Energy Crisis in the Central and Eastern Europe – Prospects for Overcoming the Impasse. The Geopolitics of Oil and Gas

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Abstract

The paper aims to examine the political and economic aspects of the energy sector of Central Eastern European countries. Analysing their dependence on Russia, the study discusses the proposed Eastern Partnership and its potential significance for the energy security of the CEE European Union members and for the EP countries. The comparison of energy data of each country in the region and an analysis of advantages of EP-EU co-operation is treated as a possible way of overcoming the impasse. The paper also takes into consideration a broad range of EU-Russia co-operation in the area of energy.

In recent years it has become evident that energy security is an essential factor for the political and economical stability of countries. Post-Soviet Russia has focused on building its power on natural resources. The dominant country of the region and a former main global player still uses its position in offensive tactics in its relations with the neighbours. Such intentions of the diminishing Russian power became painfully apparent with the cut of the gas supply to Europe through Ukraine. This move was repeated, thus giving a clear signal to the rest of the purchasers of Russian gas: it is not ordinary trade, it is a political game aiming to rebuild the economic ties. CEE countries have been warning of such a risk, and as a result the European Union has started to unify its energy policy and has taken a path towards energy security. They have also adopted several measures whose main focus has been on developing renewable energy while, on the other hand, trying to prevent Russia from pursuing a joint EU-Russia North Stream pipeline project.

The EU members have been split on the project. The CEE and post-Soviet countries fear the new Russian imperialism and point to the cases of Ukraine and Georgia as examples. Although the EU has supported both states, its response was not aggressive and has shown respect for Russia's interests. A more assertive dimension of the EU policy has led to the announcement of a new Eastern EU policy including

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a project of the Eastern Partnership (EP) dedicated directly to Ukraine, Belarus, Moldova, Georgia, Azerbaijan and Armenia.

The energy crisis under discussion is understood as a period of major disruption severely affecting the situation in the energy sector of the countries considered. So far, the most serious global energy crisis was the one of 1973-1974, referred to as 'oil shock' or just 'energy crisis'. In the first decade of the 21st century, Central and Eastern Europe experienced a similar shock resulting from the Russian policy towards the former Soviet republics of Belarus and Ukraine. Political pressure combined with gas price blackmail and ensuing cut of supply to the two countries have resulted in a change of Russia's image as a business partner. Among those affected are not only Belarus and Ukraine but also those European Union members that are supplied by a Russian company Gazprom.

Fig. 1: Current natural gas export routes to Europe
Source: US Energy ... 2008

The characteristics of natural gas make it a much more environmentally friendly source of energy than coal or petrol, owing to the lower social costs of CO2 emissions. (Heal 2009, Climate economics). What makes it different from other fossil fuels is its transport. While coal and petrol can easily be transported using a variety of modes, thus enabling diversification of suppliers, the physical properties of gas make pipelines economically the most sensible option. They are, however, expensive to construct and the process requires political stability. A pipeline involves a lasting business partnership between the seller and the purchaser until either party is able to find alternative sources of supply or demand. Additionally, storing natural gas is expensive. All these factors determine an important role of long-term contracts, making gas markets highly inflexible and political. As a result, they are characterised by 'state-to-state' negotiations and they lead to political dependence of buyers.

Russian pipeline system was created in the Soviet times from the 1960s onwards. Following the 'oil shock' of 1973, it became increasingly important as an alternative to the Middle East energy supplies and the growing need to diversify energy supply to Europe. In the times of central planning, the control of export pipelines was handed over to the Gazprom company, which situation continues until today. As a result, it is not only gas and petrol from Russia itself, but also most of gas from Central Asia and the Caucasus that pass through the Russian pipeline network, consequently making Gazprom hold a near monopoly on gas supply to Europe.

As a country rich in natural resources, Russia has a potentially very strong position as a strategic gas supplier to Europe. However, the gas transport system has its limitations as well. Russia cannot freely choose buyers without considerable investments in ether constructing new pipelines or liquefaction and LNG transport facilities. Consequently, transit countries with Soviet-built pipelines on their territories are in a privileged position. At present, about 75% of Russian gas export passes through Ukraine and the remaining approximately 25% through Belarus.

Lithuania	$ 280.00
Latvia	$ 280.00
Estonia	$ 280.00
Georgia	$ 230.00
Moldova	$ 191.25
Ukraine	$ 179.50
Belarus	$ 119.00
Armenia	$ 110.00
European Union	$ 370.00

Tab. 1: *Russian Gas Sales Prices (2008) in $/thousand cubic meters*
Source: International Energy ... 2008

Preferential rates for the former Soviet republics can be attributed to a number of economic and political factors. In its price negotiations, Gazprom does not act as a standard business venture aiming to make a maximum profit, but pursues political objectives of the state. The geographical location of such transit countries as Ukraine, Belarus and Moldova (about 11% of Russian gas export to Europe) has certainly been an asset instrumental in obtaining a discount, but the final price is decided on the basis of the state of their political relations with Russia. Belarus and Armenia are cases of favouritism towards pro-Russian, strategically important partners, yet despite these sentiments a price rise increasingly becomes an element of Russian political pressure. Prices for Ukraine have increased more since the Orange Revolution (2004), which is to be interpreted as retaliation for the country's pro-western policy. The state of mutual relations during Yushchenko and Tymoshenko's term in the office was referred to as a 'gas war'. Russia forced Ukrainian authorities to accept a series of price rises which would eventually bring their level to that paid by West European countries by 2010 ($305 per 1,000 cubic metres). The change on the Ukrainian political scene and the victory of a pro-Russian presidential candidate Viktor Yanukovych was promptly reflected in a gas price discount. The April 2010 lease agreement allowing Russia's Black Sea Fleet to be stationed in Ukraine for another 25 years brought a discount of 30%, with the maximum discount limit set at $100 (EUROACTIVE 2010, "Russia and Ukraine"). The price agreed for 2010 is $236 per 1,000 cubic metres. Considering the level of Ukrainian gas import, the savings are quite substantial and will have a great influence on the economic condition of the country, as well as on the political ratings of the pro-Russian president Yanukovych.

Rank	Country	2006 Export (bcf/y)	2007 Export (bcf/y)	2006% of Domestic NG Consumption
1	Slovakia	240	223	100%
2	Belarus	724	763	98%
3	Armenia	57	71	99%
4	Georgia	49	36	99%
5	Lithuania	99	122	96%
6	Czech Republic	261	247	79%
7	Latvia	49	72	74%
8	Ukraine	2085	2240	66%
9	Poland	272	247	47%
10	Estonia	25	49	11%

Tab. 2: *Eastern-European Countries Recipients of Russian Natural Gas Exports, 2006–2007*
Sources: Compiled by the author from EIA, 2008

In 2005, Gazprom was receiving about 65 percent of its revenues from Europe, and directly generated 8 percent of Russian GDP. Over 40 percent of the Russian budget, most of the Russian Stabilization Fund, and almost 25 percent of Russian GDP depend, directly or indirectly, on the export of energy (Ericson 2009). At the same time, 25% of Europe's gas supplies come from Russia. These factors strengthen the geopolitical position of transit countries. The Russian policy towards the region is marked by a political and economic rivalry. Relying on export revenues, Russia is intent on controlling pipelines, reducing transit charges and raising prices paid by each country. The current situation promotes mutual dependence between Russia, which needs export revenues, and the transit countries and importers, whose economies rely on supplies of Russian gas.

Gazprom's business activity is supported by the state. The company's strategy in its negotiations with Belarus and Ukraine exceeds business standards as it is supported by the policy of the Russian administration. A tactic of blackmail was employed on a number of occasions, typically at the beginning of the year when the demand for energy is the highest: Ukrainian and Moldovan gas cut-off (January 2006, 2009), Belarusian oil cut-off (January 2007). Such moves affected not only the countries concerned, but also the European Union importers. Although Russian propaganda put the blame on the transit countries, it is Russia that lost its image of a reliable strategic energy supplier. Andrei Bely observes that "the politicization of the energy security issue began after the events of January 2006, when a Russian-Ukrainian gas price conflict interrupted gas transit to Europe for some time" (Bely 2009). As a result, countries that had been heavily dependent on Russian import were made to reconsider the principles of their energy security policies. The position of the EU member states and Eastern European transit countries (Belarus, Moldova, Ukraine) is considerably different, as the former have initiated work on common energy security policy. While the process aims at reaching a general consensus on the issue, there is a strong possibility that national interests of individual member states will also be guaranteed.

Braghiroli and Carta (Braghiroli and Carta 2010) have categorised EU countries according to their level of loyalty towards Russia:

- The **"Eastern divorced"** countries of the former Soviet bloc, which nowadays are for the most part hostile to Moscow (Estonia, Lithuania, Poland, Latvia, the Czech Republic and Slovakia);
- The **"vigilant critics"** (Romania, Slovenia, Sweden, Bulgaria, Hungary and the United Kingdom);
- The **"acquiescent partners"** (Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, the Netherlands, Portugal and Spain);
- The **"loyal wives"**, which maintain good relations with Russia (Italy, Austria and Greece).

The "Eastern divorced" countries, each acting on their own, would be a sitting duck for the machinations of powerful Gazprom. Therefore they are intent on introducing common European energy security strategy based on the principle of solidarity of its member states, which improves their position in negotiations with the Russian partner and opens up a number of alternatives regarding energy security. As Ericson observes: "The Eastern European transit countries have apparently the fewest alternatives; they do not have the resources to develop alternative suppliers or users, and only Ukraine has a location amenable to alternative sources of supply." (Ericson 2009: 43) At the same time, transit countries have become aware of the importance of energy policy. For example, Mikhail Khurus , writing about "Key Trends of Energy Policy of the Republic of Belarus until 2020", stresses that "the main objective is to ensure energy security of Belarus as a basis for the security and autonomy of the state" (Khurus 2009).

It is in the Russian interest to maintain its position of a strategic or, wherever possible, monopoly supplier. Consequently, Russian policy aims to:

- maintain the role of 'state-to-state' negotiating strategy
- reduce the role of Eastern European transit countries
- block alternative pipeline projects
- take over control of the energy sector (or its elements) of transit countries and purchasers
- build infrastructure for the export of natural resources to Asia.

The position that Russia has achieved in its relations with European countries comes for the most part as a result of employing a tactic of bilateral negotiations where it could use its 'monopoly power'. With its natural resources, access to pipelines and information about the level of dependence of a given country on the import of energy, Russia can secure suitable provisions of its export contracts. If there were to be a strong partner representing a number of purchasing countries, it would involve 'monopsomy power' and affect Gazprom's negotiating position.

It is for this very reason that Russia persistently refuses to recognise the EU as a negotiating party in the fossil fuel trade. When after the crisis of 2009 Ukraine and the EU signed a declaration on upgrading Ukrainian pipeline system, Russia expressed its strong discontent. The document was supposed to be the first step towards connecting Ukrainian and European energy supply systems. As a result, the EU companies would be able to buy gas on the Russian-Ukrainian border and would no longer be held hostage to transit disputes between the two countries. With the agreement in place, Gazprom could not accuse Ukraine of stealing gas any more. However, Russia attempts to block this undesirable direct cooperation and demands tripartite talks involving Kiev, Brussels and Moscow. Although no details of such a settlement have been discussed, this attitude is supported by the cabinet of the

Ukrainian Prime Minister Mykola Azarov, appointed by the pro-Russian president Viktor Yanukovych.

Reducing the role of Eastern European transit countries could bring considerable political and financial benefits to Russia. Attempted gas cut-off blackmail was effective only to some extent. Having been forced to settle some of the overdue payments and accept higher prices, the countries affected by the crisis were prompted to take action aimed at reducing their dependence on fossil fuel import from Russia. New pipeline projects bypassing Belarus, Ukraine and Moldova will enable Russia to exert effective political pressure these countries. Consequently, Eastern European states might expect the prices to rise. In addition, it is highly likely there will be increased pressure to approve Russian takeover bids for lucrative national companies. From a geostrategic perspective, actions of this kind will promptly benefit Russia but jeopardise the geopolitical position of the former transit countries.

Fig. 2: Projected routes of Nord Stream, Nabucco and South Stream pipelines
Source: Nord Stream ...

Gazprom has been successful in attracting partners from the EU countries to its investments. The Nord Stream pipeline shareholders include Russians (51%), the German companies BASF-Wintershall and E.On Ruhrgas each own 20%, while Gasunie of the Netherlands holds 9%. Russia hopes to use Nord Stream to pump 55bn cubic metres of gas a year to EU countries. The other projected Russian pipeline bypassing Eastern European transit countries (although going through Ukrainian territorial waters) is South Stream. It is expected to pump up to 31bn cubic metres of gas annually from the Caspian Sea and the Middle East across

Turkey into Europe. An agrement on the project was signed in July 2009 by Turkey, Romania, Bulgaria and Austria, but it has not been started so far. Russian monopoly on natural gas supply to Europe can be broken by the Nabucco pipeline, the only project without any Russian involvement.

Measures reducing the role of the Eastern European transit countries are coupled with steps aiming at blocking alternative pipeline projects. From this perspective, maintaining instability in the Caucasus arguably serves Russian interests as it dissuades Western European energy sector from investing in the region. The Russian-Georgian war of 2008 could exemplify this aspect of such a policy.

Taking over control of the energy sector (or its elements) of transit countries and purchasers is Russia's next political and economic goal. Apart from new pipeline construction projects aimed at securing transit-free gas export routes, Gazprom tries to take over control of the existing ones as well. On May 18, 2007, the Russian and Belarus governments agreed that Gazprom would get a 50 percent stake in Beltransgaz over four years in return for continuing subsidization of the 22 bcm that Belarus consumes each year. Thus Belarus will pay $100/mcm (up from $46.68) instead of $140 or $200, as threatened by Gazprom (Ericson 2009). Russia makes no secret of its intention to invest in the energy sector of the EU countries, which raises concern not only among those smaller member states such as Lithuania opposing takeover of its Mazeikiai oil refinery. Also, Poland has rejected the Russian bid for its Gdansk oil refinery and Great Britain is seriously considering precautions against hostile Russian actions in its energy sector.

It is not only the European market that offers good prospects, but also East Asian countries such as China, Japan and South Korea. Investments in this part of the world would enable Russia to increase the value of its export of natural resources and reduce the proportion of its income from Europe. New pipeline projects, financed for the most part by foreign partners, will free Russia of transit problems, making it possible to raise the selling price and to use this bargaining position to increase its political influence. Economic growth and the ensuing rise in demand for energy sources are other factors worth considering in this respect.

Overcoming the Impasse

The "Eastern divorced" countries treat their energy security with the utmost seriousness and put pressure on the EU to develop a common energy supply policy. There is evidence that reliance on strategic energy sources located outside Europe involves a number of political and economic problems. This dependence can be reduced by investing in technologies fostering self-sufficiency. It is the renewable energy sector that offers the best prospects as it is economically feasible and environmentally friendly. Clean energy sources considered include wind, water, geothermal, solar

and biofuel power plants. What is more, new technologies for making dirty energy cleaner are being developed and implemented.

A comparative analysis of the costs of renewables and fossil fuels takes into account both the costs of the final product itself and the emissions of greenhouse gases with their social costs and market prices of CO2 emission limits. Investments in renewable energy sources will be instrumental in the fall of the prices of fossil fuels (Heal 2009, Reflections).

However, renewable energy does not really stand a chance of replacing fossil fuels within the next ten to twenty years. Assuming that the pattern of geographical distribution of available natural resources remains unchanged, both the EU and EETC countries will still be dependent on foreign energy sources. Interestingly, new prospects have opened with the discovery of shale gas deposits on the Baltic Sea off the Polish coast. It is possible that they might be exploited to satisfy the demand for gas in Poland and the region. Located in tight rock formations at depths of up to 3 km, these deposits can be accessed using new natural gas drilling technologies (such as 'hydraulic fracturing') which have been developed for a few years are now well under way. A number of prospectors, such as Lane Energy Poland, Marathon Oil Poland, Oculis Investments and Saponis Investments, are working in the Polish region of Pomerania. Countrywide, the prospecting exploration area is as large as 37,000 km2, covering 12% of the Polish territory, and the government has granted 44 licences to prospectors within the last two years (*Gazeta Wyborcza*, January 2010). According to Advanced Resources International (Kuuskraa 2009) estimates, Poland could have 3 trillion cubic metres of potentially accessible reserves of shale gas. This amount could cover domestic demand for the period of over 200 years and would increase the level of the EU confirmed gas deposits to 47% (BBC, April 2010). The exploitation of Polish off-shore deposits might not only mean that a gas importer will turn into an exporter, but it could also increase the level of energy security in the CEE countries.

Shale gas deposits in tight rock formations have been found off the American coast as well. When their exploitation is started on a large scale, it will influence the positioning of Russian gas on the global market. It is worth mentioning that the USA replaced Russia as the world's largest natural gas producer in 2009, and liquefied gas from its resources is already exported to Asia.

The investement in new technologies and renewable energy is a chance for Europe and the USA to reduce their considerable dependence on imported fossil fuels and the attendant political and economic complications. The pressure to cover costs of pollution of the natural environment caused by the use of fossil fuels and the resulting CO2 emissions is another major factor conducive to reducing the scale of non-ecological energy production. Adding the CO2 emission costs to the price of coal significantly increases the final cost of energy for the buyer. The EU has ambitious plans to become the world leader in the development and implementation of new energy technologies. According to the European Renewable Energy Council,

the EU intends to cut its emissions by more than 90% by 2050 (EUROACTIVE, April 2010, 100% renewables).

The current level of technological development has already made 'green economy' an attractive investment opportunity. This can be illustrated by the Levelled Cost of Electricity (LCOE), which is defined as the constant price at which electricity would have to be sold for the production facility to break even over its lifetime, assuming a reasonable level of capacity utilization (Heal 2009, Reflections). The price of energy produced by onshore wind plants is comparable to that of coal capital cost, and if the costs of finacing a new required construction in the coal energy sector are taken into account, wind energy turns out to be cheaper. The costs of transport and storage, however, still remain a problem to be solved.

Source of energy	LCOE cents/kWh	Emissions	Intermittency problem
Coal capital costs	7*	high	no
Onshore wind plant	8–10	none	yes
Nuclear plant	8–10	medium	no
Solar photovoltaic	25–30	none	yes
Solar thermal	11–15**	none	yes

* with no charge for carbon emission

** while implementing power storage program

Tab. 3: *The levelized cost of electricity in the US market*
Sources: Compiled by author based on Heal 2009

Apart from the renewable energy sources listed in Table 3, there are other types of 'green' facilities to be considered, such as geothermal sources and different varieties of water power plants. These include not only traditional hydropower, but also experimental facilities that would enable the use of energy produced by tides and water waves. Biofuels are also worth considering in this respect. Brazil, where almost half of gasoline consumed is produced on the basis of ethanol obtained from sugar, is a case in point. Modern technologies are also increasingly being used by the traditional fossil fuels energy sector, with dirty energy made cleaner thanks to extracting CO2 or through air capture.

Aware of the fact that technological development is not possible without a financial contribution, the European Union supports scientific research. What is needed in the sphere of 'green economy' on the state level is more motivational projects, involving both the energy sector as such and the individual users. In addition, the development of 'green economy' should be based on an integrated system of support for investment in renewable energy, including stimulus bills. So far the unquestioned leaders in the field are Sweden, with the goal of 49% of energy consumption coming from renewable sources in 2020, Finland (38%) and Austria (34%). In Po-

land, the government intends to invest in nuclear energy. Plans for the construction of two nuclear power plants, with the capacity of 3000 MW each, are currently under way, and the first reactor is to be operational by 2020.

Apart from technological innovation, it is crucial to diversify the sources of supply of natural gas. For the Caspian region (Central Asia and Azerbaijan) and the Middle East it is Turkey that has become increasingly important as a gas pipeline corridor. From the EU perspective, opportunities for further diversification are also connected with the gas from Algeria, which can be transported through a pipeline across the Mediterranean.

EU member state	Share of renewables in 2005 (%)	Share required by 2020 (%)
Latvia	32,6	40
Lithuania	15	23
Estonia	18	25
Poland	7,2	15
Slovakia	6,7	14
Czech Republic	6,1	13

Tab. 4: *EU directive on 2020 renewable energies targets' for CEE countries*
Source: EUROACTIVE April 2010...

Independently of pipeline infrastructure, gas can also be imported in the form of LNG. This mode of transport will continue to be marginal in the foreseeable future due to the level of investments it requires on the part of both the supplier and the buyer, yet it remains a valid option in the policy of diversification of resources in the energy sector. From the European perspective, there are two possible sources of supply: Africa (Nigeria and Libya) and the Middle East (Oman and Qatar).

The energy security of those CEE countries that belong to the EU is institutionally guaranteed by their own governments as well as by an increasing coordination of the EU policy on the issues concerning energy supply. The Eastern European transit countries must rely on their own policies and the experience acquired in their previous negotiations with the Russian Federation. However, the Eastern Partnership (EP) project of the EU may be seen as a harbinger of their increased independence. The very choice of countries included, with Belarus, Ukraine and Moldova joined by Georgia, Armenia and Azerbaijan, points to its geostrategic dimension. The EU not only hopes for mutual economic benefits, but also aims to ensure their security should gas be imported directly from the Caucasus, without the Russian involvement.

The EP countries, in turn, should use the partnership as an opportunity to participate in European research projects and to implement new technologies for producing

renewable energy. It is in this area that the cooperation with the EU seems to be a particular advantage, as evidenced in the planned Belarusian investment in renewable energy technologies based on the use of wood, peat and the hydropower (Myroshnychenko 2006). The example of Finland provides a case study for cooperation in the energy sector. Fostering cooperation in the area of traditional technologies is also to be expected, which can be illustrated by the planned construction of a coal power plant in Belarus, close to the Polish border, by Kulczyk Holding. The energy produced by the plant will then be exported to Poland.

Eastern European countries are also looking for alternative suppliers of fossil fuels, although the example of a rather exotic alliance between Belarus and Venezuela involving the exchange of weapons for gas cannot be treated as a serious long term solution to the problem. The Ukrainian policy under President Yanukovych can be described as amicably servile, which has already resulted in preferential gas prices without ruling out the possibility of cooperation with the EU. However, a lot will depend on whether or not Ukraine will pursue its own policy in the energy sector and what direction this might take. Will it support the construction of alternative pipelines such as Odessa–Brody–Gdansk or Caucasus–the EU across the Black Sea, or is it going to be a hostage to Russia's interests in the energy sector.

Although Andrei Denisov seems to be right in proposing "the mutual rejection of politicized decisions in energy relations, which might lay the foundation for a responsible conduct typical of genuine partnerships" (Denisov 2008), the reality will inevitably remain rooted in the sphere of political and economic interests. Access to the internal EU market, which Russia seeks so eagerly, will go hand in hand with the liberalization of the internal Russian market. In the short term, both of these developments seem rather unlikely.

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