2010, Russia had been forced to decrease and de-link at least 15% of its contracted gas supplies to the EU from the oil price as the result of oversupply on the global gas markets. Furthermore, the discount price for Ukraine was not fixed in contracts but granted in discretion of the Russian side. While Russian and Ukrainian leaders claimed the April 2010 gas agreement would give Ukraine's economy a US$40 billion injection until 2019, the actual gas discount and benefits were in reality only "virtual discounts" and "virtual benefits" based on wrong promises. They misled the West in general and the EU in particular, which had been concerned about the security of its own energy supplies.

[18]For background of potential nuclear fuel diversification options see also "Diversification of Nuclear Fuel Supply to Ukrainian NPPs" in Diversification Projects in Ukraine's Energy Sector: Progress, Problems, and Ways of Implementation, *National Security and Defence*, no. 6 (Kyiv, Razumkov Centre, 2009), pp. 38-50.

Following the Accords, Russian Prime Minister Vladimir Putin proposed the merger of state gas companies Gazprom and Naftogaz, which are inefficient and non-transparent monopolists. Putin's proposal was received in Kyiv not as a merger but as a takeover that shocked Yanukovych and the Nikolai Azarov government. While the Ukrainian President and government resisted the proposals for a merger in July 2010, they permitted the potential sale of assets from Naftohaz Ukrainy to foreign investors.[19] As U.S. expert Edward C. Chow had earlier predicted:

> What is almost certain is that it will be discovered in a year or two that Ukraine once again owes Russia billions of dollars in past gas debts. This perfectly fits the debt-for-equity dirty privatization model of Russia in the 1990s and of Ukraine even today. Ukrainian debt can then be converted into Russian assets.[20]

Yulia Tymoshenko's seven-year prison sentence, issued on October 11, 2011, was based on charges that she harmed Ukraine's national interests by agreeing to pay Russia an excessively high price for gas in the January 2009 contract. Nevertheless, her political trial was largely politically motivated and the charges against her overlooks the fact that Ukraine's negotiation position at the time was very weak because of its failure to liberalize its energy sector and decrease its gas import dependence on Russia. The "Kharkiv Accords" also reflected the increasing asymmetric nature of the bilateral power balance between Moscow and Kyiv.[21]

The January 2009 gas contract eliminated the opaque gas intermediary RosUkrEnergo (jointly owned by Gazprom and two Ukrainian oligarchs) which allegedly channeled funds to Russian elites as well as to Yanukovych's allies and associates of former President Yushchenko. The elimination of RosukrEnergo removed a large source of corruption.[22] Furthermore, Tymoshenko managed to change the gas contract

[19]See also Vladimir Socor, "Ukrainian Government Prepares Public Opinion for Possible Sales of Naftohaz Assets," *Eurasia Daily Monitor*, Vol. 8, Issue 132 (July 11, 2011).

[20]Edward C. Chow, "Neighborly Corporate Raid," *Kyiv Post*, May 7, 2010.

[21]See also Jonas Grätz and Kirsten Westphal, "Die Ukraine in der Energiegemeinschaft: Die Zukunft des Gastransits," *SWP-Aktuell 13* (Berlin), March 2011.

in January 2009 by decreasing the mandated purchase of gas from 53 bcm to 33 bcm per year.

Nevertheless, the Russian "guarantee" to sell on average 40 bcm of gas per year to Ukraine until 2019 is higher than Ukraine's imports in 2009 and 2010.[23] Kyiv is forced to import more (36.5 bcm in 2010 and 40 bcm in 2011) than its present domestic demand is which is around 33 bcm while not being allowed to re-export any of the imported gas. Furthermore, Kyiv learned from the June 2010 energy conflicts that even pro-Russia Belarus, once the Kremlin's staunchest ally, could face energy supply cuts. Besides the price conflict and Gazprom's understandable refusal to accept payment for debt in foodstuffs and other means of payment, the conflict was also an outcome of Russia's political pressure on Belarus to join the CIS Custom's Union and its unwillingness to sign until Moscow lifted custom duties on oil exported to Belarus.

It is understandable that the Yanukovych government wants to increase domestic gas production (which only meets 30% of its domestic demand) and diversify its gas imports (see below). It also explains why EU-Ukrainian energy cooperation in the fields of nuclear safety, integration of electricity and gas markets, security of energy supplies and transit of hydrocarbons and the coal sector has continued.[24]

In the EU, the April 2010 Russian-Ukrainian agreement to guarantee gas transit of 112 bcm of gas annually through Ukrainian territory over the next five years was perceived as an important step forward in reducing the likelihood of gas disputes between Moscow and Kyiv. The capacity of Ukraine's Gas Transport System (GTS) with its 39,800 km of pipelines, 112 compressor pants, 13 underground storage sites (with a total volume of 32 bcm) and 75 compressor stations is currently around 142 bcm per year, albeit its potential capacity could

[22]See also Derek Fraser, "What Was Really in Tymoshenko's 2009 Gas Agreement with Russia," *Kyiv Post*, October 12, 2011.

[23]See also E. C. Chow, "Even Azarov Now Admits Ukraine Got a Lousy Gas Deal," *Kyiv Post*, September 3, 2010.

[24]See European Commission, EU-Ukraine Energy Cooperation. Fifth Joint EU-Ukraine Report: Implementation of the EU-Ukraine Memorandum of Understanding on Energy Cooperation during 2010, Brussels, November 22, 2010.

be 175 bcm. If Ukraine's GTS, its "crown jewel," would be modernized with the EU's support, Ukraine could transport more than 230 bcm of gas every year to Europe. In July 2010, Ukraine launched the modernization and upgrading of the first section of the Urengoy-Pomary-Uzhgorod pipeline which carries gas from Western Siberia to the EU. The upgrading should be completed within three years and the costs of $539 million are financed by Naftohaz ($231 million) and the remainder by the European Bank for Reconstruction and Development (EBRD). According to Kyiv's estimates, the total cost to upgrade the Ukrainian gas pipelines transporting Russian gas to Europe will be around $6.5 billion (one-fourth of the South Stream pipeline costs) and seven years are required for this.[25]

The EU needs to also follow very closely any Russian efforts to buy and control Ukraine's gas pipeline network infrastructure. Although the Yanukovych government have blocked Russian efforts to take over Ukraine's gas pipeline network Ukraine's July 2010 adopted law on the gas sector does not prevent foreign monopolies, such as Russia's Gazprom, from operating in the Ukrainian market. The Azarov-government's proposal to separate the GTS and its underground storage sites from Naftohaz Ukrainy and transfer it's partial or full management or ownership to Gazprom could even be ideal for Russia, "who would then gain control over key assets without taking on any of Naftohaz's debts."[26]

The EU needs to take into account that Russia benefits from the uncompetitive and corrupt market in Ukraine. In this regard it is irritating not just for Ukraine, but for the EU's own future energy security, if EU officials such as Marlene Holzer, EU spokeswoman for Energy Commissioner Guenter Oettinger, declare that a takeover of Ukraine's transit gas system would be a purely bilateral matter between Russia and Ukraine.[27] That position not only contradicted EU policy towards Ukraine but also lacked a deeper understanding and any strategic thinking of EU energy security. If Russian efforts are

[25]See P. Korduban, "Ukraine Starts Upgrading Gas Pipelines, Hoping for EU Assistance," *Eurasia Daily Monitor*, Vol. 8, Issue 144 (July 27, 2011).

[26]Patronyk and Zhovkva, op. cit., p. 32.

[27]See P. Korduban, "Ukraine Wary of Putin's Proposal to Merge National Gas Companies," *Eurasia Daily Monitor*, Vol. 7, Issue, May 12, 2010.

successful, the EU's dependence on Russia will not only increase further but also deprive the EU of soft power tools in its neighborhood policy and thus have wider foreign policy implications beyond Ukraine.[28]

Yanukovych's New Gas Crisis with Russia

The renewed price conflicts of imports of gas from Russia is a reminder for the EU not just of the previous gas conflicts in 2006 and 2009 but that any energy conflicts between Russia and Ukraine may have severe consequences for the EU as Ukraine is the main transit country for Russian gas supplies to Europe. With 95.4 billion cubic meters (bcm) through Ukrainian pipelines in 2010, these transported 75-80% of EU gas imports from Russia. The latest price conflict raises even more fundamental questions for the EU's future gas policies and gas contracts of European gas companies with Russia.[29]

The reason behind the Ukrainian government's statement to launch a legal challenge over what it should pay for natural gas imports from Gazprom and receive a "fair price" (like other European gas partners of Russia) is linked to Gazprom's and the Kremlin's insistence on "unconditional adherence" of long-term contracts and their linkage to the price of oil and oil products.[30] Even before 2008 and the global financial-economic crisis, many energy and economic experts had questioned whether those long-term contracts and their linkage to oil prices are still justified.[31] While this price linkage could be historically explained, the previous advantage of a cheaper gas pipeline for Europe was in decline relative to Liquefied Natural Gas (LNG) due to technology innovations, a rapidly growing LNG market, more expensive new gas fields in Russia's north (Yamal Peninsula) or even

[28]See also Natalia Shapovalova, "The Battle for Ukraine's Energy Allegiance," *Policy Brief, FRIEDE*, No. 55, September 2010.

[29]See also Frank Umbach, "Energy: What Russia's Long-term Gas Contracts Mean for the EU and Ukraine," *Special Report, Geopolitical Information Service* (GIS - www.geopolitical-info.com), October 6, 2011.

[30]See also Roman Olearchyk and Neil Buckley, "Ukraine Poised to Mount Gazprom Challenge," *Financial Times*, August 31, 2011.

[31]See, for instance, Josef Auer, "Gas and Oil Prices End Long-Standing Relationship," *Talking Point-Deutsche Bank Research*, Frankfurt/Main, February 23, 2011.

Barents Sea (Shtokman-project) and more costly undersea pipelines (like North Stream, Blue Stream or the planned South Stream gas pipelines). Russia has no interest to drop long-term contracts in its business strategy, Ukraine has demanded a return to annual gas contracts instead of the 10-year contract concluded in January 2009. In September 2011, the Russian Foreign Ministry argued strongly against Polish Foreign Minister Radoslaw Sikorski's idea for an independent external audit of Russian-Ukrainian gas contracts.[32]

Moreover, those states which are heavily dependent on gas imports from Russia (like the former Warsaw Pact members and successor states of the USSR) are also more interested in diversification of their gas imports and thereby a reduction of imported Russian gas. Therefore, the share of LNG for the EU is expected to increase from 10% in 2009 to more than 24% by 2020.

While the Ukrainian government wants to change the "enslaving gas contract" and reduce its Russian gas imports from 40 bcm in 2011 to 27 bcm in 2012 and even 12 bcm in 2014, Russia has insisted it pay for at least 33 bcm even if Kyiv would reduce its gas imports to zero cubic meters from Russia. Instead of Russia's gas exports to Ukraine, Kyiv wants instead to buy 25-30 bcm of gas from Central Asia at $220 per 1,000 cubic meters compared with $350 from Gazprom in the third quarter and more than $400 in the fourth quarter of 2011. Both Russia's President Medvedev and Prime Minister Putin have repeatedly made clear, any review of Russia's gas contract with Ukraine could only be solved either firstly, by the merger of Naftohaz Ukrainy and Gazprom accompanied by the transfer of ownership of the Ukrainian GTS to Russia's gas monopoly Gazprom or secondly, by Ukraine joining the Russian led CIS Customs Union with Belarus and Kazakhstan.[33] President Yanukovych turned down these two offers, as had other Ukrainian governments,[34] and dismissed the pressure as "humiliating": "We will not allow to talk to us in such a way ... (They)

[32]"Russia Deems Unlawful EU's Presumable Audit of 2009 Gas Contracts," Ukrainian News Agency, September 8, 2011.

[33]See R. Olearchyk and N. Buckley, "Ukraine Poised to Mount Gazprom Challenge," *Financial Times*, August 31, 2011.

[34]See "Yanukovych Says Ukraine Not Considering Merger between Naftogaz and Gazprom," *Ukrinform*, September 5, 2011 and Robert Coalson, "Putin Visit to Test Ukraine's Resolve on EU Trade Talks," *Radio Free Europe/RadioLiberty*, April 12, 2011.

pushed us in the corner, at first, and then started to dictate terms. Today it humiliates not only me, but it humiliates the state, and I cannot allow it".[35] This harsh statement reflects the difficult dilemma Yanukovych faces, namely that if Russia does not reduce its gas price to Ukraine, the Ukrainian government will have to raise its domestic gas prices, which Yanukovych and the Azarov government seek to avoid in the run up to the October 2012 parliamentary elections, when the popularity of the Party of Regions is declining.[36]

Russia has always demanded that price conflicts be solved by Belarus and Ukraine selling their gas and oil pipelines and other strategic energy infrastructures to Russia. While Belarus was ultimately forced to take this step, the Ukrainian parliament adopted a national law in February 2007 that prevents the selling, leasing or renting of energy infrastructures to foreign countries and companies. The law was adopted by 430 out of 450 deputies, including the Party of Regions. In voting for the law the Ukrainian Parliament recognized that if Russia controlled the Ukrainian gas and oil pipeline network, its entire economy and foreign policy would be controlled by Moscow. However, the 2007 law was undermined in July 2010 by new legislations permitting a restructuring of Naftohaz Ukrainy by separating the GTS and underground gas storage sites for sale to foreign investors, including Gazprom.

In Russia's view, a merger between Gazprom and Naftohaz Ukrainy could only mean absorption and takeover, with Moscow controlling at least 51% of its common shares, rather than a joint venture with equal shares for both sides. Energy and Coal Industry Minister Yuriy Boyko invited the EU to jointly modernize the Ukrainian GTS, but Gazprom's involvement through granting Moscow a majority control of shares of a bi- or tripartite consortium depends on the future state of EU-Ukrainian relations. Following EU and U.S. condemnation of Tymoshenko's imprisonment, it remains unclear if the EU will sign the Association Agreement (which includes the Deep and Comprehensive Free Trade Agreement) with the EU and live up to its obligations as a full member

[35]Quoted from P.Korduban, "Ukraine to Seek Better Gas Deal Without Gazprom Merger," *Ukrainska Pravda*, September 5, 2011.

[36]See P. Korduban, "Ukraine-Russia Talks Deadlocked," *Eurasia Daily Monitor*, Vol. 8, Issue 165 (September 9, 2011).

of the European Energy Community (EEC)[37] Kyiv's membership of the EEC since February 1, 2011 extends the EU's internal energy market to Ukraine, including the anti-corruption norms of European law and the separation of energy production from distribution. Based on this, Gazprom cannot manage the Ukrainian GTS. The EU has also included Ukraine in a new "gas ring" of the European pipeline network uniting the fragmented energy markets of southeastern Europe belonging to the EU's "Southern Corridor" project.

It remains to be seen whether Ukraine is ready to join the third energy package of the EU in 2012, as Vasyl Filipchuk, the director of the EU Department in the Ukrainian Foreign Ministry, has claimed, as this appears ever more uncertain followng the EU's protest against Tymoshenko's imprisonment.[38] EEC members are obliged to implement the EU's third energy liberalization package in their gas and electricity markets by January 2015, the implications of which are far-reaching, often underestimated and never fully understood by members of the EEC. They not only have to revise their legislation and adopt secondary legislation but also promote fundamental changes in market structures by introducing market rules.

The 2006 and 2009 Russian-Ukrainian gas conflicts, which were the most severe energy crises since the oil crisis of 1973, were never just price conflicts, as claimed by some Western economic experts and observers. In these two conflicts, as in the Russian-Belarusian cases, Russia always used unresolved price conflicts for its geopolitical ambitions.[39] Ukrainian energy experts believe: "The 'gas factor' is used by Russia for the solution of other problems of bilateral relations and has become a 'classic means' of political pressure on Ukraine."[40]

Since the dissolution of the Soviet Union, Moscow has often used different gas prices, dependent on whether it perceives a particular

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[37]See also the website of the Energy Community, http://www.energy-community.org/portal/page/portal/ENC_HOME.

[38]See "Gazprom Cannot be Attracted to Management of Ukrainian GTS—Expert," *Ukrainian Energy*, September 20, 2011.

[39]See also John Lough, "Russia's Energy Diplomacy," *Briefing Paper*, Chatham House, London, May 2011.

[40]"Diversification of Sources of Natural Gas Supply in Eurasia" in *Diversification Projects in Ukraine's Energy Sector: Progress, Problems, and Ways of Implementation*, pp. 10-25.

country as friend or opponent of Russia's interest, to keep adjacent former republics within its sphere of influence. Moscow has therefore punished Ukraine, Georgia and the three Baltic states for their pro-NATO and Western-oriented foreign, security and energy policies. This has in turn led to concerns not just in the countries directly affected but also within the remainder of the EU with its evolving common security and foreign policies.

Following the 2004 Orange Revolution, Ukraine was punished with higher gas prices, whereas Yanukovych benefited from 30% price discounts (around \$100 for 1,000 cm) through the "Kharkiv Accords." However, in 2010 these discounted gas prices were higher than what German companies had to pay for LNG at "spot prices" and even for Russian pipeline gas, if one excludes the longer transportation costs. Similarly, the Baltic states are paying higher prices for Russian gas than other European countries and companies in Germany, if one excludes the much longer transportation costs to Germany. In 2011, Russia's gas prices for Ukraine increased to \$295 for 1,000 bcm in the second quarter and \$355 in the third quarter. If Ukraine followed the price formula established for Germany, its price would be reduced by much shorter transportation costs and the \$100 discount per 1,000 cubic meters in the "Kharkiv Accords." Based on this calculation, Ukraine would be paying less than Germany but in fact Ukraine is paying \$5-6 billion per year arising from the terms of 2009 gas contract with Russia and \$60 billion during the next decade.[41]

The "Kharkiv Accords" weakened Ukraine's negotiating position even further. Given the dependence of Ukraine's heavy industries on cheap gas prices, Russia still sees an opportunity to achieve its ultimate goal in its foreign policy, acquisition and control of the Ukrainian pipeline network and other strategic energy infrastructures. The launch of the North Stream pipeline in the midst of the new Russian-Ukrainian price conflict deprives Ukraine of lucrative transit fees in the future by bypassing and isolating Ukraine, Poland and the Baltic states, strengthening the position of Russia in gas price negotiations with Ukraine. Prime Minister Putin declared that 25% of Russia's gas exports to Europe is more stable and hailed "freedom from the dictate of transit states,"[42] the asymmetry of the power balance in Russia's

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[41]See "Ukraine Seeks "German Price" for Gas from Russia—Ukrainian President," *Worldwide News Ukraine*, September 7, 2011.

favour in future gas negotiations is growing. Ukrainian state energy suppliers may suffer a reduction in sales of about 20% from 2012 as Kyiv fees from gas transit decline.[43]

By pressuring Ukraine with the South Stream pipeline, which would take its gas primarily from the existing Ukrainian gas pipelines to Europe, Russia has signaled that it has no interest in the modernization of Ukraine's aging pipeline infrastructure in a tripartite consortium with the EU. Such an idea was rejected by Prime Minister Putin in summer 2010. Prime Minister Mykola Azarov has reassured the EU and Russia of the fulfillment of the 2009 gas agreement until both sides find a new agreement[44] but the overall intention of the Ukrainian government remains to reduce its energy dependency on Russia. From Moscow's point of view, Ukraine has remained the most unpredictable partner in the former Soviet Union. Thus, another Russian-Ukrainian energy conflict growing out of mutual competing interests and Moscow's geopolitical ambitions may already loom in the near future when Russia's attempts to take control of the Ukrainian GTS would fail.

Ukraine's Diversification Options for its Energy Mix and Natural Gas Imports

Independent Ukrainian energy experts have long criticized official energy policies and the ruling elites for ignoring and overlooking fundamental changes in global energy and gas markets. This concerns the potential for energy efficiency gains and positive results for overall energy security from the expansion of renewables and LNG.[45] President Yanukovych and the Azarov government are investigating alternative options to decrease Ukraine's energy and gas dependency on

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[42] Quoted following "Nord Stream to Make Supply Disruptions a Thing of the Past," *RT*, September 6, 2011 (http://rt.com) and "Nord Stream: Kyiv Loses Gas Noose, ibid.

[43] See "Nord Stream to Sap Revenue at Ukraine Gas Companies—Fitch," *Bloomberg*, September 9, 2011.

[44] See "Ukraine Will Fulfil 'Gas Agreement Until New Deal Struck with Russia'," *Interfax*, September 5, 2011.

[45] See "Diversification Projects," op. cit.

Russia because the president "wants to remain the independent leader of a sovereign nation, not the governor of a Russian province."[46]

Ukraine's energy cooperation with the EU could become more important for Kyiv by expanding its renewable energy resources (RES) in order to reduce dependency on Russian gas and oil by diversifying its energy mix as well as its fossil-fuel imports. Ukraine has excellent wind resources on its Black Sea coast (in particular in the Crimea and the eastern shores of the Black Sea which is sparsely populated and ideal for large wind farm installations) and possess a declared large potential of unconventional (shale) gas deposits. According to Ukrainian energy experts, the country has a potential wind power of 33 million (m) gigawatt (GW) or 6,000 times more than the total electricity generated by the country's present power system.[47] But by the end of 2010, Ukraine had only 87 megawatt (MW) of installed capacity which is only a small fraction compared with Romania's 482 MW, Germany's 27,124 MW or the U.S., which has 40,180 MW. The expansion of RES is not only hampered by insufficient investment funds but also by a lack of stable legislative framework, unnerving the market and foreign investors in capital-intensive industries; in recent years, regulations in Ukraine's energy sector have changed on an annual basis.

In order to reduce Ukraine's gas dependency on Russia, the Ukrainian government plans to introduce more energy saving programs and replace its gas consumption with domestically produced coal. Moreover, Ukraine seeks to develop offshore gas fields in the Black Sea (portions of its shelf hold about 380 cubic feet), import natural gas from Azerbaijan via Georgia as LNG (2-5 bcm) and Turkmenistan and build an LNG terminal by 2014 (with a capacity of 5 bcm) on its Black Sea coast.[48]

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[46]Olga Shumylo-Tapiola, "Ukraine and Russia: Ever Closer Neighbors?" *Policy Outlook* (Washington DC: Carnegie Endowment for International Peace, June 8, 2011) p. 2.

[47]See I.Patronyk and I.Zhovkva, Energy Challenges in Ukraine, p. 28.

[48]The Ukrainian LNG-Project to import gas from Azerbaijan is similar to the Azerbaijan-Georgia-Romania Interconnector (AGRI) project, transporting gas from Azerbaijan through Georgia and the Black Sea to Romania. See also Vladimir Socor, "Ukraine and Azerbaijan Mao Out LNG Project via Georgia and Black Sea," *Eurasia Daily Monitor*, Vol. 8, Issue 179 (September 29, 2011).

The Ukrainian government plans to expand domestic gas production to 21.7 bcm in 2012 which might further increase by exploiting its potential unconventional gas resources. In November 2010, the Ukrainian Ministry of Environment and Natural Resources and the National Joint Stock Company (NAK) "Nadra of Ukraine" declared Ukraine had the largest, shale gas deposits in Eurasia and Europe. If these reserves can be confirmed and drilled they could drastically change the Ukraine's dependence on Russian gas. A U.S. study of the impact of shale gas in Europe, for instance, has predicted that the Russian share of European gas consumption (outside the former Soviet Union) could decrease from 26% in 2007 to about 13% in 2040.[49]

The Ukrainian government believes the potential volume of shale gas by mid-2012 is between 10-30 trillion cubic meters (or twice as large as those of its natural gas resources) and has invited foreign investors to develop its shale gas deposits.[50] In February 2011, at the Strategic Partnership Commission of the U.S.-Ukraine Energy Security Working Group, both sides signed a 'Memorandum of Understanding' to establish a framework for technical cooperation that would assess the potential of unconventional gas resources in Ukraine. This agreement brings in the U.S. Geological Survey (USGS) which is currently undertaking a global unconventional gas resource assessment.[51] Lacking technologies, drilling and management experience to exploit its unconventional gas resources, Ukraine's parliament has already passed more investor-friendly legislation to open its domestic natural gas market to foreign shale gas and coal-bed producers. Meanwhile, Exxon Mobile, Chevron, Total, Eurogas (a U.S. company), TNK-BP and Royal Dutch Shell have announced they will conduct exploratory tests and feasibility assessments.

If anticipated shale gas resources can be explored at reasonable prices, they would offer the most important diversification options to

[49]See Kenneth B. Medlock III, Amy Myers Jaffe, Peter R. Hartley, "Shale Gas and U.S. National Security" (James A. Baker III Institute for Public Policy, Rice University, 2011), p. 45.

[50]"Ukraine Claims to Possess World's Biggest Shale Gas Deposits," *PR Newswire*, November 29, 2010.

[51]"U.S.-Ukraine Unconventional Gas Resource MOU Signed," Embassy of the United States, Kyiv, Ukraine, February 15, 2011.

reduce Ukraine's gas dependency on Russia and Gazprom. If the "silent revolution" of new drilling technologies for unconventional gas resources will take place also outside the U.S. it would have fundamental implications for the world's future gas supplies and business strategies. According to the IEA, unconventional gas could cover more than 40% of the global increase of gas demand up to 2035 and would be the major reason for a "Golden Age" of conventional and unconventional gas.[52]

The advantage of unconventional gas is that it is a domestic, national source of fuel supply enhancing the energy security of each country that is not subsidized like renewables, nuclear power and coal. For both the EU and Ukraine, it could become the most important diversification option for their future gas supplies and would increase the security of their energy supplies.[53] Unconventional gas also gives buyers more leverage to renegotiate the high Russian oil-indexed gas price demands that are included in long-term contracts that are an obstacle for a European and Ukrainian expansion of unconventional gas, given Russia's strategic interests and the leverage it has towards its gas partners.

The Russian government and Gazprom try to downplay the importance of shale gas in Europe and Ukraine and point to very negative implications of unconventional gas production for the environment.[54] If Ukrainian and European gas policies remain hostage to long-term contracts, "take-and-pay"-clauses and the oil price linkage (even when international gas markets have been de-linked from oil price markets), new and sustainable integrated energy and climate policies cannot be implemented as their energy mix and gas volumes will remain fixed

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[52]See International Energy Agency (IEA), "Are We Entering a Golden Age of Gas," *Special Report. World Energy Outlook 2011*, 2011.

[53]See also Maximilian Kuhn and F. Umbach, "Strategic Perspectives of Unconventional Gas in Europe: A Game Changer with Implications for the EU's Common Energy Security Policies," *EUCERS-Strategy Papers*, King's College, Vol. 1, No. 1 (May 2011).

[54]"Alexander Medvedev Answers Your Questions—Part One," *Financial Times*, February 18, 2011; "Gazprom Chief Steps Up Attacks on Shale Gas', ibid., February 18, 2011, "Gazprom Chief Calls Shale Gas a 'Bubble'," *Financial Times*, February 18, 2011, and Andrey Konoplyanik, "The Economic Implications for Europe of the Shale Gas ReVolution," *Europe's World*, January 13, 2011.

over the next 25 years or longer. For Ukraine, those long-term contracts and "take-and-pay"-clauses have a considerable short-term impact and implications which the EU should not overlook and ignore. These diversification projects may come too late or cannot be implemented because of their high costs (i.e. LNG options). Moscow may have already succeeded in acquiring a majority control of the Ukrainian GTS in a tripartite consortium with a German company (dependent on Gazprom), leaving Ukraine with only just 20% of the shares.[55] If this would turn out to be the case, Ukraine's sovereignty and independence would come under threat and undermine future democratic and market reforms. In addition to this, such a development would have considerable geo-economic and geopolitical implications for the EU's energy security and foreign policy.

Conclusions and Perspectives for an "Open Ukraine" in Energy Policies

As Ukraine's domestic policies and non-democratic tendencies indicate, Kyiv's future relationship with the EU will remain difficult and uncertain. Tymoshenko's imprisonment highlighted "selective justice," subservience of the judicial system to the executive power and the return of political persecution to Ukraine. For a large part of the Ukrainian population and the West, Yanukovych government and the emerging Ukrainian regime have nothing to do with Western standards of democracy, freedom of speech, independent courts, rule of law, transparent political processes and fair elections. Influential Ukrainian oligarchs have no interest in transparency of their business activities and market reforms. Ukraine's intentions to integrate with the EU is not based on shared democratic values but arises out of not becoming too dependent on Russia, albeit Russia will remain the country's main trading partner in the near future.

An "Open Ukraine" as an increasingly integrated associated partner country of the EU needs to implement structural market reforms in order to enhance transparency as a pre-condition of economic competitiveness and energy security. If energy and gas prices remain low they

[55] See P. Korduban, "Ukraine and Russia Prepare New Gas Agreement," *Eurasia Daily Monitor*, Vol. 8, Issue 178 (September 28, 2011).

will further hamper any larger and substantial energy reforms aiming to increase energy efficiency and conservation. By utilizing Soviet-era legislation against his political opponents, President Yanukovych has brought his country into a collision course with the EU.

Even with a pro-Russian president of Ukraine, Kyiv's energy, economic orientation and foreign policies have been disappointing for Russia given its great hopes that Ukraine would return within its sphere of influence. Russia is only interested in joining a bi- or tripartite consortium of the Ukrainian GTS if it were to gain a dominant role through control of the majority of shares. Russia is not interested in a consortium with equal shares for participants. Yanukovych believes he already made many concessions with Russia on recognition of the 1933 famine) as a "genocide," NATO membership and the Russian Black Sea Fleet base. But, these steps appear only to have increased Moscow's appetite in Ukraine. Progress in Russian-Ukrainian relations would seem to be impossible without accepting Russia's economic domination through membership in the CIS Customs Union or by Russia taking control of the Ukrainian GTS. From Yanukovych's point of view, despite his concessions and pro-Russian attitudes he has received almost nothing in return and Russia still does not accept and respect Ukrainian sovereignty and independence.[56]

Ukraine's official accession in February 2011 to full membership of the EU-sponsored Energy Community treaty was an important step towards growing energy cooperation with the EU. But given Yanukovych's domestic power base and his close ties to Ukrainian oligarchs and their vested interests in a non-transparent business environment, deep-rooted structural market reforms are unlikely to materialize. Ukraine's commitments under its European Energy Community membership to liberalize its energy markets and implement key EU legal acts seems unlikely therefore in the near future. These include fundamental reforms in its energy sectors towards a "pan-European market, based on the principles of solidarity and transparency."[57]

[56]See also T. Kuzio, "Poor Ukrainian-Russian Ties Reflect Yanukovych-Putin Relationship," *Eurasia Daily Monitor*, Vol. 8, Issue 180 (September 30, 2011).

[57]See Umbach, "The Black Sea Region...," op. cit., pp. 75.

Although Yanukovych has followed a "multi-vector foreign policy" by playing a balancing act between Russia and the EU, his multi-vectorism is far more limited than Kuchma's. He can no longer use the NATO card and has given away the jewel in the crown (Sevastopol) for a "virtual" gas discount. But this multi-vector foreign and energy policy has now come to an end as the Ukrainian authorities need to choose between a re-orientation towards Russia and entering the Russian-led CIS Customs Union. If Kyiv chooses the latter option the path will block domestic market reforms and Association Agreement with the EU which offers a path towards closer integration with the EU and stabilizing the country's long-term energy security. Simultaneous membership of the CIS Customs Union and EU Association Agreement is impossible. Only the Association Agreement would ensure future competitiveness, transparency and accountability in Ukraine's energy market, offer greater investment in infrastructure and new technologies and thereby decrease the country's dependency on gas imports from Russia. Two U.S. experts concluded that "Partnership with the EU is not a silver bullet for the troubled Ukrainian energy sector, but it is certain to reduce the volatility of future pricing disputes and is perhaps the only solution that does not leave Ukraine's fate entirely in Russian hands."[58]

While the EU and European Parliament have expressed their concern about the direction of the president's and government's anti-democratic tendencies and deterioration of human rights in Ukraine the country is too important for the EU's future energy security to be isolated. But the stakes are also high for Ukraine as the EU is Ukraine's main commercial partner accounting for a third of its total external trade. While Ukraine no longer seeks NATO membership, Kyiv's aspiration for EU membership remains a declared goal, although rhetoric means very little if it is not backed up by policies. Domestic policies under four Ukrainian presidents have never been consistent with their declared goals in the energy field.

Given its present weak economic and political position vis-a-vis Russia, Ukraine needs to be offered in the future new economic and

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[58]Richard B. Andres and Michael Kofman, "European Energy Security: Reducing Volatility of Ukraine-Russia Natural Gas Pricing Disputes," *Strategic Forum* (INSS), February 2011, p. 14.

political incentives from the EU and the U.S. to avoid a further deterioration of the European-Ukrainian relationship. Traditionally, energy security has been one of the weakest links in Ukraine's national security strategy. In the words of Prime Minister Azarov:

> The dire state of the Ukrainian economy should provide the EU with the necessary impetus to act. Time is a factor as Ukraine's negotiating position continues to weaken. Ukraine cannot be viewed as a business opportunity alone, rather as a long-term partner imperative to ensure European energy security. Without greater EU investment, Gazprom will likely force Ukrainian cession of ownership rights over its pipeline network in future negotiations over gas prices and modernization.[59]

However, despite the EU's wider geo-economic and geopolitical interests for a close relationship with Ukraine, particularly with regard to energy cooperation, the signing of an Association Agreement cannot be completely decoupled from European values and democratic principles. This is something the Ukrainian authorities still have to learn and to recognize.

[59]Quoted following James George Jatras, "Ukraine's Energy Policy: Strategic Path or Tactical Squirming?" *Global Security News*, April 28, 2011.