ENERGY SECURITY IN CENTRAL AND EASTERN EUROPE

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Man-Hua Chen
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Asociace
pro mezinárodní
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Association
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PART II – ADDITIONAL PAPERS

FOREWORD

Michal Thim
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Energy security is arguably one of the most widely discussed topics in today's world in general and in Europe in particular. In fact, the European Union faces a mounting challenge as it has to cope with a growing dependency on Russian gas. Excessive dependency has always been a problem entailing a wide range of security risks. Indeed, these risks can take on many forms such as political pressure applied by a supplier, internal political instability of a supplier, interruption in the production of supplies due to technical difficulties or geopolitical consideration. Similarly, the same can very well be said about transit countries.

This book looks at the region of Central and Eastern Europe which is increasingly becoming one of the key battlegrounds of the unfolding energy game. Perhaps more than anything else, this impending battle revolves around the struggle for diversification as all the parties involved strive to achieve it one way or another. The EU for its part wants to increase the number of its energy suppliers while preventing Russia from strengthening its grip on European energy markets. Similarly, the EU tries to promote renewable sources of energy as a way of facilitating diversification. Russia on the other hand wants to diversify transportation routes for its export of gas and oil in order to reduce the importance of Russia's less reliable partners via whose territories Russia exports its gas and oil. Therefore, Russia is unsurprisingly committed to building new pipelines bypassing current transition countries.

Hand in hand with diversification goes dependency which turns out to be an even more acute issue to consider. However, it would be wrong to confine the current dependency debate solely to an ever discussed issue of the EU's dependency on Russia's energy deliveries. In fact, Russia continues to be dependent on European energy markets almost to the same degree as is the inverse case. This makes the drive by both Russia and the EU to pursue diversification quite understandable. Yet, this diversification quest weighs quite considerably on the countries in Central and Eastern Europe, be it new EU member states or former Soviet republics vying for EU membership.

Unfortunately, the EU is still unable to find a common language on issues concerning energy security, thus inadvertently putting Russia into far more advantageous position. To understand the current situation better, one has only to consider the construction of the *Nord Stream* pipeline with all its potentially negative implications for Central and Eastern Europe. Built on the bottom of the Baltic Sea, the *Nord Stream* pipeline is designed to transport gas from Russia directly to Germany and then further to other EU countries effectively bypassing countries of Central and Eastern Europe who are faced with losing transit fees as a significant source of their revenues. The picture looks especially bleak for Ukraine who could find itself being politically blackmailed by a Russia no longer constrained by its concerns for the customers in the EU.

For the countries in Central and Eastern Europe it is not only planned pipelines, bypassing Russia (e.g. the *Nabucco* gas pipeline), that their energy planers should look forward to, but also their proactive policies towards this regard. In order to reduce their excessive dependency on Russian energy these countries should strive to achieve a balanced energy mix, including finding new energy suppliers as well as implementing some of the following recommendations:

- Alternative energy sources (nuclear energy, coal)
- Renewable energy sources (e.g. biofuels)
- Policies promoting energy conservation and energy efficiency

For the *Association for International Affairs*, EU's eastern neighbors have been of long-term interest. This book contains the output of one of our many projects in the past several years we have been conducting with the *Stefan Batory Foundation* located in Poland. This book is divided into two sections. The first section contains the edited contributions presented at the roundtable discussion held at the Representation of the EU Commission in Prague on September 12, 2007. The second section consists of three research papers analyzing particular aspects of European energy security.

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PART I

INTERNATIONAL ROUNDTABLE PROCEEDINGS

ENERGY SECURITY AND TRANSFORMATION IN EASTERN NEIGHBOURHOOD AND VISEGRAD COUNTRIES

PRAGUE, SEPTEMBER 12, 2007

ENERGY GAMES, PAST AND PRESENT

William F. Martin
Former Deputy Secretary
US Department of Energy
(USA)

Thank you to AMO for hosting this event and thank you to the Batory Foundation for producing what I think is a very significant and correctly sized report on the energy game. I read this report with interest. Energy is a game, it is a very important game and in my brief remarks today I would like to set the foundation straight about how the energy game has been played in the past and maybe give a little bit of perspective on the US and Russian point of view on this matter.

Going back to 1973 when we saw the start energy game with one of the first phases being the Arab embargo. I do not want go too much into that, but I think it was very significant event for energy and security. The second phase I think, which is not discussed much, but is very relevant today, is what I would call the energy game during the Cold War. I was at the National Security Council when martial law was declared in Poland in December of 1981. Very interestingly, Reagan had a philosophy that energy and hard currency earnings by the Soviets were the key props holding up the Soviet Union. We began to approach the National Security Council to convince them to create pipeline sanctions on gas deliveries from Siberia. This was a very difficult game but in fact ultimately after two years, despite NATO almost falling apart over the issue, there was a very significant conclusion. This conclusion decided that the "Troll" field in the Norway would be developed as an alternative to Soviet gas. The Germans had informally told me that they would limit their gas purchases to 30%, but of course that did not happen. Now we are playing out that very same drama which began almost twenty five years ago and this very significant. So I would call this the second energy game. Let me say that the conclusion of the game was a very interesting one. The Saudis and the US worked very closely together to have Saudi Arabian production increased in the years 1986 and 1987. You may recall the price collapse to approximately ten dollars per barrel. This in fact, dramatically hurt the Soviet Union because not only did it hurt oil sales but the Russians had also made the mistake of packing the price of gas to the price of oil. This may have been strategic in the early 90 s but it did not look very smart in 1986 and 1987. So I think a major contributing factor to Russia's demise was economics. I am not saying that US did it, but clearly it is a fact, that when one's income is cut by 50%, they have a problem

The third energy game is happening now and it is very interesting one. Let me first say that in the 80 s example of the Saudis, increased production was created because the US had asked them to do so. This was very indicative for the 80 s and 90 s when the US administration protected Saudi Arabia and the monarchy. The Saudis responded by producing more oil to help the World economy and also increasing capacity. They were keeping at least 2 million barrels a day of oil reserves in case of a shortage anywhere else in the world. As we saw after the first Iraq war in 1991 prices of oil went down again reaching the level of fifteen dollars a barrel.

Well it is very interesting to me to note that 9/11, six years ago yesterday, fundamentally changed the Saudi-US relationship. This strained the relationship and therefore in recent years US-Saudi relations have not been what they once were. I think that is a very important factor in the new energy game. For example today we see seventy dollar barrels of oil. Saudis in recent months have said that they are going to increase their oil production. However this has not been the reality. Based on this, it is interesting to note the situation from the US national security perspective. Most of the countries that are hostile towards the United States, not including at the moment, Putin's Russia, certainly are benefiting from higher oil prices. Such persons reaping these benefits include Mr. Chavez and the Iranians. Indeed, the US has been unable to increase Iraqi oil production. In fact it is slower than it was. Again the world sits with a very small margin and no understanding that indeed if oil prices go up significantly then Saudi Arabia will put more oil on the market. They have put some but frankly speaking it is no longer 1987. Another part of the new energy game is climate change.

Now I have heard what Mr. Klaus said, and I must admit that I am a bit more supportive of him then I would be of somebody of Western European origin. Frankly I do not think there will be much of a "Post-Kyoto" accord. However what will happen is that West-Europeans look more towards gas. Perhaps the Eastern Europeans will do the same. Therefore the reality is that Kyoto equals gas sales for Russia. There is no way Germany for example, can meet its commitment, having abandoned its nuclear power program, without having increased gas production. So this is a part of the new energy game. I do not think anything significant will happen in terms of numerical targets with Kyoto, but it could have a major impact on international gas markets. Take for example the recent earthquake in Japan, which has shut down seven nuclear reactors for possibly as long as two years. The option for Tokyo electric power is to import more LNG (Liquefied Natural Gas) and a little bit of oil and maybe electricity from other companies. This also affects the LNG market by possibly raising prices In turn, these event benefit Russia. The third part of the energy game I would like to talk a little bit about is Russia and Mr. Putin s actions. These actions horrified me and caused me to flashback twenty five years. However they also gave me a new perspective that perhaps Mr. Putin is smarter than I originally thought he was. Let's take one concrete example and this will basically conclude my remarks. I mentioned the "Troll" field for which a political commitment to develop the area had been made in 1983. We knew that the Russians could undervalue the "Troll" gas price. So the political decision was spend more and try to diversify our sources of supply. One of the things the development of the "Troll" did was it gave Norwegians incredible experience in offshore gas development in a difficult field. It was a difficult field because of the ten layers of oil over the gas.

This made it difficult to get to, but indeed they were able to retrieve and develop it. That technology then became a basis for developing another offshore field further in the North called Sn hvit. Soon Sn hvit will begin operation and indeed provide gas to the United States. The third part of the game was there to jointly develop the Shtokman field, a Russian field further in the North. There was intense discussion between the US, Norway and Russia over this field. Why such intense debate? Because 25 % of the remaining global gas reserves are in the Arctic. The concept was that this was going to be a test of cooperation. However, at the last moment of the negotiations, the Russians said that they are going to develop this field by themselves. Interestingly the original plan had been for the US to attain the gas.

The final parts of the energy game are of course, Russia and China, which are astoundingly large users of oil and gas. Interestingly in the event that there would be a disruption in supply due to events in Iran, a couple of things will be immediately evident which are going to put pressure on prices. First the Saudi's will not be able to spare supplies, and secondly there will be a tremendous increase in demand from Asia, especially from India and China. However China and India are not members of the International Energy Agency (IEA) like Czech Republic or Poland. A major issue for the IEA is to put stocks on the market during the energy crisis. When I served in the IEA, OECD countries were accounting for 75 % of oil consumption in the world. Now they are close to 30 %. So IEA is indeed ineffective because they do not control enough of the world's oil. So not only is the US-Saudi relationship wounded, but demand is growing in Asia. Thirdly, we have creditor regimes and 70 % of those are now controlled by state-owned companies who may not play by all rules of the energy game. Thank you for your attention.

ENERGY GAME: UKRAINE, MOLDOVA AND BELARUS BETWEEN THE EU AND RUSSIA

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(Poland)

I would like to make only a brief presentation of this paper since you can all pick up a copy of the report[1] and read it yourself. So, firstly, I would like to stress that we focused on the immediate neighbours of the EU, namely Ukraine, Belarus and Moldova in our report because it is obvious that the future of these countries to a large extent depends on how they manage to resolve their energy-related problems. And, of course, it is not only about their internal problems as we have to take into consideration at least two other strong external players, namely Russia and the EU.

For us or rather for the EU, these Eastern European countries are important because they serve as transit countries for Russian gas and oil in to the EU. Of course, this is not the only perspective possible. We should also see the EU neighbourhood from a different perspective considering that it is not only a problem that these countries are transit countries but that also it is our burden to develop policies towards those countries. You must know now that the EU has the 'so called' European Neighbourhood Policy and that the success of this policy, in my opinion, is closely linked to the energy policy of the EU. So we cannot expect a success of the ENP unless we make it possible for the inclusion of energy issues between the EU and neighbouring countries covered by the ENP, especially Ukraine, Moldova and Belarus. However, Caucasus countries should also be included such as: Azerbaijan, Armenia and Georgia.

I have to underline another problem though which is very important for the EU. Namely this problem is our relations with Russia and our policy towards Eastern European neighbours. Specifically, I mean towards Ukraine and Moldova. These countries are closely linked with Russia in energy issues as well as our own relations with Russia. We can expect that a deeper EU engagement in energy matters will provoke tensions between the EU and Russia. So, in my opinion, the subject of energy policy towards Eastern EU neighbours is very important, or even crucial, for the EU as a whole and especially, of course, for the eastern part of the EU, such as new member states like Czech Republic, Hungary, Slovakia or Poland.

In our report we tried to analyse the problems of energy sectors in the former Soviet countries covered by the ENP. I would like to say only a few words about this matter.

First, the main problem is that these countries are highly dependent on supplies from Russia and this generates not only economic problems but, maybe more importantly, political problems in relations between Russia and these countries.

The second problem is a high level of energy consumption and inefficiency in Ukraine, Moldova or Belarus. So, we cannot expect reforms in economy of these countries without serious changes in energy sectors of those countries.

1 Report is available at www.batory.org.pl/doc/energy_game.pdf

The third problem is political and financial significance of energy sector in Ukraine or Belarus. You may know that it is a corrupted sector and a much politicized one. We can however say that no other sector of the economy, with a notable exception of the energy sector, provides opportunities for self-enrichment. This is why so many individuals in these countries, especially in Ukraine, are deeply involved in the energy sector due to their business interests. One such example is the former Prime-minister Yulia Timoshenko.

In Belarus the situation is even worse. I can say this, because the Lukashenko regime could achieve successes in the economy due to the nature of the special arrangement of relations in energy issues between Russia and Belarus – because Belarus received oil, crude oil, very cheap crude oil, and then exported oil products to Europe, to the EU on the market prices. So at the end of the day income revenues were very pretty high. This practice was ended by the Russian authorities this year. So we can expect economic crises in Belarus. Maybe not in this year but I think that by next year it is very likely we will see this kind of the situation.

Lack of transparency which is of course linked with this political and financial significance of the energy sector also causes problems. This sector in oil-producing countries and neighbouring countries is not transparent and of course, it creates a special situation in relations between those countries and Russia but also influences very significantly relations in energy matters between Ukraine, and for instance the EU.

What is Russian energy policy towards former Soviet Union countries? I would like to underline only two aspects.

First of all, prices. In my opinion, during Putin's presidency, especially in his second term, Russia uses prices for gas but also for crude oil, especially in the case of Belarus, as a tool for building influence namely political influence, in those countries. The final goal is an attempt to take over infrastructure in Belarus and Ukraine, especially the transit pipelines from Russia to the EU. This policy partially succeeded, in Belarus – because you know that Belarus sold a part of Beltranzgas and this process will probably be continued in the next years to come. So, we can see a similar Russian policy towards these countries and the main task will be to take over their energy infrastructure, such as pipelines and also refineries, especially in Belarus because refineries in Ukraine belong, not all but the majority, belong to Russian enterprises and Russian business groups.

How to describe the European policy towards Eastern neighbourhood? Of course we can say that the EU is less involved in this region, it is obvious because the EU has no energy policy. It is difficult to have any meaningful policy towards Ukraine or towards Belarus or towards Moldova without an energy policy of the Union. Of course, these countries were not even perceived before the 2004 enlargement

as very important countries within the EU 15. The situation is changing now because of the enlargement, but it is slow process. On the other hand, we can say that the EU is interested in the development of new energy relations with eastern neighbours. Energy matters are present in the ENP, European neighbourhood policy documents, especially in Action Plans, with Ukraine and to some extent also with Moldova. But, in my opinion, the most beneficial proposal to the countries lying between the EU and Russia is the possibility of Ukraine's and Moldova's joining the energy community. Energy community, is in fact the EU policy, created for Western-Balkan countries to build a common energy market with this region. The word 'common' in this context refers to the EU plus Western-Balkan nations. Four countries were invited to join this project, the EU project, namely Ukraine and Moldova plus Norway and Turkey. So you can see that the importance of Ukraine and Moldova is quite high.

But I think that, still, we are witnesses of unresolved dilemma within the EU, especially among member states and private companies. What is this dilemma? There are, in fact, two possibilities. To be more involved in the neighbourhood and to try to establish a common policy, energy policy, with those countries or to see these countries as a part of Russian energy system. I think that EU institutions, especially the Commission, are more focused on the first solution. To cooperate, closely cooperate, with eastern neighbours. However, member states and especially private companies are possibly more interested in the second solution. So it is, in fact, very interesting debate, maybe some sort of struggle, within the EU will erupt between those two groups of actors.

So finally, I would like to say a few words about proposals for EU possible actions in the future which are included in this report.

Of course, this issue is very complicated and tricky for the EU relations with the Eastern neighbours in regards to energy matters. It seems that the EU has three ways of solving the problem.

The first scenario assumes that the EU accepts Russia dominance with regards to energy matters. But this means not only economic dominance of Russia over Eastern Europe, but additionally political dominance of the Kremlin in the region.

The second way would be joint management of the transit routes by Russia, transit countries and the EU member states, corporations or EU as a whole. But without attempts to include transit countries in the European energy policy, in my opinion, this solution is wrongheaded in a sense that we can expect that Russia would be the main player in this scenario, because Russia is very strong in this region and we cannot expect that the EU would be a kind of balance to Russia.

Finally, the third scenario would see the gradual integration of the ENP countries into the EU emerging energy policy and energy market. In my opinion, this

would be the best scenario for these countries, for the Union as a whole and maybe especially for the new member states in Eastern Europe. Of course, there are many problems with this scenario because this scenario requires neighbouring countries, such as Ukraine and Moldova to carry out real reforms in their energy sectors. We also still have unresolved issues with Belarus. Secondly, this scenario means conflicts or problems, even a struggle, with Russia. We should also give this matter some thought because we cannot expect that Russia will not be interested in the deeper engagement with the EU in the energy field in this region. I do think however that this new approach in energy matters towards Ukraine, Moldova or Belarus could also help in building of common energy policy. It would be a part of common energy policy, because this EU energy policy is not only an internal problem of the EU, but also that of other countries. First of all, it is a problem with EU relations with partners in energy issues and some of these partners are the EU's immediate neighbours.

However in my opinion, the policy of the EU institutions, the Commission, and the Council should be strengthened by actions of private investors, private companies from EU member states, member states and the private sector. The engagement of private sector in neighbouring countries can link these countries with the EU regarding energy policy.

ENERGY SECURITY OF SOUTH CAUCASUS IN LIGHT OF THE NEW GEOPOLITICAL DEVELOPMENTS

Stepan Grigoryan
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Analytical Center on Globalization and Regional Cooperation
(Armenia)

I would like to begin by asserting that the energy security of the three South Caucasus countries is largely contingent on Russia. During the last couple of years, the Russian heavy-handed approach to the Caucasus has been characterized by harshness, unpredictability, and constant violation of the existing international energy treaties. In fact, at the EU-Russia summit in May 2007, the Russian delegation decided against the ratification of the European Energy Charter Treaty. By doing so, Russia flatly rejected internationally accepted rules of the game as Moscow claims to reserve the right to change prices of oil and gas as well as transportation costs as it sees fit.

That is why Russian relations with Ukraine and Belarus recently have been a real roller coaster ride. During the cold winters between 2005 and 2007, Russia raised gas prices and revised the transit terms of exporting Russian oil and gas through the territory of the two countries without any prior consultation with Ukrainian and Belarusian governments.

In the autumn of 2006 the "spy scandal" flared up between Russia and Georgia as Tbilisi accused four Russian officers of espionage and deported them from the country. Moscow's response was rather disproportionate as it imposed sweeping sanctions on Georgia, including severing transport links, withholding gas supply, etc. Indeed, the crisis between Georgia and Russia had profound impacts on the entire region of South Caucasus. For instance, closing the Verkhniy Lars border crossing between Georgia and Russia greatly impacted the Armenian economy, since the Armenia main trade route with Russia runs through Georgian territory. Similarly, Azerbaijan, in turn, had to stop importing natural gas from Russia in 2007 because of the higher price tag imposed. Before that, Azerbaijan had to stop the export of oil to Europe via Russia because Russia had changed the transit terms.

As a result, Georgia has made a point of diversifying its energy sources. By forging closer cooperation with Azerbaijan and Turkey, Georgia has begun to seek alternative routes for its energy supplies. Having built new gas and oil pipelines (i.e. the Baku-Tbilisi–Supsa and the Baku-Tbilisi–Ceyhan oil piplines and the Baku-Tbilisi-Erzurum gas pipeline), Azerbaijan has made a choice in favor of supplying oil and gas to the international markets, thereby trying to outmaneuver Russia.

At the Krakow summit on May 11, 2007 attended by the presidents of Azerbaijan, Georgia, Lithuania, Poland, and Ukraine, the President of Azerbaijan, Ilham Aliyev, declared his country's readiness to join the Odessa-Brody pipeline project. This would permit the transport of Caspian oil via Ukraine and Poland to Western Europe and effectively bypass Russia.

Against the backdrop of Russia's unpredictable policy, the European Union has recently moved to seeking alternative energy sources as well as new transportation routes. What we are witnessing right now is that new more ambitious projects de-

signed to find new ways of transporting oil and gas to Europe from the Caspian basin, North Africa, and the Middle East are gathering momentum.

The first part of the Nabucco pipeline, going through the territories of Azerbaijan, Georgia, and Turkey to Europe, as far as Austria, with a capacity to transfer 8 billion cubic meters of gas, is planned to be put in operation by 2012; the pipeline may be filled with gas from the Caspian basin (Azerbaijan, Kazakhstan and Turkmenistan). Passing through Bulgaria and Romania, the Nabucco pipeline may even be able to supply Moldova and Ukraine. Arguably, the Nabucco pipeline could increase in importance, were the Transcaspian pipeline connecting Azerbaijan and Turkmenistan constructed. For the success of expending Nabuco, the European Union and the United States have to work actively to enlist Kazakhstan and Turkmenistan in the project of the Transcaspian pipeline. An agreement with Kazakhstan would permit increasing the export capacity of the planned pipelines, with the Turkmenistan-Kazakhstan-Azerbaijan section becoming the first stage of the construction.

Surprisingly, the Armenian leadership does not seem to take their country's current energy situation seriously. Even the Armenian government, however, has to begin looking for alternative sources of energy as well as importing routes. For instance, in March 2007 the construction of Iran – Armenia pipeline was completed. In addition, the construction of a new unit of the Yerevan Electric Plant is being financed through a Japanese loan and the work on a new hydroelectric plant on the Arax River has begun in cooperation with Iran.

However, the overall picture is rather bleak. As of now Russia controls about 80 % of Armenia's energy sector. Thus, Russia received the hydroelectric plants of the Sevan-Hrazdan Cascade as part of Azerbaijan debt repayment. Another example of Russian dominance is the Hrazdan power plant, the largest one in the South Caucasus, which was handed over to the Russian Unified Energy Systems (RAO UES), and in April 2006 the Armenian government agreed to sell Gazprom the half-finished fifth unit of the plant. Similarly, the RAO UES has been in control of the Armenian Nuclear Power Plant since September 2003 for a five-year lease.

In my opinion, it is very important that the European Neighborhood Policy Action Plan for Armenia addresses not only possible ways of cooperation, but also energy security related issues (which are integrated in the European Neighborhood Policy Action Plan priorities for all countries of the South Caucasus). Hence, the issue of closing down the Armenian Nuclear Power Plant has been included in the main priorities of the European Neighborhood Policy Action Plan, in which Armenia agreed to present by 2007 a timetable of phasing out its nuclear power plant.

It appears that in the current situation it is expedient for Armenia to construct another nuclear plant, as of now there is no alternative source of energy that would make up for the 30 % of energy produced by the Armenian Nuclear Power Plant.

The Armenian authorities have declared their wish to begin the construction of a new nuclear power plant in the shortest possible timeframe. However, in order to boost its energy sustenance, Armenia has to do away with its ready-to-please attitude towards Moscow. Alternatively, Armenia shall offer Georgia to build a nuclear power plant in Armenia as a joint venture.

This would no doubt create more incentives for the construction of a second nuclear plant and at the same time generating extra financial resources as well as enabling Armenia to expand its regional cooperation. Armenia has to demonstrate willingness to extend the Iran-Armenia gas pipeline to Georgia, as well as stop the practice of selling out its main energetic facilities to one sole bidder – Russia.

ENERGY SECURITY OF MOLDOVA

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Ensuring energy security was and still is a key preoccupation for the future of the Republic of Moldova, since it has almost no energy resources of its own. Hence, Moldova is forced to import about 98 per cent of energy supplies mainly from the Commonwealth of Independent States (CIS). At the same time, for instance, Moldova has simply no alternative to importing gas from Russia's Gazprom. Russian gas currently accounts for about 45 per cent of the country's energy balance.

The fifteen years of independence Moldova has experienced has shown that pursuing cooperation with only one organization, such as the CIS, poses quite a threat to Moldova's economy, including its energy sector. The last years' developments have demonstrated that the orientation to, and energy dependence on, the CIS states creates conditions for economic and political blackmail. Therefore, it was necessary to extend cooperation in energy matters with other states during the first years of independence. With Moldova having only two neighboring states, this means a tighter cooperation with Ukraine and Romania. Cooperation with Ukraine has expended over the last years, while cooperation with Romania has been put in reverse gear.

Yet, the path towards less energy dependence on the CIS and Russia goes through Romania as well. It was back in 1992–1994 when the first projects were proposed for construction of gas pipelines, integration of both countries' electricity grids, cooperation in building up a nuclear power plant in Cernavoda, Romania, etc. However, the Moldovan leadership abandoned these projects. Subsequently, in the years between 1998 and 2001, the projects were put on the table again, but no political will was found to implement them. Had Moldova participated in the construction of the second power generator at the Cernavoda plant, it would have access to another source of energy other than those of Ukraine and Russia by now.

Under the current circumstances, the main problem of Moldova's economy and especially its energy sector (i.e. dependence on energy imports from the CIS) is still high on the agenda.

Past and present developments show that this dependence cannot be entirely eliminated; but rather that it can only be reduced provided that Moldova participates more actively in regional projects for energy transportation. Furthermore, Moldova should make the best of integrating its energy sector with the European one, promote energy conservation policies, find alternative and cheaper energy sources, and attract foreign investments in order to better advance privatization in the energy sector. We argue that it was wrong to abandon the idea of privatizing the thermal and electricity plants and the two power distribution grids. The fact that the thermal and electricity plants still belong to the state did not make them more effective. Quite to the contrary, they continue to amass debts of tens if not hundreds of millions of lei for natural gas supplied by Moldovagaz. Similarly, all attempts to

attract investment into the thermal and electricity plants have failed, since the government refuses to give up the control stake. Without the government's consent, no serious investor will risk its money in a project aimed at increasing higher production capacity.

Another solution seems to be to construct a new power plant. All studies indicate that in order to ensure returns on investment into a power plant, the starting price of energy should not be lower then that of 4 eurocents/kWh. With the local market being dominated by cheap energy imported from Ukraine for less than 2.5 eurocents/kWh, no investor would venture to build a power station in Moldova with no state guarantees that electricity produced by the station will be bought inside the country.

Now that the economy is growing subsidies are gradually being removed and payments are being made regularly. Thus Moldova's energy sector is in an ideal position to initiate structural reforms. This may in turn make the private sector more effective and attract more foreign investment and experience. To this end, Moldova should take concrete steps towards the liberalization of the energy sector so that it may manage to set up a competitive energy production market as well as to ensure that all market participants have free access to the energy distribution grid. Moldova should also encourage the use of alternative energy sources through various fiscal and investment privileges. It should reorganize the management structure of state-owned enterprises, etc. Without developing genuine competition, we will benefit neither from greater investment nor from higher effectiveness in the energy sector.

ENERGY SECTOR OF UKRAINE

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(Ukraine)

The energy needs of Ukraine are covered 60 % by its own resources. The rest of the energy resources are imported, mainly from the former Soviet Union countries. Nuclear fuels are 100 % imported from Russia. Gas imports constitute the major share of total energy resources imported. Ukraine's energy dependence is most clearly manifested with regards to oil and gas.

The gas supply sector has a strategic importance for Ukrainian economy. Ukraine possesses relatively modest natural gas resources and a well-developed gas transportation infrastructure with 36 thousand km of pipelines. Ukraine consumes around 75 bn of natural gas a year, and only 25 % of this volume is produced domestically. Depletion of current gas fields and a botched exploration effort together with a lack of investments in the gas and oil sector increase Ukraine's dependence on imported gas.

Until 2005, Ukraine's gas imports were safeguarded by bilateral contracts with Russia and Turkmenistan, in which volumes of traded gas as well as flat annual prices were set down. Such contracts were typically concluded by Naftogas and the exporting companies of the respective country and lasted for several years. Still, quantities and especially prices were frequently renegotiated in a highly politicized fashion in which national governments and sometimes even the presidents became involved. In these negotiations, the main objective of Ukrainian negotiators has always been to secure the lowest possible prices, typically in return for offering low transit fees for Russian gas shipments to EU markets. This has led to significantly lower import prices for Ukraine as compared to EU countries.

Although at first glance, low gas prices have apparently benefited Ukraine's economy, they also have brought about some negative trends as recent developments have shown. In particular, low gas prices have created an undesirable economical and political dependency on exporting countries (Russia, Turkmenistan) with the special importance of Russia as a re-exporting as well as a transit country for non-Russian gas. Moreover, the flat and low gas prices have pushed Ukraine's economy into an energy-intensive consumption pattern since prices have not properly reflected the real value of gas to consumers. This, in turn, has diminished incentives for improving energy efficiency.

As a result, Ukraine's economy has one of the highest levels of energy intensity in the world.[1] Moreover, the widening gap between Ukrainian and European gas prices has created highly profitable arbitration opportunities. Utilizing them has been the privilege of a few energy traders who have created a rather opaque busi-

1 This has been pointed to in several GAG/IER publications such as "*Towards Higher Standards for Living An Economic Agenda for Ukraine*" (2006), "*New Challenges for Economic Policy in Ukraine: Proposals for Immediate Action*" (2006) or advisory paper no. V4: "*The Ukrainian-Russian gas agreement: An economic assessment*" (February 2006) – see www.ier.kiev.ua

ness environment in Ukraine's energy sector and safeguarded their benefits through intensive rent-seeking activities. Finally, the use of transit fees as a bargaining chip for low import prices from Russia has undermined Ukraine's reputation and reliability as a transit country for Russian gas exports to Europe. As a result, Gazprom has started to reduce Ukraine's transit monopoly by bypassing it through Belarus and Poland (via the Yamal pipeline). In the future, a planned Baltic Sea pipeline could redirect even more shipments away from Ukrainian territory. In both cases, the use of alternative pipeline routes imposes forgone transit revenues for Ukraine.

Recently, Ukraine's government has announced an agreement according to which all gas in 2007 will be imported exclusively from Caspian states. However, import prices as well as quantities beyond 2007 still need to be determined. This is likely to call for high-level political negotiations. The wider the gap between politically motivated price levels and benchmark prices (e.g. in EU markets), the more uncertain their outcomes become. Accordingly, Ukraine's gas imports are still not secured beyond 2007 and future price developments remain rather uncertain. Against this backdrop, we will in the next section discuss how gas imports are secured in EU countries. Based on this discussion we will then draw up recommendations for Ukraine's circumstances.

TRANSIT

For Ukraine facilitating the transit of energy resources is a very important economic activity. It is a vital source of budget revenues and a guarantee of energy supplies. Most of country's transit capacity is used to transport Russian oil and gas to European markets. Eighty per cent of Russian gas is transported through Ukraine's gas transport system. The share of Russian oil transportation is smaller and is gradually decreasing. Gas transit through Ukraine into Western Europe is based entirely on agreements with Gazprom as no other company has any access to the system. Transit tariffs of US $1.9 per tcm per 100 km are quite low compared to the transit tariffs charged by other countries.

Status quo: lowest possible prices

Maintaining the status quo and focusing on the lowest possible price levels has come at a considerable long-term price for Ukraine:

- A significant economic and political dependency from export countries, in particular from Russia.
- High energy intensity and demand levels with only weak incentives for energy saving.

- A high vulnerability of the whole Ukrainian economy to external shocks.

The current situation also reveals the following problems:

- It generates considerable uncertainty for medium and long-term business planning for all gas customers since reliable estimates on domestic gas prices over a period of two to five years and beyond are almost impossible to calculate.
- Low prices could be regarded by Ukraine's trade partners as implicit subsidies and used as trade sanctions. Regardless of whether or not this is justified, it is going to impose an additional burden on the economy, as long as Ukraine itself is not member of the WTO.
- Achieving low prices for gas import in the future is likely to force Ukraine to make serious concessions about its gas transit system (GTS) and its underground gas storage facilities. While cooperation with Russia is important for the future profitability of the GTS, this does not necessarily mean that Ukraine's energy position should be weakened.

Obviously, a strategy of securing the lowest-possible price levels can hardly secure Ukraine's gas imports and provide domestic customers with a reliable formula for estimating future prices. On the contrary, the regular renegotiations, which can be expected once new price levels have been established, will not provide a stable basis for business planning and are likely to further endanger the security of supplies.

Alternative: from politics to business:

- To express Ukraine's willingness to pay economically reasonable prices at internationally competitive levels.
- To offer gas suppliers transparent and predictable pricing mechanisms, suitable to overcome the long history of economical and political crises of the past.
- To request a transition period during which prices can adjust along a pre-specified formula.

CENTRAL EUROPE, RUSSIA AND ENERGY CONUNDRUM

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First of all I would like to present a short analysis of the energy situation in Russia, Central European countries and old EU countries. The reason why I am clustering these countries into different groups is that the EU lacks a common energy policy and so does the Commonwealth of Independent States (CIS). Instead, there are in fact only three real players on the energy market in Europe: a supplier (i.e. Russia), transit countries and consuming countries (i.e. old EU countries). Certainly, this is an oversimplification as new EU member states import energy as well. However, they act primarily as transit countries.

RUSSIA

Russia will in the near future cover about 90 % of the European Union's natural gas needs. In fact, Russia has many important roles to play concerning the energy market in Europe. It is a major supplier, a major consumer, a major transit router across its own territory and the country is a member of the G8, where energy issues of global importance are discussed. Therefore, Russia's understanding of the energy situation both at home and abroad is primarily concerned with long term prospects, rather than on unknowns and uncertainties. For Russia, it is also clear that the G8 format is insufficient in that for example it does not include the growing economies of China, Korea, India and Brazil.

Russia needs to diversify its supply routes and not to allow a situation where 80 % of gas exports travels via a single route, as is the case with Ukraine, which in essence gives Kiev a monopoly on gas transit to Europe. The Russian Minister of Industry and Energy, Viktor Khristenko, said: "We need to have a choice of supply routes. In this regard, the North-European Gas Pipeline represents a real opportunity to diversify supplies of Russian gas. We need to examine these kinds of schemes for gas transport via reliable transit territories or through extra-territorial zones for the future".

BELARUS

The situation between Russia and Belarus can best be described in the context of other Central-European countries. In addition, we need to take into consideration, that Lukashenka is the only remaining ally of Moscow in the West, especially in the light of the missile defense system being built in Poland and the Czech Republic. At the moment Russia has no alternative but to support Lukashenka, even on energy matters.

According to Russian political scientist Sergei Karaganov, Head of the Council for Foreign and Defense Policy, Russia wants Belarus to do three things:

1/ To guarantee the safe passage to Kaliningrad. Indeed, this not only means for Belarus to facilitate transit of gas and oil, which Russia can eventually achieve through NEGP, but also to ensure free movement of consumer goods to the Russian enclave. It is noteworthy that Lukashenka has already twice in the past blocked the transport of goods during the oil-gas war at the beginning of 2007. We should also take into consideration that in the Kaliningrad Region the people are strong separatist sentimentalists, and that about 30 % of the population are Belarusians.
2/ To maintain Russian military installations on the Belarusian territory (this has two important points: a Russian missile-defense site and a navigation station for Russian submarines operating in the Atlantic.
3/ To guarantee neutrality of Belarus in the future: refraining from joining NATO and the EU.

Furthermore, the more Lukashenka pushes for confrontation with Russia, the more difficult it will get for Belarus to salvage their relationship with Russia. In fact, Belarus will pursue the same energy strategy as the Central European countries do now. To this end, Belarus might draw on rather dubious contacts with Venezuela and Iran. Belarus and Venezuela have signed eight bilateral agreements on the development of economic cooperation. The documents include a protocol of intent concluded between the *Petroleos de Venezuela* state-owned Oil and Gas Company and the *Belarusneft* production concern on setting up a joint venture to develop oil deposits. Belarusian First Deputy Foreign Minister Vladimir Semashko upon visiting Caracas noted: "The foreign policy lines of the two countries, opposing a unipolar world, coincide". A similar agreement was signed also with Iran.

EU POLICY

Poland and the three Baltic states mounted a bitter opposition to the Russian-German plan to construct a natural gas pipeline from Russia to Germany on the bottom of the Baltic Sea, thus effectively bypassing all four countries. They maintain that the project poses a grave environmental threat as well as put their energy security in peril. Moreover, they have criticized a fellow EU member Germany for going ahead with the Baltic Sea gas pipline project without prior consultation with other EU members.

In order to better illustrate the declared aims of EU Energy Policy, we should consider the European Council Conclusions about the European Policy for Europe. In the Conclusions, it is said: "The Energy Policy for Europe (EPE) will pursue the following three objectives, fully respecting Member States' choice of energy mix

and sovereignty over primary energy sources and (at the same time) underpinned by the spirit of solidarity among Member States:"

- Increasing security of supply.
- Ensuring competitiveness of European economies and availability of affordable energy.
- Promoting environmental sustainability and combating climate change.

The Polish side has proposed an energy treaty stressing four main areas of cooperation:

- A mutual energy-security guarantee clause under which signatories would support each other.
- Members would be required to develop energy infrastructure to allow cooperation if energy supplies to a member states were disrupted.
- Members would seek to intensify diversification of energy sources and transportation routes.
- The alliance would be "open to all member states of either the European Union or NATO," thus effectively ruling out Russian entry.

Countries outside the treaty could join at a later stage provided they were willing to assist member states in need and would build and develop energy infrastructure suitable for such cooperation. Poland has already started lobbying NATO, particularly the United States, to grant Ukraine a *Membership Action Plan* statue in order to start anchoring the country firmly into the Euro-Atlantic community. That would make Ukraine eligible to join the energy treaty.

"We are happy with the Commission's Green Paper. The problem is that it does not go far enough. We need something more," said Piotr Naimski, Poland's deputy economy minister.

Energy ministers called on EU leaders to support the development of a "common foreign and trade policy approach in support of energy policy objectives" and speed up the reduction of barriers on the EU's internal energy market.

CONCLUSIONS

In conclusion I would like to mention several fundamentals shaping the current debate. First of all, we have to deal with the ongoing conflict of interests and with a strong geopolitical undercurrent. In order to do so, however, we need to answer the following question: is there unity among EU member states on energy matters?

My answer is a resounding no. Given the current geopolitical situation, there are three main blocks of players, as I have already pointed out; Russia, the old EU and the new EU (i.e. transit countries). The EU bodies and institutions are in fact the playground. The determination of Warsaw to exclude Russia from any discussion on energy security and Moscow's resolve to the contrary are being played out on the EU level. Russia is formally considered a foreign country, but has strong supporters within the EU such as Germany.

The second question is practical one: how long will the EU lack common policy mechanisms on energy? The need for such a policy is clearly evident, as a guaranteed energy supply is a necessary precondition for economic development. It is a small wonder to hear statements like the one that the EU "fully respects member states sovereignty over primary energy sources", while the Common Foreign and Security Policy strives:

1/ To safeguard the common values, fundamental interests and independence of the Union.
2/ To strengthen the security of the Union and its Member States in all possible ways.

The importance of the energy debate cannot be overrated in so far as the concept of general security is concerned.

If the EU continues to lack a common energy policy down the road, and national states are left to choose their energy suppliers there will be little to be done to protect economic interests of an individual country. I think that the creation of a Central European Initiative on Energy is worth-while. This initiative should be open to non-EU countries such as Belarus and Ukraine, because they are also bypassed.

HUNGARY AND ENERGY SECURITY IN CENTRAL EUROPE

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Let me begin by saying that we do expect a big drop in exports flowing through the Druzhba pipeline. From 2009 when the Chinese pipeline capacity will be ready and even afterwards, I think that everything will be done to decrease the Druzhba's capacity. This will not affect gas markets but, anyway, this will be very unstable transit.

We do not expect very much from the EU. So, we are alone and, as far as diversification is concerned, what we see now in the EU is that the EU contribution here is positive but very weak now. What we see now, on the European level, is that national capitals make very good deals with the Russians and let the EU send negative messages to the Kremlin and actually we do the same thing. What matters now is that we have got quite a good effort in the EU Commission to have more an open approach towards the Russians, but the fact is that in 2006; almost half of the European gas supplies were re-contracted by the Russians. So on one hand, you have got a re-contracted system and gas supplying contracts for twenty to thirty years, and on the other hand, you have got the EU Commission's promise that there will be type of common policy. So, what we see now is quite disappointing, in this regard. We are for an EU policy to some extent, in terms of single market, investment into the infrastructure, and a common approach to some producers. I do not expect to have a common European policy and, perhaps, if I had a chance to approve the European common energy policy tomorrow, I might say no, because we would be in the Russian supplied corner of this common European policy. I am sure that the European policy will not be any tougher on Russians nor that it will be united or that it can strike a good deal with the Russians.

So I think that we are alone in these things and what we look towards the dialogue between the EU and Russia with unease. This is going to be a politically very biased dialogue.

What kind of response do we have? First of all, we started to build the gas storages in our country; this should be now good for 20 days. We also started to import Middle Eastern oil because we see the problems which exist with the Druzhba pipeline. Indeed, this action was partly because of refinery optimization. However it does not generate revenue for the corporate investors. Regardless, it is important because we have to make this pipeline functional. We raised the domestic consumer prices not only due to energy dependency management, but also because of the budget deficit. This was a very good step forward to limit the growth of the gas. We think that we cannot wait for the EU energy policy. The countries which are in the same situation, meaning the V4 countries, and some countries from the Balkans should act together, in a regional pattern. That is why we had this initiative in the V4 framework. Basically, all governments are very sceptical about the prospects of V4 countries' cooperation. We are very desperately trying to promote the diversifi-

cation projects and in this sense, I think we made a mistake. We had the opportunity to re-contract all long term gas supply projects, and we missed that chance in the genuine hope of having a big Balkan pipeline. However, all we have is an energy terminal. I do not see this perspective, securely enough to say simply, no for the Russians in this regard. Well, this is about an all-diversification policy.

As far as Russia is concerned, what we would like to have happen is: reach a new deal with the Russians. In order to have a good deal with Russians we will not strengthen the perception in Moscow that Europe depends on Russia or so. If we want to have good deal with Russians, we also have to demonstrate that we have alternative sources of supply. What we have now, is the very politically biased discussion. I think it is not beneficial for any of the sides involved.

Therefore we have been trying to separate energy dialogue from all the other questions we have. Because I think that in this case, we have interdependency. The problem is that I do not think that we will have a united front in this regard and I think this is a quite farfetched aspiration as well. However if this does not happen we will have to make separate deals with Russia. As far as western cooperation is concerned, I see a number. I would like to confront what I think some contradictions which exist between EU policy and the interests of these western CIS countries. So, e.g. diversification of the EU, building the Trans-Caspian pipeline and bringing central-Asian gas, basically counters with the interests of Ukraine and Belarus. Also I think that the basic problem that these western CIS countries face is that if they have a chance to choose between a transparent regime with high oil and gas prices or cheap oil and gas prices with a non-transparent regime, they will choose the non-transparent regime and the cheap oil and gas prices. They are the last segment of the post Soviet gas supply system. So, if we want to establish a transparent regime in post-Soviet territory; the Russians, of course, will have a role to play, but we will have to start with these countries. These countries are not that interested in having such a role. So as long as we do not have a market situation in the western CIS countries, they will have much cheaper prices than we have. It is quite difficult to interact on a corporate level with these countries. What you can do is give governmental subsidies for energy efficiency projects such as EU subsidies of this kind. However, this action will not really bring money into these systems.

ENERGY SECURITY FROM PERSPECTIVE OF V4 COUNTRIES

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(Poland)

The first question is what is the energy security from the perspective of the V-4 countries and the overview of the countries is that we all have kind of inheritance from the, let us say, the Soviet times so we are somewhat connected to the Soviet system, our industry, energy industry, is more less dependent on the supplies. Of course, we have some internal assets, let's say, it means that Poland, the Czech Republic, we have coal, and in some countries like Slovakia there is a power plant and this is something what we can use but this connection to the Soviet system is still very visible. From the Polish perspective, we import almost 95 % of our oil from Russia. This is why we are on the pipeline, on the Northern route of the Druzhba pipeline and our two refineries are connected to that. These are our two major refineries. Apart from that, we have three small refineries in the south of Poland, but they play no role in our industry.

In gas, as it has been said before, we are the least dependent but from our prospective our dependence is quite significant. There is a small usage of gas in Poland which amounts to 14 billion cubic meters a year. This is the lowest rating in the European Union per capita. However gas is still very important for our industry, especially our chemical and petroleum industry. We have about six and a half million households connected to gas, so when would we compare this to the total number of people (almost 40 million), it is not that much. Yet what threatens us is that almost 70 % of our gas supply is imported and almost all of it is coming from the East, Russia. The imported gas is either Russian or comes from Central Asia, which, in fact, goes through the Russian system, so for us it is basically the same. You never know if it is going to come or not. Only 30 % of our gas consumption comes from our own resources. We have gas deposits in the south of Poland and in the western part of Poland. The problem is that this gas differs from the typical variety. It is not high in methane, but another gas which must be re-processed before it is useable.

What concerns the last connection to the Soviet times? All of our countries possess infrastructure from that time period but the structure of processing is different. I mean that in Poland it is under the control of the state, but in other countries there are some privatized pipelines and gas pipelines. Energy security from the Polish perspective should mean diversification of supplies or the routes of supplies. The projects which we are currently running should guarantee us diversification of supplies, at least in the gas sector. The project which I am talking about is the LNG terminal on the Polish Baltic sea coast and the possible connection to the Norwegian offshore gas deposits, called the Baltic Pipe which is the underwater pipeline from Denmark. Then the gas would be delivered to Denmark from the Norwegian shelf. Hopefully, these two projects will succeed. We are currently in the phase of negotiations on the corporate and governmental level. But the corporations play the most important role. As far as the LNG terminal is concerned, the investment is in the

phase of preparation. This means that we are gaining all the documents, feasibility studies, environmental impacts assessments and all the nessesary staff. Of course we must be in accordance with the European requirements and this takes time.

Our aim, apart from making these investments, is to use the EU's influence, or, let us say, the EU regulatory framework to increase the security of our supplies. As it was mentioned before, last year, we proposed a kind of treaty which was discussed very seriously. Despite not being successful, we will try once again to promote this policy down in the future and we will act in a manner that enables us some provisions regarding the energy solidarity into EU legislation. We are expecting the new legislative package of the Commission and we hope that in that package we can, at least, put some mechanism in for solidarity. Of course, it is not so easy because this solidarity, especially in the gas sector, means that you have to have real way to supply gas.

Another action which we introduced which is connected with the oil market is joining the International Energy Agency. We will become a member of the agency this fall. To be a member of this agency is not an easy task. We are, in fact, the last country from the V4 countries which will join the organization. The agency provides us with rules concerning energy crisis management. Of course, the need for keeping stocks of oil and oil products at least 90 days is one of these regulations which we intend comply with.

What we should reflect on is the views of our partners in the V4, especially from the point of view of the Polish energy security. Of course one such project is North stream pipeline which Poland and some Baltic states strongly oppose. It does seem though that other countries from the Baltic Sea are not very keen on that project as well. However in contrast to our security concerns, these nations have environmental qualms. Currently, we are in the process of consultations on the basis of the ESPO convention which is regulating the natural environment protection, especially in the area of the Baltic Sea, and the analysis (made within the group of countries) showed that the environmental impact assessments of that investment are not sufficient. So, we ask the investors to make it more precise. Another problem, which we may expect, is connected with the lack of oil which may be the result of the extension of Primorsk port in Baltic Sea. The Primorsk port may be extended and it may mean that the northern route of Družba pipeline will not be used anymore.This means that we have to be prepared for such actions. Fortunately for Poland we have enough infrastructures on the seaside in place which enables us to import oil from the Baltic Sea. However, the price of oil imported by pipeline and by ship is incomparable. So at the end of the day this is a question of money.

If we should think about the role of Russia and its perception of transit countries, we realize that Russia tries to keep control over the transit infrastructure. This

is one thing and another thing which from our perspective is very painful, is that Russia tries to separate EU member states into two categories: old member states and new member states. Old member states may be pleased with better treatment they receive and new member states, do not necessarily expect the same treatment from Russia. This bias is not only on the basis of energy but also on the basis of agricultural products. For example, we currently face an embargo on the Polish agricultural products and meat from Moscow. We have tried to discuss this problem on the European level and we expect that it should be resolved somehow within the framework of a common action of the European Union. This embargo and also the attitude of Russia to the Transit protocol and the European Charter Treaty was one of the main reasons that Poland was against the mandate of the new PCA agreement between the EU and Russia. Because of our veto this mandate was not given, so the EU is, in fact, without the new treaty with Russia. However it seems that no one really needs this treaty.

What should we make of the cooperation between our countries in the European Union? We would expect that we could create a group of countries which would unify laterally and try to push our interests. This is important because, as I have said, the European Union is sometimes where you have to fight for your rights, especially with regards to EU legislation and regulatory framework. These arenas are very important and have a direct impact on our actions. Sometimes, we have the feeling that a single action has no power but a coordinated action should have more influence on the European institutions.

Of course, Poland thinks that cooperation with former soviet countries is crucial. One of the examples of this possible cooperation is the Odessa-Brody-Plock project. This is a project where an oil pipeline will be built from the Caspian Sea through Azerbaijan, Georgia, Ukraine and Poland to Gdansk. This project is very politically charged issue, but it may also be very economically viable. Now the process of political talks is going on and also some commercial activities have been made. Hopefully, quite soon we can expect some progress. From my point of view, this project may also be the vehicle for cooperation in the European Union, especially by bringing on board Eastern member states.

The last thing I should mention is the attitude to the Union's attempts to insert ideology into the energy debate. I mean that the EU campaign to reduce emissions, improve energy use and intensify the use of biomass as a renewable source of energy. I would say that in this context, we need not ideology, but rather common sense. Therefore unless our actions can convince China, India and other nations, they are in vain. Thank you.

LIMITS OF ENERGY POLICY MAKING IN CZECH REPUBLIC

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Chamber of Deputies of the Parliament of the Czech Republic
(Czech Republic)

Let me offer you a short list of what I think is the capacity of our energy policy making at the moment in the Czech Republic. The Green party, which I represent, is part of the Government, but please do not regard what I am saying as a governmental policy, because we are not single party in the government, but rather the third largest in the governmental coalition. However we have managed to convince our partners on several issues and the energy policy we negotiated before we entered the government.

What are the options for the Czech Republic which must be reached in order to secure energy supplies? In short term any country strives to secure supplies for some certain period of time be it 90 days or 1 year, but that is only a temporary solution. To secure supplies or resources for the long term means to enlarge influence to the countries where these resources located. Given the size and influence of the Czech Republic it is clear it can only enlarge its influence when it becomes part of a coallition. It could be a regional coalition as we are discussing the case of Visegrad Four countries today, but the most important coalition membership for us is of course the European Union. NATO should be also taken into consideration when we speak about energy security. If we want to solve our dependency problem and not only to look on map to seek possible geographic diversifications we have to have a closer look at new technologies for energy saving measures so that we may become more energy efficient. However, the solution to our problem, no matter what it is, will be political.

There is a political danger in the energy debate as well. It is not only about closing pipelines here or there, but also about power which is exercised by big companies both private and state owned and which are not democraticaly controled. This is also the case in Czech Republic. We have the ČEZ company and the majority owner is Czech state. What do we get out of this? Almost nothing. This company earns an immense amount of money every year while the prices for energy are increasing to the point where people are quite legitimately asking why they must continue to pay more? The Minister of Finances of our government Mr. Kalousek said that there is only one body in the state more powerful than government itself and it is the ČEZ company. He later took it back and tried to mitigate his statement. He was perfectly right. This company is financing political parties, exluding the Greens, and has a big influence on the public because everybody is a consumer, including the Greens. This should also be part of the energy debate.Who should own the energy companies, where should their profits go and how do these things affect public interest? I think that the public interest issue is something which has often been forgotten in this debate.

Last but not least the climate change debate is also part of the energy security debate. Czech president Václav Klaus, who is not in favour of the shape of this de-

bate, is also the leading politician of the ODS party. Current Minister of Trade and Industry Martin Říman, representing ODS party in government, is somebody who led a case against the European Commission in the case of the emission trading system and this was a very negative contribution to the Visegrad Four. Well lets say three because it is Hungary, Slovakia and Czechia who are leading the law suit against the Comission. It is a very serious action to cast doubts on the system as such and consequently to attack an attempt of the EU to find a common approach. Especially when I believe that this approach should be our goal.

I want to conclude with five brief points that are from my perspective most important for the coming years:

- Common approach of the EU – it is existencial interest to support the common approach of the EU to develop tools for energy solidarity.
- Investment in renewables – renewables are not going to save us but they are able to diversify our resources. We have to include much more business and universities in the debate.
- Liberalization in all areas – without massive state aid for nuclear energy it would not exist because it does not pay off. It is ironic to debate when we are discussing whether or not to put one billion euros into renewables or new technologies when we pay dozens of billions of euros for nuclear powerplants. Nuclear energy is an important bridge for new renewables and new technologies, but it is not renewable energy itself and it is notsafer then other forms of energy. There are many political implications we can prove it with.
- European perspective – we should empower the european perspective for countries in our neighbourhood and not only in terms of energy security but also with a focus on democratic mechanisms and civil society development in these countries.
- Europe as a global actor – without helping Europe to become a strong global player all previous points are going to be just academic talk. Without including Russia and China we will not be able to safeguard the climate or even secure our energy demands.

CONCLUSION REMARKS

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Association for International Affairs
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From this conference, we can conclude some remarks. The largest player in the energy game is Russia with this complex situation. The capitalism in the energy sector is not so wide but only state capital. More and more control is launched by states especially with projects for building new transport routes. Energy is also not business oriented especially for those former soviet countries.

Russia stays in this growing energy sector depending on the revenue of gas and oil exports. However some big problems still may occur. One foreseen problem might be the gas delivery in 5 to 10 years since new technology is needed for this new field. However, Russia does not have this technology, but does have several options. The first one is to invite foreigners who possess the technology. The second one might be to steal the technology. The third one could be that Russia tries to play the energy game until the end. Last but not least, Russia would control domestic gas supply, separate those EU member states and offer to sell to those who can pay higher prices. Russia's interest is to increase the high price in gas to control the upper and lower streams including the gas field, and the transportation. Thus, every player has to depend on Russia.

The Czech Republic has oil pipelines from Germany standing for 20 percent of their energy needs. Thus, this country is somehow independent from Russia and Russia deals with the Czech Republic in a quite amicable manner.

The solution to the energy problem is not to have many weak players deal with Russia, but rather one big player. Though the North Stream project is somehow like the energy NATO initiated by Poland, it is not in the right time and not the right way. The EU plus eastern EU countries can be the one big player with one common EU policy. However, we cannot wait for the EU common policy without taking some immediate action. What should we do now? Each country should set up the cooperation mechanism and make friends with the western EU member states. What is more, the same rule should be introduced to Russian companies to avoid the monopoly. Transparency is also crucial. The democratic control should be introduced to the society in the eastern countries. Otherwise, the possible outcomes could be that all the pipelines are owned by Russian companies or the cooperation with the EU playing the game under the EU rules.

PART II

ADDITIONAL PAPERS

THE IMPACT OF CENTRAL AND EASTERN EUROPEAN COUNTRIES ON THE CHANGING ENERGY SECURITY CONCEPT OF THE EUROPEAN UNION

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Tomáš Karásek

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Abstract
The paper analyzes the link between the eastern EU enlargement and the formulation of the EU's energy security concept. It starts with a description of the energy challenges in the European Union, and the set of policies which the EU devised to deal with them. Subsequently, it assesses different analytical concepts for the study of energy security, putting an emphasis on the concept of securitization. The next part of the article is devoted to one of the crucial issues in EU energy security – relations with Russia. Finally, the paper focuses on the influence of the eastern enlargement on EU-Russia relations and concludes with a recommendation concerning a common EU energy policy.

INTRODUCTION

There can be no doubt that energy has become one of the most prominent political and security issues in the course of the previous couple of years. It might even be suggested that the risks stemming from the potential disruption of the production and distribution of the energy resources and energy itself have quietly surpassed, both in practical politics and in expert discourse, the threat of global terrorism which has remained in the focus of the international community ever since the September 2001 attacks on the United States. There are good reasons for this shift of attention: rising demand for energy fuelled by rapid economic growth of large countries in Asia (most notably China and India), problematic aspects of political development of major oil and gas producers (Iran, Russia, Venezuela), disruption caused by failing electric grid in developed countries of the Euro-Atlantic area, and the issue of climate change on which a firm political consensus seems to have been established.

Naturally, the European Union as one of the major economic (if not political) actors on the world stage have confronted the issue of energy security as well. Being overwhelmingly dependent on the import of energy resources, the EU has taken part in debates on the security of supply. This concern has been aggravated by the fact that oil and gas supplies come mostly from either unstable regions (Middle East) or unreliable countries (Algeria), or from players whose intentions come, at least from time to time, under suspicion (Russia looms large in this category). At the same time, the Union still graples with its unfinished business of creating a common energy market, aims at standing at the forefront of the fight against global warming and attempts to spark a new round of technological innovation which would push its energy industry into new direction. Economic, environmental and security concerns mingle and make it difficult both to propose and implement a clear-cut strategy, and to analyze what exactly are the motives and interests behind particular policy initiatives.

Moreover, in the case of the EU the debate on energy security has gained new momentum by the accession of Central and Eastern European Countries (CEECs) in 2004. By this act, the Union has incorporated into its structures states whose energy policy outlook is notably different from that of the 'old' members. This is most evident in relation to the issue of external supply, where the new members have to grapple with an overdependence on one source of oil and especially natural gas. A claim that the reliance of the CEECs on Russian pipelines brought Russia forcefully back into European security debates would not be too farfetched. Given the problematic and in some cases even hostile relations between some of the new members and Russia, the securitization of EU energy policy seems like a natural development.

In our analysis, we come from the presumption that the main influence of the new EU members on the Union's energy security concept is the growth of significance of relations with Russia. The question we try to answer is what exactly this growth means. Nevertheless, before turning to this particular issue, it is necessary to examine what we mean by energy security, and in more general terms energy policy of the European Union. Only then can we assess what role is played in the context of this policy by Russia and how the EU-Russia relations were influenced by the new member states.

Our analysis proceeds in four steps. First, we outline the general energy situation in Europe and the resulting set of policies the Union has devised to counter the challenges stemming from it. Second, we turn our attention to the problem of how an *energy policy* issue turns into an *energy security* problem and what conceptual frameworks we can adopt to understand this process. Third, we analyze in detail the development and current state of EU-Russia energy relations, with a particular focus on problematic aspects thereof. Finally, we present the position of the CEECs in the context of the energy situation in Europe, and how this position has influenced the debates on EU energy security concept.

EU ENERGY POLICY: IS THERE SUCH A THING?

The basic figures concerning the situation of energy consumption, production and imports are well known. As Gawdat Bahgat notes, "Europe's energy mix is strongly dominated by fossil fuels. In 2005 oil constituted approximately 37 per cent of of the EU's energy consumption, natural gas 24 per cent, solid fuels 18 per cent, nuclear power 15 percent and renewables 6 percent." (BAHGAT 2006: 963) This is by no means an extraordinary situation in the global context where fossil fuels clearly dominate, given the lack of truly efficient renewable replacements, and also concerning ambivalent or outright hostile attitudes of domestic populations towards nuclear energy.

What is more important and relevant for the topic of energy security is how much of these resources EU member states are able to cover by their own production. Here the picture is rather bleak: "About half of the energy consumed in the EU is produced domestically, while the other half is imported (...) The EU members possess only approximately 0.6 per cent of the world's proven oil reserves and 2.0 per cent of proven natural gas reserves, and these limited reserves are largely concentrated in the North Sea. Norway, the Netherlands and the United Kingdom hold the bulk of Europe's proven natural gas resources."[1] (BAHGAT 2006: 963) Moreover, the natural gas reserves in the North Sea went through the peak production phase in the 1990s, and since then their output has fallen. The same holds true for the oil reserves. Logically, the "EU's dependence on foreign supplies is projected to grow from about 50 per cent in 2005 to approximately two thirds in 2030, by which time the EU is expected to import 94 per cent of its oil needs, 84 per cent of natural consumption and 59 per cent of solid fuel use. These projections point to an undeniable fact: that the EU energy security is fundamentally linked to the security of supply from the global fossil fuels market." (BAHGAT 2006: 964)

The challenge posed by this fact is further aggravated by the composition of EU oil and gas suppliers. From this point of view, the situation is slightly more balanced in the case of oil: Despite the fact that there are four big suppliers standing out (Russia with 30 %, Norway with 18 %, Saudi Arabia with 10 %, and Libya with 8 %), there is still 34 % of supplies covered from other sources which makes for at least some degree of healthy diversification. On the other hand, 95 % of the Union's natural gas consumption is covered by merely three suppliers, with Russia contributing overall 50 % to the equation (Algeria 23 %, Norway 22 %). (MONAGHAN, MONTANERO-JANKOVSKI 2006: 9) Considering the fact that the North Sea production has already peaked, the reliance of the EU on Russian and Algerian natural gas is certainly a cause for concern.

It would be too simplistic to identify the problems of EU energy security with its dependence on foreign oil and natural gas alone. As J rgen Henningsen points out, there are in fact several energy sectors in the EU. One is the transport sector which seems to be rather inflexible in its near-total dependence on one source – oil. According to Henningsen, in the other part of the energy industry focused on electricity production, domestic heating and industry, "natural gas, coal, nuclear, hydro and wind power are interchangeable to a great extent." (HENNINGSEN 2006: 8)

From another point of view, one might see another division in which oil and natural gas are largely tied to the system of transport pipelines (more in the case of nat-

1 Norway is not a member of the European Union, but as the member of the European Economic Area it is strongly integrated in the EU internal market.

ural gas, although the potential of the Liquefied Natural Gas – LNG – seems to offer some hope of making this resource partly pipeline-free) and also to the few foreign producers (which highlights the issue of the security of supply), while the rest of the spectrum (electricity from coal or nuclear fission and the renewable resources) is standing rather apart from the energy security debate.

The previous lines sought to demonstrate that discussing energy in the context of the EU is a far too complicated matter to be reduced just to the issue of the external security of supply. Though it might well be acknowledged that the European Union "does not have a common, effective energy strategy and policy" (MONAGHAN, MONTANERO-JANKOVSKI 2006: 7), there can be no doubt that the Union has pursued several initiatives across the whole spectrum of energy policy issues.

The fact that the EU does not have common, coordinated and efficient energy policy does not mean that it does not strive for one. The most recent developments are a case in point: In 2006 the European Commission presented a Green Paper called *A European strategy for sustainable, competitive and secure energy*, followed by a Commission communication from 2007 *An energy policy for Europe*. The document succinctly names three basic principles of such a policy, namely sustainability, security of supply and competitiveness. The principles unmistakably point to the EU's most pressing concerns: environmental effects of energy consumption (namely the threat of climate change), dependence on external sources of energy supplies, and the lack of proper internal market mechanisms in the energy sector. These are also mirrored in six principles which the document brings forward: competitiveness in internal energy market, diversification of energy mix, solidarity, sustainable development, innovation and technology, and external policy.

Consequently, we can identify four sectors where the EU has tried to take a common action: First, it is the internal energy market which importance stems right from the EU's economic cornerstone of free trading. Besides attempts to establish common rules for the market for natural gas and electricity, the EU has also been involved in the sector by its programme of Trans-European Networks (TEN), by creating rules for regulating public procurement and taxation, and by devising the greenhouse gas emissions allowance trading scheme.

Second, the EU has attempted to stimulate research and innovation in order to increased energy efficiency. A Green Paper released in 2005 is supplemented by *Action Plans for energy efficiency for 2000–2006* (and the currently operating plan for 2007–2012). Besides improving the conditions on the EU market, the goals of the strategy in this area are twofold: to reduce the level of import-dependency (import less by consuming less) and to contribute to the fight against climate change.

Third, the EU has strongly signalled its support for the research, development and implementation of renewable resources. The 2007 *Renewable energy road map*

proposes a mandatory target of 20 % energy consumption being covered by renewable resources by 2020.

Finally, with the looming threat of rapidly increasing dependence on external supplies, more and more focus has been devoted to the issue of external energy relations. Even before EU formally stated its external energy security goals in the 2000 Green Paper *Towards a European strategy for the security of energy supply* and the 2003 *European security strategy*, it had tried to promote a normative framework which would safeguard the interests of its members as well as of the producing countries. This effort, pursued already from the beginning of the 1990s, resulted in the signing and entering into legal force (1994 and 1998 respectively) of the *Energy Charter Treaty*. (BAHGAT 2006: 968) It presents a set of international rules for investment and trade in oil and gas sector, including a protocol on energy transit. It is, however, telling that Russia has so far refused to ratify the Treaty. (BARYSCH 2007a: 3) Besides the multilateral framework, the EU has also been active in promoting cooperative relations with resource-rich regions such as the Black See, the Caucasus, or the Persian Gulf (BAHGAT 2006: 968; BELYI 2003: 358).

FROM ENERGY POLICY TO ENERGY SECURITY

There are numerous definitions of security and the same holds true for energy security. One of the experts of the studies of energy problems, Daniel Yergin, proposes to broaden the usual definition designating energy security as the "availability of sufficient supplies at affordable prices" to incorporate the diversification of supplies, resilience ("security margin"), recognition of the reality of integration, importance of information, and the influence of the globalization of the energy security system. (YERGIN 2006) Similarly, Gawdat Bahgat defines energy security in terms of sustainable and reliable supplies at reasonable prices, elimination of the risk of sudden and severe fluctuations, sufficient level of investment, spare capacity and diversification of supply. (BAHGAT 2006: 965–966) Other aspects can be included: in his 2004 appeal for the EU to establish a truly common energy policy, Nick Butler of the British Petroleum lists among the threats to energy security not only problems of supply, but also risks posed by the industry to the global climate. (BUTLER 2004) Similarly, we can distinguish different sectors of energy security, e.g. geopolitical, economic or normative. (BELYI 2003)

Another important question is how the security aspects of the energy policy relate to its non-security problems. Fran ois Heoisbourg has formulated the problem aptly in relation to the EU: "if energy is a strategic good, should a European Union energy policy be primarily about the liberalisation of the energy market?"

(EGENHOFER et al 2006: 1) In other words, what is and should be the relation between the market forces (whose positive impact on global economic growth is widely acknowledged), and the intervention of the state or organization thereof? Is it not the case that state intervention (particularly by the harshest – e.g. military – means) can rather destabilize the situation than ensure the energy security? Having neither an ambition nor enough space to deal with these questions, we merely point to studies which deal with them in detail (EGENHOFER et al 2004)

Nevertheless, the clash between market-based and state-centered approaches is highly relevant also in the context of external supply. For example, widely diverging views of Russian interests and motives in connection to oil and gas trading largely stem from different viewpoints, one regarding Russia primarily as a participant in mutually advantageous economic relations, the other as a political competitor interested in increasing its power.

Before we turn to the case of EU-Russia relations and the impact of Eastern enlargement on them, one more theoretical question needs to be posed. From the technical point of view there seems to be enough resources for upcoming decades. (EGENHOFER 2006) So how actually does energy policy, or a part of it like external supply of energy resources, turn into a security issue? Is it merely the case of sources, once plentiful, turning into a scarce commodity, thus transforming a non-zero sum economic competition to the zero-sum political struggle? Or shall we take other processes into account when trying to uncover the hype surrounding the energy security debate?

Andrei Belyi is an author of an interesting study in which he tries to analyze the concept of energy security against the theoretical background provided by the concept of securitization, formulated by the Copenhagen School of international relations. (BELYI 2003) He repeats its argument that security is not an objective factor, but rather a social construct resulting from particular discursive actions by relevant political players. Thus, a security threat only appears when it is created as such through the process of so called 'securitization'.

In our opinion, what the authors of the Copenhagen School have on mind is not that we should completely disregard the objective factors in our analysis of the energy security environment. Rather, we should acknowledge that in identical 'objective' conditions different reactions might appear, following the prevailing stream of political discourse. Hence, whether energy is or is not debated as a security issue does not stem from the external conditions only, but also from the willingness of political elites (and their electorates) to treat them as such. The relationship between the EU and Russia are a case in point.

RUSSIA AND THE SECURITY OF SUPPLY: PARTNER OR THREAT?

By any measurement, Russia is one of the crucial players in the global energy market, and it is significantly more so for the EU. "Its discovered and projected reserves are considered to be among the largest on Earth, with its gas reserves estimated at approximately 47 trillion cubic metres (26 % of the world's total) and oil reserves estimated at in excess of 100 billion barrels. In addition, Western Siberia is the world's richest hydrocarbon area, and there are also potentially enormous reserves in other regions which have yet to be exploited or even fully explored, such as East Siberia, the Komi Republic, Nenets Autonomous Okrug and the Barents region." (MONAGHAN, MONTANERO-JANKOVSKI 2006: 18) In relation to the EU, Russia is especially important as a source of natural gas which it supplies to Europe through the Yamal-Europe and Blue Stream pipelines, with an additional pipeline (North Stream) projected through the Baltic Sea. In total, Russia alone nowadays supplies more than one quarter of European energy needs (BAHGAT 2006: 970)

The European Union is well aware of the clout Russia possesses as a result of its natural wealth, and, indeed "energy is a crucial element of the EU-Russia relationship." (MONAGHAN, MONTANERO-JANKOVSKI 2006: 24) A formal energy dialogue was launched between the EU and Russia in October 2000 on the basis of "increasing recognition of mutual dependency and complementary interests by Russia as a primary supplier to the EU market and the EU as the largest integrated energy market in the world." (FUJIWARA 2003: 2) The dialogue is located inside the normative and institutional structure of the EU-Russia Partnership and Cooperation Agreement, and is regarded as part of the effort to establish a Common European Economic Space. Put in less formal way, "the EU-Russia dialogue is based on a simple bargain – Europe's investment in return for Russia's oil and gas." (BAHGAT 2006: 969) As some authors have pointed out, the dialogue has not been proceeding smoothly, particularly because of Russia's unwillingness to cede even partial control of its energy companies (which it considers strategic assets) to foreign hands. (FUJIWARA 2003: 3)

On the other hand, as Monaghan and Montanero-Jankovski point out, there is an agreement among experts and EU officials alike that "Russia has never suggested curtailing its energy supplies to the Union, in particular to the EU-15." (MONAGHAN, MONTANERO-JANKOVSKI 2006: 10) They also point to the fact that Russian gas industry is effectively maintained by revenues from its exports to Europe. This condition is one of the crucial factors which challenge a producer-versus-customer understanding of EU-Russia relations.

There is a number of sources of problems between the two actors. First, we will mention a growing concern about Russia's actual ability to increase or even maintain the current level of production. As Monaghan and Montanero-Jankovski point out, "a number of experts and officials are predicting that Russian oil reserves will soon be depleted and that the country will not be able to develop its gas reserves." (MONAGHAN, MONTANERO-JANKOVSKI 2006: 18) According to a recent information published by *The Economist*, "the output of Gazprom's three super-giant wells, which account for three-quarters of the production, is declining at a rate of some 6–7 % a year." (*A bear at the throat* 2007) This is not only due to natural limitations but also a result of chronic underinvestment in developing the standing and exploring future fields.

This situation is closely interconnected with Russia's unwillingness to let in foreign investors, and its effort to push out those who have remained. Katinka Barysch mentions that the problematic concept of 'reciprocity' under which European companies will be granted investment opportunities in Russia while Gazprom gets access to distribution and sales businesses in the EU. According to her, "the trouble is that Europeans and Russians mean completely different things when they talk about reciprocity. The EU wants a mutually agreed legal framework to facilitate two-way investment. The Kremlin wants assets swaps. Europe wants openness, Russia wants control. For now, reciprocity is working in Russia's favour. Gazprom already has investment in 16, perhaps 20, of the 27 EU countries." (BARYSCH 2007b)

The logic behind this reasoning is naturally encouraged each time Russia makes a move which can easily be interpreted as politically motivated. Even authors less inclined to regard Russia as a trouble-maker have to acknowledge the huge negative impact of Russia's decision to turn off its supplies to Ukraine or Belarus, that affected a host of EU member states, including Austria, France, Germany, Hungary, Poland and Slovakia. (MONAGHAN, MONTANERO-JANKOVSKI 2006: 16) Even if Russian motives had been purely economic and just (to impose more reasonable prices and prevent thefts from the pipelines in the territory of the transit states), the action reinforced the image of Russia as a country willing to use the 'energy weapon'. Other Russian actions only add to this unfavourable view, e.g. the cut of supplies to the Latvian oil export terminal at Ventspils or similar move in relation to Lithuanian Mazeikiai refinery. (LARRABEE 2006) Russian state-owned companies have also tried to undermine EU plans to build new alternative routes of pipelines from the Caucasus and Central Asia, not to speak about Russian suggestions of forming a OPEC-like cartel which would control the production of natural gas. (*A bear at the throat* 2007)

When we sum up these events, it is easy to see why the notion of Russia as an energy security threat has taken hold in European energy security discourse.

Though not necessarily well understood, Russian behaviour provokes reactions which confirm the image of energy security as a zero-sum game in which Russia and the EU appear to be standing in juxtaposition. As Monaghan and Montanero-Jankovski note, "myth, perception and the political agenda have all played important roles in generating such fears." (MONAGHAN, MONTANERO-JANKOVSKI) It remains to be interpreted what role the new EU member states from Central and Eastern Europe play in this complicated relationship.

NEW KIDS ON THE BLOC: THE ROLE OF EASTERN EUROPE IN EU ENERGY POLICY TOWARDS RUSSIA

With the accession of new member states from Central and Eastern Europe, the EU has absorbed countries with clearly cut security concerns and interests: All of them have become NATO members before the entry to the Union, and a majority of them expressed much stronger support for the U.S. than is usual among the 'old' member states. In the run up to the war in Iraq in 2003, this divide became clearly visible: "Whereas France and Germany opposed the war, the leaders of the Czech Republic, Hungary, and Poland, together with the leaders of Denmark, Italy, Portugal, Spain and the United Kingdom, openly supported the U.S. position." (LARRABEE 2006) The same holds true for the rest of the Eastern European countries.

But it would be too simplistic to portray the countries of Central and Eastern Europe as a homogenous bloc. According to their foreign policy behaviour, we can roughly divide the countries in two groups: one made up of Poland and the Baltic states, actively promoting the eastern orientation of EU foreign policy and closely adhering to the American position in global crises, the other one comprising the Czech Republic, Slovakia, Hungary and Slovenia and behaving more like an EU mainstream. (KRÁL 2005) The former group also regards NATO in more traditional terms as primarily a security insurance against Russia, while the latter has rather conformed to the Alliance's post-1990 self-image as a regional (and perhaps global) security provider. The divisions are also evident in relation to Russia: "Other than Poland, the Central European countries tend to have relatively trouble-free relations with Moscow. Some, such as Bulgaria, Hungary and Slovakia, have recently been mimicking the bigger EU countries by forging closer bilateral ties with Russia."[2] (BARYSCH 2007c: 3) Larrabee points out a number of

2 It is, however, necessary to emphasize the influence of results of elections, as well as actual events on the foreign policy orientation of these countries, as the current controversy surrounding the U.S. plan to locate parts of its missile defence system in the Czech Republic and Poland demonstrates.

"special relationships" developed by the CEECs: Slovenia's to Hungary and Austria, Poland's to the United States, Lithuania's to Poland, or Estonia's to Finland. (LARRABEE 2006)

Unlike the 'old' EU countries, the new members are almost completely dependent on Russia. Slovakia which imports 97 % of oil and 98 % of natural gas from Russia (and depends on it for supplies of nuclear fuel as well) is an extreme case but the rest of the countries face fairly similar situation. (MONAGHAN, MONTANERO-JANKOVSKI) Eastern European countries are also directly affected by Russian companies' 'pipeline politics'. The Russian-German agreement to build a gas pipeline through the Baltic Sea means the new route will completely bypass Poland and leave this country in a strategically weakened position. It does not come as a surprise that Poland has become one of the most vocal defendants of a common EU energy policy, calling on the solidarity among the member states to counter the 'threat' posed by Russian behaviour. Hungary, on its part, has not decided for counterbalancing but rather bandwagoning when its Prime Minister agreed to the Russian proposal that the Blue Stream pipeline (running across the Black Sea) would be extended to Hungary. The offer was complemented by a promise by Gazprom to build a large gas-storage facility in the country which could become the hub for the whole Central Europe. (*A bear at the throat* 2007) This Hungarian decision means a serious blow to the EU common project which should follow approximately the same transport route.

What to make of these political steps? The states of Central and Eastern Europe have to grapple with a paradox made of historically motivated suspicion of Russian motives, and at the same time their almost complete dependency on Russian oil and gas. It is clear that Eastern Europe is not in a position to become a decisive factor in the debates on EU energy security. Even if the CEECs would present a united front, they would have to compete for their vision with countries which draw their attention to North Africa (France, Italy) or the North Sea (Great Britain, Scandinavian states), or whose relationship with Russia runs on a completely different track (Germany). But united they are not, as the case of Hungarian accord with Gazprom or Slovak and Bulgarian overtures with Moscow clearly indicate. Nevertheless, because Russia and its behaviour is a challenge for the rest of the EU, the CEECs may possess some leverage in influencing the EU energy security concept, for example by putting themselves in a position of 'experts' on the topic, or by using the calls for a common, joint European position from which they would presumably benefit most.

The situation seems to be clear enough: a common and cohesive EU energy policy (including policy towards Russia) would be a win-win situation for all of the participants. It would bring the EU enough political clout to negotiate with Russia

on equal terms, secure Russian access to European markets (including, most likely, opportunity to buy shares of distribution and sales companies) and calm the fears of the new members from Central and Eastern Europe. Once Russia (or, for that matter, Russian energy companies) is not able to play one EU member country against another (such as Poland against Germany in the case of the Baltic pipeline), the dependency on Russian oil and gas will stop to be regarded as a strategic threat.

If a common EU energy policy is not forged, we can expect more attempts of individual bandwagoning or counterbalancing in the (respectively) Hungarian or Polish fashion. The result will be short-term advantages for some EU countries, growing political influence of Russia, and in the long run sharp decline of stability in European energy markets and inevitable decline of EU solidarity.

CONCLUSION

In assessing the EU security concept, one must realize that the EU energy policy is a complex of issues which encompass many different economic, environmental, technological, as well as political and security aspects. Security of external supply, which is most hotly debated in connection with the EU eastern enlargement, is one of the components in the whole spectrum. Nevertheless, it is an important part of it, and Russia stands out as the most prominent supplier of oil and natural gas for the Union. From this point of view, the connection between the enlargement and the formulation of the EU's energy security concept clearly exists, as the members' dependence on Russian resources is almost complete.

Beyond this factual link, the countries of Central and Eastern Europe have only a marginal influence on the formulation of the EU energy security strategy. They can nevertheless use the existing suspicions against Russian motives to support the framing of a truly common EU energy policy. If successfully established, such a policy would bring long-terms benefits to all parties concerned, including Russia.

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THE EU'S ENERGY COOPERATION WITH CHINA IN THE FIELD OF CLEAN COAL TECHNOLOGY

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INTRODUCTION

The technology cooperation in the field of energy is one of the tools available to tackle climate change. Considering the provisions of economic growth in developing countries, introduction of low Greenhouse gas (GHG) emissions' technologies in these countries seems to be of primary importance. Coal, the most polluting fossil fuel, is expected to remain a significant source of energy in the near future. The Clean Coal Technology (CCT) has the potential to reduce negative environmental impacts of coal consumption. The article is aiming to analyse different aspects of the EU-China energy cooperation in the field of clean coal.

Firstly, prospects of energy consumption and technical aspects will be considered. The second part focuses more closely on actual bilateral and multilateral frameworks for CO^2 mitigation that can be applied to the introduction of Clean Coal Technology in China and related to the EU interests. Thirdly, different projects using Clean Coal Technology run by European companies both in the EU and China are presented.

CHINA'S SPECIFIC NEEDS AND DEFINITION OF CLEAN COAL TECHNOLOGY

The importance of coal in China´s energy mix

If things stay the way they are, around 2010, the non-OECD counties will surpass the OECD countries in terms of energy consumption. The bulk of the trend can be attributed to China's economic take-off with the annual GDP growth estimated at 6 % for the period 2003–2030. In 2002, the energy-economy relationship in China was reversed.

Ever since, the energy consumption has been growing more rapidly than the GDP.[1] Despite imprecise statistical data, the fast growing energy demand in China causes concerns at both national and international levels. The security of energy supply to China needs to be achieved without destabilising world energy markets.

Coal represents 69 % of China's primary energy consumption, and China is the world's largest producer and consumer of coal. Although coal reserves are relatively evenly distributed around the world in comparison to other fossil energy sources, 67 % of the world's coal recoverable reserves are situated in 5 countries. China holds the third place behind the United States (27 %) and Russia (17 %) with 13 % of the total, which accounts for 126.2 billion short tons of coal, followed by India (10 %).

1 IEA, Energy Outlook for China: Focus on Oil and Gas, 2005, in http://www.iea.org/textbase/speech/2005/jl_china.pdf

Because of the lack of significant reserves of oil and gas, coal is expected to remain the main source of energy in China. Coal use in the electricity sector is expected to increase three fold between 2003–2030 (i.e. at an average rate of 4,2 % per year). [2] In addition, China's industrial sector also uses predominantly coal as energy source.

Many Chinese cities are listed among the most polluted towns in the world. In the short run, the energy efficiency improvements and the increase of renewable energies' use are of the primordial importance. China has decided to reduce the part of coal used for electricity production from 74 % to 63 % until 2020 and to increase the share of renewable energies up to 18 %.[3] However, coal will still remain an important source of energy for decades.

Firstly, the Chinese government is interested in the dissemination of clean coal technology for domestic environmental and health reasons. Secondly, this technology is becoming an important tool for China's CO^2 emissions mitigation.

Clean coal technologies and their maturity

The term "clean coal" is used to describe a whole range of technologies that facilitate the diminution of polluting emissions during the electricity and heat production. The reduction of such emissions can be achieved by improving power plant efficiency, reducing waste, air pollution and C02 emissions. This term also denotes a range of technologies with different characteristics and maturity.

There are three different types of coal power plants to which corresponds one different combustion technology each: the Pressurised Pulverised Coal Combustion (PPCC), the Pressurised Fluidised Bed Combustion (PFBC) and the Integrated Gasification Combined Cycle Generation (IGCC). While the supercritical cycle[4] can be integrated into existing coal power plants by adding better performing technology and new materials, the IGCC is a new power plant concept that cannot be integrated into previously established plants. Therefore, it is also more expensive to invest in this technology.

Coal consumption causes considerable pollution and contributes to the greenhouse effect, which is on rise. Capture and storage of CO^2 emitted by coal power plants seems to be a possible solution to this problem. In this context, we could envisage using zero emissions power plants that are able to collect the CO^2. The capture by post-combustion is the most mature and has been tested in the European

2 EIA, International Energy Outlook 2006, in http://tonto.eia.doe.gov/FTPROOT/forecasting/0484(2006).pdf

3 China Energy Research Society, Energy Policy Research, 2003

4 Combustion technology associated with the first two types of coal power plants: the Pressurised Pulverised Coal Combustion Plants, the Pressurised Fluidised Bed Combustion Plants.

project CASTOR. The transportation of CO^2 and storage in the emptied petroleum and gas reserves, or salt aquifers are all viable. High costs at the industrial level are the principal obstacle that has prevented the rapid development of a capture-transport-storage chain.

According to Gaz de France, supercritical pulverised coal power plants are more dependable and mature in the short and middle term. The IGCC process should be used for the poly-generation[5] (electric/hydrogen) and the capture of CO^2. In the long term, the IGCC will compete with the supercritical pulverised cycle.[6] This analysis correlates with EDF's strategy that has tested all of the previous technologies and played an active role in the development of the ultra-supercritical cycle and the fluidised bed cycle.

FRAMEWORKS FOR GREENHOUSE GAS EMISSIONS MITIGATION FACILITATING THE INTRODUCTION OF CLEAN COAL TECHNOLOGY

The advantages of the clean development mechanism

Today there exists a potentially advantageous system for foreign firms to invest in the developing countries in projects reducing greenhouse gas (GHG) emissions: The Clean Development Mechanism (CDM). In 1997, many industrialized countries ratified the Kyoto Protocol and agreed to restrict their greenhouse-gas emissions (Annex 1 Parties). The member countries of the Organisation for Economic Co-operation and Development (OECD) and the countries of Eastern Europe have committed to globally reduce their carbon dioxide emissions by 5.2 % between 2008 and 2012. These industrialized nations selected 1990 as a year of reference to establish an annual emissions quota that cannot be surpassed.

Besides emissions trading, The Kyoto Protocol also authorises two other mechanisms that allow member countries to attain their objectives for the 2008–2012 period: the Joint Implementation (JI) and the Clean Development Mechanism (CDM). Through the application of the CDM, industrialized countries finance projects that reduce or prevent the production of greenhouse gases in developing countries. These countries are subsequently awarded emissions credits that can be used to obtain their emissions quota. The CDM fixes/sets the same price for emissions in developing countries and industrialized countries. Developed countries consequently ben-

5 Poly-generation is an energy supply system delivering more than one form of energy to the market, e.g. electricity and hydrogen.

6 Ibid

efit from relatively lower costs and a favourable profitability to manage the equivalent quantity of greenhouse gas. Emerging countries benefit from investment in new technology.

However, investment in JI and CDM projects is conditioned by their additional nature with regard to the domestic action. Parties must demonstrate the relative contributions of the mechanisms respect the so-called "supplementary principle".

The CDM is the only mechanism from the Kyoto Protocol that indirectly incites developing countries to approve projects that are designed to reduce greenhouse gas emissions. China has become the top country to host CDM projects and counts approximately 40 % of the world's projects. India and Brazil are ranked second and third respectively.

As an active member of the UNFCCC[7], China ratified the Kyoto Protocol in August 2002. The central government later designated the National Development and Reform Commission as a national authority for the CDM. In June 2004, China instated temporary measures to follow CDM projects. These measures also establish the conditions and the criteria concerning the acquisition and the implementation of each project. In addition, all of the CDM projects must be validated by the National CDM Board, an ensemble of seven governmentally appropriated agencies. CDM projects are approved at the central government level because local authorities are not qualified to approve the projects independently. The government stipulated that the transfer of environmental technology must be assured as well as the obligation that companies realising CDM projects should be Chinese. In the case of market capitalisation, this condition is not fulfilled. Then, Chinese people must detain at least 50 % of the companies' shares.[8]

The latest statistics on the number of projects are as follows: 39 projects were approved with partners in the United Kingdom (12), the Netherlands (6), followed by Sweden and Luxembourg. In addition, eight non-objection letters were granted and over one hundred projects are in preparation. The majority of these projects are to be accomplished in renewable energies.[9]

Nevertheless, China could potentially host more CDM projects. For the present China has not fully taken advantage of its full capacity. As long as China has no commitment to diminish its GHG emissions, the lack of incentives reduces the develop-

7 In 1992, China has signed the United Nations Framework Convention on Climate Change (UNFCCC).

8 Agence française de développement, Agence de Pékin, *"Les grandes lignes de la politique énergétique en Chine"*, Septembre 2005, in http://www.afd.fr/jahia/webdav/site/myjahiasite/users/administrateur/public/Portail%20Energie/pdf/2005%2009%20Les%20grandes%20lignes%20de%20la%20politique%20%C3%A9nerg%C3%A9tique%20en%20Chine.pdf

9 Office of National Coordination Committee on Climate Change, Newly Approved projects by DNA of China, in http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1229.pdf

ment of CDM projects. According to recent previsions, coal will be abundantly used in Chinese thermal and electric power plants. CDM projects that specialise in clean coal technology could represent an important part of the total CDM projects.

According to the EU, the growth and the stability of the Chinese market is intrinsically correlated to the favourable European economic performance. Growth of the Chinese economy should be "sustainable" taking into account negative impacts on health and environment. In this light, the EU is detaining technologies that China is willing to acquire enabling the reduction of GHG emissions, including the promising Clean Coal Technology.

Furthermore, the CDM can increase the availability of private investment for Clean Coal Technology dissemination in the developing countries. Thus, this project-based mechanism is complementary to existing or future bilateral agreements having for objective the technology transfer to developing countries for climate change mitigation.

The partnership between the EU and China and its implications

The EU and China have signed a Partnership on Climate Change on the China-EU Summit in 2005 with the aim to strengthen cooperation and dialogue on climate change and energy. The Partnership has two concrete cooperation goals that should be achieved until 2020. The first is to develop clean coal technology and realise demonstration of advanced "zero emissions" coal technology based on carbon dioxide capture and storage, thus avoiding CO^2 emissions in the atmosphere. The UK has decided to commit 6 million Euro for the first phase targeting the construction of a demonstration power plant in China having capture and storage technology.[10] The second goal concerns the significant reduction of the cost of technology in the field of energy and its dissemination.

In addition, the efforts of China and the EU are directed towards energy efficiency. China have set a target to reduce energy intensity of the economy by 50 % until 2020 and the EU has propose to reduce energy consumption of its economy by 20 % over the same period. The Partnership covers two The China-EU Action Plans, one on clean coal and the other on energy efficiency and renewable energies.

The Joint Declaration states that the EU and China "will take strong measures to encourage low carbon technology development, deployment and dissemination and will work jointly to ensure that the technologies become affordable energy options."[11]

10 CE, Climate Change: EU-India and EU-China workshops demonstrate commitment to concrete cooperation, 2005, in http://ec.europa.eu/environment/climat/pdf/infonote_china_india.pdf

11 Joint Declaration on Climate Change between China and the European Union, 5 September 2005, in http://ec.europa.eu/external_relations/china/summit_0905/index.htm

The partnership should promote projects realised in the framework of the CDM and establish a platform for a dialogue on its development and modifications for the "post-Kyoto" period. Both partners have been discussing the establishment of a global carbon market enabling cost-efficient reduction of GHG emissions and the functioning of the CDM in the light of Nairobi and Bangkok Conferences.[12]

The Memorandum of Understanding signed by Energy Commissioner Andris Piebalgs and Chinese government in Shanghai[13] can be seen as prove of Parties' commitments to promote the CO^2 mitigating technologies. It encourages the development of capture and storage of CO^2 emitted from coal-fired power plants. According to A. Piebalgs, the cooperation between the EU and China in the field of clean coal technology using capture and storage "is a key element in enhancing [EU s] energy security, promoting new technologies and address the challenge of climate change."[14]

DEVELOPMENT OF PROJECTS USING CLEAN COAL TECHNOLOGY

EU Projects

Directed by the EU, CASTOR is the largest existing project, enabling the capture and storage of 10 % of the C02 emissions in Europe, which corresponds to approximately 30 % of CO^2 emitted by European power and industrial plants. Except improving existing technologies, its target is to finance the research and development of new technologies for the capture of CO^2 and its geological storage.

Main objectives are to reduce the post-combustion capture costs, enhance storage security and environmental acceptability, and search for possible capture, transport and storage locations in Europe. Funded by the EU, Castor is planned for the years 2004–2008. More than 30 European companies have created the project consortium. Elsam in Denmark built the greatest pilot plan for post-combustion capture on coal. Four storage performance and risk assessment studies are organised: The Casablanca off-shore field situated near Tarragora (Spain), Atzbach-Schwanenstadt gas field (Austria), Snohvit aquifer (Norway), K12B gas field (The Netherlands).

12 12th Conference of Parties to the UNFCCC and the parallel 2nd meeting of Parties to the Kyoto Protocol were held in Nairobi in December 2006 and they resulted in a number of new initiatives to support developing countries which are vulnerable to climate change. The next event should take place in Bangkok from 3–14 December 2007.

13 Signed in February 2006 at the EU-China Summit

14 EC, Speech, Andris Piebalgs, "*Towards closer EU-China cooperation in the field of energy*", 20 February 2006, in http://europa.eu/rapid/pressReleasesAction.do?reference=SPEECH/06/105&format=PDF&aged=1&language=EN&guiLanguage=en

Recently, the Czech Republic has showed its interest for hosting another CO^2 storage feasibility project. Coal provides around half of its primary energy and is used to produce around two third of the country's electricity. "The European Union should understand that the Czech Republic is dependent on coal power plants. (…) It would be logical to place a pilot project in the Czech Republic" said the Minister of industry and commerce Martin Říman.[15] The Ministry and the Czech power producer ČEZ have already chosen the power plant in Hodonín and the storage in the nearby oil reserve in South Moravia.

The investments in research and development targeting the low cost of CO^2 capture and storage are essential for making the "true" clean coal technology viable. Capture of 1 tonne of CO^2 costs at least twice as much as the CO^2 allowance in the EU Emission Trading Scheme.[16]

The International Energy Agency (IEA) considers the prospect for the development of CCTs in the Czech Republic to be good in the long term, when the old coal plants will be retired. In the short and middle term, the introduction of new clean coal plants is dependent on the outcomes of the first pilot project. Apart from the capture and storage projects, the first coal-fuelled IGCC plant is situated in Vřesová.

Introduction of these different technologies in China: advantages and disadvantages

In China, the dominant technology used for electricity generation is pulverised coal combustion with a subcritical vapour cycle. Still in construction, these plants have very low efficiency and cause high pollution.

In cooperation with EDF, China has invested in the supercritical process that has provided an increased efficiency from 37 % to 45–46 %. Four 1000MW power plants have been constructed in Shanghai and others have been built in Tianjin. Within the framework of a program that includes the construction of 300MW PFBC power plants, consultations or communal pilot projects have been created (PFBC pilot project 2x300 MW of Baima in Guizhou is a good example).[17]

European companies have hesitated to participate in projects that attempt to increase the productivity of the low-capacity power plants because of relatively high investment cost, even if these plants are the most polluting ones. For instance, Alstom Energie realises retrofitted coal plant projects for more than 200 MW.[18]

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15 R. Brestan, *"Cesko chce ukladat emise pod zem"*, Hospodářské noviny, in http://ihned.cz//c6-10001595-21416810-000000_d-cesko-chce-ukladat-emise-pod-zem

16 The EU ETS allowance for 1 tonne of CO^2 costs approximately 24 Euro.

17 Agence française de développement, Agence de Pékin, *"Les grandes lignes de la politique énergétique en Chine"*, 2005.

18 Ministère des Affaires étrang res, Mission coopération décentralisée et développement durable en Chine, 2006, in http://www.diplomatie.gouv.fr/fr/IMG/pdf/chine_rapport_mission_gerbert_gaillard.pdf

EDF has worked on increasing of old coal power plants in the province Shandong (3000 MW) or Guangxi (720 MW). Nevertheless, the application of the most efficient clean coal technologies at existing plants (such as IGCC) is not possible.

Using the coal gasification process, electricity can be generated by IGCC or poly-generation power plant. The latter seems to be economically more attractive for China, especially in the long term. The advantages of IGCC plants are gasification, production of hydrogen and combined cycle. Taking into account Chinese interest in developing capacities for combined electricity/hydrogen production, and CO^2 capture and storage, China may privilege IGCC technology. However, IGCC technology is not yet completely mature even in developed countries and it still engender additional costs and risks.

According to the IEA, the production cost of electricity generated by the IGCC plant is 20 % higher compared to traditional plants. In China, costs and risks would be amplified due to the construction delays and production shortfalls would be amplified. The risk factor would increase by nearly 25 %. These concerns explain partially why there is only one demonstration IGCC power plant in China situated in Yantai.[19]

Unlike IGCC, the poly-generation allows the production of synthetic fuels from coal and significant reduction in investment costs. Thus this technology seems to be attractive for China in the longer run, especially from economic perspective. In fact, poly-generation plants produce simultaneously electricity and synthetic fuels, which results in the reduction in the fuels' production costs and CO^2 emissions. [20] Chinese companies are participating in the Future Gen initiative lead by the US, having as an objective the construction of "zero-emissions" poly-generation coal power plant.

Supercritical power plants should be used for electricity production, due to high efficiency. Nevertheless, given high research and development expenses, the Chinese government should actively participate in Clean Coal technology projects.

CONCLUSION

In the light of fast GDP growth and thus rapidly increasing energy consumption of major developing countries, the North-South energy cooperation has been increasingly important. Recently, besides concerns of energy security, the dimension of

19 International Energy Agency, *"International Energy Technology Collaboration and Climate Change Mitigation. Case Study 4: Clean Coal Technologies"*, 2005, in http://www.oecd.org/dataoecd/22/38/34878689.pdf

20 Task Force on Energy Strategies and Technologies to the China Council, *"Transforming Coal for Sustainability"*, 2003, in www.emrg.sfu.ca/EMRGweb/pubarticles/2003/CoalChina.pdf

climate change mitigation has been added. Despite high pollution it causes, coal is expected to remain dominant in China's energy mix in the future. The EU detains technologies, that China is willing to acquire, enabling better efficiency and GHG emissions reduction.

The CDM is potentially advantageous for China and the EU's companies. It facilitates technology transfer to China and investment in new projects helping to tackle climate change. Through this project-based mechanism, European companies can receive tradable emission allowances at lower cost. Capture and storage of CO^2 emissions still represents excessively high additional costs, but is seems to be very promising technology in the longer run both in the EU and China. IGCC correspond better to EU's needs, China could prefer poly-generation plants.

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EUROPEAN UNION'S ENERGY (IN)SECURITY – DEPENDENCY ON RUSSIA

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Abstract
As the title suggests the article deals with the concept of energy security of the EU member states in respect to their dependency on oil and natural gas supplies from the Russian Federation. The aim of this paper is to explain why are the EU Member States so unwilling to give up their sovereignty in the sphere of energy and why is it so difficult to promote and carry out the Common Energy Policy of the EU in order to increase their energy security. And on the other hand, to show, what progress in the Common Energy Policy has already been achieved, mainly due to the presence of the "Russian threat". The basic assumption of the paper is, that it is the dependence on foreign energy that influences, to what extent a country is willing to transfer control over its energy policy to the EU level. To be able to confirm or disprove this assumption, partial questions have to be answered: Why is it important to discuss the energy security of the EU? Why are the Russian Federation's current policies being considered as a threat to energy security of the EU? To what extent do the EU/ its member states depend on the imports of oil and natural gas from Russia? What are the differences in the levels of energy dependency among the member states? Can different levels of energy dependency on Russia influence the attitude of the member states towards the Common Energy Policy of the EU? Why do the conflicts among the member states about securing the energy supplies arise (despite the Common Energy Policy)?

INTRODUCTION

The European Union's growing dependency on the imported oil and mainly natural gas from the Russian Federation and its impact on the EU's energy security are currently being discussed more with the threat posed by international terrorism. As Dr John Gault puts it in his study – "European energy security requires, first, that the incremental resources be delivered in a timely manner along with the adequate transportation systems to deliver the energy to European markets. European security than requires that the likelihood of interruptions to such supplies is minimized, and, in the event of an interruption, the consequences for European consumers are moderated.[1]

As energy security is a common problem of all the European countries, it sounds very reasonable, that the EU countries should have a common approach towards it, and hence a common energy policy. If all member countries acted collectively, under the EU trade mark, they would definitely have much bigger negotiating power. However, every initiative aimed at transferring part of the member states sovereign-

1 Gault, John. The European Union: Energy Security and the Periphery p. 3

ty on the EU institutions to enable the realization of the Common Energy Policy, and mainly the Common External Energy Policy, has to face hostile reactions of several member states.

The aim of this paper is to explain this seemingly irrational behavior by finding out, why are the EU Member States so unwilling to give up their sovereignty in the sphere of energy and why is it so difficult to promote and carry out the Common Energy Policy of the European Union. The basic assumption of the paper is, that it is the dependence on foreign energy that influences, to what extent a country is willing to transfer control over its energy policy to the EU level. To be able to confirm or disprove this assumption, partial questions have to be answered – Why is it important to discuss the energy security of the EU? Why are the Russian Federation's current policies being considered as a threat to energy security of the EU? To what extent do the EU/ its member states depend on the imports from Russia? What are the differences in the energy dependency among the member states? Can different levels of energy dependency on Russia influence the attitude of the member states towards the Common Energy Policy of the EU? Why do the conflicts among the member states about securing the energy supplies arise (despite the Common Energy Policy)?

The first part of the paper will define the term "energy security" and explain why the energy self-sufficiency is being considered a crucial element of national security. Then, the development of the Common Energy Policy of the EU will be described. The biggest emphasis will be given on the new principles introduced by the Finland's Presidency in the second half of the year 2006 and its impacts on further evolution of the Common Energy Policy of the EU. In the second part of the paper, the credibility of Russian threat to the energy security of the EU will be discussed. Thirdly, the sources of energy supplies of selected EU Member States will be examined. The aim of this part is to show that the structure of energy supplies varies a lot among the EU Member States – some are almost self-sufficient, and some almost entirely depend on supplies from Russia. In the final part, using the analysis made in the previous part, combined with the explanation of the vital interest of every state to keep control over its energy supplies, it will be explained, why it is so difficult for the EU and its Member States to promote common tactics (anchored in the Common Energy Policy) when dealing with the Russian Federation.

THE CONCEPT OF ENERGY SECURITY

The term 'energy security' is relatively new. It was brought to the theory of international relations and security studies by the so called Copenhagen School, represented mainly by Barry Buzzan, at the beginning of the 1990s. The Copenhagen School mo-

difies and extends the traditional frame of security analysis.[2] Besides military threats this school recognises four other kinds of threats – political, economic, societal and environmental. Sufficient and stable energy supplies are crucial for the economic well-being of every state which is a "part of the essential values of the state"[3].

Nowadays, there are many different definitions of energy security, capturing various aspects of this term. The European Commission defines it as" the ability to ensure that future essential energy needs can be met, both by means of adequate domestic resources worked under economically acceptable conditions or maintained as strategic reserves, and by calling upon accessible and stable external sources supplemented where appropriate by strategic stocks."[4] Barton et al. define energy security as "a condition in which a nation and all, or most of its citizens and businesses have access to sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service."[5]

In this paper, Gawdat Bahgat's definition of energy security will be used. Thus, energy security "refers to sustainable and reliable supplies at reasonable prices"[6]. In his perspective energy security depends on sufficient levels of investments in resource development, generation capacity and infrastructure to meet demand as it grows; and achieving a state where the risk of rapid and severe fluctuation of prices is reduced or eliminated.[7]

COMMON ENERGY POLICY OF THE EUROPEAN UNION

Evolution of the Common Energy Policy

The two oil shocks of 1973 and 1979 represented the biggest incentives for the rejuvenation of the Energy Policy of the EEC. Both were caused by restrictions in oil supplies as a reaction to international political crises. The reaction of the EEC followed in three parallel steps:

1/ diversification of the oil supplies (pipeline from the north Africa to Spain, northern pipeline, interest in the oil from the Caspian Sea).

2 Buzzan, Barry; Wæver, Ole, de Wilde, Jaap. *Security: New Framework for Analysis.*

3 TerriF, Terry, et al. *Security Studies Today.* p. 137

4 Bahgad, Gadwat. Europe's Energy Security: Challenges and Opportunities. p. 965, Originally stated in: Skinner, Robert and Arnott, Robert. EUROGULF: an EU-GCC dialogue for energy stability and sustainability [online]. Accessible from WWW: http://Europa.eu.int/comm/energy/index_en.html [cit. 2005-06-04]

5 Ibid., p. 965, Originally stated in: Barton, Barry, et al. *Energy security: managing risk in a dynamic and regulatory environment.* Oxford: Oxford University Press, 2004

6 Ibid., p. 965

7 Ibid., p. 965–966

2/ diversification of energy sources (increase in the black and brown coal mining, re-opening of the already mothballed mines, research and development of alternative sources of energy).
3/ development of oil and gas exploitation and to it related industries in the EEC countries (Great Britain, the Netherlands, Denmark).

As a result of these measures, the proportion of oil dependency sank to 45 % at the end of 1980s.

In 1983, ten years after the first oil shock, the Council of Ministers entrusted the European Commission to prepare the principles of coordinated energy policy. In 1986 the Council presented the goals of the Energy Policy: restructuralization, rationalization of the consumption, stabilization of gas proportions in the total energy consumption and increase in security of nuclear power plants.

Later on, in 1991, the European Energetic Chart, as a founding document of the future European Energetic Community, was signed. However, this Chart was intended not only for the European Communities Member States, but for the whole Europe. It proposed the liberalization of national energy markets. In 1994 The Convention on the European Energetic Chart followed.

In 2001 during the Swedish Presidency the Lisbon Strategy was enriched by the third pillar, which contains energetics questions. The main emphasis was put on alternative sources of energy and the environmental protection in connection to energy consumption.

The break-points that definitely shifted the attention of the European policymakers towards energy security were the cuts in Russian gas exports to Belarus in 2002 and 2003, to Ukraine in December 2005 – January 2006, and only quite recently – in December 2006 – when the Russia threatened by closing the gas tap for Belarus unless Belarus agreed to pay market price for Russian gas and to sell a part of its dominant gas concern – Beltransgaz – to Russia's giant Gazprom.

The Operational Programme of the Council for 2005 submitted by the Incoming Luxembourg and United Kingdom Presidencies was the first one to be really focused on securing the energy supplies. The inspiration for the following Finnish presidency represented two initiatives – suggested re-invigorating the EU-Russia Energy Dialogue and convocation of EU-Russia Energy Permanent Partnership Council. This programme also planned to extend the internal energy market to Balkans and Mediterranean countries – a step to multilateral cooperation towards ensuring energy supplies that was advocated by Finland.

On 22 December 2005 the Operational Programme of the Council for 2006 submitted by the Incoming Austrian and Finnish Presidency was presented. The crucial element of this programme was the Commission's Green Paper: "A European

Strategy for Sustainable, Competitive and Secure Energy", published on 8 March 2006, which was to suggest steps towards enhancing security of supply. In enhancing security of supplies the biggest emphasis was put on the international dimension. The signature of the EU-South East Europe Agreement was planned on 25 October 2006, the EU-Russia Energy Dialogue and EU-OPEC Dialogue were to continue. Newly mentioned was the Northern Dimension. Energy and nuclear safety chapters would be reviewed and updated and that was supposed to be adopted in a new political document.

A European Strategy for Sustainable, Competitive and Secure Energy

The real importance of this strategy lies in the fact, that it stresses the risks represented by the gas and oil insufficiency of the European states. It addresses important questions on competitiveness and the internal energy market, diversification of the energy mix, solidarity, sustainable development, innovation and technology and finally, external policy

The Strategy argues for a common external energy policy. The basic principles of the Common External Energy Policy are – EU speaking with one voice, dialogue with Russia, diversification both on domestic and on foreign affaires level, energy cooperation with major producers, transit countries and consumers and integration within the energy community and finally, reacting effectively to external crisis situations according to the principle of solidarity.[8]

A focus on the multilateral negotiations with EU Member States acting in unanimity is the core of the Strategy. Beside EU-OPEC and EU-Russia dialogues, the Strategy suggests using the G8 summit to secure rapid ratification of the Energy Charter Treaty by Russia and conclusion of the negotiations on the Transit Protocol.

New Approach towards Energy Security Promoted by the Finland's Presidency

First of all, it was the Finland's ambition to make Energy Policy a real common policy of the EU. It means promoting a bigger role of the Council in shaping of the Energy Policy, since the Energy Policy had been viewed as a purely national policy deeply connected with the national security.

The second point worth mentioning is the promotion of the common external energy policy – organizing of both bilateral and multilateral debates on energy security. The most important ones are the EU-Russia dialogues (Summit in Lahti and the G8 Summit), dialogues with OPEC etc. Nevertheless, other states and regional

8 Geden, Oliver; Marcelis, Clémence; Maurer, Andreas. Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France.

groupings are gaining on importance (for example states of Maghreb and Mashrek). Furthermore, higher attention is paid to global energy players, such as the USA, China, Japan and India. An endeavor to enhance the security of energy supplies is now reflected also in the relations to transit countries as Belarus, Ukraine, and Turkey etc.

An Energy Policy for Europe

Based on the discussion about the new form of the Energy Policy of the EU commenced by the Finnish Presidency, An Energy Policy for Europe was presented by the European Commission on the January 10, 2007. Climate change, increasing dependency on imports of supplies and rising energy prices are among the biggest threats the unified Energy Policy has to face. Strategic goals for a new Energy Policy lie in three parallel steps – combating climate change, decreasing vulnerabilities to the EU posed by the dependency on imports of oil and natural gas and promoting growth and employment – and thus provide secure and affordable energy for consumers.

THREATS TO THE EU'S ENERGY SECURITY POSED BY DEPENDENCY ON RUSSIA

Territorial Structure of Oil and Natural Gas Imports into the EU

The oil and natural gas reserves are allocated very unequally around the world. According to the BP Statistical Review of the World Energy from June 2007, at the end of the year 2006 only 0,6 % of the world proved oil reserves (representing 7,1 thousand million barrels) was allocated in the 27 Member States of the EU and only 1,3 % of natural gas proven reserves (2,43 trillion cubic meters) was allocated in the EU25.[9] The 25 Member States of the EU had to import in 2004 50,5 % of its total consumption of fuels, e.g. 38,5 % of its solid fuels, 80,2 % of oil and 54,5 % of natural gas.[10] (Figure 1) The extraction of oil from the North Sea has already reached its peak and neither can we expect increasing extraction of natural gas from this region. Hence, there are no "internal" sources to cover the growing energy demand of the EU, which means, that the EU will have to rely ever more on the external sources of oil and natural gas.

According to the statistics, 4,13 billion barrels of oil from 29 countries were imported into the EU in 2005.[11] The biggest share came from the Russian Federation

9 BP Statistical Review of World Energy June 2007

10 Energy and Transport in Figures 2006.

11 Registration of Crude Oil Imports and Deliveries in the Community, 2005. [online], [cit. 2007-10-03], Accessible at WWW: <http://ec.europa.eu/energy/oil/crude/index_en. html

(30,11 % of the total imports), then from Norway (17,07 %), Saudi Arabia (10,63 %), Libya (9,01 %), Iran (6,11 %), Kazakhstan (4,63 %), Algeria (3,85 %), Nigeria (3,49 %) and Iraq (2,21 %). The share of the remaining 20 countries was lower then 2 %.[12] So according to the regions, the biggest share came from the former Soviet Union countries (37,4 %), then from the Middle East (21,9 %) and Africa (19,7 %). (Figure 4) With natural gas, the situation is slightly different. Approximately 80 % of all the imports of natural gas into the EU come from three biggest suppliers – the Russian Federation (36,7 %), Norway (24,5 %) and Algeria (19,1 %).[13] (Figure 5) The majority of the prognosis state that the share of the natural gas imports from the Russian Federation will inevitably rise in the years to come.

Yet, the EU's dependency on Russian energy supplies in future may not be as high as some prognoses state. As Robert Götz's study shows, thanks to the huge investments into transport infrastructure – pipelines and liquefied natural gas capabilities – by 2020 the Middle Eastern and North African Countries could together provide more natural gas supplies to Europe than Russia.[14] (Figure 6) The trouble is that these countries are often politically unstable and the fossil fuels deliveries from them may be threatened by regional conflicts escalation or by terrorist attacks. Moreover, the rivalry posed by the United States, China and India is – up to now – much bigger there than in case of deliveries from Russia.

IDENTIFYING RUSSIAN THREATS TO EU ENERGY SECURITY

Consequences of the Monopolization of the Russian Energy Sector

One of the threats posed by the dependency on Russian energy supplies is the uncertainty about the future of political and economic reforms in Russia. Under the current president Vladimir Putin, the state-ownership of the companies related to energy exports has been reinforced. Gazprom, Russia's state-supported natural gas monopoly, holds nearly one-third of the world's natural gas reserves and produces nearly 90 % of Russia's natural gas and operates the country's natural gas pipeline grid.[15]

The export of Russia's crude oil via pipeline is controlled by Transneft, a Russia's state-owned pipeline monopoly. Independent gas producers and oil companies with associated gas production have basically no access to export infrastructure and have reportedly been forced to flare or sell it to Gazprom far below market price.

12 Ibid.
13 Energy and Transport in Figures 2006
14 Götz, Roland. Rußlands Energiestrategie und die Energieversorgung Europas.
15 Bahgad, Gadwat. Europe's Energy Security: Challenges and Opportunities. p. 970

First of all, this monopolization of energy sector leads is one of the causes of diminishing investments into the exploitation facilities and the pipeline system. The Russian Ministry of Energy has estimated that 5 % of crude oil output is lost through leakages, whereas the Washington-based Centre for Strategic and International Studies places the figure at almost 7 %. This implies that the amount of Russian oil lost through faulty infrastructure is equivalent to almost twice the output of Azerbaijan and only slightly below current production levels in Kazakhstan.[16] Moreover, Gazprom is planning only a slight increase in it own production – even if the exploitation of the newly discovered deposits in the Barents Sea and on Yamal Peninsula is started without delay – which may harm Russian capability to supply growing demand for its natural gas.

Plus, currently, Russia is facing extremely high domestic demand for natural gas that Gazprom is obliged to satisfy – at the prices below the production costs. This fact also decreases its capacity to invest in new expensive gas fields. Nowadays, Gazprom relies more and more on imports of cheap Turkmen gas.[17] Roland Götz determines the success or failure of Russian export plans by the ability to permanently interlink the Turkmen gas economy with Russia.[18]

Secondly, in the monopolistic situation on Russian energy market enabled president Putin to pass the law, which declared the amount of Russian oil and natural gas reserves to be the state secret. This could be viewed as highly threatening in respect to the energy security, where uncertainty causes big price fluctuations. Moreover, many experts warn that Russian oil fields are being depleted and that the present level of production simply cannot be sustained over the long run. Yet, we can observe signals from Kremlin, that this law may be changed in the months to come.

Thirdly, the Gazprom's and Transneft's control of transportation routes does not allow the EU to diversify its imports through the supplies from other former USSR states and from the Caspian Sea. Mainly countries like Turkmenistan and Kazakhstan cannot challenge the Gazprom transport monopoly on natural gas supplies to the EU, as their access to pipelines would lead to a sharp decrease in its prices, which would be highly unfavorable for Gazprom's revenues.

(Ab)using EU's Energy Dependency for Geopolitical Goals

However, the biggest threat arising from the state-controlled monopolisation of pipelines systems is the fear, that Russia may "turn off the taps" in order to pursue

16 Johnson, Debra. EU-Russian Energy Links: A Marriage of Convenience? p. 268

17 Harks, Enno. The Conundrum on Energy Security – Gas in Eastern and Western Europe.

18 Götz, Roland. Rußlands Energiestrategie und die Energieversorgung Europas.

its geopolitical strategic interests in its so called "New Neighbourhood", as was the case in Ukraine after the pro-western Orange Revolution of Viktor Yushchenko in January 2006 or one year later in case Belarus.

Nevertheless, the credibility of this threat is disputatious. The main arguments of those who view it as a credible threat are following – "Russia has systematically attempted to use energy means as a lever to limit the autonomy and shape the foreign policies and particularly change the western orientations of Newly Independent States, or as a means of undermining the new political and economic systems in Eastern and Central Europe. Russia does not hesitate to use its economic power and in the energy field, especially with respect to the new EU members, and directs cut-offs at states, using oil and gas to pressurise the policies of Belarus, Ukraine and Moldova."[19]

Some of them are even more radical in stressing the real danger posed by Russia – "The hallmark of President Putin's power are the curtailment of liberty and pluralism at home and the single minded pursuit of Realpolitik by energy blackmail abroad".[20] "Oil is for Putin what nuclear warheads were to the USSR."[21]

Undoubtedly, the pursuing of Russian geo-political interests strongly influenced the disputes with Ukraine, Belarus, Georgia and Moldova. Yet, Russia's request demanding that they pay market prices for gas imports (based on a motion ratified by the Duma in July 2005) was fully legitimate. Moreover, the fact that Ukraine had subsequently diverted pipeline gas for domestic use without paying the demanded price in January 2006 – and as was the case regularly during the 1990s – has certainly influenced Russian determination to build – in cooperation with Germany – the North European Pipeline (Nord Stream) and to by-pass the unreliable transit countries.

Mutual EU-Russia Interdependence?

Many analysts – such as Andrew Monaghan and Robert R. Larsson – are rather skeptical about the credibility of Russia "blackmailing" European Union with oil and natural gas blockades. They state, that between EU and Russia there is a mutual dependency in regards to energy supplies. As Figure 2 shows, 78 % of Russian oil exports is flowing to Europe, while EU's dependency on Russian supplies is only 29 %. The biggest source of worries is EU's growing dependency on natural gas sup-

19 Monaghan, Andrew. Russian Oil and EU Energy Security. p. 5

20 Monaghan, Andrew. Russian Oil and EU Energy Security. p. 1, Originally stated in: Prins, G. "Lord Castlereagh's Return: the Significance of Kofi Annan's High Level Panel on Threats, Challenges & Change", *International Affaires,* Vol. 81, No. 2, 2005. p. 378

21 Monaghan, Andrew. Russian Oil and EU Energy Security. p. 2, Originally stated in: "Meet the Chief Executive of Kremlin Inc.", *The Guardian*, 06/07/2005

plies from Russia (currently 66 % as shown in Figure 2). Yet, Russian dependency on exports to the EU constitutes 98 %. It is true, that Russian gas pipelines are in many ways inflexible and restrict the EU's supply options and the potential for supply diversity. Yet, this inflexibility restricts Russian options to diversify their exports. Moreover, Russia is not investing enough into liquefied natural gas facilities, which would enable them to diversify their exports by markedly decreasing the transportation costs.

Analysts dealing with Russia – like Monaghan – claim that Russia is currently more dependent on the EU than vice versa – to cut off oil exports to the EU would cut off a major source of income, in consequence posing a major problem for the Russian economy. This is largely because Russia does not yet have a diversified market for exports. However, as Götz[22] points out, the Russian Energy Strategy Until 2020, published in 2003, calls for increase of the natural gas exports to non-European markets. Nowadays, three fourths of the Russian crude oil reserves are in the northern West Siberia. Three biggest oil fields there situated – Urengoj, Jamburg and Medveshje, from which in 2000 85 % of Russian natural gas outcome came, are from 50 %, 26 % and 68 % depleted.[23] The rise in natural gas production is not expected in West Siberia; yet, it is expected in East Siberia and in the Far East. Hence, it could be exported either terrestrially to China or liquefied to South Asia and to the United States easier than to Europe.

Especially the Asian countries – China, South Korea and Japan – represent a threat for the future Russian fossil fuels supplies into the EU. First of all, these countries are willing to co-finance the expensive construction of new pipelines leading to their boundaries, which Russia has an eminent interest in. In May 2006, the construction of a pipeline from the South Siberian city Tayshet to the port of Makhorka or Vladivostok on the Pacific Ocean coast, was started and is supposed to lead up to the Chinese borders. This pipeline could in the future replace the current costly railway transportation of oil to China. Moreover, Russia is already planning a construction of two natural gas pipelines to China – one from the West Siberia (due until 2011) and the other from Sakhalin.[24] Yet, Andrew Monaghan denounced the threat posed by increasing China's rising thirst for oil and natural gas by saying that Russia has an interest on stable and paying customers, which may not always be true in case of China. However, the ongoing growth of the Chinese GDP makes this objection less credible.

In favour of the mutual interdependence theory, Andrew Monaghan points out

22 Götz, Roland. Rußlands Energiestrategie und die Energieversorgung Europas.

23 Ibid., p. 10

24 Roškanin, M. Rusko jako energetická mocnost. p. 2

that energy security is often about perceptions – if Russia perceives the EU to be wary of and therefore diversifying away from it, Russia too will have to diversify its markets for its own economic security.[25] Hence, if Russia is negotiating new supply treaties with Asian states and the United States, its main purpose is not to cut off Europe, but to secure itself from European declining interest in Russian supplies.

To conclude, if the EU acts in unison when dealing with Russia, the threat posed by Russia to its Member States does not seem to as imminent as it I often presented in the media and speeches of our policy-makers. However, lack of consensus gives Russia much more room for manoeuvre in negotiations.[26] Moreover, it may have, in the medium term period, unfavourable consequences for some of the EU's Member States.

EU MEMBER STATES' DEPENDENCY ON RUSSIA'S SUPPLIES AND ITS REFLECTION IN THE APPROACH TOWARDS COMMON ENERGY POLICY

Even though the EU25 dependence on energy imports is relatively high – 56 % (Figure 1) – the level of dependency among the Member States varies significantly. While countries as Great Britain and Denmark are almost self-sufficient and energy exporters, countries as Cyprus, Ireland and Luxembourg are highly dependent on energy imports. Furthermore, the energy mixes of EU Member States are different, too. Differences in energy mixes of the EU Member States are shown in Figure 7 on an example of Germany, France, the United Kingdom and Poland. As Monaghan puts it – "If the EU was less diverse than it currently is, it might be easier to create a unified strategy: at present, the agenda of every state varies significantly."[27]

On average, 15 % of energy in the EU is supplied by nuclear power but there is no consensus about its use among the EU Member States. Of the EU-25, ten have never used nuclear energy. Austria and Italy have phased out nuclear energy. Belgium, Germany, the Netherlands, Sweden and Spain have decided to stop using nuclear energy. This leaves eight Member States – France, the United Kingdom, Finland, Lithuania, the Czech Republic, Slovakia, Hungary and Slovenia – as nuclear supporting countries. Yet, as will be shown in the fifth chapter, the attitude towards nuclear energy has been changing currently.

25 Monaghan, Andrew. Russian Oil and EU Energy Security.

26 Monaghan, Andrew. Russia and Security of Europe's Energy Supplies: Supplies Security in Diversity?

27 Monaghan, Andrew. Russia and Security of Europe's Energy Supplies: Supplies Security in Diversity? p. 8

Furthermore, countries importing oil and natural gas use different pipelines. The Trans-Mediterranean Gas Pipeline is used for the transport of liquefied natural gas to Italy from Algeria, the Maghreb gas pipeline to Spain and Portugal and Egypt is transporting liquefied natural gas to France and in future possibly to Spain. Spain also imports natural gas from Algeria. And Libya is exporting its natural gas to Sicily in Italy. Thus, West-European EU Member States are primarily dependent on the imports of oil and natural gas from the Middle East and North Africa (and from the North Sea too). On the other hand, Central and East European EU Member States, together with Germany, rely on imports from Russia and former USSR countries. This is mainly due to the construction of Russian pipelines during the Cold War, when they were designed to supply the Warsaw Pact countries. Druzba Pipeline is the largest export pipeline to Europe. One of its sections runs through Belarus, Poland and Germany, the other through Belarus, Ukraine, Slovakia, The Czech Republic and Hungary. The Baltic Pipeline System gives Russia direct access to European markets, excluding Estonia, Latvia and Lithuania transit outs. The last pipeline directed to Europe for now is the Adria Pipeline, which is running from Croatia to Hungary.[28]

Hence, the percentage of oil imports from Russia to EU Member States varies distinctly based on the energy mix of the Member State and its geographical location in Europe. While in case of Hungary it is 84 %, Slovakia 82 % and Poland 77 %, in case of Germany it is only 26 %, Italy 18 %, France 11 % and Denmark's dependency on Russian supplies is only 2 %.[29]

These differences among the EU Member States based both on different level of dependency on imports of energy and on the supplying countries, are the reason for varying approaches towards the Common Energy Policy of the EU. Naturally, states that are more dependent on foreign supplies push more for the establishment and realization of the Common External Energy Policy that the states, that are self-sufficient. Also the states with the possibility of diversification of their supplies are less willing to hand the part of their sovereignty to the supranational institutions of the EU. Energy sector in the EU Member States has traditionally been a subject to state monopolization and state protection as it is being seen as an inseparable part of state's security and well-being.

Traditionally states prefer to secure their energy supplies on bilateral basis, which was the case of an agreement between Russia's Gazprom and the German concerns BASF and Ruhrgaz that saw construction start on a 1200 km-long North European

28 Bahgad, Gadwat. Europe's Energy Security: Challenges and Opportunities p. 969

29 Monaghan, Andrew. Russia and Security of Europe's Energy Supplies: Supplies Security in Diversity? p. 8

Gas Pipeline (Nord Stream) directly linking Vyborg in Russia and Greifswald in Germany via Baltic Sea. When completed in 2010 the pipeline will triple gas supplies to Europe. The pipeline will considerably strengthen Russian-German bilateral economic and political ties, and also significantly reduce Russia's dependency for gas transit on Poland and Ukraine.[30] This decision is justifiable from the German-Russian perspective, however, it was considered to be a big set-back in regards to the Common Energy Policy of the EU and it caused many tensions between Germany and Poland, Denmark, Sweden and the Baltic States subsequently. It is easier for a rich state to secure its energy supplies through bilateral negotiations, as it does not have to give up its sovereignty and also does not have to make compromises to appease other contractors.

Yet, these solutions are against the interests of smaller and more dependent Member States, such as Slovakia, Hungary or the Czech Republic. These countries are predominantly dependent on Russian supplies and have almost no diversification possibilities. When dealing with Russia, they need to rely on the EU, which gives them more negotiating power. That is also why at the end of January 2006, representatives of Poland, the Czech Republic, Slovakia, Austria, Hungary, Slovenia, Croatia and Romania agreed to consider working out a joint plan to reduce dependence on Russian natural gas.

This plan includes building storage facilities, constructing an intra-regional pipeline network, building terminals in Croatia and in Poland for storing LNG and accelerating work on the Nabucco pipeline. Currently, the Nabucco is being considered as a top priority project of the European interest. This 3 300 kilometer long natural gas pipeline would – once it is finished in 2012 – enable the transportation of natural gas from the Caspian region and from the Middle East through Turkey, Bulgaria, Rumania and Hungaria to Austria and then further to the West European markets. Yet, Russia is trying to diminish the impact of Nabucco pipeline and has started with the construction of a rival project – South Stream Pipeline – designed to transport natural gas from Russia to South Italy.

Another gas pipeline, the Sarmatian Gas Pipeline, is in the planning phase. It would ensure transport of gas from the Caspian Sea, from Kazakhstan and Azerbaijan and perhaps Iran via the Ukraine to Poland. The gas pipeline would run through Armenia and Georgia and it would bypass the territory of Russia, which should guarantee safe supplies from that source.[31] Thus, energy security is an inseparable part of state's sovereignty and states are willing to give their sovereignty

30 Hughes, J. EU relations with Russia: partnership or asymmetric interdependency? p. 10, 17

31 Geden, Oliver; Marcelis, Clémence; Maurer, Andreas. Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France. p. 20

up only in case it furthers their national interests and only to an the minimum extent needed.

Hughes shows the display of national interests in the state's attitude towards the Common Energy Policy on a case study of Great Britain. Declining North Sea gas output has shifted British national interests from opposing EU control on energy policy to a position where the UK presidency placed energy security high on agenda at the Hampton Court meetings of EU leaders in late September and late October 2005. It called for stronger European co-ordination of energy policy, including the formation of a single power grid and co-operation on gas storage. The British keenness for EU coordination of energy policy is also a result of underlying political tensions arising from the fact that some EU countries, particularly Germany, are proceeding quickly to strengthen their energy relationship with Russia on a bilateral basis.[32]

NEW WAYS OF DEALING WITH THE DEPENDENCY ON RUSSIA

The perception of threat from dependency on Russia has over the last couple of years led to a change in the attitude not only towards the Common Energy Policy of the EU, but also towards European energy security as such. The EU Member States have undergone a series of parallel actions aimed at strengthening their energy security and lowering the threat arising from a dependency on supplies of fossil fuels from abroad.

The first of these actions to be mentioned is diversification of energy mixes of EU Member States. Even though the composition of energy mix is an exclusive decision of the Member State and is not coordinated on EU level, the shift towards other sources of energy – apart from fossil fuels – can be seen. There is a strong promotion of renewable sources of energy (corresponding with An Energy Policy for Europe), especially biomass and wind energy.

Furthermore, the traditional sources of energy – such as coal – are being used more often, mainly in the electricity production. This can be also seen in the Czech Republic in the current discussion about the reopening of the conserved mines. Newly, there are power plants operating with natural gas being built.

And lastly, there is the so called renaissance of nuclear power. After France and Finland, also other EU Member States are planning to start the construction of new nuclear power plants – mainly Slovakia and the Czech Republic. Even Germany is considering revision of its previous decision to abnegate on nuclear power in years

32 Hughes, J. EU relations with Russia: partnership or asymmetric interdependency? p. 10

to come. Yet, given the fact that all the Central and East European states are dependent on deliveries of plutonium (or at least its enriching) from Russia, this will not decrease their dependency on Russia. Moreover, the pronuclear boom will be probably accompanied with the shortage on highly qualified labour force and on production capacities of companies producing nuclear power plant components.

Another way of decreasing dependency on fossil fuels supplies from Russia, is the strengthened international cooperation of the EU with other major energy producers and consumers – on bilateral and also multilateral basis. This is being developed mainly on the platform of the International Energy Agency (IEA). Over the last couple of years, the IEA is strongly cooperating with the presiding countries of the G-8 group, where the energy questions are gaining on importance – in the last two years the biggest priority of the G-8 Summits in St. Petersburg and in Heiligendamm were energy security and climate change.

Furthermore, EU has been also increasingly cooperating with the USA in the questions of energy security – besides IEA and G-8 – this issue is being discussed in the Transatlantic Energy Dialogue and newly, within the NATO structures. However, possible NATO's role in energy security should be restricted to securing the vital energy infrastructure, mainly from the terrorist attacks.

CONCLUSIONS

Since the beginning of the 21st century, energy security and Common Energy Policy have been gaining on importance in the EU. Due to the growing gap between demand for and domestic supply of crude oil and natural gas, and hence increasing vulnerability of the EU Member States, the focus on Common Energy Policy will be even accelerated in the future. However, in the short term, its realization may, and with high probability will, face several set-backs. These will be predominantly caused by the Member States' unwillingness to transfer part of their control over energy security on supranational EU institutions. This unwillingness might be more persistent in case of liberalization of domestic energy markets than in case of Common External Energy Policy, as the negative impacts of failure to liberalize domestic energy markets are less visible and less abrupt than the impacts of missing Common External Energy Policy (see cut-offs in Belarus and Ukraine).

Energy security is traditionally viewed as an inseparable part of national well-being and is subject to national sovereignty. Given the presumption that the EU Member States act as rational actors in Westphalian system they would not be willing to give up their sovereignty, unless it furthered their national interests and only to the minimum extent needed for ensuring of national survival and well-being. In case of energy security, this would mean, that states would be willing to give the

EU authority to act on their behalf only in case, that it would secure them more stable supplies than could be reached individually. In case of Russia, the incentive for common approach comes mainly from the states with high rate of energy dependency on Russia. Yet, due to the fact that the majority of the EU Member States, and mainly all the big ones, have a chance of diversifying their energy inputs, and thus they do not feel Russia as an immense and acute threat, they are less willing to give up their sovereignty. Hence, with regards to energy, the EU has not yet moved to the Post Sovereign System.

However, we can expect the shift towards a more coordinated EU approach towards negotiations with Russia in the years to come. This will be caused mainly by the intensifying competition on the side of demands for energy on the world markets, which makes Russia an attractive supplier and a real global player. Hence, if the EU wants to succeed in this competition and wants to secure its supplies from Russia, it will be forced to speak with one voice. Moreover, the new Member States will push harder for implementations of the Common External Energy Policy of the EU, as the only viable way of securing their supplies. This has been visible mainly after the bilateral German – Russian agreement about the construction of the Nord Stream pipeline which caused a huge critique both from the other Member States and from the European Commission. Most recently, this project is being introduced as a European project by Germany.

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APPENDIX

Figure 1: Energy Net Imports and Consumption in EU25, 2005

	Gross inland energy consumption			Net imports		Energy
	mio. toe	% change 2005/2004	toe/capita	mio. toe	% change 2005/2004	dependence rate* (%)
EU25	1637.2	0.0	3.6	949.7	4.5	56.2
Belgium	52.0	-2.0	5.0	48.4	-2.7	80.7
Czech Republic	34.2	0.4	3.3	12.9	11.5	37.6
Denmark	16.9	-3.9	3.1	-10.4	-6.1	-58.8
Germany	324.2	-1.1	3.9	212.6	-0.4	65.1
Estonia	4.6	-1.4	3.4	1.5	-9.5	33.9
Greece	30.2	1.1	2.7	23.5	-4.9	70.8
Spain	139.5	2.1	3.2	125.7	7.7	85.1
France	257.3	-0.6	4.2	141.9	-0.3	54.5
Ireland	15.4	2.6	3.7	14.0	3.9	90.2
Italy	181.9	2.4	3.1	160.9	1.4	86.8
Cyprus	2.2	-4.5	2.9	2.6	16.2	105.5
Latvia	3.5	7.5	1.5	3.3	-3.0	94.0
Lithuania	7.8	-6.3	2.3	5.0	15.3	63.1
Luxembourg	4.6	1.3	10.1	4.6	1.1	99.0
Hungary	26.3	5.9	2.6	17.2	10.2	65.3
Malta	—	—	—	—	—	—
Netherlands	79.6	1.2	4.9	37.8	24.4	38.9
Austria	29.2	2.4	3.6	24.1	4.9	82.6
Poland	86.2	0.7	2.3	15.9	28.1	18.4
Portugal	24.3	3.1	2.3	24.6	7.6	99.4
Slovenia	6.3	3.1	3.1	3.5	4.8	55.9
Slovakia	18.5	2.2	3.4	12.5	1.4	67.8
Finland	27	-4.9	5.2	18.7	-8.9	69.3
Sweden	41.3	-3.8	4.6	19.4	-0.6	45.0
United Kingdom	224.1	-1.3	3.7	29.4	148.2	13.0

Source: Energy in the EU: first estimates 2005. Eurostat News Release 126/2006. 21 September 2006 (seen on 2 May 2007)

— Data not available

* The energy dependence rate is defined as net imports divided by gross consumption, expressed as a percentage. Gross consumption is equal to gross inland consumption plus the energy (oil) supplied to international marine bunkers. A negative dependency rate indicates a net exporter of energy. Values greater than 100% occur when net imports exceed gross consumption. In this case, energy products are placed in stocks and not used in the year of import.

Figure 2: Mutual Energy Interdependence 2000

		Europe's dependence on Supplier		Supplier's dependence on Europe
Supplier	**Oil**	**Gas**	**Oil**	**Gas**
(Former Soviet Union) FSU	29 %	66 %	78 %	98 %
North Africa	19 %	31 %	77 %	96 %

Source: Gault, John. The European Union: Energy Security and the Periphery,Geneva Centre for Security Policy. Occasional Paper Series, No. 40, August 2002, p. 11

Figure 3: Energy Production, by Major Product, EU25, 2005

	Energy production 2005 (mio. toe)					Change 2005/2004 (%)				
	Total*	**Crude oil**	**Gas**	**Coal**	**Nuclear**	**Total***	**Crude oil**	**Gas**	**Coal**	**Nuclear**
EU25	745.6	121.3	178.8	94.9	239.9	-4.2	-9.0	-5.8	-5.7	-1.3
Belgium	12.0	—	—	0.0	11.7	6.7	—	—	-38.9	6.9
Czech Republic	21.7	0.3	0.1	5.1	6.4	-1.4	3.7	-9.5	-0.2	-6.8
Denmark	28.5	18.5	9.4	—	—	0.7	-3.8	10.8	—	—
Germany	115.2	3.5	14.2	18.2	39.1	-2.8	0.2	-3.4	-3.9	-3.0
Estonia	3.1	—	—	—	—	6.6	—	—	—	—
Greece	9.3	0.1	0.0	—	—	-3.6	-24.8	-30.8	—	—
Spain	23.2	0.2	0.1	4.9	14.0	-13.4	-33.3	-53.7	-17.6	-9.6
France	118.9	1.7	1.1	0.2	111.4	0.2	-6.4	4.0	-36.5	0.9
Ireland	1.5	—	0.5	—	—	-12.6	—	-35.8	—	—
Italy	23.0	6.6	9.8	—	—	2.7	12.4	-4.0	—	—
Cyprus	—	—	—	—	—	—	—	—	—	—
Latvia	0.3	—	—	—	—	6.1	—	—	—	—
Lithuania	3.0	0.3	—	—	2.7	-30.3	-14.2	—	—	-32.3
Luxembourg	0.0	—	—	—	—	1.3	—	—	—	—
Hungary	9.1	1.4	2.3	—	3.6	-0.9	-11.3	-3.0	—	16.1
Malta	—	—	—	—	—	—	—	—	—	—
Netherlands	60.1	2.3	56.4	—	1.0	-6.5	-21.5	-5.9	—	-3.2

	Energy production 2005 (mio. toe)					Change 2005/2004 (%)				
	Total*	Crude oil	Gas	Coal	Nuclear	Total*	Crude oil	Gas	Coal	Nuclear
Austria	5.2	0.9	1.4	—	—	-7.6	-5.4	-16.7	—	—
Poland	72.0	0.9	3.9	54.4	—	-1.6	-2.5	-1.7	-2.1	—
Portugal	0.5	—	—	—	—	-44.8	—	—	—	—
Slovenia	2.9	—	—	—	1.4	-0.9	—	—	—	7.8
Slovakia	6.2	0.0	0.1	—	4.9	1.0	-20.0	-11.4	—	3.4
Finland	8.4	—	—	—	5.5	9.1	—	—	—	-2.9
Sweden	24.4	—	—	—	18.1	-1.4	—	—	—	-7.4
UK	196.9	84.5	79.4	12.0	20.2	-9.1	-11.4	-7.7	-17.9	2.0

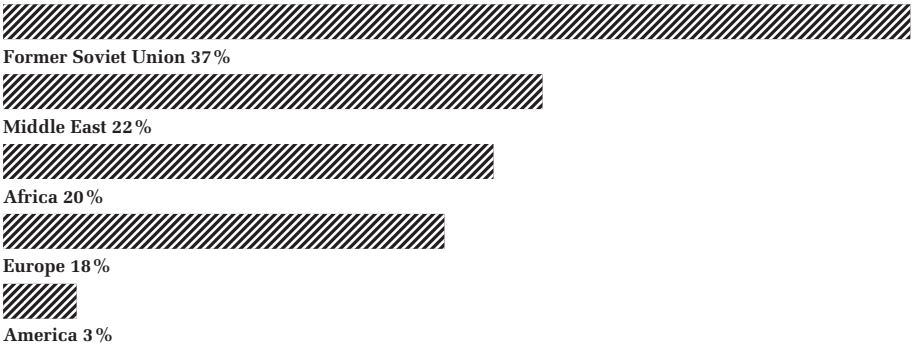
— Data not available

* Total production also includes production of lignite, hydroelectricity and other primary sources of electricity.

0.0 is used when the value is less than 0.05 but greater than zero

Source: Energy in the EU: first estimates 2005. Eurostat News Release 126/2006. 21 September 2006 (seen on 2 May 2007)

Figure 4: Sources of Europe's Oil Imports 2005



Source: Made by the author according to Crude Oil Imports in 2005, European Commission, [online], [cit. 20071003], Accessible from WWW: http://ec.europa.eu/energy/oil/crude/index_en.htm

Figure 5: Sources of Europe's Natural Gas Imports 2005

Source: Made by the author according to Energy and Transport in Figures 2006. European Commission and Eurostat, komise a Eurostat. [online], [cit. 20071003], Accessible from WWW: http://ec.europa.eu/dgs/energy_transport/figures/pocketbook/doc/2006/2006_energy_en.pdf

Figure 6: Exports of Natural Gas in EU from the North Africa, the Middle East and Caspian Area, 2000 – 2020 (in billion cubic metres)

Country	2000	2010	2020	Difference 2000–2020
Egypt	—	26	31	31
Algeria	60	85	120	60
Azerbaijan	—	15	30	30
Iraq	—	10	20	20
Iran	—	10	30	30
Qatar/Yemen	2	9	16	14
Libya	1	11	27	26
Nigeria	1	15	20	19
Trinidad	1	5	10	9
Turkmeistan	—	—	10	10
Together	65	186	314	249

Source: Götz, Roland. Rußlands Energiestrategie und die Energieversorgung Europas. Deutsches Institut für Internationale Politik und Sicherheit. Berlin, March 2004, p. 18

Figure 7: Share of Total Primary Energy Supply in 2003 in % (excludes electricity trade)

Source	Germany	France	UK	Poland
Oil	36,4	32,9	35,1	21,4
Gas	22,8	14,2	37	11,9
Coal	24,5	5,2	16,5	60,9
Nuclear	12,4	41,5	10	—
Renewables	3,9–4,6 in 2005	6,7	1,4	5,8

Source: Geden, Oliver; Marcelis, Clémence; Maurer, Andreas. Perspectives for the European Union's External Energy Policy: Discourse, Ideas and Interests in Germany, the UK, Poland and France. p. 6

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