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Today's Emergent Geo-politics and the Day After: What's Next in Energy Security?

Nurşin ATEŞOĞLU GÜNEY*

The problem of energy has become the most important instrument in determining the contours of the new geo-politics of rivalry, alliances and cooperation in the 21st century. Starting in the 2000s, the emergence of new independent powers with excessive demands for energy as well as the rise of new independent energy sources based in different countries, along with new technological discoveries across energy sectors, has set in motion a situation of constant change and competition between state and non-state actors in the international system. Since human demand for energy continues to rise alongside the requirements of modern life, energy security is likely to remain one of the most important matters of concern, not only for the continuity of individual states' survival but also as a complex matter for future global and regional cooperation and competition.

Many energy experts declare that the international community, at the beginning of the 2000s, is going through a revolutionary moment in the energy security landscape where four features are apparent. Firstly, more oil and gas is entering the international market as a consequence of the distinct role technology is playing. Secondly, in contrast to developing countries, developed countries, due to their strategic preferences, energy efficiency based policies and the negative effects of past economic crises, are now demonstrating lower energy consumption. Europe's decreased hydro-carbon consumption is often given as an example in this regard. Thirdly, thanks to the North American shale revolution, the energy trade that had already shifted from West to East is demonstrating a new geo-political change in trade direction, and finally, the trend in energy consumption has moved away from fossil fuels towards renewables and nuclear plants, as the result of worldwide diversification.

Prior to a recent wave of change in mid-2014, global oil production could not keep pace with the increasing demand and hence prices naturally spiked. However, the price of Brent crude oil, which was around US $ 115 per barrel in June 2014, dropped to US $ 52 per barrel on the 5th of January 2015, and today the price of oil remains around US $ 50. The oil price per barrel had been quite stable over the last five years; since 2010 it had stayed at

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around US $ 100. This was due to many factors including the lessening demand in both Asia and Europe. It also resulted from both the degraded economic conditions as well as the improved energy efficiency measures that were observed across the Euro-Atlantic world. What was more significant was that the North shale revolution overwhelmed markets with increased oil supplies. All of these new developments, together with OPEC's unexpected November 2014 decision not to cut down oil production have given rise to the recent sharp plunge in present oil prices. Many energy experts in this regard have already given their commentaries on the reasons for the current fall in the price of oil. Both economists and energy experts are currently questioning whether this fall is stemming from the dynamics of market conditions, determined by supply and demand, or is the result of the changing conditions of geo-political outlook.

Likewise, in the field of natural gas, a revolutionary change is also taking place. Due to new exploration methods in both on-shore and off-shore drilling around the world, and with the discovery of new geographical resources, new gas suppliers are already making their entrance into the international markets. This too, therefore, is an important factor in the reduction of gas prices across various regional landscapes. It is important to remember however, that despite the current pace of achievement in the field of renewables, in certain geographical areas, the world community still depends heavily on the consumption of large amounts of fossil fuel.

The current drop in oil prices has also intensified anxiety among those who are concerned about climate change. The present worry is a situation where countries in need of cheap energy resources due to low oil prices may perhaps, by using excessive oil, reverse the trend from the global use of energy from renewables towards more use of fossil fuels, resulting in higher carbon gas emissions at a time when the world community is working to overcome this intricate problem. Additionally, as a result of the latest Ukrainian crisis a new anxiety has come into fore, both for European consumers' and governments, about the future of European energy supply security. This situation has naturally led to new requirements to make sound and realistic assessments about the newly developing contours of European energy.

Due to all these recent radical changes, the energy issue has gained substantial attention in the IR community and it is believed that some of the options are insufficient to meet the energy security of individual states. A new assessment is therefore required to reformulate the energy strategy for each and every individual country to establish how best to cope with its energy requirements in a shifting geopolitical environment and by taking into account the impact of recent developments. Firstly, the North American shale revolution has made the US self-reliant in the hydro-carbon sector and therefore has led to more oil in the global market as Washington has since 2008 been importing less oil but exporting new volumes of unconventional

oil. Secondly, the demand for oil in places like Europe and Asia, particularly China, is now tapering off due to weakening economies and the introduction of efficiency measures. Moreover, the OPEC members' November 2014 decision to not cut back oil production, due to pressure on countries like Venezuela and Iran from Saudi Arabia, is contributing to the decline in recent oil prices.

As a result, the current covert war over oil prices between the US and Saudi Arabia and others is creating the net positive effect that is already being felt by oil consumers. On the other hand, most oil producing countries operating at even-break points above 50$ have already found themselves situated on the losing side of this new low oil price story. This has especially impacted on countries like Iran and Russia, whose sole revenues come directly from exports of oil. Therefore, countries on both sides of the international oil business are wondering how long this condition will last and how it will affect future relations among the states, whether in the form of cooperation, rivalry or alliances. This special issue of *Perceptions* on *Today's Emergent Geo-politics and the Day After: What's Next in Energy Security?* aims to bring clarification to the crucial questions that are related to the changing contours of the emerging energy security through the valuable contributions of eminent energy scholars and experts.

In his article "Global Energy Outlook: Opportunities and Challenges," Gawdat Bahgat lays out the present conditions of the global energy outlook in light of the IEA's newly released 2014 Energy Outlook. Bahgat in this paper highlights the main opportunities and challenges that lay ahead for the global energy system. In his evaluation, Bahgat focuses on energy security, both from consumers' and producers' perspectives, the recent fall in oil prices, and the economic, environmental and strategic implications.

Nurşin Ateşoğlu Güney in her article entitled "Where Does the EU Stand in Energy Dependence on Russia after the Ukrainian Crisis: Are any Alternatives at Hand?" attempts to clarify the question of whether the EU, under the impact of the latest Ukrainian crisis, can find and exploit alternative resources and thereby transcend its longstanding energy dependence on Russia. Güney argues that this question has gained significantly more importance following the EU's 2014 Energy Security Strategy, in which it identified which objectives member states should be following in the short and medium to long term, up until 2030.

Nurşin Ateşoğlu Güney and Vişne Korkmaz in their article entitled "An Energy Interdependence Model between Russia and the Europe: An Evaluation of Expectations for Change" attempt to answer the question of what kind of changes have occurred in the interdependence model and energy dialogue regime between Russia and Europe, which has been in existence since the Cold War years. The authors, after examining the main contours of this peculiar relationship that was developed between Moscow and Brussels after the

Second World War, move on to analyse the Post-Cold era by pointing out the major turning points in this new era of interdependence from 2006 to 2014. The authors' aim is to make a prediction about how this interdependence relationship will progress.

Valeriy A. Kryukov in his article entitled "Mix of Russian Liquid Hydrocarbons: Reasons/Sources for Change and Future Prospects" conducts an in depth analysis of the current situation with Russian liquid hydrocarbons and lays out Russia's current and future challenges in the area of oil-gas production. Kryukov, noting the importance of Moscow's huge capacity for resource potential in hydro-carbons, writes about the need for diversification of routes and sources and the need for investment in new technologies, as well as the building up of new institutions for up-grading Moscow's decreasing traditional production from well-known resources. The article ends however, by emphasizing the reality on the ground, that until Russia fulfills these requirements, their exports of oil-gas will continue to flow into the European market for the foreseeable future, since all existing infrastructure is focused in that direction.

Rossella Bardazzi and Maria Grazia Pazienza, in their article entitled "Energy Mix and Energy Taxation: A Comparison between the EU, Italy and Turkey", after outlining Italy and Turkey's need to secure their energy supply requirements that is present under the current energy outlook, go on to emphasize the present similarities and differences between the two countries. Moreover, in this paper they also give priority to the issue of taxation and consider how it is being dealt with by each of these two countries.

Mukhtar Hajizada in his article "Patterns of Regional Collaboration and Institutional Cooperation around the Black Sea" uses the European example of regionalization as the guide for his discussion and shows how and under which conditions this region's states in the post-Cold War era have come together under Black Sea Economic Cooperation (BSEC) and developed plans for cooperation for the future under the Wider Black Sea region's (WBSA) changing geo-political conditions. Under this plan of action, Hajizada's paper analyzes the complex patterns of regionalization that have been witnessed around the Black Sea region. He, in this regard, tries to lay down the limits of cooperation that have been observed among the members of BSEC along the well-known patterns of regionalization from the 1990s until the present day. Most importantly, he describes the present energy cooperation between Turkey, Azerbaijan and Georgia as an outstanding example of a loose form of regionalization rather than an inclusive and comprehensive one that one would expect to see within the whole WBSA region.

Global Energy Outlook: Opportunities and Challenges

Gawdat BAHGAT*

Abstract

In mid-November 2014 the Paris-based International Energy Agency issued its latest World Energy Outlook. The main theme of the report is that the global energy system is "in danger of failing short of the hopes and expectations placed upon it."[1] This study explores some of the main opportunities and challenges facing the global energy system. Specifically, the analysis focuses on energy security, both from consumers' and producers' perspectives, and the recent sharp drop in oil prices and the economic, environmental and strategic implications. The forces that have led to the recent decline in prices seem to differ from those that led to previous declines. It is likely that prices will remain low for a prolonged period of time. Major producers and consumers will have to re-adjust their economic policies and strategies to respond to these key changes in the global energy landscape.

Key Words

Energy security, oil prices, climate change, shale gas, diversification, renewable energy.

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Introduction

The broad Middle East and particularly Iran, Iraq and the six Arab States on the Persian Gulf (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) enjoy several advantages as the world's major oil and natural gas producers. First, together Middle Eastern producers hold the world's largest proven oil and gas reserves. No region in the world holds as much proven reserves. The high level of production and low (though growing) level of consumption mean that a substantial proportion of the oil produced in this region is exported to the rest of the world. Meanwhile, the massive natural gas reserves and the relatively small volume of production mean that the region has the potential to play a leading role as a natural gas supplier, once gas deposits are developed.[2]

No wonder, the International Energy Agency projects that the region "remains at the center of the longer-term oil outlook". The Paris-based organization predicts that up to the mid-2020s non-OPEC rising output from the United States, Canada, Brazil and others will

reduce the share of Middle Eastern producers in the global production. However, this non-OPEC production, mostly tight, sands and deep-water oil, will decrease and the Middle East region will provide the bulk of production.[3]

Second, the cost of production in the Middle East is one of the lowest in the world. Unlike Russia, the Caspian Basin, the North Sea, and the Gulf of Mexico, most oil and gas fields are either onshore or in the shallow waters of the Persian Gulf and the Mediterranean Sea. This accessibility means that much of the oil and gas production in the Middle East is less environmentally challenging and cheaper to produce.

Unlike private international oil companies, which aim mainly at maximizing their profits, state-owned and state-managed national oil companies are driven by both strategic concerns and commercial interests.

Third, the Middle East region has been producing and exporting oil and gas for decades. Generally the energy infrastructure is well developed. Extensive pipeline networks connect the oil and gas fields to marine export terminals and loading platforms on the Persian Gulf and the Mediterranean Sea. From there the region has easy access to the high seas and global markets in Asia, North America and Europe. Unlike other producing regions, shipping ports in the Middle East do not experience major storms or freezing.[4]

Finally, traditionally most of the world's spare capacity of oil is concentrated in the Persian Gulf, particularly Saudi Arabia. This spare capacity serves as an insurance policy against any unexpected interruption of supplies due to natural or political reasons.[5] This concentration of spare capacity can be explained by the fact that oil and gas production is dominated by state-owned national companies. Unlike private international oil companies, which aim mainly at maximizing their profits, these state-owned and state-managed national oil companies are driven by both strategic concerns and commercial interests. Saudi Arabia and other Gulf producers maintain spare capacity to ensure short- and long-term stability of global markets.

Given these advantages and despite rising production in Russia, the Caspian Basin, Africa and, more recently, North America, the bulk of the increase in world oil output is projected to come from the Middle East. The oil and gas resources of the Middle East will continue to be critical in meeting the world's growing appetite for energy.

In short, history and geology put Middle East oil and gas producers in

the driver's seat. The region has been producing and exporting crude and natural gas for decades and is certain to maintain this policy and status in the future. The projected rise of the Middle East's share in meeting global demand means that major consumers (i.e. China, India, Japan, South Korea and Europe) are likely to grow more dependent on energy supplies from the Middle East.[6] The smooth continuation of this mutual dependence between Middle Eastern producers and major consumers require close cooperation in addressing several strategic and commercial challenges. Some of these challenges are domestic while others are regional and international.

Equally important, international sanctions, wars, ethnic and sectarian strives, terrorism, and overall regional instability have negatively impacted the full utilization of the Middle East's hydrocarbon resources.

Most of the Middle East governments have achieved a modest success in initiating and implementing economic and political reform. There is much to be desired in pursuing economic development and political liberalization. Equally important, international sanctions, wars, ethnic and sectarian strives, terrorism, and overall regional instability have negatively impacted the full utilization of the region's hydrocarbon resources.

These domestic, regional and international challenges have raised doubts about the reliability of oil and gas supplies from the Middle East. In the last few decades policymakers, media outlets and think-tanks in Washington, Brussels, Beijing and Tokyo have frequently called for reducing energy dependence on the Middle East. U.S. officials, more than their European and Asian counterparts, have repeatedly talked about "energy independence" and stopping or reducing the nation's "addiction to oil."

This study argues that such calls are useful for political rhetoric and gaining votes. As an energy analyst asserts, "Presidents may declare an urgent need to cut imports and boost energy independence - no one ever lost political support by seeing evil and blaming foreigners."[7] In reality and based on projections by US, European and Asian governments as well as by major international organizations, the world will grow more dependent on oil and natural gas supplies from the Middle East. Furthermore, the region's long history of producing and exporting hydrocarbon fuels suggests that concerns over interruption of supplies from the Middle East are exaggerated. A close scrutiny indicates that, with a few exceptions, the region has proven a reliable producer and exporter of oil and natural gas.

Shortly after the 1973 Arab-Israeli war Arab oil producing countries cut production and imposed an oil embargo on the United States and a few other countries for their support to the Jewish state.

In the following sections I briefly discuss the concept of "energy security" and some of the major socio-economic and political challenges threatening the energy sector in the Middle East. The analysis underscores the multi-dimensional nature and complexity of energy security and policy. This will be followed by an analysis of the recent sharp drop in oil prices and the economic, environmental and strategic implications.

Energy Security

For long time the world relied on fossil fuels to meet most of its energy needs. Not only were the prices affordable, but equally important, interruption of supplies triggered by political disputes was not an issue. The creation of the Organization of Petroleum Exporting Countries (OPEC) in 1960 as a cartel representing the interests of major oil-producing countries served as a sign that a key change was about to take place. The so-called oil embargo (1973-74) that followed the 1973 Arab-Israeli war represented a turning point in the decades-long perception of energy security. Since then the supplies of oil and natural gas have at times been interrupted due to political crises. These geo-strategic disputes have also contributed to intense price fluctuations and volatility.

Against this background the interest in alternative energy has emerged and evolved since the mid-1970s. Problems related to safety, reliability, and affordability have slowed down the maturation of nuclear and renewable power. In recent years technological advances and lower costs have convinced many countries to take a fresh look at these alternative energy resources. Furthermore growing environmental concerns have made energy security inseparable from the transition to a low-carbon economy.[8] These developments have broadened the perceptions and understandings of energy security. In 2011 the International Energy Agency (IEA) adopted a comprehensive approach that includes availability (geological), accessibility (geopolitical), affordability (economic), and acceptability (environmental and social).[9] Finally, the availability of reliable supplies at affordable prices with little environmental impact represents only half of the energy equation. The other half is efficient demand. Stated differently, energy security has supply-side and demand-side components.[10]

Recent Drop in Oil Prices: Economic and Strategic Implications

Shortly after the 1973 Arab-Israeli war Arab oil producing countries cut production and imposed an oil embargo on the United States and a few other countries for their support to the Jewish state. This led to what came to be known as the first oil shock (a surge in oil prices in a short period of time). Since then oil prices have fluctuated responding to changes in supply and demand as well as political developments. In 2008 oil prices reached their peak, around US$147 and for the following years stayed above US$100. The last few months, however, have witnessed a steady drop of oil prices. In early November a barrel of oil is sold for a little more than US$80.

The forces that have led to the recent decline in prices (more production and less consumption) seem to differ from those that led previous declines. It is likely that prices will remain low for a prolonged period of time. Major producers and consumers will have to re-adjust their economic policies and strategies to respond to these key changes in the global energy landscape.

Renewable energy is any form of energy that is replenished by natural processes at a rate that equals or exceeds its rate of use.

Reasons for Declining Oil Prices

Oil prices, like the prices of any other commodity, reflect and respond to changes in supply and demand. For decades major consuming countries, led by the United States, have felt vulnerable to economic and political upheavals in producing countries. Since the Nixon administration in the early 1970s U.S. officials have talked about reducing dependency on the Middle East and ending the nation's addiction to oil. In pursuing these objectives consuming countries have adopted a three-fold strategy: increase oil and gas production, diversify the energy mix, and reduce consumption.

Increase oil and gas production

Oil companies have invested heavily in new exploration techniques. In recent years drilling in deep water has substantially contributed to an increase in both production and reserves. Equally impressive, the so called shale revolution (a combination of horizontal drilling and hydraulic fracturing or "fracking") has added millions of barrels in US production (and billions of cubic meters of gas).[11] This technology has transformed the U.S. from a major importer to a rising exporter. The United States has taken the lead in producing shale gas and shale/tight oil, but proven

reserves have been reported in many other countries in Europe, Russia, China and others.[12] In other words the promise of a shale revolution is not limited to the United States. Finally, the technology is not static. Oil companies are investing in improving the technology and overcoming environmental challenges.[13]

Diversification

In addition to the rise in oil and gas production, consuming countries have sought to diversify their energy mix-reducing the share of fossil fuels and increasing the share of alternative energy, particularly renewable sources. These efforts are driven mainly by concerns over energy security and climate change. Renewable energy is any form of energy that is replenished by natural processes at a rate that equals or exceeds its rate of use.[14] Renewable energy is obtained from the continuing or repetitive flow of energy occurring in the natural environment and includes resources such as biomass, solar energy, geothermal heat, hydropower, tide and waves, ocean thermal energy, and wind energy.[15] Some renewable energy resources such as hydropower are technically mature and have been deployed on a significant scale. Others, such as wind, solar, and geothermal, are in a nascent phase of technical maturity and commercial production and deployment. Unlike fossil fuels, almost all countries have access to some forms of renewable energy. For example, solar and ocean energy are widely distributed. Still, the contribution of renewable energy to the overall energy mix varies substantially from one country to another. In recent years renewable energy has been expanding rapidly. The International Energy Agency (IEA) projects that renewable energy will account for nearly half of the increase in global power generation to 2035, with wind and solar making up 45% of the expansion.

Energy efficiency

The energy equation has two sides: supply and demand. The increase in oil supplies has been accompanied by aggressive efforts to reduce consumption. The IEA estimates that investment in energy efficiency markets worldwide in 2012 was between US$ 310 billion and US$ 360 billion. The Agency estimates that final consumption in the IEA countries is 60% lower today because of energy efficiency improvements over the past four decades. European countries and the United States are taking the lead in global energy efficiency. The European Union (EU) has set itself ambitious energy and climate goals. By 2020, Europe should achieve a 20% decrease in energy consumption, a 20% share in renewables in the EU energy mix, and a 20% decrease in energy consumption. In its Energy Efficiency Communication,

released in late July this year the EU proposed a new energy efficiency target of 30% for 2030.[16] Indeed, most of the increase in consumption in the coming decades will come from South Asia and the Middle East.

Economic and Strategic Implications

The rise in oil and gas production, diversification of energy mix, and decline in consumption have fundamentally altered the global energy landscape. Almost all countries in the world have contributed to these new dynamics, albeit at different degrees. The potentially prolonged period of low oil and gas prices is likely to have significant and wide-spread implications.

Environmental impact

Since the early 2000s, global natural gas production has substantially increased. In addition to well-established players such as Russia, Iran, and Qatar, several new producers have emerged as well-established exporters. These include Turkmenistan, Australia, and the United States. Cheap gas has replaced coal in generating electricity in many countries. Given that coal is more polluting than gas, this replacement is considered a positive development in the efforts to contain pollution. However, cheap gas has also reduced incentives to invest in renewable energy, which is less polluting than gas. In other words, cheap gas is considered a mixed blessing with regard to environment protection and climate change.

In the last few decades most Middle Eastern producers have achieved a very modest success in their efforts to reduce their heavy dependency on oil and gas revenues.

Economic impact

Consuming countries will benefit from cheap oil and gas while producing countries are likely to lose (at least in the short term). Lower prices mean that the billions of dollars the United States and Europe would have transferred to producing countries would, instead, be spent and/or invested in the local economies. These "saved funds" can be used to stimulate the economy and generate jobs. On the other hand, low prices might negatively impact (slow or even undermine) the shale revolution, as shale/tight oil along with production from the North Sea are expensive.

Production costs in the Middle East are the cheapest. Middle Eastern producers can make profit even at US$70 per barrel. However, such a low price would not be enough to balance their budgets.

In the last few decades most Middle Eastern producers have achieved a very modest success in their efforts to reduce their heavy dependency on oil and gas revenues. They need high prices to maintain and support the high standard of living they enjoy. Several Middle Eastern producers have created sovereign wealth funds (oil funds) to invest their oil revenues. These funds (such as the United Arab Emirates' Mubadala, Qatar Investment Authority and Kuwait Fund) are among the richest in the world. Their massive financial assets can help overcome the declining oil revenues. Less wealthy oil producers such as Iran will have to be more aggressive in reforming their economies and creating other sources of revenues.

Strategic impact

Oil is not only an economic commodity, it is a strategic one as well. The key changes in oil markets are likely to have a significant impact on the political and security relations between producers and consumers. In its Energy Outlook report, British Petroleum concludes that the United States is on a path to achieve energy self-sufficiency, while import dependence in Europe, China and India will increase. Asia will become the dominant energy importing region. Russia will remain the leading energy exporter, and Africa will become an increasingly important supplier.[17] While it will remain a key energy player, the Middle East is likely to see relatively static exports. These projections are likely to shape geopolitical relations between producers and consumers.

Middle Eastern producers, led by Saudi Arabia would provide un-interrupted oil supplies to Europe and the United States at "reasonable" prices and, in return, Western powers would guarantee their security.

Since the 1940s many analysts have argued that Western, particularly American, relations with the Middle East were largely driven by the "oil for security" bargain. In other words, Middle Eastern producers, led by Saudi Arabia would provide un-interrupted oil supplies to Europe and the United States at "reasonable" prices and, in return, Western powers would guarantee their security.[18] In recent years the fundamentals of this bargain have changed. The United States is becoming less dependent on foreign supplies from the Middle East and elsewhere. Currently the bulk of US imports come from the Western Hemisphere. Meanwhile, Asian big economies (i.e. China, India, Japan and South Korea) are growing more dependent on Middle Eastern oil. In the last two decades the

broader economic and trade ties between the Middle East and South Asia have grown much faster and deeper than those between the former and Western powers. These expanding volumes of trade and investment suggest that sooner or later Asian powers (particularly China) are likely to assume responsibility in protecting sea lanes and oil shipments from the Gulf to South Asia.[19]

Middle Eastern producers have reacted to the sharp decline in oil prices in multiple ways. Instead of cutting production, Saudi Arabia, the United Arab Emirates, and Iran (among others) have reduced the price. The UAE has recently allowed the expiration of some longstanding concessions to major western oil companies and is considering replacing some of them with partners from Asia. The Qatar Investment Authority announced plans to invest US$15 billion across Asia in partnership with China's CITIC Group.

These recent reactions by oil producers should not be over-estimated. Oil funds will not turn their backs on Europe. The continent still is the major destination of investments from the Persian Gulf and elsewhere. Western oil companies have the most advanced technology in oil exploration and development and will continue playing a major role in the energy sector in the Middle East. The bottom line is that the oil market is a global one, where disruption anywhere impacts prices everywhere. The long-standing close economic and strategic cooperation between Western powers and Middle Eastern producers is likely to survive the recent drop in oil prices.

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Where Does the EU Stand in Energy Dependence on Russia After the Ukrainian Crisis: Are there Any Alternatives at Hand?

Nurşin ATEŞOĞLU GÜNEY*

Abstract

Since the 1973 OPEC oil crisis the EU has been dependent on hydro-carbon imports from Russia. The latest Ukrainian crisis, resulting from the Russian annexation of Crimea, has naturally triggered therefore old European concerns associated with the 2006-2009 Russian gas stoppages. In the aftermath of the Crimean situation the EU Commission saw the urgent need to undertake an in-depth analysis of the Union's future energy security strategy. In June, Brussels issued the 2014 Energy Security Strategy, and it became clear which objectives member states should be following in the short and medium to long term, as far out as 2030. Following the release of the EU's strategy, this paper aims to analyse the most recent developments to trigger debate among IR scholars and energy experts on whether the EU can find and exploit alternative resources in order to transcend its longstanding energy dependence on Russia.

Key Words

Russia, Ukraine, EU, energy (inter)dependency, diversification, SGC, Shale Revolution.

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Introduction

The EU, since the 1973 OPEC oil crisis, has been dependent on natural gas imports from abroad. Unsurprisingly therefore, the latest Ukrainian crisis, which resulted from the Russian annexation of Crimea, has triggered old European concerns associated with the 2006-2009 Russian gas stoppage. Despite the interdependency between Brussels and Moscow, especially in the business of natural gas transactions, the 28 members of the Union, after overcoming a short period of hesitation, have decided to participate in a joint action with Washington against Moscow and impose new rounds of sanctions. This new, rather coercive attitude in the EU has converged with Washington's radically changed post-Cold War perception about the Russian Federation and was in fact based on a belief that relations between the two sides will never be the same as they were before the aggression in the Ukraine. Today, even after the conclusion of the three-party agreement between the EU, Russia and the Ukraine, which

made Kiev responsible for meeting its US$ 4.2 million gas bill to Moscow, government relations between the Euro-Atlantic world and the Russian Federation remain cold. The existence of the continuing EU and Washington based sanctions, as well as the end of previous cooperative relations between NATO and Moscow are clear evidence of the current chill. Moreover, the new 2014 Russian military doctrine that has identified NATO as the number one military threat to Russia is further proof of the degraded relations between the West and the Russians.[1]

Despite the interdependency between Brussels and Moscow, especially in the business of natural gas transactions, the 28 members of the Union, after overcoming a short period of hesitation, have decided to participate in a joint action with Washington against Moscow and impose new rounds of sanctions.

Last year, Moscow, on the eve of the Ukrainian crisis did not hesitate to intimidate Ukraine with a threat to cut off the gas in order to punish Kiev for its failure to pay its debt. The eruption of hostile relations with Russia in the aftermath of the Ukrainian crisis has coincided with the concerns of the NATO countries on the northern flank of Europe, and has forced EU leaders to re-think their current and future energy supply security policy. As the result of requests by EU leaders in this regard in March 2014, the EU Commission, following an in-depth analysis, issued the June 2014 Energy Security Strategy document[2] that has advised both short to medium and long term objectives to be tracked by the member states through 2030. The main aim underlying these objectives is overcoming the Union's overall energy dependence on Russian gas imports. Once the EU's 2014 European Energy Security document was made public it triggered a new debate among IR scholars and energy experts about whether the EU can create alternative resources and transcend its energy dependence on Russia. Since the EU Commission's European Security Strategy document has highlighted the general objectives that are directly associated with the current demand and supply side of the European energy security equation it is necessary to assess whether there are possible alternative diversification means available to the EU countries in overcoming the Union's imminent energy security problems that emanate from its gas dependency on Russia. So, with this main question in mind, the first and second sections of this paper

will pay close attention to what the EU countries in general are currently doing about the demand and supply side of their European energy equation. At the end of this examination the aim is to reach an assessment about where the 28 countries of the EU currently stand in meeting the ambitious energy targets published in the June 2014 EU Commission's Strategy document. To conclude, this paper will try to reach a determination on whether the EU is likely to overcome their hydro-carbon supply dependency on Russia through the exploitation of various alternative resources.

Brussels, so as to bring about a balanced energy security equation for its 28 members, has decided to initiate new measures to enable the Union to both increase its indigenous hydro-carbon production and decrease European energy consumption.

EU's Energy Outlook: The Demand Side of the Story

Europeans since 2000 could not have avoided focusing on the intensifying problems of the EU's energy supply security. This situation gained more weight after the two Ukrainian and Russian gas pricing disputes that occurred between 2006 and 2008 and which resulted in disruptions of gas supplies to Europe. Brussels, so as to bring about a balanced energy security equation for its 28 members, has decided to initiate new measures to enable the Union to both increase its indigenous hydro- carbon production and decrease European energy consumption.

The EU- based initiatives that have been launched so far and aimed to achieve progress on the demand side of the Union's energy security strategy have fallen short of meeting all of the members' energy needs. The objectives outlined in the EU Commission's June 2014 Energy Security Strategy Document further strengthen the viewpoint that there is still a need for the Union to re-visit and re-emphasize the implications of certain measures related to the demand side of the EU's energy mix. The brief analysis contained in this paper aims to bring forth the current status of the initiatives associated with the demand elements of the EU's energy security policy. In this part of the paper, through the help of this inquiry, it is hoped to ascertain whether the introduction of the demand related measures are likely to be effective in overcoming the EU's immediate and future energy supply security requirements, especially with regard to Russia.

European Integrated Internal Energy Market: Where Do the 28 countries Stand Today?

In the aftermath of the latest Ukrainian crisis, the EU's dependency on Russian gas imports has become more apparent and a matter of real concern especially to those countries which are solely dependent on Moscow. Currently, six of the 28 members of the EU are sourcing 80-100% of their gas supplies from the Russian Federation. Countries like the Baltics, Finland, Slovenia, Hungary and Bulgaria are therefore highly dependent on this volatile source. What is worse is that some of these countries, like the Baltics states, still have energy islands status within the EU since they remain reliant on both a single electric and gas supply operator- the Russian Federation- and have not yet become part of the Union's integrated single gas market. In 2007 the EU launched a new strategy/ game plan to create a common internal energy market to be in place Europe-wide by the end of 2014, but they have not been able to achieve this goal. According to the Third Energy Package, by the end of the 2014, 14 countries in the northwestern region of Europe were expected to complete the integration of their energy markets.[3] Currently there are six other geographical markets other than the northwestern region of Europe that the EU is expected to operate. However, not all of the markets have recorded the same pace of development as the northwestern regional market.[4]

> The diversification of routes and sources as well as the implementation of energy infrastructure such as power plants, interconnections, electricity grids, liquid natural gas (LNG) terminals, and gas mains, lies at the core of the EU internal energy market.

In actuality, European institutions since 1992 have been busy with liberalizing the European gas markets while at the same time they have launched an initiative to integrate them as one single market by the end of 2014. However, despite the EU Commission's explicit ambition to achieve an integrated internal market within this timeframe, this process is still far from completion. The EU's domestic production of natural gas is currently decreasing in spite of the largely flat demand and the negative effects of the economic crisis on European economics. According to BP's forecasts, the Union's demand for natural gas is expected to stay at around 55% by 2035.[5] Hence, EU countries need to both secure their future gas supply security while concurrently stabilizing the demand for

natural gas across the whole of Europe. The integration of the European gas market as a single market is an efficient way of achieving this. Consequently, the diversification of routes and sources as well as the implementation of energy infrastructure such as power plants, interconnections, electricity grids, liquid natural gas (LNG) terminals, and gas mains, lies at the core of the EU internal energy market. Up to now, the EU has only managed to complete its integrated market in the northwestern part of Europe, via the re-connecting interconnector and other measures. Across the rest of Europe the Union has not yet achieved this objective.[6] That is why the planned winter 2014 deadline for an operational European internal gas market has not been met.

According to the diplomat and newly appointed vice president of the Energy Union, Maros Selcovic, the EU will only realize the Energy Union aims among the 28 member states after it has met the prerequisite of an intended integrated internal gas market[7]. In Selcovic's view, when the EU is able to marshal its purchasing power via the construction of the Energy Union it will simultaneously increase its bargaining power in the face of Russia's likely attempts to use its natural gas resources as a foreign policy pressure mechanism. It is true that the EU currently pays around € 400 billion per year for imported fossil fuels and that is why the European Commission has already set some important priorities, like cutting energy use and diversifying supplies, as well as developing a closer energy union, which will enable the sharing of energy across borders via the improved European-wide infrastructure. The aim is to reduce the demand in Europe for imported fossil fuels from abroad.[8] As Selcovic asserts, the EU today deserves to pursue a more assertive European energy diplomacy and he advises that energy diplomacy needs to become one of the Union's external policy priorities as it has the spending potential of € 400 billion a year on energy imports, and affects a half billion fossil fuels consumers who reside in Europe.[9]

Though Selcovic agrees that the energy mix in Europe is a national competence, he argues that Europe should give priority to finding better means of increasing its common bargaining power especially in the process of purchasing of gas from abroad. In this regard, he suggests that the EU should first re-consider its gas security supply regulation and hence try to go beyond the existing Third Energy Market Liberalization Package. He believes that increased cross- border cooperation in gas supplies among EU members through the attainment of internal energy market means should be encouraged and finally be completed.[10] Selcovic, aware of the Russians' continuing energy export requirements to Europe, which represent 52% of the Russian Federation's state budget, has strongly suggested that the EU use this

market power to stand up to Russia. When Selcovic made this statement in November 2014 he said this new EU stance should be accompanied by the strategy of relying on the Southern Gas Corridor (SGC) and hence the support that was given for the South Stream, which does not abide with the EU rules, should be withdrawn.[11]

Under the present conditions one may evaluate the EU's decision to suspend the South Stream project as one indication of Brussels' new will to exert its market power as it relates to its current standoff with Moscow.

As a result, the EU's latest suspension of the South Stream pipeline project in response to the outbreak of the Ukrainian crisis cannot be seen as a big surprise. Moreover, under the present conditions one may evaluate the EU's decision to suspend the South Stream project as one indication of Brussels' new will to exert its market power as it relates to its current standoff with Moscow. On the other hand, according to BP energy forecasts for 2035, the Union's gas import dependency will be expected to remain at about 50%.[12] Hence, despite the intended achievements in renewables and energy efficiency, which are not yet completed, the EU will continue to import gas, at least in the coming next few years, from Russia if not via South Stream.

Can Energy Efficiency, Renewables and Low Carbon Economy Targets Help in Overcoming the EU's Current Energy Consumption Stand?

In the wake of the on-going Ukrainian crisis, the West's worsening diplomatic and economic relations with the Russian Federation have further intensified the mounting pressure on Brussels to increase its energy security. Brussels, so as to take better precautions in this regard, has started to intensify its focus on both the demand and supply sides of energy use in Europe. The EU Commission with this objective launched its latest Energy Security Strategy in June 2014[13] as well as the 2014 Climate and Energy Change Policy Framework.[14] The EU's energy efficiency targets, together with the role of renewables that emphasized the achievement of low carbon economy in Europe, stand as the two most significant issues in the EU Commission's 2014 documents.

The main objective in launching the EU's European Energy Security Strategy document of 2014 and the 2014 Climate and Energy Change Policy Framework was to support the

Union's long time determination to acquire and implement an energy-security strategy that is simultaneously competitive, secure and sustainable. One of the EU's main priorities in launching the European Commission 2014 policy framework on climate was of course directly associated with the Union's long time desire for the achievement of a low-carbon economy as part of the Union's overall efforts in attaining a balanced energy security strategy. It is clear that the EU with this new policy framework wants to ensure affordable energy for all European consumers, but at the same time wants to increase the security of the EU's energy supplies. The hope in this regard is to help reduce the Union's overall dependence on energy imports.[15]

The newly proposed 2030 policy framework for climate and energy in fact delineates the same objectives as the 2014 policy framework on climate. In actuality, the targets that are set for the 2030 framework were actually based on and inspired by the EU's previous climate and energy targets that were previously set for 2020, and are still in force.[16] However, the targets put forward by the EU Commission for 2030 seem more ambitious than those set for 2020. The centerpiece of the framework is the intended reduction by 2030 in EU domestic greenhouse gas emissions to 40% below the 1990 levels.[17] These climate and energy targets set for 2030 have been launched with the assumption that renewable energy will be playing a key role in the EU's future overall energy security strategy, especially in making and facilitating the anticipated transition towards a competitive, secure and sustainable energy system. The European Commission, with this mindset, has set a target of increasing the share of renewable energy by at least 27% of energy consumption by 2030. Additionally, with the same aim in mind, the Commission has also proposed a target of a 30% reduction savings in energy by 2030. However, this efficiency goal of 30% was later reduced to 27% across the EU. This newly proposed efficiency target has, in fact, been built on the achievements of the previously declared targets of 20%.[18]

Energy efficiency has gained new meaning and attraction within the context of the Ukraine crisis as EU countries have started seeking new ways of reducing their dependence on Russian gas imports.

According to the EU Commission's expectations, for every 1% increase gained in EU energy efficiency, gas imports are likely to fall by 2.6%. Hence, the EU Commission, by increasing the percentage of energy efficiency that has been set for 2030, is hoping to both

increase energy self-sufficiency and at the same time attain overall reductions in consumption across the Union. For instance, in most of Europe, newly constructed buildings are already using half the energy amounts that were common in the 1980s, whilst European industry is now using 19% less energy than it did in 2001. In line with the EU's new energy policy, the Union's CO2 emissions are also expected to drop by more than a quarter as natural gas and renewables will increase their share of European energy consumption. In this context, by 2023, renewables are expected to replace nuclear energy as the dominant source of power generation, making up 37% of the EU's energy production. According to these estimations, this far-reaching shift in energy diversification is expected to demonstrate its true worth by 2035.[19]

Seeing the low natural gas prices on the American continent, Europen states have attempted to realize their own transition from coal or lignite burned/based power generation to gas burned power generation with the help of the horizontal drilling method.

Energy efficiency has gained new meaning and attraction within the context of the Ukraine crisis as EU countries have started seeking new ways of reducing their dependence on Russian gas imports. But, on the other hand it has become a divisive issue among the 28 member states due to the costs individual countries must bear in laying down the necessary infrastructure. That is why the member states have for some time debated among themselves whether the energy efficiency, as well as the renewables targets would be binding either at the individual nation level or at the EU-wide level. The international community has become aware that after the EU Commission's declaration in 2014, energy efficiency and renewable targets were somehow watered down. Since then for instance it has become clear that the 27% target for energy efficiency has not been accepted as either legally binding at the national level or even at the EU level. In fact this energy efficiency target has been postponed until a review in 2020, with the hope of having an achievable 30% EU target level. On the other hand; the renewables target was first thought to be binding at both at the EU and national levels. However, it has been decided that this renewable target of 27% will not be binding at the national level due to opposition from countries like the UK.[20] Similarly, the EU member states have also displayed divergent stands on the climate change issue. This was again directly related to both the different

levels of indigenous resource capacities of each of the 28 members as well as to their different levels of dependency on single gas or electricity operators. This resource divergence that currently exists across the Union seems likely to persist until an integrated European gas and electricity market is achieved across the whole of Europe. Unfortunately, the EU 2014 energy efficiency and renewable target numbers for 2030, which aim to bring a low carbon economy into Europe, are not expected to bring about a radical change in the EU's current 'on the ground' energy supply security reality. For instance, according to BP forecasts for 2035,[21] the decrease in the EU's energy consumption is set to continue because of the expected strong growth in renewables, but this is not expected to change the reality that Europe's dependency on energy imports will continue to remain at approximately the same levels as they are today. Again according to BP forecasts, fossil fuels are expected to account for about only 67% of the EU's overall European energy consumption by 2035, in contrast to 77% in 2012.[22] According to the EU Commission, "The EU is currently highly energy dependent because it [still] nearly imports 53% of all the energy it consumes at a cost of more than one billion euros per day. Among the EU's energy imports, 88% currently goes to crude oil, 66% goes to natural gas, 42% goes on solid fuels such as coal and 95% goes to uranium".[23] These figures are clear evidence that the EU is still open and vulnerable to future external energy shocks. Despite the growth of renewables and energy efficiency targets that were launched in the EU's energy security strategy, the current statistical information reveals that the Union's energy dependency on foreign fossil fuels from abroad, especially from Russia, will continue to persist for some years.

Can the North American Shale Revolution be Helpful in Ending Europe's Foreign Energy Dependency?

Now that Europe's conventional gas production is decreasing, some European countries have started to view the North American shale revolution as a model for an alternative strategy for reducing the EU's continuing energy dependency abroad. It is true that Europeans, in the aftermath of Russia's annexation of Crimea have sped up their attempts to diversify their energy mix by using their own indigenous resources. Shale gas, especially among some of the European countries with little or no indigenous energy resources, has gained significant attention. Seeing the low natural gas prices on the American continent, these states have attempted to realize their own transition from coal or lignite burned/based power generation to gas burned

power generation with the help of the horizontal drilling method. At the end of this shale exploration journey these states hope to eventually attain both cheap and clean energy, but at the same time, to bring an end to the EU's longstanding dependency on Russian oil-indexed price gas.

In the last decade, the issue of shale gas has turned out to be a very divisive issue both among the various EU states as well as with the European public. Shale gas production is a national prerogative in Europe, which explains why the 28 member countries of the EU have naturally developed divergent policies. On the one hand, there are countries like France and Bulgaria that have already passed laws to ban fracturing of shale gas. Paris' decision to ban fracking is significant because France is known to have the second largest shale reserves in Europe after Poland. In contrast, Poland stands to be the only country in Europe that is determined to make the most of its shale gas potential in order to ensure energy supply security. As is well known, Poland has very small gas reserves, and being under pressure from the European states to reduce its carbon emissions, has seen the shale drilling method as an opportunity to compensate for its high dependency on coal production in the electricity generation business. However, despite Poland's great expectations at the inception of shale gas drillings, Warsaw has failed to achieve any substantial production/output to date.[24]

It has been argued that the broad rejection of shale gas drilling in Europe has been based on three main reasons: (i) geological; (ii) legal and (iii) environmental.[25]

Geological Reasons

More than 42 wells have now been drilled in Poland since 2010 and as a result, it has become clear that the geological conditions are not as conducive to shale gas drilling as first thought. As a result, the main America foreign oil companies have already started to leave the country. Currently Italian Eni and American Chevron are the only foreign companies still continuing with shale gas exploration in Poland. Under the present conditions in Europe, in contrast to Poland's and France's extreme cases, there are several other EU countries that stand somewhere in between on the shale exploration issue. For instance, Great Britain's stance among these countries is unique. London has become more inclined towards shale drilling since 2013, and has proclaimed that it is soon planning to start shale gas exploration within the UK.[26]

Though there has been little horizontal 'fracking' in Europe compared with the US, it has become clear that the geological conditions on the European

continent overall are not as amenable to this process as first thought. This makes the shale fracking issue even more undesirable to sections of the European community and consequently affects the willingness of governments to develop policies in favour of any likely drilling projects within their borders.

Legal Reasons

The second difference between the US and European cases relates to the legal status of horizontal fracking on the two sides of the Atlantic. The EU Commission, while still supporting shale fracking, has also implemented serious regulations binding each of the Union members. However, in the case of the US, both the extensive property rights that give permission to an individual to own both the rights of resources over and under the land, as well as the given support of government to entrepreneurs, have certainly helped to accelerate the pace of the shale boom occurring in America.

Environmental Reasons

Due to the European public's well-known '*not in my back yard*' reaction and the consequent government sensitivity about the environmental side effects of shale drilling, in most EU countries this kind of horizontal fracking has been banned. Conversely, in America, apart from a few states like New York and California, shale fracking is currently proceeding at a rapid pace.

> The basic concern has been related to the problem of how Europe's current gas demands could be met in the case of another Russian gas stoppage and whether the US LNG imports would be helpful in overcoming this interdependency.

So far the reports that have focused on the future of shale gas-oil horizontal fracking in Europe, have in general estimated that shale drilling can be productive in only a few geographical locations in Europe, and it is also believed that it will probably be decades before this productivity could be achieved. Moreover, these reports assert that due to the limited shale drilling that has been undertaken in Europe to date, it is too early to anticipate substantial results across the whole continent.[27] However, what is more interesting is that the expected maximum shale output at the end of drilling will total only 10% of the EU's current Russian gas imports. So, even if at some time in the future these shale deposits are recovered in Europe, they are likely to be used in complementing the declining conventional gas

resources of Europe or some of the European states' lack of renewables stocks.

The Supply Side: What are the Alternative Means of Diversifying Russian Gas Supplies to Europe?

Can US LNG Gas Supplies Become an Alternative Substitute Resource to Europe's Russian Gas Imports?

Since the outbreak of the third Ukrainian crisis Europeans have made it a priority to diversify their gas supplies with the basic aim of bypassing Russia. This effort in reality has gained momentum since February 2014 as a result of Russian President Putin's threat to halt gas supplies to Ukraine unless action was taken over Ukraine's unpaid bills. Additionally, in the aftermath of the Russian annexation of Crimea, as relations between Moscow and the Euro-Atlantic world deteriorated, the EU Commission issued its Energy Security Strategy document in June 2014.

In the medium to long term the EU Commission's June 2014 Energy Security Strategy document[28] anticipates the possibility of increasing LNG imports from the US or elsewhere as one way of attaining diversification from Russia. That is why energy experts since February 2014 have been focusing on the question of whether there is a real prospect of Europe importing additional gas LNG gas supplies from the US. The worsening relations between the government and secessionists in the Ukraine have also played a great role in triggering debates around finding new sources. The basic concern behind these questions has been related to the problem of how Europe's current gas demands could be met in the case of another Russian gas stoppage and whether the US LNG imports would be helpful in overcoming this interdependency.

Research has been conducted in Euro-Atlantic circles in order to find answers to questions such as (i) whether US LNG exports to Europe are likely in the near future and (ii) whether LNG diversification could be helpful for Europeans in securing their immediate energy needs. For instance, according to Columbia University's Center on Global Energy Policy report, the supply of US exports of LNG in time are expected to strengthen Europe's bargaining position vis-a-vis Russia by generating a more diverse global gas market where greater amounts of new American natural gas supplies can be found. However, as this reports states, LNG gas supplies either coming from the US or elsewhere is not yet a realistic solution to either the current crisis in Ukraine nor do they

have the capacity to free Europe from its continuing dependence on Russian gas at the present time.[29]

LNG has often been considered as one of the most promising sources of non-Russian gas in Europe. It is true that some European states like those in Central-Eastern and Southern Eastern Europe are more open and welcoming than the rest of the EU states to the prospect of having both American and other sources of LNG supplies because of their domestic gas production shortages. Currently, the North American shale gas revolution has already crippled the profits of the Russian producers and in a way that most benefitted European consumers. In a report by Jason Bordof and Trevor Houser, the authors share the conclusion of a related report stating that future US LNG exports are expected to further boost Europe's bargaining position with regard to Russia. On the other hand, American supplies of shale gas are not expected to be put in the service of Europeans or other countries before 2018.[30]

At present, there are still several obstacles that will continue to hinder the delivery of US LNG gas supplies to EU countries for at least a few more years. One of these is related to Europe's own purchasing capacity. There are of course other reasons why Europe has found it difficult to access sufficient LNG gas supplies. Europe, despite its numerous regasification terminals that have the capacity to produce 200 bcm/year (equivalent to the imports from Russia) only reached 22% of that potential in 2013. The reasons for this are various. Firstly, the economic crisis that broke out in 2009 in Europe has surely affected the European consumer's behavior in a negative way. This situation especially in the Central-Eastern and Southeastern European countries has resulted in a drastic decrease in gas consumption. Another reason for the 52% drop in European LNG consumption came to the fore in 2013 and was related to the increase in the Japanese demand for LNG that occurred in 2011. Immediately after the Fukushima nuclear reactor disaster Japan needed to acquire more LNG gas supplies as an alternative to its indigenous nuclear energy, and this caused changes in the prices of gas in the market. Naturally, Europeans, in the face of increased LNG prices, decided to cut down their LNG consumption.[31]

The future LNG gas supplies to Europe are likely to be affected to a large extent by fluctuations in the international gas price movements, for instance, in the face of excessive Chinese or other LNG gas demands.

What is more important is that the existing LNG import terminals in the EU

today are not in a position to serve the vulnerable Southeastern part of Europe, which is seriously in need of energy diversification to withstand the negative repercussions of another series of Russian gas stoppages in the future. It is true that this latest Ukrainian crisis has already persuaded many countries of the value of constructing LNG import terminals in the Southeastern parts of Europe to complement those already in the Baltics. Surely if this could be achieved in time, these countries' dependence on a single energy gas supplier would be mitigated to a certain extent. On the other hand, although some of the Central and Eastern European countries' gas contracts will expire within one or two years, some of the other EU states' contracts were made on a long term basis, and those countries that have signed long-term gas contracts with Russia will naturally find it difficult to back out of their legal liabilities immediately. This legal obligation would hence continue to keep these EU states dependent on Russian suppliers for several more years.[32]

Today, by looking at the negative ramifications of the on-going Ukrainian crisis it is easy to forecast that the future scope and nature of Russia's relations with the EU/ US will be cooler than they were before the outbreak of the third Ukrainian crisis.

Lastly, apart from the lack of readiness of both Central Eastern and South Eastern Europe's LNG infrastructure, which is expected to ease the need for US gas imports to replace the Russian gas, a problematic issue for both European and other international markets is that they will still have to wait several years before US is able to provide the much needed LNG exports to the market place.

According to current energy forecasts, it is estimated that the US could potentially be able to produce LNG gas at nearly equal to a sixth of the EU's overall gas consumption. But unfortunately half of this amount is reserved for already existing agreements with India and South Korea in order to supply gas for their industry demands. Another half of the US LNG gas production is expected to go to in a similar fashion to meet both the UK and Spain's industry needs. True, the Transatlantic Trade and Investment Partnership agreement, when finalized, is expected to be a positive factor that would help accelerate the supply of more US LNG exports coming into Europe, but, again according to the newly made forecasts, US LNG exports to Europe are not expected to reach 66 bcm a year before between 2018 and 2020. Just on this evidence, EU countries will be forced to continue importing Russian gas from Moscow at least until 2018 or 2020. On the other hand, looking at other issues, the future LNG gas supplies to Europe are likely to be affected to a large extent

by fluctuations in the international gas price movements, for instance, in the face of excessive Chinese or other LNG gas demands.

Can the Southern Gas Corridor be an Alternative in Europe's Diversifying of its Gas Supplies?

In the aftermath of the Ukrainian crisis, energy experts have once again shifted their focus onto the viability of the Southern Gas Corridor (SGC) as one way of diversifying or substituting the Russian gas supplies that Europe is in need of importing. The SGC option was raised by an EU Commission decision back in 2008 to find new gas providers as well as to seek diversified transit routes that would by-pass Russia as the only gas supplier to EU states. To this end, the countries in the Caspian and Middle East-Mediterranean basins have been mentioned as the likely new resources and transit routes. Due to the geo-political situation in these areas, so far only the TANAP-TAP gas pipeline has found life. So far, the SGC is most frequently referred to as the Caspian pipeline because Azerbaijan is committed to supply 16bcm gas to Turkey by 2018 and to Europe in 2019. Under the present geo-political conditions, the prospect of bringing gas from countries in Turkey's vicinity to the SGC in the upcoming short-to-midterm period (meaning from today up to 2020-2025) may prove a rather challenging business.[33] That is why major critics of the SGC have so far based their argument on the reality that the SGC, with its current capacity, cannot provide more than 3% of Europe's total gas consumption (that is nearly equal to the EU's gas imports total made from Nigeria). In contrast to this viewpoint, currently some energy experts are supporting the idea of bringing an expanded TANAP project to the fore so that Europe's urgent demands for gas may be addressed in the near future. To support this viewpoint these scholars came up with new opportunities that could be a new source of gas supplies to the SGC. Azerbaijan's gas reserves are thought to be the first option. In this regard, the recent founding of six wells in the Shah Deniz-2 field are thought to be the new basis for additional gas supplies to the EU via the TANAP-TAP project. According to proponents of this viewpoint, since Malaysia's state-owned Petronas has purchased 15.5% of Statoil's stake in Azerbaijan's Shah Deniz Production-sharing Agreement, it is asserted that this could be a good opportunity to use this extra amount in the service of the SGC.[34]

Today, by looking at the negative ramifications of the on-going Ukrainian crisis it is easy to forecast that the future scope and nature of Russia's relations with the EU/ US will be cooler than they were before the outbreak of the third Ukrainian crisis.

Especially after the EU's cancellation of the South Stream gas pipeline project, it is highly likely that the preponderance of the SGC project, which will deliver

gas via TANAP-TAP, will from now on be expected to gain more substance in the EU's overall strategy of reducing dependency on Russia.

The Union should start by accelerating its own common energy market needs approach, together with strengthening the Southern gas corridor by enlarging the capacity of TANAP.

It is true that the SGC, even in its expanded form, will not be able to substitute all of the gas that is coming from Russia, but when the SGC is combined with the completion of the compulsory energy infrastructure in Europe, including the construction of certain interconnectors, reverse-flow pipelines, LNG terminals and so on, then the substantial value of the SGC as the fourth alternative means of diversification to the Russian route will be more apparent. In the immediate future, with the construction of certain interconnectors, such as for instance the one between Greece and Bulgaria, and together with the initiation of several reserve flow pipelines, Southeastern Europe's emergent need for gas and its current dependency on one source could be relieved via the initiation of the TANAP-TAP pipeline project in the very near future.

New volumes of gas, in the amount of about 10 bcm, are expected to first start flowing into the European markets via the SGC in 2019, and the EU countries will then start to gain relative market leverage over Russia during the price bargaining process. Hence, under the current conditions the SGC appears to be one of the best diversification alternatives available to Brussels and Washington in the short term. Currently, some of the most eminent energy experts are already advising the Euro-Atlantic world to do everything they can to assure the realization of the SGC, together with pursuing the means to attain the expansion of TANAP. These scholars believe that depending on the geo-political openings in the future, the identified resources in the Caspian and Middle Eastern basins, both on-shore and off-shore, could be linked to the SGC via multiple transit pipeline routes to provide more gas for the purpose of overcoming Europe's gas overdependence on Russia.

Conclusion

According to energy experts, the EU will continue to be dependent on Russian gas imports until the mid-2020s. This continuing energy dependency on Russia once again became a great concern among the 28 member countries especially after the third Ukrainian crisis and as a result, the search for alternative means to

overcome this dependency has become a priority in the Union. The latest EU Energy Security Strategy report issued in June 2014 brought a road map for the Europeans to follow both in the short to medium and long-term period, and can thus be considered as a clear guide in this regard. However, it is true that there remain several crucial challenges before the member states can achieve the main prerequisites of the EU's strategy. This situation emanates from the different position of each country's natural resource basis and the varying degrees of their current dependency on Russian gas imports. Among all of the EU countries, the position of the northern western European countries in terms of being self-sufficient in meeting their energy supply security, in comparison to the previous 2009 Ukrainian crisis, is now much better. On the other hand, as many energy experts believe, the countries in the Baltics and in South Eastern Europe, that are highly dependent on Russian gas and hence extremely vulnerable to any likely interruptions, can at best be expected to reduce their reliance on Moscow only after 2020, through either the introduction of LNG supplies of gas or pipeline gas from Azerbaijan. The case of central and Eastern European countries is more or less the same.

Therefore, the best available strategy that seems reasonable for the EU in the medium to long term period is to concentrate on achieving the prerequisites of forming a European common integrated energy market by increasing the availability of the interconnectors, reverse gas flows and so on, so that Brussels' overall dependency on Russian gas supplies can be reduced. Under Europe's current conditions, the attainment of conventional gas supplies via diversification of sources and pipeline routes and sourcing affordable LNG stands as the immediate best alternative in reducing the EU's overall gas dependency on Russia in the short term. On the other hand, the shale gas source seems a rather weak option for all but a few EU countries, and therefore would be an unlikely solution in overcoming Brussels' broad dependency on Russian gas imports. In the immediate future, the best that the EU can do is to mitigate the likely impact of Russian dependency on gas imports. The Union should start by accelerating its own common energy market needs approach, together with strengthening the Southern gas corridor by enlarging the capacity of TANAP. As a result, the EU's ambitious 2014 program for both renewables and energy efficiency are in due course expected to provide great support for Brussels' development and improvement of the demand side of its energy security.

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The Energy Interdependence Model between Russia and Europe: An Evaluation of Expectations for Change

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Abstract

This paper attempts to identify what kind of changes have occurred in the interdependence model and energy dialogue regime between Russia and Europe. The energy dialogue regime was constructed during the Cold War years to manage the gas exchange between Moscow and the West. The economic rationale of this regime was to ensure absolute gain, while the political rationale was to keep Russia as a constrained giant within the economic logic of interdependence and prevent any assertive action on Russia's part. After the demise of the Soviets, changes in the overall and issue based power capabilities, in the economy and technology led to an expectation of regime change. Though the interdependence model retained its strength, the dependence on Russian gas was politicised in European circles and the Europeans began to implement new energy security measures as well as diversification strategies. This paper, by reconsidering turning points in the Post-Cold War interdependence like the 2006, 2009, and 2014 crises, tries to predict how interdependence will evolve in the short and long term.

Key Words

Interdependence model, Russia, Europe, natural gas, energy dialogue regime.

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Introduction: Europe-Russian Energy Interdependence

The 2014 Ukrainian crisis and the Russian annexation of Crimea led to tension in the Brussels-Moscow relationship. Sanctions have been imposed on Russia, and Moscow in return announced her withdrawal from a number of cooperation areas. Hence this tension is now acknowledged as another test for Russian-European interdependence.

The interdependence model and energy dialogue regime between energy producers, energy consumers and energy transit countries[1] has a long history in Europe and up until now has successfully passed a number of tests, like the threat of a USA embargo during the 1980s, the end of the Cold War, the dissolution of the Eastern bloc, and repeated crises between the Russian Federation and the transit countries during the 1990s. All these crises have affected energy security and the energy security regime to a certain degree and have caused

increased questions about whether new conditions, like changes in the overall power and/or energy power capabilities of actors would pave the way for change in the regime. One of the impacts of the current Russian- European crisis is the reanimation of this question. Although it is a very pertinent and central question, no-one has yet dared to leave the interdependence model and energy cooperation regime.

Though the interdependence model retained its strength, the dependence on Russian gas was politicised in European circles and the Europeans began to implement new energy security measures as well as diversification strategies.

This is not surprising from the theoretical perspective and theoretically there is an expectation of change under the regime if the parties decide to keep interdependence alive. In an evaluation of potential changes under the current cooperation regime, one should look at the degree of politicisation and securitization of (inter)dependency in the energy relationship between Europe and Russia. Politicisation and securitization of energy is closely related to the degree of sensitivity and vulnerability of interdependence. Sensitivity interdependence is defined by Keohane and Nye as "the degree of responsiveness within a policy framework, which focuses on how quickly the changes in one country bring costly changes in another and how great these costly effects are". Vulnerability interdependence is, however, related to the affordability of, or availability of alternatives under the cost imposed by the changes in one country.[2] In terms of energy security, which is connected to sets of concerns or risks like sudden and reoccurring changes in prices, and volume of demand and supply of energy as a result of intended or unintended disruptions, catastrophic failure of major supply sources and facilities,[3] sensitivity interdependence indicates the relative volume of imported energy from a single source in the context of the overall energy demand of the importing country. Vulnerability interdependence on the other hand is measured by the existence of alternatives to imported energy and the cost of alteration in order to keep one's economy functioning. Politicisation of energy security therefore indicates that the actors are aware of the possibility of losing wealth in the short term as a result of changes in the interdependent relationship, whereas securitisation of energy means that actors are aware of the possibility of ceasing to be an economically functioning unit if changes occur.

Politicisation and securitization of energy is closely related to the degree of sensitivity and vulnerability of interdependence.

The differences in the degrees of sensitivity and vulnerability interdependence of the various European states and transit countries to Russian gas complicate the implementation of an energy dialogue and cooperation. After the 2006 and 2009 gas crises, the Visegrad and Baltic countries requested the EU listen to their concerns about increasing Russian assertiveness in using the energy card to take economic and political concessions from former Soviet Union members.[4] However these concerns did not trigger a securitization of energy mainly because Germany, France and the UK have been less sensitive and vulnerable than others. It was generally assumed that there are limits to the economic and political blackmail that Russia would use as an energy giant and that there would be no serious linkage between energy and military issues. Hence the decision makers in the EU, and the EU's locomotive countries, like France, Germany and the UK, saw the diversification issue as part of the politicisation of energy security rather than the securitisation of it.[5]

Therefore the dominant atmosphere in the EU and the leading EU countries, even after the 2006-2009 crisis, was in harmony with the political objective of the famous *Ostpolitik,* which was a stepping stone in the formation of interdependence between the East and the West: engaging Russia in the western/European system. Accordingly, cooperation with Russia had priority and a "Russia First" approach seemed to have been adopted by Western European governments, at least in terms of energy security, until the 2014 crisis and the annexation of Crimea.

The 2014 crisis was a more serious wake-up call for European actors to re-evaluate and re-assess what kind of changes had occurred in the interdependence model over the last 25 years. This crisis has not increased the degree of sensitivity and vulnerability of interdependence of Northern and Western European EU countries to any serious degree.[6] In any case, ending interdependence is not an easy or likely move at least because of the continuous dependence of several South-Eastern European and Baltic EU states on Russian natural gas and Russia's economic dependence on energy revenues. However, European leaders more frequently announce their intention to realise EU's ambitious targets (reducing gas emissions to 40% below 1990 levels, increasing the share of renewables in the consumption of energy by 27%, increasing energy efficiency by 30%)[7] to accomplish energy transition in the Union by a more coherent union strategy, which has gained priority among the EU members. It is expected that these targets, when they are

achieved, will also affect Moscow-Brussels relations by decreasing the dependence of European member states on natural gas in the middle and long term.[8] All in all, nowadays the essentiality of having a common European energy strategy, what is also called "Energy Union" strategy is more often voiced and heard in the European circles.[9]

Cooperation with Russia had priority and a "Russia First" approach seemed to have been adopted by Western European governments, at least in terms of energy security, until the 2014 crisis and the annexation of Crimea.

Yet it is not clear how this shift in rhetoric and strategies from engaging Russia to the realization of a common integrated energy market of Europe that prioritizes (Eastern) Europe First will affect the future of Russian-EU relations and the interdependence model as the energy security regime in Europe. In this context, our main objective in this paper is to try and evaluate the meaning of the changes in the interdependence observed at each of the different turning points by using the historical background of interdependence between Russia and the EC/EU. We believe that this evaluation will be a useful guideline for future analysis of the limits of change and continuity in EU-Russia relations based on mutual interdependence and the energy dialogue regime, which is institutionalized in terms of long-term contracts between exporting and importing countries. In this analysis it is also assumed that three historical phases; the Cold War, the Post-Cold War era until the 2014 Ukrainian crisis, and the period since 2014, have brought their own dynamics to shape transformations and changes within the existing energy dialogue regime. As a result this evaluation will address these underlying turning points in two separate sections.

The first section provides a summary of red gas interdependence by considering not only the historical tale of how it became possible to trust an enemy during the Cold War, but also what the theoretical explanations tell us about the viability and stability of such an exchange regime based on interdependence. In the following section we will elaborate why and how the interdependence model survived after the demise of the Soviets. At that time, almost all the observable facts on the geopolitical map of Europe changed. As Högselius points out, red gas was not red anymore, territories disappeared, borders dissolved, and most importantly the parties to the former gas contracts vanished.[10] Only the natural gas reserves and storage facilities and pipelines connecting East and West, North and South remained. This

period is considered to be significant for two reasons: i) critical changes in the power structure and energy market strengthened Moscow's position as an energy power in the interdependence between Russia and the transit countries, and this impacted on the sensitivity interdependence of the EU states, and ii) Europeans started to think about the future of European gas dependency not because of Moscow's assertive policies against EU states directly, but because of Moscow's assertive policies against the transit countries (Ukraine and Belarus) and the former members of the Soviet Union, including the Baltic and Visegrad states until 2004. In this section the importance of both the 2006-2009 and the 2014 Russian-Ukrainian crises will be underlined as major turning points in the Post-Cold War interdependence. Based on these evaluations this paper will try to predict the future of interdependence and energy dialogue between Moscow and Brussels by highlighting expectations, limits and capabilities of the actors for the expected regime change.

Practice Meet Theory: How One Trusted in the Enemy Who Sent Red Gas through Red Pipes

Engineers, bureaucrats, technocrats, and businesspeople on both sides of the Iron Curtain were searching for opportunities, and lobbying the decision makers to buy and sell communist gas as a return of capitalist high tech and currency even before Keohane and Nye described the dominant situation in the world politics as interdependence. Before that point, the decision to receive very strategic material- natural gas from the Eastern bloc- and sell very sensitive technology- pipe and grid technology- to the Soviets, as was happening in Cold War Europe, found its theoretical explanation as a choice to trust in each other and cooperate in an energy deal, which became the basis for both energy demand and supply security since the end of the 1960s among enemies of Cold War Europe.

What Theory Tells Us: The Interdependence Model in Explaining Energy Security

Theoretical explanations coming from the liberal tradition enlighten us as to how cooperation among enemies can be possible in relation to sensitive issues like energy security, which has both economic and strategic dimensions. These schools of thought underscored that multiple channels of communication, a fluid character of technology, and the importance of economic interactions on a transnational basis for making the actors economically viable, create a situation that Keohane and Nye called

complex interdependence.[11] Both scholars were very careful to emphasize that there is no necessary connection between interdependence and peaceful relations, because interdependence indicates exchange of mutual and mostly asymmetrical costs. However, under the conditions of interdependence, actors who are aware of the actual and potential cost of their actions choose other strategies to acquire their intended outcome rather than using bare force. Therefore mutual interdependence brings some constraint on actors' behaviour and limits their autonomy.[12] For Keohane and Nye, sensitivity interdependence and vulnerability interdependence are the main determinants of actor decisions related to the cost of mutual dependence. Being aware of sensitivity interdependence or rapid rising sensitivity leads to politicization of issues and a search for new alternatives, while the actual decision of the actor on the future of interdependence (whether or not it is necessary to take counter-action for relieving oneself from the cost imposed by the interdependence) is taken by considering vulnerabilities. Counter-action may be in the form of use of force, though its efficiency is limited in non-military issues, attempt for regime change or change under the existing regime.[13]

According to theorists, what determines an actors' decision to trust the other party is a cost calculation and the level of affordability of the cost. Under realist conditions the cost of misperception, cheating and non-commitment is extremely high and unbearable as survival is at stake, whereas under the conditions of interdependence actors may bear the cost of cooperation and interdependence for a number of reasons. The expectation of absolute gain is the most obvious reason. Also, actors may care about mutual gain because they are acting under the economic and political rational of interdependence according to which their wellbeing is tied to the wellbeing of the other party.[14] That is why Eskova added the desire of the actor for norm expansion through interdependence[15] to the list of possible motivations that would encourage the formation and continuation of interdependent relations. Regimes are the major instruments of interdependence and they consist of formal rules, regulations and norms, which govern this costly exchange. Through regimes, both trust and each actors' expectations related to the other party's behaviour is formally or informally institutionalized.

Under the conditions of interdependence, actors who are aware of the actual and potential cost of their actions choose other strategies to acquire their intended outcome rather than using bare force.

Energy security regimes govern energy exchange by constraining individual actions that may result in a costly pay off and by incorporating insurance mechanisms.[16] These regimes are taken into consideration more under the interdependence model than the realist model. Contrary to a realist energy security understanding, in which an increase in the energy security of one actor is perceived as a threat to another actor's security, energy security under the interdependence model is based on confidence in absolute and/or mutual gain and the economic logic of decision making. That is why under energy security regimes in the interdependence model, alliances or cooperation between parties are assumed to be possible, stable and more reliable.

Energy security regimes between consumers and producers of energy, as in EU-Russia relations, are dialogue regimes. In these regimes natural interdependence between two sides (one wants to sell and the other wants to buy) are obvious, but the parties' interests are not in natural harmony, especially related to price and pricing of energy. Therefore any unilateral act of one party has the potential to create problems for the other party. By establishing a dialogue, regime parties prove that "these problems cannot be easily solved by each party acting its own or through the autonomous operation of market forces."[17] Dialogue regimes, however, may lead to ambiguity related to the future of mutual trust because they are more open to the impact of changes in distribution of both over-all and issue-based power.[18]

It is assumed that having an energy dialogue regime, despite the potential for ambiguity about the future of relations, is much more important in natural gas security interdependence because of embedded inflexibility in the natural gas market. This inflexibility is a result of two distinct features of the market. Firstly, the degree of interdependence between actors of natural gas deals is higher as a result of the long term nature of gas supply contracts, and the high cost of investment in infrastructure and alternatives. Secondly, there is a regional character to natural gas interdependence especially where onshore pipelines are the main instrument of transportation of energy. Within such a geopolitically and geo-economically constrained relationship, instability in transit countries directly impacts on the security interdependence between consumers and producers. Therefore, the energy dialogue between two parties becomes more complicated and regionalized by the inclusion of transit countries into the calculation. To cut a long story short, in natural gas dialogue regimes the main rational behind an actor's decision has generally been economic legitimization-an increase in national wellbeing-however now political legitimization is

also important, and this legitimization is based on the possibility of constructing a region in which consumers, producers and transit states' relationships are regulated by the similar perspective of energy security.

That the nexus between economic and political rationality is behind the decision to form energy interdependence is very obvious in the Cold War and Post-Cold War East-West, Russia-Europe natural gas deal.

Cold War Construction of an Energy Security Dialogue Regime

The Soviets were not only in ideological and political competition with the West, but also in economic competition. Khrushchev's economic planning was based on the problem of how Moscow would catch up with the USA's economic prosperity. Natural resources, including coal, oil and gas, emerged as critical capabilities for a Soviet economic leap forward strategy if an ideal and reliable trade partner could be found. Foreign markets were also required because the Russian gas industry and Siberian gas fields needed financial and technological investment. During the time of the "equipment gap", therefore, prominent Soviet technocrats like Kortunov perceived that Western Europe, with its hot currency and know-how in the steel and pipe industry, could be a potential market for a Russian natural gas economy. However, reaching Europe required critical instruments, and long distance pipelines became the 20th century railways. Apart from economic legitimization, Soviet bureaucrats started to see pipeline nets as means of integration between Moscow and newly annexed territories (Ukraine, Poland, East Prussia, the three Baltic Republics and Moldavia).[19]

Transnationalism functioned very well. Italian, Austrian and German pipe manufacturers found the business profitable. However, persuading West European leaders to buy Soviet gas needed further motivation: Western European leaders' decision to turn national economies based on natural gas because it was cheap, clean and available. Europe was looking to receive "gas from the sands and from the steppes".[20] Austria and Germany, because of their geographical proximity to Czechoslovakia, which had already signed the first contract with the Soviets for Russian gas, took up this opportunity. They were followed by Italy and France, and then the UK, Sweden, and Spain negotiated with the Soviets to have access to *communist gas.* Also, the Middle East crisis, which affected energy markets in 1967 and 1973, led the Europeans to consider the issue of diversification. Within a short period of time, natural gas emerged as a viable alternative to oil, and Russia came to be considered as a reliable and less costly alternative to other suppliers such as Algeria, Iran and the Middle Eastern states.

The Middle East crisis, which affected energy markets in 1967 and 1973, led the Europeans to consider the issue of diversification.

Two factors became essential in fortifying the trust in the Soviets. The first factor was related to the Soviet charm offensive after the 1967 Arab-Israel War, designed to make Moscow the provider of adequate, sustainable gas at the market price, and perceived, in other words, as a trustworthy provider of West European energy security.[21] The basis of this interdependence and reliability on Russia as a source country lay in the long term bilateral contracts, which were seen as the coping instruments to mutual vulnerabilities derived from the transnational character of critical infrastructure. The contracts contained extensive clauses on technical aspects of gas deals such as quality and expected volume of gas, as well as how gas prices would be determined. The importers usually had an active role in assuring a harmonious entry of foreign gas onto the fuel markets. The price was arranged at a level that was competitive with other fuels- especially oil- but not too low. Exporters' commitments to send the expected volume of gas without any distortion were linked to penalties that the exporting state would be liable to pay in the case of non-delivery or failure to deliver the agreed gas quality. Some clauses for emergencies and others related to third party jurisdictions in case of conflict were also included.[22] Therefore, on recognition of mutual cost (sensitivity interdependence), an energy dialogue security regime was institutionalized via long term contracts, and a critical infrastructure was constructed according to these contracts. During the Cold War years, the Soviet elite did its best to realize these Russian gas commitments. Despite these efforts, disruptions occurred, mainly because of technical problems, and when they occurred, the Kremlin chose to send the agreed volume of gas to western consumers even if doing so risked leaving Russian and Ukrainian people cold.

The second factor was related to the issue of how western Europeans; especially the new political elite in western Germany, saw interdependence with the Soviets. Willy Brandt's motto for his newly released *Ostpolitik*, "Wandel durch Annäherung" (change by rapproachment) recognized that engaging with the Soviets through economic deals could prolong the détente in Europe, bringing the Soviets closer to concessions on East Germany and West Berlin and possibly increasing Germany's political influence in European politics. Therefore, followers of *Ostpolitik* had hopes for norm expansion via interdependence, tying the Soviets economically with the European system, and in return, Bonn received concessions

from the Kremlin that the Soviets would add West Berlin to the gas deal and agree to send gas to the enclave.[23] After the Germans received red gas, the Helsinki Act was signed and cooperative security as a term was created to define the new dialogue regime between East and West.

The dissidents and Americans who saw great risks in a West European-Russian interdependence, warned that Russia had succeeded in creating a near monopoly on the East European gas transfer, and because of the supply excess in red pipes, Moscow might have the capacity to act as the price-leader in Europe. This in turn had the potential to create problems for European consumers if Russia succeeded in diversifying its market by selling gas to other consumers like Japan, China and India. Western Europeans, however, decided to trust the enemy. The interdependence model explains why such faith existed in the centres of Western Europe. Firstly, Western Europeans, as became obvious in the Soviet-German contract, perceived that their bargaining power increased in the gas interdependence relationship because the linkage between economic and political issues was possible for Europeans whereas the nature of economic relations and network of contractual relations of the gas deals restrained Moscow not only from cheating but also from the use of force. Secondly, although both parties bore the possible cost of sensitivity interdependence, the Europeans did not feel themselves to be vulnerable since there were other alternatives like domestic deposits, Algerian LNG, Dutch gas, the possibility of access to Moroccan and Nigerian LNG via Spain, Iranian gas and so on. Thirdly, engaging East Europe and Russia in European policies via economic deals seemed to be very appropriate to the European mind-set, according to which, having a working regional system and/or system-building elites may strengthen regional peace and stability.

Post-Cold War Interdependence: How One Trusted in Energy Power Who Uses Energy Weapons in the Near Abroad

Cold War interdependence functioned without any serious problems or intended disruptions. Post-Cold War world politics, however, brought a number of questions about the future of the energy interdependence regime between western European states and Russia. The forces leading the regime change cited by Keohane and Nye[24] emerged as the on-going drives for regime change one after the other: changes in economy and technology, changes in overall power structure, changes in the distribution of power in specific issue areas (in this case, energy), and changes in the institutionalization of interdependence.

Changes in Economic-Technological Structure and Environment

Changes in the economic and technological conditions of energy geopolitics have the potential to bring new costs into the interdependence relationship and may change the perception of actors related to their relative sensitivities and vulnerabilities. Three important changes affected Post-Cold War European-Russian energy interdependence:

i) Changes occurred in the perceived balance between technology, the economic feasibility of gas, and environmental sensibilities. Natural gas was perceived as an economic, human and environmentally friendly energy during the Cold War years and this perception was the basis of European and Soviet love for *blue gold (siniy zaloto-the Russian name for natural gas)* and pipes. However new developments in the technological sphere, like developments in reverse flow technology as well as new ecologic awareness, enabled consumer countries in Europe to take the necessary measures to strengthen energy efficiency. New developments and change in awareness also led consumers to search for bio-mass resources and bio-fuel. As a result, Post-Cold War Europeans are increasingly able to consume and demand less fossil fuel than before, including their demand for gas.[25] Without a doubt, planning reductions in the natural gas demand via increases in energy efficiency and consumption in renewable energy (a 27% increase in energy efficiency as well as a 30% rise of the share of renewables in consumed energy in accordance with a reduction of carbon emissions to 40% below 1990 levels) is not only related to the independent variable of changing technology and ecological awareness.[26] In addition, changes in the power capabilities of consumers and producers of natural gas and the rise of Russia as an energy power that is able and willing to use energy as a political tool, led European actors to think about implementing a reduction in their consumption of natural gas.

Natural gas was perceived as an economic, human and environmentally friendly energy during the Cold War years and this perception was the basis of European and Soviet love for blue gold (siniy zaloto-the Russian name for natural gas) and pipes.

ii) The demand for natural gas has shifted from the West towards the Asian markets. Therefore, European consumers, but most importantly transit countries

and South-Eastern and Central-Eastern European and Baltic states whose dependence on Russian natural gas is higher than that of western Europe, have to compete with new consumers in the market. This competition and turmoil in the Middle East, which created stress on the fossil fuel based energy markets, increased Russia's upper hand in gas pricing at the beginning of the 2000s.

iii) The energy related economic structuring in the various European countries and the Russian Federation changed with the end of the Cold War. The centrally planned economy of the USSR had disintegrated and a new player in the gas sector emerged after the poorly implemented reforms of the Washington Consensus: the Joint Stock Company or Gazprom. The company acquired a monopoly in the transmission and export of gas and became a party in the important gas contracts with European states. Though the Washington Consensus emphasised the importance of liberalization and competition, Gazprom has been structured as a vertically integrated company and the state holds a majority stake. Gazprom's acquisition and investment strategies have been shaped to deal with the on-going market liberalization in Europe and the European desire to create a single energy market. Hence Gazprom's efforts to acquire assets in distribution companies or gas consuming industries, such as electricity, as well as infrastructure facilities in the European market and in transit countries can be interpreted as tactics in a foreclosure strategy. Nevertheless this diversification of market logic between European states and Russia complicated the implementation and nature of gas contracts.[27]

The centrally planned economy of the USSR had disintegrated and a new player in the gas sector emerged after the poorly implemented reforms of the Washington Consensus: the Joint Stock Company or Gazprom.

Economic and technological changes evidently created the motivation for new arrangements under the existing European Russian energy regime, but both parties have decided to remain in the interdependence arrangement for two main reasons. The first reason is the European confidence in the functioning of interdependence as the major instrument to export the EU's acquis communautaires in the energy and gas sector with trade partners including Russia. That is why these changes led the search for a re-institutionalization of the interdependence regime via the Energy Charter Treaty (ECT) and EU-Russia Energy dialogue.[28] Although the EU perceived the existence of limits to

changes in the pre-existing institutional framework of interdependence, such as long-term contracts and prevailing national control over energy foreign policy, Brussels continued to see cooperation and interdependence with Russia as the first stage of norm expansion towards Moscow during the 1990s and at the beginning of the 2000s. Indeed for Europeans, exporting norms to the supply country, and the creation of a common space between consumers, producers and transit states under the regulation of similar principles has been the accepted way to access the Russian hydrocarbon resources or strengthen energy supply security.[29] The second reason is related to the preferences of certain West European states and energy companies (like ENI, RWE, E.ON, and Gdf-Suez) to reach an independent deal with Gazprom, which has pursued the main strategy of offering access to Russian hydrocarbon resources in return for receiving assets in the consumers' and transit countries' energy facilities, energy related industries and infrastructure.[30] These swap deals actually have contradictory objectives to those of the ECT and Brussels' vision, but western European states continued to see their national economies as not-so-vulnerable to Gazprom/Russian assertiveness mainly because of the economic power of the West European states vis-a-vis Russia. Tom Casier very clearly identified that Western European and the Union's energy foreign policy during the 1990s and early 2000s was based on the perception of the weakness of Russia.[31] Therefore, until 2006, the economic-political rationale of interdependence between Russia and West Europe was seen as solid despite all changes in the economic-technologic sphere of gas/energy geopolitics.

Changes in Overall and Issue Specific Distribution of Power and Differences in the Institutionalization of Interdependence

In 2003 the EU Security Strategy called energy dependence a challenge. In 2004, as a result of the EU's enlargement eastward, the average dependence of a member state on Russia for its gas import had risen from 25% to 47%, while the new member states, Estonia, Latvia and Lithuania, were fully dependent and Bulgaria and Slovakia were highly dependent.[32] That is why the 2006 Green Paper emphasised the diversification issue as instrumental to strengthen energy supply security. Though Western European centres were still deaf to the complaints of the South Eastern, Visegrad and Baltic States, after 2004 the Europeans started to perceive the change in the specific distribution of power to the advantage of gas exporting states as a difficulty in providing energy security in Europe. At that time the Russian

position as a major energy power was not defined as a threat because of the above mentioned Western Europe-Gazprom relations, but even western centres tried to evaluate what the limits of Russian energy power would be or whether or not interdependence would function as a restricting factor over Moscow's assertive policy as it had been during the Cold War. Based on these evaluations the first EU common energy policy was born just after the 2006 Ukraine-Russian crisis[33] and Russian policies in the area of energy interdependence were defined as a challenge to South East Europe's energy security.[34]

The energy weapon was seen by the Kremlin as a compensation for the change in the distribution of power in the overall structure of international politics at Russia's expense.

During both the Cold War and Post-Cold War years, Moscow, as producer and exporter had a certain amount of leverage over the downstream states. Even in the 1980s the Kremlin perceived the critical importance of having access to gas transfer systems and facilities in transit countries. To this aim, they adopted attractive pricing strategies, created strategic debt in the budgets of these states and increased level of supply to beat all other alternatives. These leverage strategies were not used to acquire political concessions in the Cold War relations, however the legacy of the Cold War interdependence (red pipelines in the Baltics, Eastern and South Eastern Europe, and storage facilities in the transit countries most importantly in the Ukraine) together with Russia's ability to determine gas prices to levels which transit states could not afford, turned Russia into an energy power in the post-Cold War era. The Kremlin used the energy weapon by increasing the price of gas, charging different prices to different customers, threatening disruptions in the flow of oil, and bypassing transit countries by initiating alternative pipelines for gas transfer from Russia to European customers. The energy weapon was seen by the Kremlin as a compensation for the change in the distribution of power in the overall structure of international politics at Russia's expense. The Kremlin tried to use linkage strategy between the energy issue and the military/political issue not to lose control over the former Soviet states. Therefore the Baltics, Caucasus and transit states, especially the Ukraine, were both targets and victims of gas disruptions, and suffered gas crises and covert interventions one after another.

West Europeans were also affected by these crises as they were during the 1992-1993 Ukraine-Russia, and Ukraine-

Belorussia-Russia crises. However, in the 1990s the Europeans saw this turmoil through the lenses of interdependence and economics. The basic cause of the crises (the non-payment issue) was underscored. It is true that Russia attempted to gain concessions on political-military issues, like the return of the Black Sea Fleet, nuclear warheads, or the suspension of citizenship regulations. However, the Kremlin was not successful in achieving its intended outcome even though Russian/Gazprom's policies caused huge economic, political and humanitarian costs in these states.[35] Therefore, until the 2006 and 2009 crises, in which the Kremlin succeeded in making the effective linkage between the economic issues of payment and pricing and the political issues, such as the turning tides of the Orange Revolution in 2006 and the extended leasing of the Sevastopol harbour in Crimea for the Russian Black Sea Fleet till 2042, the question of managing interdependence, but not dependence on the Russian gas, was strategically important for the Europeans.

Through intensified gas trade, new institutional mechanisms like ECT and Dialogue were initiated, along with long-term contracts, which remained as the only institution of the regime between the transit countries and Russia.

Managing interdependence was required because Europeans were also aware that the transit countries, through their key position along the transit routes and their storage facilities, could have the capacity to turn a Russian-transit country crisis into a Russian-European crisis. This period of time was also known as the time of the motto: 'Russia first'.[36] Europeans therefore remained focussed on Russian attempts to build dependency between the producer and transit countries instead of maintaining interdependency, but they preferred to prioritise keeping Russia on the right track. That is why Schröder's policy of *Wandel durch Handel* (change by trade) was interpreted as new *Ostpolitik*. It is true that the Germans were among the first Europeans to believe that joint ventures and mutual investments might change the attitudes of Russia/Gazprom and lead to a strengthened economic-political rationale of interdependence. Through intensified gas trade, new institutional mechanisms like ECT and Dialogue were initiated, along with long-term contracts, which remained as the only institution of the regime between the transit countries and Russia. It is also true that the strengthening of the Russian-European gas exchange became added leverage in the hands of Moscow, which now initiated alternative pipelines that bypassed transit countries.[37] Gazprom and Russia saw these alternative pipelines from a

geostrategic perspective as leverage in their linkage strategy, but also Russia needed to increase the volume of gas exchange because of increasing Russian sensitivity and her potential vulnerability to change in energy revenues, in other words, energy demand security. Moscow could calculate the negative impact of her own policies in the near abroad, like the 2006-2009 crisis and the 2008 intervention in Georgia. Being aware of the European diversification strategy, Russia, by offering new alternative transit routes for Russian gas in order to secure the level of gas demand coming from the European market, has tried to counter Europe's diversification strategy. Nobody can ignore that since the 2009 crisis there has been an emphasis on diversification and on reduction in natural gas consumption, as fortified by European documents,[38] and this emphasis has been accepted as the politicisation of energy supply security and dependence on Russian natural gas.

The 2014 Crisis: Not Regime Change but Re-Emphasizing Means of Diversification Routes and Indigenous Resources

Russian aggression in the Ukraine and Crimea in 2014 was taken as the latest Russian attempt to link the issues of non-payment and pricing of energy with military/political issues. It is now being taken more seriously, however, because the 2014 crisis changed the well-known contours of European security before creating a dent in European energy security. Both NATO and the EU seem keen to take more serious notice of the security concerns of Eastern European and the Baltic states, and consequently numerous precautionary measures have already been implemented. These new concerns have led to the rise of the old question of whether or not there still exists strong political and/or economic rationale for the validity of the interdependence model. The newly developing (*Eastern) Europe First* policy and the cold rhetoric that is flowing between the EU and Russia fortifies suspicions about the future of the energy regime, because of the weakening of the political rationale. However the economic rationale still exists and that is why interdependence, with a very strong and politicalized emphasis on diversification, remains valid.[39]

The European record on searching out an alternative regime is slightly complicated by economic and technological factors as well as the differences among Europeans in their level of sensitivity and vulnerability interdependence. However, the European record for diversification has followed a more certain path since the 2006 Green Paper. After the 2014 crisis, Europeans felt it was time to speed up their plans for the diversification of

energy sources. They also encouraged the efforts to maintain transparency regarding Europe's energy sources. However, Brussels' current need to import at least 30 % of its gas supplies from Russia, half of which go through Ukraine, is expected to continue for at least a few more years. Hence, it is not yet clear whether the 28 members of the Union will be able to demonstrate the political will to act in unity in applying the basic rudiments of the EU's common integrated energy market. This also holds true for the endorsement of the Third Energy Package.[40] Therefore, due to the continuous energy dependency of the EU on gas imports from abroad, there might still be some countries in the future that would prefer to be in breach of the EU laws and sanctions. Just recently, the EU and the US have averted such a threat by putting pressure on Bulgaria to retreat from the South Stream project.[41]

Since the cancellation of the South Stream project, EU members are now giving the impression of unity in their endorsement of the Union's energy policies, but it is not easy to be sure about the future. When one compares the current security of the EU members' energy supply with that during the previous 2006-2009 Ukrainian crises, most of the 28 countries- with the exception of the Southeastern European and some Baltic states- stand in a relatively better position. This current situation is the result of the limited numbers of newly built gas interconnectors between some of the Central and Eastern European countries and EU energy islands. Moreover, with the realization of reverse-flow capacities, these energy islands are expected in times of crisis to improve the chances of additional supplies of gas from other European countries. On the other hand, it is true that the EU has not yet completed the process of interconnecting all of the "energy islands" in Europe.[42]

With the realization of reverse-flow capacities, these energy islands are expected in times of crisis to improve the chances of additional supplies of gas from other European countries.

Most countries in the North and West of Europe in today's EU are in a better position than they were during the 2009 crisis, thanks to various implemented diversification measures of bringing up a common integrated EU market. Certainly, LNG gas terminals will help the Union import LNG gas in case of another crisis with Russia. However, most countries in the EU that are solely dependent on Russian gas still lack LNG gas terminals and are obliged to wait for this diversification in mechanism of delivery opportunities. The good news

in this regard is that more new LNG gas terminals are in the process of being made; for instance, in both Poland and Lithuania new terminals are expected to be operational in 2015, and in Croatia a new terminal is expected to be finalized towards 2020. Unfortunately, due to the high cost of LNG, the EU used only 22% of its regasification capacity in 2013. If the demand from the emergent countries does not change any time soon and the price remains at the current level, the EU will have to continue competing with the Asian LNG import prices, which are currently higher than in Europe.[43] Hence, under the prevailing conditions, the EU seems to be dependent on sourcing its 30% gas requirement from Russia until it achieves indigenous strategies for producing alternative conventional and un-conventional resources. Under the present conditions, the Southern Gas Corridor (SGC) project still stands as the most promising option among all the alternative means of diversification options available to the EU. Yet, the EU will need to wait until 2019 to have access to Caspian based gas supplies-via the TANAP/TAP pipelines. That is why; as many energy experts and economists argue, the EU will have to wait at least four or five years from now before it will make the decision whether to remain dependent on Russian gas imports or gradually walk away from this longstanding interdependency relationship.[44]

Can Russia Dare to End Mutual Interdependency Energy Relations with the EU?

Russian President Putin, even before signing the recent agreement with Ukraine and the EU that aims to resolve the payment of Kiev's gas debts, did not hesitate in threatening the Europeans: gas supplies to the Ukraine would be cut if Russia received no repayment from Ukraine. As a result, various EU members have started working on the options for overcoming a gas cut scenario. Thanks to Russia's own limits of affordability, and the cost of such policy, there have been no such gas cuts to Europe yet. Russian sensitivity interdependence continues to limit Moscow's moves. Because of the lack of essential infrastructure in Asia, Moscow has not been able to replace the European market with new Asian agreements. Even the latest US$ 400 billion gas deal with China only covers the income from Moscow's gas exports to Germany. Hence, Moscow is not yet in a position to trade off the European gas energy market of about 160 bcm with the Asian/Eastern market.[45] Additionally, Moscow will need to think twice before making another gas cut to Europe if it wants to maintain the *credible supplier* image in the eyes of actual and potential customers, since large amounts of Moscow's current state budget are still from hydrocarbon revenues. Moreover, as the current oil price has now dropped to US$ 60 per

barrel,[46] and while Russia is under economic sanctions, Moscow is feeling economic hardship more than before. Putin's Russia badly needs European and US investment and know-how to continue its indigenous explorations for both conventional and non-conventional hydrocarbon resources. Therefore, remaining competitive in the global hydrocarbon market, which is essential to keep Russian sensitivity interdependence below a certain level, is dependent on the continuation of interdependence. All in all, both theory and actual politics tell us that the Russian economy is a restraining factor among others that hinders Moscow from taking further coercive measures against the EU, such as another gas cut.

Under the current situation, therefore, Russia continues to be highly dependent on European gas markets and this does not give it the freedom to walk out.[47] Until the EU can overcome its gas dependency on Russia by initiating alternative diversification means, it is certain that the present mutual interdependency and energy dialogue regime between the EU and Russia is likely to continue. The question will be whether diversification will bring stronger motivation for regime change. The situation is naturally related to the further question of whether the EU has the political will to live up to its already declared June 2014 Energy Security Strategy targets and welcome a self-sufficient energy solution.

In Lieu of a Conclusion: A Prediction for the Future

> Brussels has not succeeded in realizing the idea of an Energy Union, which is supposed to establish not only a coherent strategy related to the energy mix but also to embrace the principle of energy supply security for South-Eastern Europe, the Baltic states and the transit countries' critical infrastructure.

The 2006, 2009 and 2014 crises were wake-up calls for the Europeans. Most of the western and northern states of the EU planned after the 2009 crisis to take the energy security measures which today lessen their sensitivity interdependence on Russian gas imports. The overall sensitivity of the EU in regard to Russian gas, therefore, stems from the current situation of the Southern and Eastern European and Baltic States. For today, these member states have not yet managed to become part of the projected common integrated European energy market, and their dependence on natural gas and gas importing from Russia continues. There are considerable efforts to reduce those states' dependence on Russian gas and

this issue is highly politicized by using the rhetoric of 'Europe first'. However so far, Brussels has not succeeded in realizing the idea of an Energy Union, which is supposed to establish not only a coherent strategy related to the energy mix but also to embrace the principle of energy supply security for South-Eastern Europe, the Baltic states and the transit countries' critical infrastructure. Apart from short-term remedies, the EU Commission once again in its 2014 Energy Security document, the medium to long-term to-do list for EU states in order to overcome their Russian hydro- carbon dependence.

Since the EU has not yet completed its projected to-do list of the 2014 EU's Energy Security document, Brussels will continue to be sensitive to any likely gas cut-off made by exporting countries, including Russia.

The BP Energy Outlook for 2035[48] made it clear that Brussels, despite all of its efforts to gain self-sufficiency in the field of energy will be importing nearly 50% of its energy from abroad. If one considers the volume of gas deliveries, 160 bcm, combined for the whole European market, one can more easily grasp the economic rationale of ongoing interdependence in the energy sector between Brussels and Moscow. Observers doubt there will be any change before 2020-2025. Theoretically and practically speaking, since the EU has not yet completed its projected to-do list of the 2014 EU's Energy Security document, Brussels will continue to be sensitive to any likely gas cut-off made by exporting countries, including Russia. Moscow, however, has also been aware of its own sensitivities that stem from the economic structuring of her gas market. This sensitivity is tending to increase while the revenue from oil exports is declining. As in the Cold War years, Moscow needs to access western gas and oil techniques and hot currency to invest in the re-structuring of its fossil fuel sector. Therefore, Russia is continuing to be highly sensitive, as her energy demand security is at stake as a result of the decrease in European demand and the infrastructure problems in the Asian market. Energy nationalism has continued to be one of the barriers to joint ventures and the Russian position seems to be only dependent on putting herself forth as a reliable gas supplier.

Russian assertive energy diplomacy and its strategies towards her near neighbours, including the use of energy as a weapon, harms Russian charm. Therefore, any Russian charm offensive has to be based on the guarantee of the flow of gas to Europe. Hence, the economic rationale of this interdependence is solid. Because the parties have little option and few alternatives in the short run; one can

expect to see mutually constrained relations between Russia and Europe. Accordingly, linkages between use of force either in the form of military threat or imposing sanction on energy trade, will be limited in this relationship. However, the political rationale of interdependence and the nature of the energy dialogue regime may change in the long run. The negative perception of Russia after the Georgian and Ukrainian interventions has been cited regularly, but under an interdependence model, change has come as a result of changes in the distribution of power in the energy field. There are signs that economic and technological changes may pave the way for a strengthening of the position of European powers, if they manage to reduce their sensitivity interdependence by implementing coherent Union policies and viable alternatives. The most important obstacle before Europe will be managing the different positions of the 28 members, who have different experiences and have learned different lessons from the history of the Cold and post-Cold War interdependence. Time will show us how this story of interdependence will evolve, however it is dependent on the EU's political decisiveness in realising her to-do list, as projected by the EU Commissions' 2014 Energy Security Document.

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Mix of Russian Liquid Hydrocarbons: Reasons/Sources for Change and Further Prospects

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Abstract

The article analyses the challenges that oil-and-condensate production in Russia is currently facing. Russia still has enormous resource potential to produce oil and other liquid hydrocarbons for many years to come. However, the quality and attractiveness of resources are changing quite substantially and rapidly. To sustain a high level of production and export, Russia needs to develop new remote oil fields and deeper layers of existing ones. The high level of production requires much more investment than before and the use of new technologies. This strategy requires a new institutional regime and much better investment conditions for private players. To diminish rising risks, Russia is developing the Eastern route for supplying oil and hydrocarbons. Nonetheless, in the foreseeable future Europe will continue to be the main market for Russian exports of hydrocarbons (as Russian oil companies own thirteen refineries across Europe), and all infrastructure is still oriented in this direction.

Key Words

Oil, reserves, Russian Central Bank, heavy oil, investments, European market, China.

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Russia's Place in Global Production of Liquid Hydrocarbons and its Role in Supplies to Europe

The Russian Federation possesses one of the world's largest mineral bases, and holds the leading position in a few key areas in the energy sector of the global economy. Russia's subsoil contains nearly 25% of the global natural gas and 10% of oil reserves. Russia is the largest oil producer in the world. The oil and gas sector in Russia has one outstanding feature in particular: despite the reforms which have taken place over the past 25 years, its dynamics and development still largely depend on those decisions and approaches that were introduced within the centralised planning system and by the administration of the former Soviet Union.

Other features (in the context of this article) include:

- A commitment to switching from one oil and gas province to another (first it was the Volga-Ural petroleum province, then Western Siberia and the Far East, as well as the shelf area of the Arctic and Far Eastern seas);

The Russian Federation possesses one of the world's largest mineral bases, and holds the leading position in a few key areas in the energy sector of the global economy. Russia's subsoil contains nearly 25% of the global natural gas and 10% of oil reserves.

- A main emphasis on locating and rapidly developing major and giant fields (a focus on economies of scale);
- The creating of capacities to produce hydrocarbons aimed not only at domestic consumption, but also at exporting to other countries;
- The formation of a single, tightly integrated infrastructure to deliver, process and transport oil, petroleum products and natural gas.

At the beginning of the 1960s, major oil and gas fields were discovered in Western Siberia. Since 1965 there have been discovered 11 largest deposits, of which five are named 'billionaires' for their original oil-in-place (Samotlor Field- 6684 Mt, Fedorov Field- 1822 Mt, Mamontov Field- 1349 Mt, Lyantor Field- 1954 Mt, and Priob Field- 1987 Mt). In the mid-1980s, 78 deposits in commercial development were producing 389 Mt of oil a year. Oil in the USSR was produced mainly on major deposits with recoverable reserves over 100 Mt.[1]

A detailed analysis of how oil deposits were developed in the USSR as a whole and, first and foremost, in Western Siberia can be found in J. Grace's book.[2] As the author points out, although the USSR managed to take the lead in oil production, this success was achieved at a heavy cost. According to external evaluations, at the peak of production in the Soviet Union, real marginal costs of oil on a per-barrel basis surpassed the oil market price.

As a result of the reforms carried out in the 1990s- 2000s,[3] Russia has managed to propel the oil industry economic indicators of field development to the nearly world-class level witnessed under the current conditions. At the present day, average oil production costs all over the world equal approximately US$ 15/boe. It can be much lower in certain countries, for example, in Saudi Arabia it is $5–7/boe and US$ 5-10/boe in Russia. In Norway and Canada it amounts to US$ 10- 15/boe. Russia has a significant resource base to maintain and even increase the production of liquid hydrocarbons: oil, gas condensate, as well as bitumen and heavy crude oil.

Western Siberia remains the main area of oil production (i.e. the main oil and gas province). However, that resource base of Russia, Western Siberia and other oil and gas provinces, has its outstanding feature: sharp changes in characteristics of deposits and qualitative peculiarities of produced liquid hydrocarbons.

All the major and giant fields previously discovered and brought into development are now in a declining state of production, while newly discovered deposits have much smaller reserves (per field). On the other hand, not only are sizes of deposits decreasing, but also conditions of oil production are changing: we notice a dramatic rise in the role of deposits with low reservoir characteristics and containing oil of high viscosity.

In Western Siberia- within its main area of liquid hydrocarbon production, the Khanty-Mansi Autonomous Okrug (Yugra)- the category of hard deposits includes 386 deposits in 96 fields with total original recoverable reserves of nearly 1.8 Gt of oil.

Subsoil in this area has enormous oil resources located in shale rocks (so-called 'Russian shale'), the Bazhenov Formation. The Bazhenov Formation's area on the West Siberian Plain accounts for more than 1 million km^2 Oil-in-place of productive sediments in the Bazhenov Formation is estimated to range between 100 and 170 Gt with original oil-in-place in Russia being 23- 30 Gt of oil. When developed by traditional methods, recovery factor of deposits in the Bazhenov Formation lies within 3-5%. Oil shale is abundant in more than 40% of the Khanty- Mansi Autonomous Okrug. According to expert estimates, recoverable oil reserves in the Bazhenov Formation reach over 3 Gt, oil-in-place amounts to 11 Gt. Currently the formation produces 0.5 Mt of oil.

All the major and giant fields previously discovered and brought into development are now in a declining state of production, while newly discovered deposits have much smaller reserves (per field).

Besides heavy oils and complex fields, Russia does have a significant potential for natural gas liquids production (light and ultra-light oil and gas condensate). Production of the said hydrocarbons is related to development of gas condensate deposits in Northwestern Siberia, in the Yamal-Nenets Autonomous Okrug (YaNAO), as well as in the shelf area of Russia's Arctic seas, in the long term. Nowadays, increase in production of this type of liquid hydrocarbons is one of the factors to stabilise total oil production in Russia (natural gas liquids production currently surpasses 21 Mt). Nonetheless, this source should not be viewed as the leading one, despite its important role (3 to 4% of gross liquid hydrocarbon production).[4]

If we define the Russian potential in liquid hydrocarbon production briefly, it reveals the following trends:

- significant resource potential in liquid hydrocarbon production cannot both maintain and increase production in the foreseeable future (until 2030-2040);
- conditions of hydrocarbon production have become much more complicated: composition of liquid hydrocarbon mix has drastically changed towards heavy and highly-viscous hydrocarbons (which is associated with a need to use new technology, immense investment and, above all, a need to change the system of institutions, from taxation to encouraging new entrants into the sector);
- a need to search for a balanced strategy to develop liquid hydrocarbon production: i) further development of major existing fields, ii) exploration of new regions with a potential for 'fresh reserves' (Eastern Siberia and the Far East where fields close to ones in Western Siberia have not been discovered yet), and finally iii) increasing production of heavy and highly-viscous oil (Tatarstan, Bashkortostan, Western Siberia, the Republic of Sakha (Yakutia)). In terms of the fields previously brought into development, rates there of oil production have decreased as compared to their initial levels (e.g., the largest oil field in Western Siberia, Samotlor Field, has experienced a drop in production from 153 Mt in 1983 to 18 Mt in 2013).

It is quite obvious that current circumstances related to foreign policy- such as sanctions and the growing animosity between Russia and major industrial powers- make the solution process more complicated.

The dynamics of liquid hydrocarbon production in Russia, as well as their export to foreign markets, will largely depend on how well Russia copes with these challenges. It is quite obvious that current circumstances related to foreign policy- such as sanctions and the growing animosity between Russia and major industrial powers- make the solution process more complicated. First of all, it concerns exploration and development of the shelf areas and fields of scavenger oil (both heavy and residual), not to mention 'non-traditional' oil deposits. Such projects require not only a different institutional environment, but also modern technology and large investment. As of 2014, the proportion of traditional deposits in gross oil production amounted to ~85% (whereas shelf fields contributed less than 1%); new deposits (including 'non-traditional' ones) held a significant share, nearly 14%.

The Role of Hydrocarbons in Russia's Economy

The dynamics of hydrocarbon production in Russia is determined by

a series of various circumstances (apart from resource base, investment and technologies, see above):

- the existing engineering and manufacturing complex, which is too big and has too much capacity for the country's energy demand,
- the high and ever growing dependence of the Russian economy on the oil and gas sector (a significant role of hydrocarbons in GDP and tax revenue into the state budget), and
- solutions to internal and external economic issues on remote areas' development (mostly Eastern and Arctic regions).

At the same time, the role of liquid hydrocarbons seems to be the most important in sustaining the social-economic stability in many spheres of Russia. In April 2014, President Putin mentioned in his annual state-of-the-nation address that revenues for the state budget from oil production in 2013 accounted for US$ 191–194 billion, whereas gas production provided only US$ 28 billion.

The Federal government is concerned about the trend of the last 2- 3 years, in which revenues from oil exports have been steadily declining. Thus, in the first quarter of 2014, revenues of the Russian Federation from oil exports decreased by 9.9% according to the Federal Customs Service on the results of the first quarter in the Russian Federation.

The role of liquid hydrocarbons seems to be the most important in sustaining the social-economic stability in many spheres of Russia.

Between January and March of 2014, Russian oil export in value terms dropped by 9.9% to US$ 38.824 billion. Oil export volume decreased by 7.9% and was equal to 52.611 Mt in the period under review vs. 57.143 Mt a year before. The main oil export turnover fell to non-CIS countries: delivery costs were US$ 36.466 billion, which is 9.7% less than the corresponding index in the same period of the previous year (US$ 40.395 billion in January- March of 2013).[5]

One of the ways to compensate the shortfall in income from oil export is exporting petroleum products. Thus, for January through March of 2014, Russia's revenues from petroleum products exports went up by 12.4% and reached US$ 27.145 billion (as compared to the same period in 2013). Petroleum product export volume increased by 16.7% and equated to 37.025 Mt vs. 31.708 Mt in the period between January and March of 2013. In particular, during these three months in 2014, non-CIS countries received 33.012 Mt of petroleum products worth US$ 24.339 billion. CIS nations imported 4.013 Mt amounting to US$ 2.806 billion. However, the room for this manoeuvre is quite limited

because of the growing domestic demand for petroleum products, which should be satisfied in the first place.

According to the unanimous view of experts, the year 2014 shall be considered the last year that oil and gas revenues in the state budget (i.e. mineral extraction tax plus export duties on oil, petroleum products and gas) are notably growing. In concordance with "the main directions of Russian fiscal policy for 2015 and the 2016- 2017 planning period", by the end of 2014 they will have increased by 14.5% and reached 7.48 trillion rubles, and over the years 2015- 2017 they will fall in the range of 7.5- 7.6 trillion rubles[6].

The main reason behind these figures is not so much poor oil price forecasts on foreign markets, but the fact that oil production in Russia has stopped growing. According to forecasts by the Ministry of Finance, the taxable value of oil produced (without condensate) will drop from 465.3 Mt in 2014 to 436.2 Mt in 2017 (these projections were developed before the Ruble dropped almost two times and as oil prices reached the unpredictably low level of US$ 40). Projections are giving the impression of priorities determined by the government and the role of oil-and-gas taxes in state budget receiveables. In 2013, this criterion amounted to 453.8 Mt (see Table 1).

Table 1: Main Parameters for the Federal Budget Project, 2015- 2017

	2013	2014	2015	2016	2017
GDP, bln rubles	66755	71493	76077	82303	89834
USD/ruble	31.8	35.5	37.0	38.0	38.8
Urals, USD/bl	107.4	104.0	100.0	100.0	100.0
Gas- average export price, USD/1000cum	342.3	351.3	317.7	259.9	292.1
Gas- export price Europe, USD/1000 cum	387.1	385.8	351.6	324.7	319.8
Taxable volumes: Oil, mln tonnes	453.8	465.3	455.8	444.3	436.2
Gas, bln cum	578.3	576.6	580.6	579.0	586.7
Gas condensate, mln tonnes	21.6	22.8	24.0	25.4	26.0
Taxable export volumes: Oil, mln tonnes	196.4	197.4	195.4	193.4	196.6
Gas, bln cum	128.7	143.2	148.6	148.7	148.7
Refinery products, mln tonnes	147.0	148.6	144.1	140.6	137.8
Federal budget tax receivables, bln rubles					
Total	13019.19	14238.8	14923.9	15493.9	16272.9
Oil & Gas	6534.0	7480.2	7520.6	7516.1	7590.9
Mineral Tax	2514.5	2917.1	3052.4	3209.6	3251.5
Export Duty Tax	4019.5	4563.5	4468.2	4306.2	4339.4
Non-Oil & Gas Receivables	6485.9	6758.6	7403.3	7977.1	8681.8

Source: The Ministry of Finance of the Russian Federation, "The Main Directions of Russian Fiscal Policy for 2015 and the 2016- 2017 Planning Period".

As of April 2014, the budget funds of the Ministry of Finance of the Russian Federation had accumulated US$ 175 billion (or 8.6 % of GDP). Nearly a half of these means is stored in the Reserve Fund, and the other half is in the Russian National Wealth Fund. The maximum proportion of reserves accumulated in these funds was reached in 2008 (almost 14% of GDP). Before 2008 (starting from 2004), the means were stored in a single fund named the Stabilisation Fund of the Russian Federation. Both creation of the funds and their splitting was an attempt to reduce reliance of state budget revenues on oil and gas revenues and save up for "unforeseen circumstances". However, currently the deficit of the consolidated budget tends to grow (since 2012) due to a reducing share of oil and gas revenues, falling profit, and steadily increasing high government expenditures.

Such tendencies- low yield from the non-oil and gas sector of the economy combined with growing challenges in maintaining production in the oil and gas sectors- create a complex situation.

As can be seen in the table above, the government expects to sustain exports of hydrocarbons, primarily of oil and gas, at a high level (along with a certain reduction in exports of petroleum products). According to the International Energy Agency, in the next five years growth in domestic demand for oil in Russia will move ahead of growth of its extraction. Note that the energy consumption of the Russian economy, i.e. energy input per GDP unit, is one of the highest in the world.

At the same time, export of hydrocarbons should not only keep a big share of tax inflows into the state budget, but also assure substantial income of financial resources to explore new (more complicated and less traditional) sources of hydrocarbons.

The main problem is that the Russian financial system is not large enough to satisfy financial needs of the biggest local oil and gas companies. Companies in the oil and gas sector previously invited necessary financial assets from foreign financial markets. One of the results is that the external debt of the corporate sector of the Russian economy has increased from US$ 500 billion to more than US$ 700 billion over a period of three years (2012- 2014).

At the same time, the ability of the largest Russian government banks to attract long-term debt financing from the US and the EU has decreased due to the sanctions imposed in 2014 (because they are the source of funds for the corporate sector).

Formally, oil production targets and the role of oil export are underlined in regularly updated versions of the Energy Strategy of Russia (the last one was the Energy Strategy of Russia for the period up to 2030, dated 2010; discussions are now on-going over the new version - up to 2035).

Due to this document, the main targets of energy sector development are the following:

- stable and reliable delivery of oil and oil products for the internal market;
- growth of energy efficiency in all sectors and spheres of the national economy;
- financial stability of the energy sector and its subsectors and stimulation of the productivity growth over the economy;
- environmentally sound behavior in all energy sector's subjects.

The biggest difference in the latest versions of the Energy Strategy is special attention to foreign economic relations and to Russia's participation in different energy markets. It underscores the growing importance of taking into account changes considering the EU in connection with the development energy market there.

As for oil sector development, special attention has been given to the following issues:

- stable and economically viable delivery of oil and oil products;
- stable financial flows of state budget receivables;
- formation and sustaining of high demand for the production of the supplies sectors of the economy.

Thus, to achieve the required rate of production and export of hydrocarbons from Russia to the countries of Western Europe, among others, there should be considered a number of important influencing factors:

Russia needs to maintain exports of hydrocarbons at a relatively high level, based, in general on data from the Ministry of Finance of the Russian Federation, which should not change in the next few years. Apart from revenues from energy exports (including those for the state budget), Russian oil and gas companies need to have access to foreign markets of financial resources and modern technologies to explore new, more complicated, and less traditional sources of hydrocarbons.

What are the characteristics of new sources of hydrocarbon production in Russia?

New Sources: Where Could New Oil Come From?

Over the past 20- 25 years, the dynamics of production and export of hydrocarbons are characterised by the following:

1980- 1990: A decrease in rates of growth, then absolute decrease in extraction;

2000- 2005: A dramatic increase in extraction rates (the fastest rate was 13%

a year in 2005) and, consequently, rapid accumulation of absolute oil production output.

2006- 2010: A decrease in rates of growth oil extraction rates and the beginning of the decrease of absolution production output of liquid hydrocarbons.

2011- 2014: A cessation in growth of oil production, with an increase in a few years due to new deposits, which, nonetheless, does not help to overcome the general trend of falling extraction rates.

One of the main reasons for the rapid growth of oil extraction in the 2000s has been the advent of new modern oil recovery methods, such as horizontal drilling and, first the foremost, hydraulic fracturing. In general, these are considered 'aggressive methods' to extract oil from formations in fields previously brought into development. On the other hand, those methods cannot be used in the same fields over extended periods of time. This is the reason why even now the said techniques do not give the expected results. To keep at least at the current level of oil production, companies should drill new boreholes and explore new deposits. However, this requires immense investment. The described strategy is not supported by the rather rigorous taxation of the Russian oil industry that does not motivate companies to invest more.

The oil and gas sector in Russia is currently facing a complex task to find an effective combination of the following strategies:

- increasing extraction from fields previously brought into development;
- finding efficient solutions and approaches to exploring new sources: fields of heavy oil and non-traditional deposits (see above, ones like 'Russian shale');
- active geological prospecting and exploration in new regions: the Arctic, Eastern Siberia, and the Far East, along the sea shelf.

The first approach is attractive because when oil is produced with new innovative methods that increase the formation recovery factor in regions with developed infrastructure, oil production costs are 1.3- 1.5 times lower than in new capital-intensive fields in Eastern Siberia and continental shelf areas. The most typical example is OJSC Tatneft. The company develops mostly worked-out deposits with scavenger reserves of sour crude oil. In Tatarstan, the 'easy oil' had been completely recovered by the end of the 1980s. Over the period of 19 years (1975- 1994), production output in the Republic decreased from 103 Mt to 23.8 Mt of oil. Nowadays, there are more than 5.3 thousand wells with yields of less than 1 tonne per day, with a total of 22 thousand boreholes. Nevertheless, production rates in Tatarstan are growing; in 2013, they exceeded 33 Mt. The main focus of OJSC Tatneft is development of deposits with highly-viscous bitumen.[7]

Outside of the large fields, the unallocated subsoil reserve fund still has under-explored (and, consequently, high-risk) sites both near the ones that are being developed and far away from the infrastructure.

The majority of fields in Russia, regardless of their geological characteristics, are developed with traditional technology: by depletion and water flooding. Over the past 30 years, the projected oil recovery factor (ORF) has decreased from 40- 41% to 33- 34% due to the deterioration of the structure of reserves, i.e. the need to develop fields with scavenger reserves, including shale oil, highly-viscous and super-viscous oil and bitumen. The water flooding method is ineffective in fields with carbonate and fractured porous reservoirs, highly-viscous and shale oil where ORF amounts to 2- 15%. Around the world, in order to develop such fields, advanced technology is widely applied: thermal, gas, chemical, microbiological methods, their modifications, combinations, and integrations.

In support of the second approach is the fact that the proportion of scavenger oil reserves has increased by 70% over the past two decades. According to different estimates, global production of scavenger oil accounts for 19.4% of the total production; in Russia this figure is only 0.2%. As reported by the Energy Information Administration at the IEA: Russia holds first place for the proportion of scavenger oil reserves (shale oil) which can be extracted with the help of existing technology- 75 billion barrels, or 10.3 Gt. The USA possesses 58 billion barrels; Chile has 32 billion barrels; and Argentina and Libya own 27 and 26 billion barrels, respectively. Nearly 65% of all scavenger reserves are located in the oil fields of Western Siberia and the Komi Republic. In the Khanty- Mansi Autonomous Okrug, only 64% of resources are considered to be commercially viable; the rest are not developed because of the high tax burden.

The third approach is followed by the oil and gas sector due to the following circumstance: as of 2013, according to the Federal Agency for Subsoil Use, the Russian unallocated subsoil reserve fund still has only three significant deposits. In total, the unallocated fund holds about 885 tonnes of recoverable reserves. Not long ago, the fund had nearly 614 deposits with total recoverable reserves amounting to 884.7 Mt, which is approximately 3% of all recoverable reserves. Currently, only three more deposits are left unallocated: Rostovtsevskoye (YaNAO, 61 Mt), Nazymskoye (KMAO, 43 Mt), and Gavrikovskoye (40 Mt). They all are located on land. Private companies can also access those fields; while shelf deposits are closed for them. Outside of the large fields, the unallocated subsoil

reserve fund still has under-explored (and, consequently, high-risk) sites both near the ones that are being developed and far away from the infrastructure. We can positively say that the distribution of the mineral resources base established in the Soviet era is almost complete, and new large deposits will not soon be discovered. Prospective discoveries of new large deposits are associated with hard-to-reach regions of Eastern Siberia, and the Arctic and Far Eastern shelf areas. Although since 2006 reserves increment in Russia (according to the ABC1 category, Russian reserves classification) has exceeded production output, new fields only take about 80 Mt of oil, the rest is reserves additions resulting from revaluation of developed fields.[8]

Russia's leading oil and gas companies are trying to combine all three approaches. However, not every company has succeeded.

Thus, the strategy till 2030 of OJSC Rosneft, the leader in oil production, incorporates four steps of development. The first step involves 'ensuring extraction' from the existing fields owned by the company. The second one is to launch new projects in Eastern Siberia, first and foremost, the Vankor group: Suzun, Tagul, Lodochnoye, Yurubcheno- Tokhomskoye and Kuyumbinskoye oil fields. This same stage is assigned for planning to launch gas assets: Rospan, fields of Kharampur and Kynsko-Chaselsk groups. During the third step, there will be ensured a significant production gain due to a massive development of scavenger reserves. The fourth step is aimed at developing deposits in shelf areas.[9]

Even if new sanctions are not imposed, but existing restrictions remain for a long time, it will greatly affect the investment climate in Russia and production figures.

Rosneft manages the largest projects on non-traditional resources, as well as projects on shelf areas exploration. The company needs US$ 500 billion to develop the Artic shelf alone, which holds resources of more than 35 billion of boe.[10]

According to another company, private OJSC Lukoil, Russia faced zero growth of oil production in 2014 and an inevitable drop in production thereafter. "Following our calculations, we expected a decline in oil production in 2016. However, now we are looking at our colleagues and can predict the depression even earlier, in 2015". Lukoil is planning to ensure growth of production by 5.7% up to 96 Mt in 2014. Another private company, OJSC Bashneft, is projecting to extract nearly 17.5 Mt (+8% as compared to 2013). In the next few years, the company plans to keep production in developed fields at 15 Mt and accumulate extraction in their new assets in the Nenets Autonomous

Okrug (Bashneft-Polyus) and Tyumen Oblast (Burneftegaz). A representative of Gazpromneft only noted that extraction growth rates reached in the first six month of 2014 had been maintained (+4.1% is the growth in production of hydrocarbons).[11] Although oil production in 2013 amounted to 523 Mt, having increased by 5.2 Mt as compared to the previous year, traditional oil and gas fields which produce 85% of Russian oil are exhausted and are showing worse results. We need increasingly more complex technology and equipment in order to explore scavenger fields (including shelf areas, Eastern Siberia and the Far East) and to recover shale Bazhenov oil (so-called 'Russian shale' oil).

Russian oil is in a situation in which manoeuvring options within existing fields are limited. Most of big fields are in a declining stage or will require additional investments to reach production capacity.

At the beginning of 2014, direct investment into new Russian deposits was evaluated at about US$ 500 billion until 2030, these projects could have invited US$ 300 billion more of investment into the economy of Russia. A reduced sovereign credit rating and less access to international financial markets are much more destructive for Russian oil and gas companies than direct sectorial sanctions. According to Bloomberg, July of 2014 did not see Russian companies taking dollar-, euro- or Swiss franc-denominated loans. In the first half of the year they borrowed US $6.7 billion from Western European banks, 3.9 times less than the previous year; this figure includes borrowing of mineral companies- US$ 3.5 billion- which is the lowest it has been since 2009. No major companies have announced they are delaying or cancelling any specific projects due to the sanctions and funding problems; still, there is a chance for capital expenditures to be shortened and certain projects to be postponed in the future, and this could affect oil and gas production in Russia.[12] Following the forecast by Bank of America Merrill Lynch (BofA), even without sanctions, production would have been decreasing by 1.5% a year. Now it might drop by 25% in the next 10 years. The industry may not receive nearly US$ 1 trillion of its due share of investment over the next 30 years, which, according to BofA, will lead to a decline in production and budget revenues by US$ 27- 65 billion by 2020.

Even if new sanctions are not imposed, but existing restrictions remain for a long time, it will greatly affect the investment climate in Russia and production figures. The explanation for this can be found in the long term nature of the decision implementation process in the oil-and-gas sector - from exploration to

production usually takes from 8-12 years until the first received barrel of oil is produced. Currently, Russian oil is in a situation in which manoeuvring options within existing fields are limited. Most of big fields are in a declining stage or will require additional investments to reach production capacity.

Not only investment and technology hinder the maintenance and improvement of hydrocarbon production. No less important is the changing institutional system of the oil and gas sector. Development of the mineral sector in any country involves risks, and it seems clear that in Russia the risk is increasing. At the same time there are elements in the institutional framework, both in the taxation and licensing systems that are dysfunctional when it comes to risk-taking. But in addition to inadequate formal framework conditions it must be asked whether Russian oil companies have characteristics that make them inclined not to take risks. On a general level the Russian petroleum companies- state controlled as well as private- live under 'soft institutional constraints'. This is a wider term than 'soft budget constraints' coined by Kornai, denoting the ability of enterprises in the centrally planned economy to exceed budgetary limits and be compensated for over-spending. Soft institutional constraints imply that enterprises are able to manipulate their framework conditions to increase their profit, be it from tax concessions or legal provisions or specific conditions for new development projects. The emergence of soft institutional constraints must be seen in connection with the political and economic system that has developed in Russia. The system is oriented towards support for big financial and industrial structures. Their leaders- who are fairly limited in number- interact with the authorities on a personal level, and the authorities participate directly or indirectly in many companies. Companies are to a large extent controlled by individuals, as opposed to publicly traded companies with many owners. Economically the system is oriented toward rapid pay- offs from investments and existing assets. We believe this combination of political and economic characteristics logically leads to a priority for large–scale projects with 'guaranteed' return and minimal economic risk. In most countries with a maturing petroleum sector, a diversified industry structure is usually regarded as a precondition for effective resources management. Small, specialized companies take care of tail production from fields no longer of interest to the big companies, and specialized exploration companies venture into new areas with particular challenges, turning discoveries over to regular production companies. Despite changes in the resource base, the Russian petroleum sector continues to be totally dominated by big vertically

integrated companies- and indeed this is in line with official policy. The five leading oil companies account for 85% of Russia's output. In all there are eight vertically integrated oil companies. There are also about 250 other, relatively small companies. They include companies with Russian as well as foreign owners, and mixed. But despite their numbers they are not playing an important role in Russian energy policy. Developments in the resource base call for pluralism in approaches and solutions to both exploration and production. The big companies can only offer a limited choice. Also the considerable unconventional oil resources might be easier to access with a more diversified industry structure, due to high risks as well as the need for specialized technological skills. In the U.S. such resources have typically been developed by relatively small, independent companies.[13]

In particular, it can be suggested that to bring value to the oil and gas sector, the following critical steps can be taken:

- create a competitive service sector. In this case, expenditures would reflect existing relative limits more accurately. It is possible that they would go down from the current level where they are used for various manipulations within major companies;
- improve the regulatory framework for licensing, which should encourage exploration and more balanced development of the resource base;
- implement new large-scale projects based on transparent project financing by subsidiaries or joint companies;
- restructure major government-owned companies by dissociating them from auxiliary and secondary activities and providing an opportunity to concentrate on those spheres where they are particularly strong and able to take advantage of economies of scale.

At the same time, the matrix of property components and methods of operation of the companies were mostly developed during the second half of the 1990s, in the post-Soviet period when the country had a weak federal status and no policy to actually control its oil and gas resources.

An effective regulatory system should develop gradually. Moving in this direction does not mean liquidating large enterprises. In the foreseeable future, they will remain strong on international markets and a 'backbone' for the hydrocarbon production and processing sector. If these companies were somewhat reduced in size, it would allow them to become even stronger as it would improve their performance and

international competitiveness. So, the reforms could be considered acceptable even by a good many of those who are interested in the *status quo*.

Apparently, planning and management in the Russian oil sector relies on previously made decisions. The modern structure of the industry is rooted in the past, which impedes its further development. Speaking more specifically, what hinders it from making full use of market mechanisms is the technological structure, and main production assets formed during the centralised system of the Soviet oil and gas sector. At the same time, the matrix of property components and methods of operation of the companies were mostly developed during the second half of the 1990s, in the post-Soviet period when the country had a weak federal status and no policy to actually control its oil and gas resources. The current organisational structure and approach to regulating the sector does not satisfy the growing need to develop the resource base. This creates a problem that will become more and more urgent over time.

Diversification of Hydrocarbons Delivery Destinations and Supply Routes

As we have mentioned above, hydrocarbon export is not only related to the fact that the system of centralised administration formed the oil and gas sector within the borders of modern Russia, with more capacity for producing hydrocarbons than Russia needed. The most important circumstances are as follows:

- a resource base located in Russia and the possibility to specialise its economy, i.e. to produce energy resources (not only to meet the need of the former Soviet Union, but also to export);
- previously established transport infrastructure to deliver hydrocarbons to Europe via port terminals, pipelines, and railheads.
- an urgent need for rental income to fund ever-growing government liabilities and heavy social expenditures.

At the end of the last century, an increase in export supplies gained momentum with an inflow of hard currency to address urgent social and economic problems. Insolvency of the domestic market participants also encouraged all oil and gas companies to increase export supplies of hydrocarbons. This period revealed a lack of port terminals and export routes for liquid hydrocarbons. To overcome these difficulties, there was proposed a set of improvements: increased capacity of port terminals in Novorossiysk and Tuapse, new terminals near St. Petersburg, and new facilities in Northern Russia, namely Murmansk, Arkhangelsk, and the Pechora Sea (Varandey oil terminal)

and others. While overcoming the flow capacity limitations in the west and northwest, Russia started to construct the Eastern Siberia- Pacific Ocean oil pipeline (ESPO pipeline) and develop port infrastructure in the Far East.

The share of medium distillate supply from the USA to the EU market is growing: in 2002, the US share in European import only accounted for 2%, in 2012 this figure rose to 17%.

To date, the overall shortfall in capacity in the western part of Russia has been overcome. As for the eastern region, infrastructure there is under active development. Expansion of supplies to the east is affected by a number of facts:

- a desire to diversify hydrocarbons delivery destinations, as the Asia-Pacific is one of the fastest growing regions in terms of economy and energy consumption;
- the development of oil and gas production in Russia directly within the territory near the Asia-Pacific countries (more than 10 years ago, new facilities on the Sakhalin Island Shelf started to operate, a liquefied natural gas plant (LNG) was brought into production, and a gas transmission infrastructure was constructed);
- a chance to attract a large amount of financial resources (for future oil and gas supplies), primarily, in the framework of intergovernmental agreements between Russia and China.

As a result, OJSC Rosneft holds significant contractual obligations to CNPC (China). A contract for the supply of 15 Mt of oil a year was signed in 2009 and is valid until 2030. In 2013, an additional contract was signed for the supply of 360.3 Mt over a twenty-five-year period valued at a sum of US$ 270 billion. Under the last contract, the Russian company received US$ 70 billion in advance. In 2013, OJSC Rosneft delivered to China 15.753 Mt of oil.[14]

The Vankor oil field is one of the main fields in Eastern Siberia. Nowadays, nearly 70% of oil from the field goes to China via the ESPO pipeline. Rosneft is building up the Vankor oil and gas cluster in Eastern Siberia, and it is planned that by 2020 its annual production will have reached 50 Mt. Besides the Vankor oil field, the cluster will comprise 17 licensed deposits, including the Tagul, Suzun and Lodochnoye fields, with an estimated 3 billion barrels of reserves. Production will start in 2017. Experts say that China may get a share in the Vankor cluster, but no more than 20%. At the end of the second quarter of 2014, total investment inflows into Vankorneft amounted to US$ 17 billion. China is already producing oil in Russia: Sinopec

has a joint venture with Rosneft, namely Udmurtneft. In October 2013, Rosneft and CNPC signed a memorandum on establishing a joint venture (with 51% owing by Rosneft) to explore and recover oil in Eastern Siberia.

Prices on energy carriers in Asia are higher than in Europe: in the mean, gas prices are greater by one-third there, and oil prices are higher by an average US$ 5 per barrel. For this reason Russian oil companies have long aimed to raise the share of supplies to Asia. In 2013, they decreased supplies to Europe by 6%, and increased those to the Asia-Pacific countries by 15.6%, up to 37 Mt. The biggest supplier on this route is Rosneft. Starting from 2011, it has been delivering 15 Mt of oil a year to CNPC via the Eastern Siberia- Pacific Ocean pipeline (ESPO). The company also aspires to make supplies to India. Other Russian companies would also like to increase their share of supplies through this pipeline. For one, JSC Gazprom Neft hopes to export oil to Vietnam.

Nonetheless, Europe is currently the main market for Russian oil and gas. In 2013, Russia produced 523 Mt of oil, of which 155 Mt were sold to Europe (about 40% of its demand). In 2013, Gazprom produced 487 bcm of gas, of which 165 bcm were exported to Europe (one-third of the EU demand). It is customary for many oil refineries in the EU to operate on Russian Urals crude. Rosneft, Gazprom Neft, Lukoil, and Zarubezhneft all have their plants there. To switch to a different type of oil means to invest heavily in restructuring of the existing oil refineries. Russia is also not capable of transporting all oil from Europe to Asia, due to the limited export capacities in the eastern part of the country. Taking into account petroleum experts' plans, OJSC Transneft will have increased the flow rate of the ESPO pipeline up to the needed 80 MT only by 2020. There are reasonable arguments in favour of the supposition that China, given the necessary capacities, would be able to receive 155 Mt of oil redirected from Europe over the course of 3-5 years. However, it would decrease its price in the Asian market.

At the same time, Russian diesel fuel, the main goods for export to Europe today, may become useless in case of depleted supplies. In 2013, Russia exported half of all diesel fuel produced in the country, i.e. 35.9 Mt; by 2020 it will have increased by 16 Mt. Europe is gradually cutting down oil refining processes, and the rate of diesel fuel consumption is declining. At the same time, the share of medium distillate supply from the USA to the EU market is growing: in 2002, the US share in European import only accounted for 2%, in 2012 this figure rose to 17%. In China, for its part, there is no demand for diesel fuel. On the contrary, the country is building up export trade of its own petroleum products, turning into a

fuel supplier. Therefore, should deliveries to Europe stop, it may result in shutting down the processing plants on some Russian oil refineries.[15]

With respect to all the mentioned circumstances, we can claim that crude oil export in Russia will stabilize at the level of 230 Mt a year; at the same time, petroleum products export has reached its maximum point at 153 Mt in 2014 and will continue to decline.

Conclusion

The Russian oil and gas sector is facing many compelling challenges. The major one is depletion of large traditional hydrocarbon deposits previously brought into development. The country still has an immense resource base, but its qualitative characteristics (a small number of discovered fields, increasing role of deposits with heavy and non-traditional oils) are related to huge investments and stimuli for their inflow. Apart from investments, exploration of more difficult and complex fields is bound with the use of modern technology and advanced techniques. The described situation shows how much it is critical and valuable for Russian companies to integrate with foreign partners who possess relevant experience and technology.

On the one hand, focusing on attracting Chinese financial resources to implement large-scale projects in the east does give access to these resources. On the other hand, it does not solve the problem of collaboration with partners who have modern technology and practice with non-traditional sources of hydrocarbons. It is for this reason that between 2012 and 2013 Russia made a number of alliances with leading multinational corporations.

Whether or not production will be maintained at current levels depends on how congenial the Russian investment climate will be to involve more middle-sized innovation-oriented companies.

In general we may say that Russia has entered a period of stable oil production and zero growth. Whether or not production will be maintained at current levels depends on how congenial the Russian investment climate will be to involve more middle-sized innovation-oriented companies. A particular focus on supporting the efforts and proactive attitude of large companies (the majority of which are partially owned by the state) does not seem productive in this situation. Russia's cooperation with Europe in the energy sector- not only in the form of energy supply, but also with access to technology, skills and investment- will keep its dominant position in the foreseeable future despite the fact that relations with China in the energy sector are actively developing.

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Energy Mix and Energy Taxation: A Comparison between the EU, Italy and Turkey

Rossella BARDAZZI* and Maria Grazia PAZIENZA**

Abstract

Recent years have seen increasing worldwide attention being paid to the broad issue of energy and, in particular, to the aspect of energy security. The issue is even more crucial in Europe and Turkey, which are both energy dependent and are trying to diversify their strategies in order to secure energy availability and to moderate energy price increases. This paper aims to highlight similarities and differences between the European and Turkish energy frameworks and related energy policies, with a special focus on energy taxation. Among the EU countries, particular attention is paid to Italy, whose degree of energy dependency and use of energy taxation are among the highest in Europe. We argue that the use of market-based instruments such as energy taxes is an effective tool for policymakers to influence consumers' energy consumption and change the energy mix towards less polluting and domestically produced fuels.

Key Words

Market-based instruments, energy taxation, decoupling, energy uses, energy demand elasticities.

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Introduction

Recent years have seen increasing worldwide attention being paid to the broad issue of energy and, in particular, to the aspect of energy security. The issue is even more crucial in Europe and Turkey, which are both energy dependent and are trying to diversify their strategies in order to secure energy availability and to moderate energy price increases. On the one hand, Europe suffered a serious energy crisis as a consequence of the 2009 Russian-Ukrainian conflict over gas transit fees. Such crises constitute an abrupt warning, clearly revealing the weakness of European external energy policy and bringing its key role to general attention. The ongoing new conflict between Russia and Ukraine has exposed EU vulnerability once more, and in May 2014 the European Commission approved an Energy Security Strategy[1] to reduce EU energy dependence and to promote resilience to these shocks and disruptions to energy supplies. On the other hand, Russian-Ukrainian tension is also a very hot issue in Turkey, because almost 25 % of Turkey's total natural gas imports are supplied by a pipeline passing through

Ukraine, Romania and Bulgaria. Recent decisions by the Russian government to cancel the South Stream pipeline project and to replace the Black Sea portion with a pipeline to Turkey- the so-called Turkish Stream- makes clear the key role of Turkey as a player in securing its energy supply and in becoming a potential energy hub for southern Europe. Indeed, the EU and Turkey have a long-lasting tradition of cooperation and coordinated policies (the EU and Turkey signed a cooperation agreement in 1963 and Turkey made a formal application for accession in 1987), with energy gaining increasing importance as recently testified by the Trans Adriatic Pipeline project. Furthermore, energy is also a field of cooperation under the Instrument for Pre-Accession Assistance (IPA II), which is the main financial instrument for providing EU support for the implementation of reforms to move Turkey towards EU membership.

Recent decisions by the Russian government to cancel the South Stream pipeline project and to replace the Black Sea portion with a pipeline to Turkey- the so-called Turkish Stream- makes clear the key role of Turkey as a player in securing its energy supply and in becoming a potential energy hub for southern Europe.

Energy security is a multidimensional and dynamic concept, as recently surveyed by Winzer.[2] Despite different conceptualizations of energy security, which has to do with variation in different stakeholders' perceptions of what security means, this issue is generally concerned with risks. A variety of factors can be considered sources of threats as they can affect the flow of energy. According to Masson et al.[3] two specific dimensions can be distinguished that are relevant to the perspective of this study as they are both related to energy security for consumers: a physical and an economic dimension. The first relates to the availability and accessibility of energy supply, while the second dimension refers to price volatility and affordability: prices should give a signal to indicate a situation of scarcity or oversupply. Both dimensions are included in the EU Commission energy security strategy, and this in turn is defined as 'inseparable' from the 2030 Framework for climate and energy,[4] which aims to deliver a competitive and low-carbon economy by exploiting renewable and indigenous sources of energy. Lastly, energy and climate change are part of the EU Sustainable Development Strategy[5] as well as of Turkey's Sustainable Development Report *"Claiming the future,"* presented in 2012 at the Earth Summit in Rio de Janeiro.

Indeed, both the EU and Turkey are using market-based instruments as their main policy pillars: the EU with its Emission Trading Scheme, renewable source incentives and a plan for common carbon taxation; Turkey by using energy taxation and starting to incentivise renewables.

Climate and energy security policies have common goals and instruments: increasing energy efficiency, changing the energy mix and promoting decoupling are ways to combat climate change and to foster energy independence. These goals can be reached by means of several tools, among which market-based instruments-policies setting a price signal designed to induce a change in agents' behaviour-are considered the most efficient ones because they have the characteristic of reaching the target at least cost. However, all policies acting on prices may have an adverse impact, raising an equity issue. High energy prices may conflict with the energy security goal as energy security also encompasses the idea of energy affordability.

Indeed, both the EU and Turkey are using market-based instruments as their main policy pillars: the EU with its Emission Trading Scheme, renewable source incentives and a plan for common carbon taxation; Turkey by using energy taxation and starting to incentivise renewables. Among the EU member states, special attention needs to be devoted to Italy, because its degree of energy dependency and use of energy taxation are among the highest in Europe. Indeed, both Italy and Turkey are characterized by high energy dependency and top energy tax rates at the world level. Starting from a comparison of the characteristics of energy sources and energy dependency in the two countries, this paper aims to assess the role of energy taxation in fostering a decoupling between growth and energy use. We argue that market-based instruments are effective in providing a signal to households and industries and can induce fuel substitution by consumers toward less polluting fuels and improve energy-saving behaviour by economic agents.

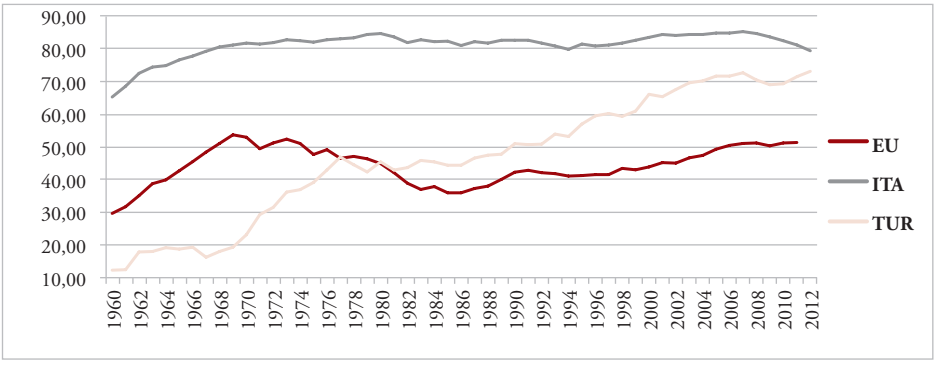
The main features of energy consumption and intensity are presented in Section 2. After a discussion of the role of taxation in developing green growth, the structure of energy taxes in the two countries is presented and discussed (Sections 3.1 and 3.2). Subsequently, results from the literature about energy demand elasticities in Italy and Turkey as a way of assessing the efficacy of energy taxation are discussed (3.3). Section 4 presents our conclusions.

The Energy Structure: Similarities and Differences

Although the energy balance is highly differentiated among member countries, on average the EU can be considered highly energy dependent, and the same problem characterizes Turkey. Energy dependence can be defined as the vulnerability of a given State or area to energy supply or price shocks, which may imply competitiveness and growth losses, inflationary pressures and trade balance deterioration.[6] Arguably, the EU and Turkish economies will continue to be exposed to serious risks related to energy availability and prices, including potential oil shocks or gas shortages because of the severe conflicts occurring in strategic supply countries, and recent high fluctuations in oil prices make this very unstable scenario even gloomier.

Although an in- depth analysis of energy dependency and vulnerability should encompass several indicators, a general idea can be sketched by using the import share of energy use[7], which is one of the most widely used indicators. Figure 1 shows that in Europe in 2012 imports accounted for 50% of energy use, more or less the same figure recorded in the mid-sixties. With the exception of Denmark, all EU countries exhibit a deficit on their energy trade balance, even those with substantial energy exports, such as the UK and France. Moreover, member countries are also characterized by high heterogeneity, and very different patterns. As an example, Denmark's import share of energy use – not shown in the figure- reached 98% just after the oil crisis in the seventies, and became negative (meaning that Denmark is now an exporting country) in 1998. The United Kingdom experienced the opposite pattern: it was an exporting country during the 80's and 90's- thanks to North Sea oil- and it is nowadays a dependent country. Italy shows a much more stable pattern: since the late sixties its import share of energy use has always been around 80%.

Figure 1: Energy Imports as a Share of Energy Use (1960-2012)



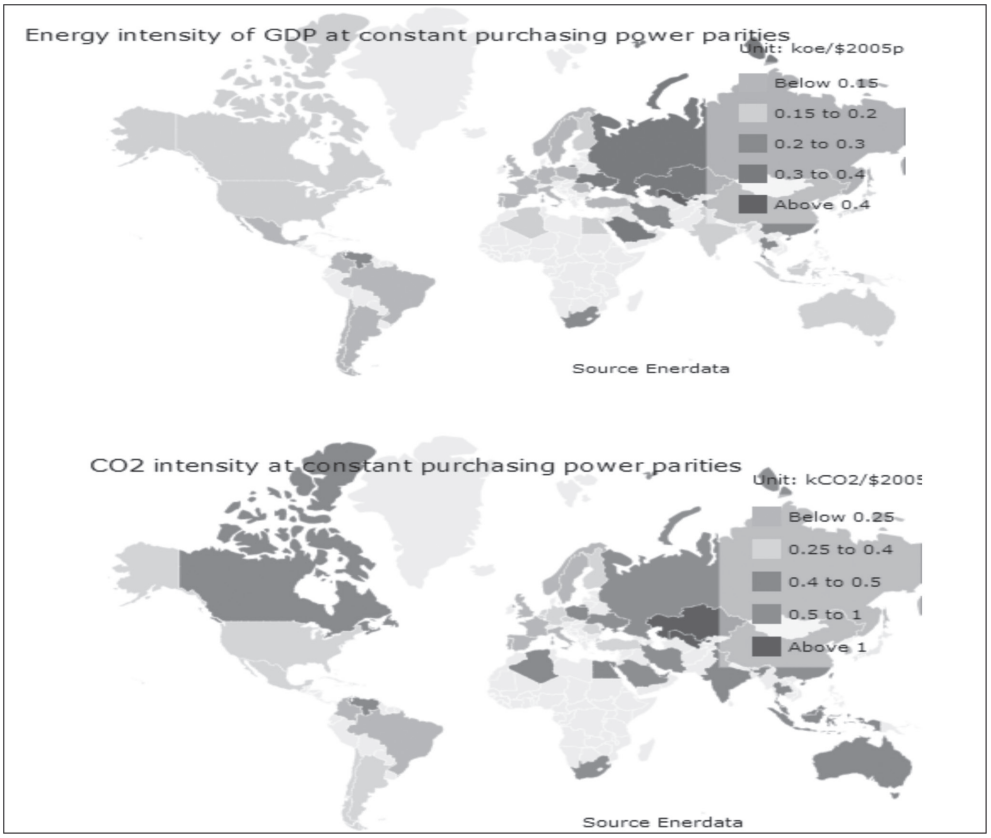
Source: IEA Database, *Energy Policies of IEA Countries: Turkey 2009 Review*, Paris, 2009

The increasing trend of the industrial sector with respect to the residential sector in Turkey is in opposition to the trends observed in most industrialized countries, which are due to different stages in economic development, to a switch from industry to service-oriented production, and also to long-standing policies implemented by governments to encourage the introduction of energy-saving technologies.

Turkey has experienced a never-ending increase in energy dependency: as a latecomer, the country has seen a transformation of its energy use (from domestic to industrial and transport use) and energy mix (from wood to oil and gas). As a result of these important and rapid transformations in its energy structure, its import share of energy use increased from 12% in 1960 to 73% in 2012, a share very close to the Italian one. The IEA energy balances for the year 2011 show how total final energy consumption is distributed among users: the Turkish industrial and residential sectors consume similar shares- 30 and 29 % of total consumption respectively- followed by transport, with a share of 18 %. Conversely, the largest Italian energy-consuming sector is transport (30 %), then households (25 %) and manufacturing (22 %). The increasing trend of the industrial sector with respect to the residential sector in Turkey is in opposition to the trends observed in most industrialized countries, which are due to different stages in economic development, to a switch from industry to service-oriented production, and also to long-standing policies implemented by governments to encourage the introduction of energy-saving technologies.

A point of similarity is represented by the low energy and CO_2 intensities which characterize Turkey, the European Union and, among European countries, Italy in particular. The two maps in Figure 2 show that Western Europe and Turkey are currently among the regions in the world with the lowest energy and carbon intensity.[8]

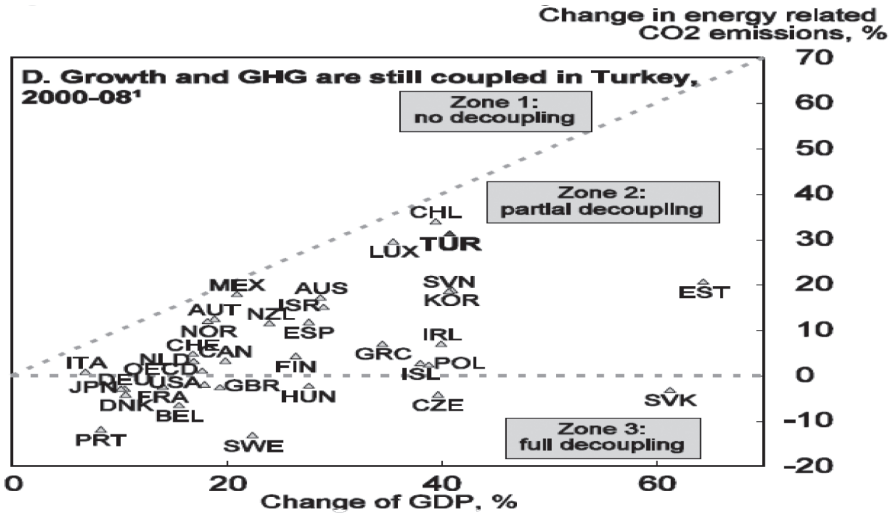
Figure 2: Energy and CO_2 Intensity Maps (in 2005 PPP dollars)



Source: Enerdata, *Global Energy Statistical Yearbook*, at http://yearbook.enerdata.net/#CO2-intensity-data.html

Table 1 presents detailed data for the three areas. The table shows that despite being characterized by similar indicator levels Turkey has been using more and more energy in recent years with respect to Europe, as a result of a much more intense GDP growth. Unfortunately, Turkey still seems far from decoupling growth and carbon emissions. Indeed, energy-related emissions have more than doubled since the nineties and are expected to rise further following a significant increase in energy demand. Figure 3 shows the relative positions of OECD countries in terms of growth and CO_2 emissions. Due to its high GDP growth, Turkey is located in the right-hand side of the graph, but towards the top, close to the 'no decoupling' zone.

Figure 3: GDP and Carbon Emission Changes in Selected OECD Countries (2000-2008)



Source: OECD: *OECD Economic Surveys: Turkey,* Paris, 2012.

Conversely, the use of electricity, as represented by per capita megawatt hours, is still quite moderate in Turkey, which is partly due to its young and only recently urbanizing population (Table 1).

Table 1: Selected Indicators for EU, Italy and Turkey (2011)

	EU	Italy	Turkey
TOE per capita	3.29	2.76	4.52
TOE/GDP	0.11	0.10	0.18
MhW per capita	6.11	5.39	2.68
t Co2 per capita	7.04	6.47	3.86
t Co2/GDP	0.24	0.22	0.46

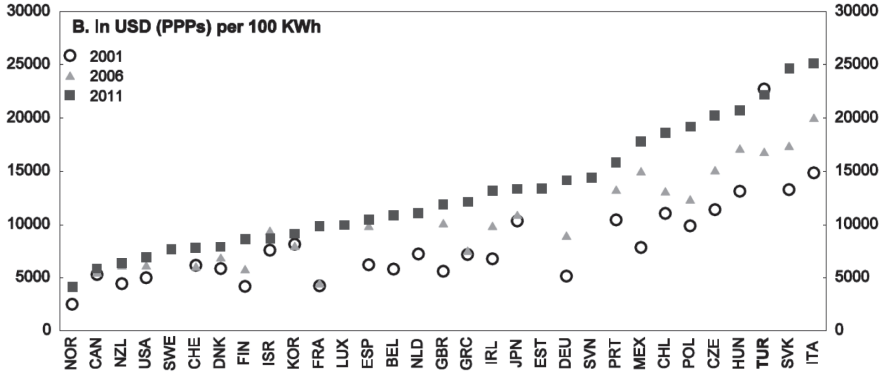
Source: IEA database, at www.iea.org

Due to their mix of energy dependence and high energy taxes, European countries and Turkey also have high energy prices in common.

The low energy intensities experienced by the two areas can be attributed to a number of factors, including the structure of manufacturing industry, the share of energy-intensive sectors, specific public policies and high energy prices. In order to limit high energy vulnerability, the governments of the two areas have implemented a wide range of policies and programmes, such as diversification of energy sources and energy partners, financial incentives aimed at developing renewable sources, energy efficiency standards and market-based instruments- more specifically taxes- to discourage the use of energy-intensive devices. All these policies have been implemented in some form both in the European Union and Turkey, but the EU has a much wider set of goals and policy mechanisms, partly due to the high priority it gives to environmental protection. In fact, the integration of environmental protection within all other community policies became a requirement after the adoption of the Amsterdam Treaty in 1997.

Due to their mix of energy dependence and high energy taxes, European countries and Turkey also have high energy prices in common. This is particularly evident for Italy and Turkey, which, as previously mentioned, have import shares of energy use around 80%. As an example, Figure 4 shows electricity prices: Italy and Turkey are among the three most expensive countries with regard to electricity prices.

Figure 4: Electricity Prices in Selected OECD Countries

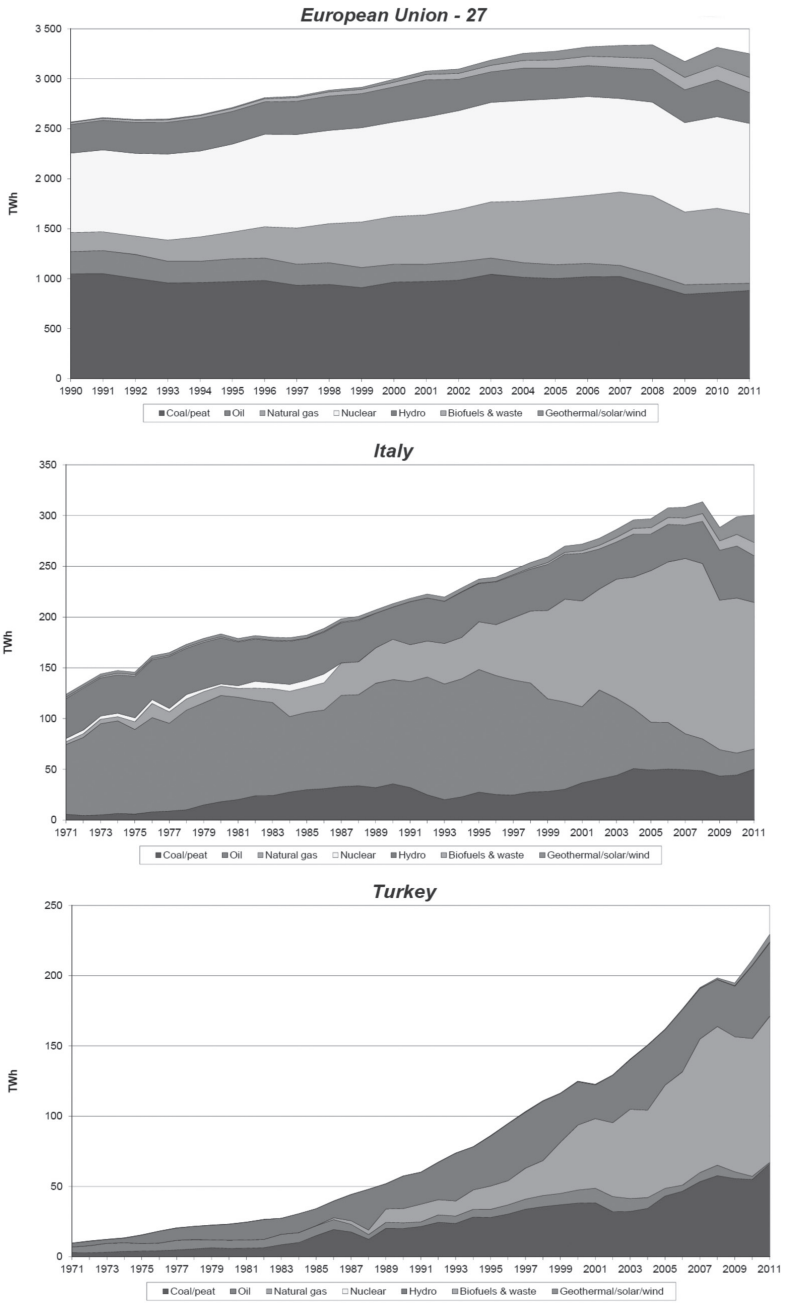


Source: OECD, *OECD Economic Surveys: Turkey,* Paris, 2012.

Turkey's electricity demand is expected to double in a few years, and in order to satisfy this increase in demand the Turkish government is determined to utilise coal reserves and nuclear power, facilities for which are currently under construction. Italy, on the other hand, has created incentives to maximize the use of renewables and banned nuclear power after a popular referendum.

Among the main factors that influence electricity prices, the primary energy mix of fuels to produce electricity deserves attention (Figure 4). Both Italy and Turkey use a significant share of natural gas and hydro to produce electricity, much more than the European average. On the other hand, they do not currently employ any nuclear power, whereas the average EU share is around 30%. However, the two countries have chosen different strategies: Turkey's electricity demand is expected to double in a few years, and in order to satisfy this increase in demand the Turkish government is determined to utilise coal reserves and nuclear power, facilities for which are currently under construction. Italy, on the other hand, has created incentives to maximize the use of renewables and banned nuclear power after a popular referendum. It is worth stressing that these two opposite strategies probably respond to the two very different demand forecasts: as previously mentioned, Turkey is going to see a further and even faster increase in energy and electricity demand, whereas in Europe and Italy electricity production and demand are substantially stable, due to modest GDP growth and to the efficacy of the energy saving policies implemented in recent decades.

Figure 5: Electricity Generation by Fuel



Source: IEA Database, *Energy policies of IEA countries: Turkey 2009 Review*, Paris, 2009.

Energy Related Taxation: Similarities and Differences

Energy Taxation: Main Effects

The choice of the optimal policy instrument is still an open question since several tradeoffs may arise if competing evaluation criteria are considered. A very broad and well-known classification of policy instruments divides them into "command and control" and "market-based" instruments.[9] Market-based (or incentive-based) instruments are generally suggested as the main policy tool to be used due to their cost effectiveness (the optimal solution is reached at the minimum total cost) and therefore to a higher degree of neutrality regarding agents' choices. In the context of energy use, a decrease in energy intensity and polluting emissions can be achieved by means of carbon/energy taxes, which are by far the most popular tool in the market-based group.[10] The reaction of agents to the price signal embedded in energy-related taxes is good news as regards both policy perspectives: a 'reactive' curve- where reactivity is measured with demand and supply elasticities- usually signals an ability to avoid the price increase, through either greater energy efficiency or a change of energy mix. Some of these positive reactions may be associated with a win-win perspective: if energy efficiency improves after energy taxes, it can be said that there were unexploited opportunities for saving resources that only became evident to agents after implementation of the policy.

Notwithstanding these important characteristics, market-based instruments are criticised for their easily identifiable impact on prices. If alternative energy products (considering both domestic energy inputs and less polluting sources) are not available or the elasticities are low, these policy instruments are ineffective but still produce increasing costs and raise the general price level in the short run. Therefore, it is crucial to assess the efficacy of energy taxes in different country contexts. After a review of the current level of energy-related taxes in the two areas in section 3.2, section 3.3 considers elasticity estimates as a basis for assessing the role of energy taxes in addressing energy and climate security goals.

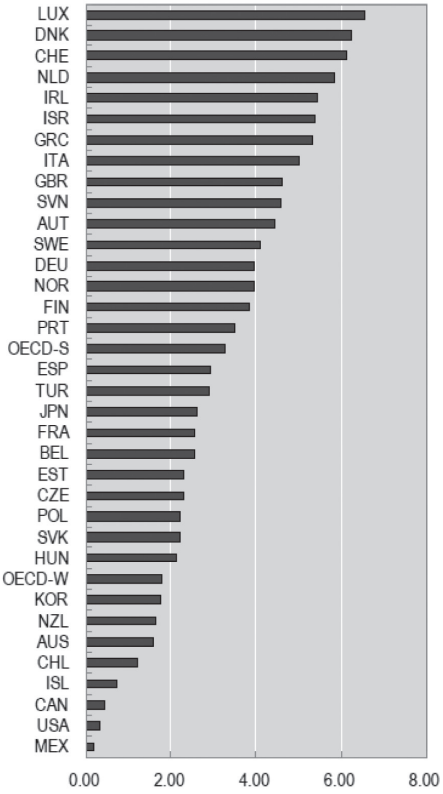
Energy Tax Rates in Practice

The EU has promoted the use of market-based instruments as a way to efficiently reach environmental and energy-strategic goals in a number of documents and pieces of legislation. Italy and Turkey heavily utilize energy and environmental taxation. Although frequently driven more by revenue needs than efficient policy design, taxes have proved to have had positive effects in moderating energy

use and altering the energy mixes of consumers and firms. However, taxing energy uses, whatever the ultimate goal, is not a panacea. On the contrary, it is necessary to employ particular care as market-based instruments also have a long list of drawbacks (adverse distributional impacts, political opposition, competiveness loss, inflation) and energy taxes may also distribute benefits and costs unevenly, creating *winners* and *losers* among the economy's households and firms.

Figure 6 shows effective tax rates on energy, which range from € 0.18 euro GJ in Mexico to 6.58 per GJ in Luxembourg. The highest overall effective tax rates tend to be in European countries, where the Energy Taxation Directive sets minimum tax rates for a variety of energy commodities. In particular, Italy is located in the top part of the graph (around € 5 per GJ), whereas Turkey is located below the simple average level for OECD countries (less than € 3 per GJ).

Figure 6: Implicit Tax Rate on Energy (€ per GJ, 2012)



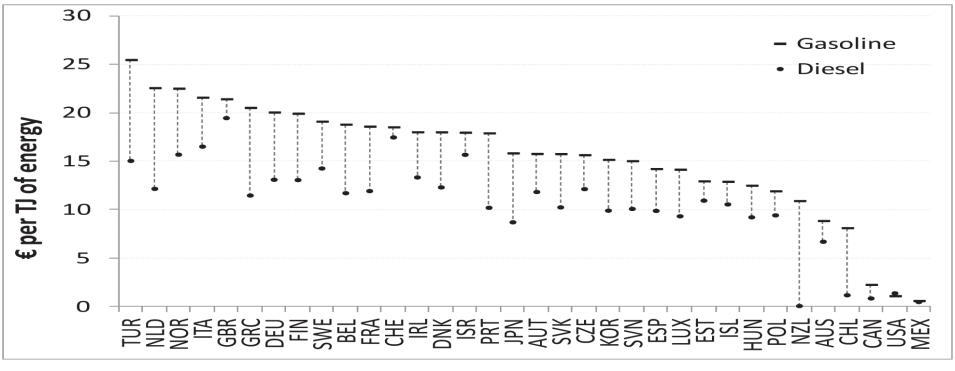
OECD-S and OECD-W are simple and weighted averages respectively.

Source: OECD Database, *OECD Economic Surveys: Turkey,* Paris, 2012.

In almost every country, fuels used in transport are taxed significantly more than energy products used for other purposes. This is particularly true for Turkey and Italy, which, as shown in Figure 7, are characterized by the highest tax rates among OECD countries. This high taxation on transport fuels can be explained by the high externalities of transport or simply by the fact that fuel demands are usually inelastic and therefore taxing transport fuels is convenient from a revenue-raising perspective. In fact, in both countries the energy tax rate levels cannot be considered optimal because they are not clearly linked to energy or carbon content, and the tax preference for diesel, which has a higher carbon content, confirms this form of inefficiency. As regards fuels for transport, both countries should pursue other ways to implement efficiency such as developing fuel efficiency standards for vehicles or imposing direct emission limits. At present in Turkey a programme called 'cash for clunkers' has been adopted to remove old and inefficient vehicles from the road and new emission labelling for vehicles may induce drivers to prefer energy-saving vehicles.[11] However, the tax revenue from gasoline enjoyed by governments may represent an obstacle to implementing alternative policies to increase efficiency, such as increasing the use of energy-saving fuels and public transportation.

High taxation on transport fuels can be explained by the high externalities of transport or simply by the fact that fuel demands are usually inelastic and therefore taxing transport fuels is convenient from a revenue-raising perspective.

Figure 7: Implicit Tax Rates on Gasoline and Diesel (2012)

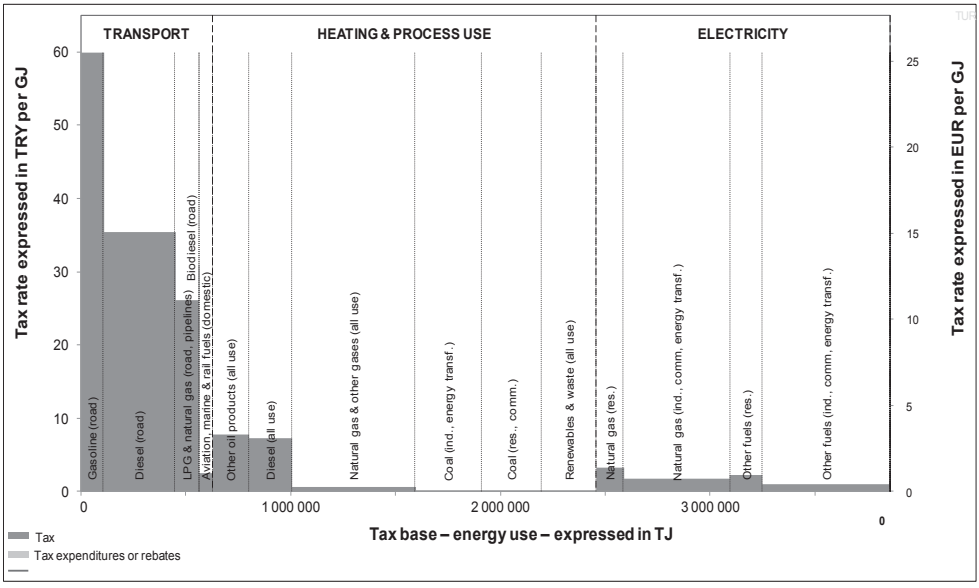


Source: OECD, *Taxing Energy Use- A Graphical Analysis*, Paris, 2013.

The fact that energy taxation is highly concentrated on transport fuels is also confirmed by Figures 8 and 9. In both figures, the horizontal axis represents energy products for each type of energy use (grouped into transport, heating and electricity production) and the vertical axis represents tax rates.[12] It is evident from Figure 7 that in Turkey almost all energy-related revenue comes from transport fuels and all other fuels have very low tax rates. Coal and natural gas uses are practically not taxed at all and therefore relevant tax differences between emission sources remain. Moreover, taxes are different between users: according to IEA data, in both the cases of electricity and natural gas, tax rates for Turkish industries are considerably higher than in other countries, whereas taxes for households are relatively lower, implying a form of cross- subsidies in favour of households.

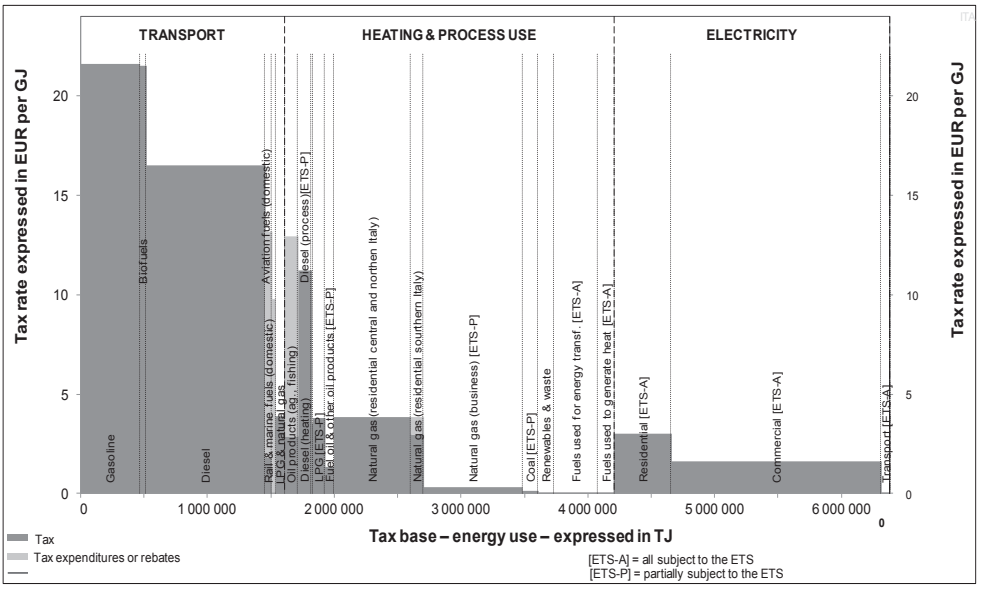
Figure 8 shows that Italy, despite having a high share of energy-related revenue coming from transport fuel, has slightly more homogenous taxation, and energy products are also taxed when used to produce electricity. This is more coherent with the market-based instrument principle, according to which there must be a unique price signal- the cost of carbon with reference to climate externality- for all energy products.

Figure 8: Energy Taxes and Energy Use in Turkey (2012)



Source: OECD, *Taxing Energy Use- A Graphical Analysis*, Paris, 2013.

Figure 9: Energy Taxes and Energy Use in Italy (2012)



Source: OECD, *Taxing Energy Use- A Graphical Analysis*, Paris, 2013.

It can also be noticed that Italy and European countries also employ an Emission Trading Scheme as a tool to incentivise fuel-saving technology and emission abatement among electricity producers.

Electricity use is highly taxed in both countries and this may help to explain their high prices and relatively low electricity intensity, as shown by the previously discussed Table 1 and Figure 2. It can also be noticed that Italy and European countries also employ an Emission Trading Scheme as a tool to incentivise fuel-saving technology and emission abatement among electricity producers. Moreover, high electricity prices imply high distributional impacts[13] and represent an obstacle to reaching a high degree of electrification of the economy, one of the main policy objectives clearly stated by the European Union.[14] As Atiyas *et al.* show with IEA data for Turkey,[15] the path of electricity prices has been significantly differentiated between industry and households by means of different tax rates: household retail prices are close to the OECD average whereas prices for industry are substantially higher.

Are Energy Taxes Effective in the Two Areas?

The efficacy of energy taxation in terms of fuel consumption strongly depends on the elasticity of demand: if price elasticity is high, a small change in price resulting from the tax component can induce fuel substitution by firms and households toward less polluting fuels and can improve energy-saving behaviour in economic agents. As regards Italy, in several applied studies energy elasticities have been estimated for different fuels both for industries and households. In general, household energy price elasticities are relatively low in the short run- due to the highly energy-efficient behaviour of households- and much higher in the long run. Bianco at al., as an example, estimate a short-run price electricity elasticity of -0.06 and -0.24 in the long run.[16] In the case of Italian manufacturing industries, energy demand shows a considerable reactivity to price changes as its price elasticities are both negative and greater than one.[17] Interfuel substitution has also been investigated in several studies[18] and a general substitutability link is found between electricity, natural gas and diesel used by Italian industrial firms with lower values for electricity (-0.3) and natural gas (-0.5), these two being the main fuel inputs and also more difficult to replace than other inputs.[19] Recent studies for the Turkish case show that natural gas demand elasticities are quite low,[20] while for the electricity demand of the residential sector it has been recently estimated[21] that the short-run and long-run price elasticities are -0.09 and -0.38 respectively.[22] On the other hand, for the industrial sector price elasticity values are lower (-0.16).[23] Similar results to those reported above can be found in Serletis et al., where interfuel substitution for major energy commodities (coal, oil, gas and electricity) is estimated for a group of countries including Italy and Turkey.[24]

Notwithstanding the different methods and data used for these elasticity estimations, which may seriously affect their magnitude and significance, we may conclude that in both countries there is room to influence agents' behaviour toward energy-saving choices and to stimulate a change in the energy product mix, which may also be induced by a carefully planned energy tax rate design.

The use of market-based instruments is an additional tool for policymakers: energy taxes could pursue additional goals beside their fiscal function, such as giving a price signal to economic agents to shift the energy mix toward less polluting fuels and favouring the introduction of energy-saving technologies in production.

Conclusion

Turkey's economy has developed very rapidly in recent years, in comparison to the sluggish growth of most European countries. However, this progress has come at a cost in terms of increasing energy imports and harm to the environment, with pollution increasing dramatically. As Akan and Bozkurt (2014)[25] show, decoupling between growth and emissions is still far from being realized in Turkey, whereas, thanks to the economic crisis, it is almost a fact in the EU, where public policies have been oriented towards addressing energy security, energy efficiency and environmental protection. However, ensuring an energy supply to satisfy the growing demand has attracted in Turkey more focus than other policy goals (IEA, 2009). Nevertheless, as shown by Turkey's 2012 Sustainable Development Report, it is evident that a sustainable development strategy is on the government agenda. Furthermore, the National Climate Change Action Plan 2011-2023 suggests developing a taxing and pricing system to switch to cleaner fuels and limit greenhouse gas emissions from motor vehicles. European countries, such as Italy, began to face this challenge earlier and their policy experiences can be useful in the Turkish case. Several strategies can be followed to decouple economic growth from increasing GHG emissions: increasing the use of renewable sources, introducing technologies to abate emissions and to save energy, improving people's awareness of environmental issues, etc. The use of market-based instruments is an additional tool for policymakers: energy taxes could pursue additional goals beside their fiscal function, such as giving a price signal to economic agents to shift the energy mix toward less polluting fuels and favouring the introduction of energy-saving technologies in production. The key economic variable to investigate the potential efficacy of energy taxes is demand elasticity with respect to energy prices. A review of selected literature has shown that household demand elasticity in relation to the electricity price is similar in the short run in Italy and Turkey (lower than 10 %) while it is notably higher for Turkish families if the longer term is considered (around 30 % on average). As regards industry, while Italian firms are quite reactive to energy price changes and interfuel elasticities are significant, in the case of Turkey estimated demand

> Especially for households, substitution between fuels and energy-saving behaviour could be influenced by a change in relative prices by tax variation.

elasticities for the industrial sector are generally lower. Therefore, especially for households, substitution between fuels and energy-saving behaviour could be influenced by a change in relative prices by tax variation. Furthermore, a comparison between Italy and Turkey of the existing structure of energy tax rates has highlighted that certain measures could be employed to produce more homogeneous energy taxation with the aims of increasing energy efficiency and of taking carbon related to climate externalities into account. On the one hand, homogeneous taxation with respect to energy content implies a uniform policy incentive, avoiding policy- induced and non-transparent preferences for selected technologies or specific groups of users. On the other hand, given the unavoidability and the urgency of policies to combat climate change, a uniform carbon price is the necessary condition for following the carbon abatement path with the least cost.

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9 In the case of command and control (such as technology standards, non-marketable quotas, prohibition) the policy target and agents' behaviour are generally well specified and the policy target is achieved by imposing mandatory obligations or restrictions on agents' behaviour. On the contrary, market-based instruments (taxes, fees, marketable quotas, subsidies, liability systems) operate by creating incentives to change behaviour since they modify the relative prices that consumers and firms face. Market-based instruments rely on a price signal and therefore do not specify how agents should behave to comply with the policy target, unlike regulatory (or mandatory) instruments. On the characteristics of energy and environmental instruments, see, Roger Perman, Yue Ma, James. McGilvray, and Michael. Common, *Natural Resource and Environmental Economics*, Wesley, Pearson Addison, 2013.

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Patterns of Regional Collaboration and Institutional Cooperation Around the Black Sea

Mukhtar HAJIZADA*

Abstract

With the end of World War II, the signing in 1951 of the Treaty establishing the European Coal and Steel Community not only constituted peace in Europe but also institutionalized international cooperation. Following the example of regionalism in mainland Europe, the countries in the wider Black Sea area (WBSA) also embarked on regional cooperation at the end of the Cold War. With the declaration on Black Sea Economic Cooperation (BSEC), the leaders announced their concrete plans to develop practical cooperation in a range of areas including economy, trade, industry, environment, science and technology. This paper discusses the detected indicators and general patterns of complex regionalization around the Black Sea. With the aim to determine the extent to which BSEC countries have been able to act collectively following the cooperation they launched in 1992, this paper will discuss the plurilateral as well as minilateral cooperation efforts, the attempts for business cooperation, and energy cooperation in the WBSA.

Key Words

Black Sea Economic Cooperation, regional integration, institutionalization, complex regionalisation, new regionalism.

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Introduction

Although the first requirement for the present stability in Europe arose with the end of World War II, the signing of the Treaty establishing the European Coal and Steel Community in 1951 cemented the peace. The institutionalization of cooperation in one essential sector not only created new opportunities for confidence-building measures towards peace and stability but also formed the basis of regional integration in Europe. The post-war political climate in Europe allowed the energy sector-coal and steel production- to be placed under a supranational authority. Such a functional cooperation also necessitated the interconnection of various economic sectors, which led to the integration in one policy area spilling over into others. The process that started with the signing of the treaty advocating integration of the energy sector in Western Europe constituted a historic milestone in regional integration in Europe, since the European Union today stands alone as the most advanced example of regionalism in the world.

BSEC increased contact among statespersons to intensified and regular cooperation solidified by wide institutionalisation in the region.

Following the example of regionalism in mainland Europe, the countries in the wider Black Sea area (WBSA) also embarked on regional cooperation at the end of the Cold War. Although the idea of regional cooperation around the Black Sea was also raised earlier, the formal process of regional cooperation started on 25 June 1992 when the leaders of eleven countries from the WBSA met in Istanbul and agreed upon two basic documents. With the Bosphorous Statement, they laid stress on the need for 'the establishment of solid and effective mechanisms in order to achieve a higher degree of economic cooperation' with a shared vision of living in 'a region of peace, freedom, stability and prosperity'.[1] With the Summit Declaration on Black Sea Economic Cooperation, the leaders announced their concrete plans to develop practical cooperation in a range of areas including economy, trade, industry, environment, science and technology.[2] Later in 1998, the Organisation of the Black Sea Economic Cooperation (BSEC) was founded, and became a symbol for the formal post-Cold War cooperation in the WBSA. At present, BSEC has twelve member states bringing together the littoral and the neighbouring countries of the Black Sea.

The whole institutional apparatus of BSEC-affiliated institutions includes the Parliamentary Assembly (PABSEC), the Permanent International Secretariat (PERMIS), the Black Sea Trade and Development Bank (BSTDB), the BSEC Business Council and the International Centre for Black Sea Studies (ICBSS). Such an infrastructure suggests that the BSEC countries engaged in a region-building process, which would culminate in an emerging union alternative or contributing to the EU.

Starting with the 1992 Istanbul Declaration on peace in the region, BSEC has moved from shallow but increased contact among statespersons to intensified and regular cooperation solidified by wide institutionalisation in the region. Economic cooperation is more than just transactions or exchange of goods, as it can be the foundation for trust and a sense of community, as argued by Adler and Barnett.[3] States usually are concerned about giving up a small part of their sovereignty, but 'the exigencies of the global political economy also force the same states into concerted responses and policy initiatives at the regional level'.[4] The purpose here is thus to assist in the understanding of how the current plurilateral (BSEC framework) and minilateral (other regional organizations) relations among the states shape, and are shaped by, the regionalisation in the WBSA. This discussion is made within

the relevant conceptual framework on (new) regionalism drawing on inductive reasoning, and based on observation of the integrative processes.

Although it has been expected that through BSEC the countries in the WBSA would integrate, at least economically, the Black Sea regionalism lags behind examples in other parts of the globe's economic zones.

The regional management of cooperation in the WBSA lies in *plurilateral* and *minilateral* institutions and is referred to as *institutionalisation*.[5] The WBSA also witnessed the creation of various other regional institutions by the same BSEC members. The establishment of the minilateral cooperative arrangements beyond the BSEC framework had not been seen before the end of the Cold War. Yet, BSEC is still- 15 years later- a very remarkable forum for the existence of regional cooperation and a promising factor for 'complex regionalisation'.[6] The creation of the consequential 'related bodies' of BSEC indeed represents a trend towards regionalisation, raising the prospect that these processes may ultimately lead to a regionalism, depending on the willingness of the driving forces and interested actors. One might rightly expect that the institutionalised interstate relationships, once they are arranged, lead to the creation of new patterns in the movement of people, capital, goods and services between the politically-divided shores of the sea, namely in the participating countries, which will result in the greater convergence of their political and economic relations or vice versa. Retrospectively, one might recall the apparently similar process of the 1948 Organisation for European Economic Cooperation (OEEC), established under the auspices of the United States to administer the funds of the Marshall Plan.[7] As the name suggests, the organisation was founded mainly to deal with economic cooperation, yet it paved the way to the joint concrete economic policies in Western Europe and was followed by the process that culminated in the contemporary European Union. In the following sections, this paper will discuss plurilateral as well as minilateral cooperation, the attempts for business cooperation, and energy cooperation in the wider Black Sea area.

Plurilateral Intergovernmental Cooperation

The end of the Cold War paved the way to many cross-border economic zones in the world bringing a new quality to idea of regionalism. Although it has been expected that through BSEC the countries in the WBSA would integrate, at least economically, the Black

Sea regionalism lags behind examples in other parts of the globe's economic zones. Moreover, one might rightly observe that BSEC envisages the development of cooperation in a wider range of areas, apart from those that are linked with any forms of hard security, to an extent that this cooperation would not result or create a circumstance for an inevitable harmony of policies for the member states (e.g. the removal of barriers to intraregional trade, also the liberated if not free movement of services etc). Perhaps the only tangible result of the BSEC cooperation is its Project Development Fund (PDF), which receives applications to finance small projects between or among the BSEC countries.

In order to determine the efficiency of a regional organisation one needs to get the real picture of the spirit of cooperation. After all, as rightly emphasised by Fawn, 'What a regional grouping says it intends to do and what it actually does can reveal the essence of that formation'.[8] BSEC countries declared ambitious aims but so far it does not seem as though the promises have been delivered. Many of the resolutions that were adopted are non-binding, and those that are binding were not implemented at a national level. The 1998 agreements on Combating Organized Crime and on Cooperation in Emergency Situations, on the other hand, are both binding but are not visible regionally.

A misconception about integration is that all that is necessary for cooperation is the establishment of the organizations and the conflicts will be automatically solved. Promoting cooperation turned out to be especially difficult in this part of the globe because of the conflicts of not only internal, but also international and internationalized character. All the renewed conflicts in the WBSA pose a great threat not only to cooperation but to peace in the wider area. The desire to cooperate regionally is remarkable and needs to be acknowledged. However, in order for a case of regionalism to be effective, its cooperative schemes need to serve the collective interests of the participating nation-states (in which case they will be cooperating to respond to global and regional challenges), rather than being a forum for the expression of their conceived national interests.[9] The BSEC cooperation, as it is in its current configuration, is a model of regional cooperation that does not necessarily involve collective solutions

In order for a case of regionalism to be effective, its cooperative schemes need to serve the collective interests of the participating nation-states rather than being a forum for the expression of their conceived national interests.

for the common region wide security concerns. Indeed, the fact that it brings together officials from states at war with each other to discuss *low politics* is one of the positive features of BSEC, even though it does not necessarily mean that they are prepared to reach an agreement. This ostensibly economic yet politically sensitive institution is an example which demonstrates the impossibility of palpable economic cooperation when there are various interstate conflicts unfolding among the actors. The interstate conflicts are highly salient issues but are deliberately and consistently kept off the agenda. So, obviously, it would be naive to expect that economic cooperation lessens political confrontations because it requires political commitment as a precondition. The weakness of political commitment to BSEC by its individual member states is *inter alia* likely to appear similar to other cooperative examples i.e. the Collective Security Treaty Organization (CSTO) as well as the Shanghai Cooperation Organization (SCO).[10] Perhaps, the non-existence of a *shared* security threat seems to provide a logical reason for the non-existence of a coordination of policies toward security cooperation. Even though the WBSA has had many armed conflicts, this fact has been largely ignored by BSEC and there is no single group or committee of BSEC to deal with the existing conflicts. BSEC could have carried out some monitoring, even if not direct monitoring, of the conflict zones, which would have increased its credibility. One could say a similar model could have been that of the Economic Community of West African States (ECOWAS), a regional group established in 1975 by 15 countries.[11] The organisation later played a role in intraregional conflict resolution through its Monitoring Group (ECOMOG), which aimed to enforce peace and was extensively underpinned by the international community.

Even though the BSEC region is rife with wars and armed conflicts, the states never seem to have committed themselves to launching mechanisms similar to the ECOMOG for joint conflict management or resolution.

The institutional capacity of BSEC is limited by its weak efficiency resulting from the unwillingness of the member states to grant sufficient authority to BSEC. The consolidation of efforts in the direction of development in the WBSA is neglected to a profound extent. Hostile rather than compatible relationships contribute to the possibility of non-regionalisation (or division) rather than regionalisation. This contrasts with the example of ECOWAS, which established the monitoring group,

in effect a plurilateral armed force, to tackle the conflicts in that subregion. So far, a similar idea has never made it to the higher levels of BSEC, let alone the consideration of mechanisms for the use of force in managing military conflicts. Even though the BSEC region is rife with wars and armed conflicts, the states never seem to have committed themselves to launching mechanisms similar to the ECOMOG for joint conflict management or resolution.

It is true that outside of BSEC's plurilateral format, on a few occasions, the officials of BSEC member states did explore the opportunity made available during BSEC meetings for the betterment of bilateral relationships. For example, Karamanlis and Putin (of Greece and Russia) announced their South Stream gas pipeline construction project after a BSEC meeting on 25 June 2007.[12] Moreover, on 24 November 2008, the Turkish and Armenian foreign ministers discussed some elements of rapprochement between their two countries when Ali Babacan hosted a dinner in honour of Edward Nalbandian. This event took place during the visit of the Armenian foreign minister to Istanbul to take over the BSEC chairmanship for the following six months.[13]

This example is similar to the case of regionalism in South East Asia, where ten countries gathered under the umbrella of The Association of Southeast Asian Nations (ASEAN) but the ASEAN Regional Forum actually includes non-ASEAN countries both from the neighbourhood and beyond for political cooperation. Similar to ASEAN, BSEC has had a broad agenda from the beginning as the stated goal was to indirectly ensure peace and security in the region. During their chairmanships-in-office, some of the countries try to focus on a limited number of issues to reach deeper cooperation in those spheres. Russia, for example, appears intentionally to focus on all areas of cooperation, which lessens the chances for one area to be dealt with in depth, whereas all spheres are covered shallowly within the six month presidency period.

Just because it may seem eminently reasonable for the states to cooperate, it does not necessarily follow that they will, for example, give their blessing to another state to make use of their road infrastructure facilities. The BSEC Permit project is similar to the European Conference of Ministers of Transport international removal permits (ECMT). Currently in its pilot phase with 1,400 single permits, it was officially launched on16 February 2010- and yet only seven BSEC member states (Albania, Armenia, Georgia, Moldova, Romania, Serbia and Turkey) have decided to become involved. There is no doubt that this type of project would have served the betterment of the transportation of goods by road and intraregional trade relations. Even in its early days the project

beneficiaries had difficulties however. Turkish truck drivers, in particular, had to queue at the Romanian border, due to an ambiguity in the BSEC Permit User Guidance which left it unclear whether permits were valid to reach the BSEC country as a final destination, or whether they could be used for transit to a third country. Soon after, the Romanian Ministry of Transport issued a declaration clarifying that 'the BSEC transit permit can be used for transiting Romania not depending on the final destination of the journey'.[14] This recent experience therefore provides evidence that the states are ultimately capable of resolving their difficulties in the context of cooperation and regionalisation when they put their minds to it and show determination.

In the current configuration the participating countries run their economic policies independently from each other. The states have not delegated any binding decision-making power to the institutions they launched, nor did they genuinely intend to do so at any point. (The few obligations binding agreements that were accepted deal with issues in vague and/or general terms.) There is no record of the participating governments agreeing to have their economic policies approximated through joint decisions at a supranational level. Consequently, such a *realist* behaviour by the BSEC states makes difficult the applicability of not only supranationalism, but also inter-governmentalism as theoretical models to fully explain the regional dynamics in the WBSA.

Not only does the business community remain weak in its attempt to act as a driving or influential force for regionalism; it also loses a chance to increase the region's sense of community under this umbrella.

In the past few years since the launch of the BSEC process in 1992, a number of BSEC related bodies and affiliates have been set up. The Black Sea Trade and Development Bank (BSTDB) is among those and is based in Thessaloniki. The bank does not have its franchises in other major economic centres of the WBSA such as Istanbul or Moscow. The founding agreement of the BSTDB, signed on 30 June 1994, has been operating in its capacity as a financial pillar of BSEC since June 1999. The Bank's authorized capital is SDR [Special Drawing Right] US$ 3 billion or approximately US$ 4.5 billion. The shareholders are Greece, Russia, Turkey (with 16.5%), Romania (14%), Bulgaria and Ukraine (13.5%), Azerbaijan (5%), Albania (2%), Armenia and Moldova (1%), and Georgia (0.5%).[15]

Being a financial institution of regional character, it has a preference for

supporting regionalist projects of a cross-border character, but a preview of the implemented projects reveals that there is a substantial number of them not meeting this requirement directly or obviously. Considering the substantial impact of the European Central Bank (ECB) on European integration, namely on the EU,[16] this bank is a potential catalyst in Black Sea regionalisation, but the number of projects with regional impact and/or affecting at least two member states is low relative to the total number of projects. Nevertheless, projects such as the 'Trans-Balkan Gas Pipeline' and 'Avin International- Black Sea Shipbuilding' are classed as regionalistic.[17] The officials justify this reality based on the bank's dual mandate as a development financial institution in support of national as well as intraregional projects.

The mini-lateral cooperative institutions, even though they are of significant contribution, are loosely linked to the general pattern of Black Sea regionalisation.

Apparently, the bank provides a relatively attractive option compared with other world banks from which national clients can borrow, as its main goal is not profit maximisation, even though it is profit-making. Unlike other financial institutions (e.g. the European Bank for Reconstruction and Development and the Nordic Investment Bank), the BSTDB consists of and is funded by regional countries only and does not have a major external donor. This points to the fact that the BSTDB is an indigenous institution; however, one might argue that it is also an indication that there is a lack of external actors' interest in supporting this crucially important pillar of cooperation. As a consequence, not only does the business community remain weak in its attempt to act as a driving or influential force for regionalism; it also loses a chance to increase the region's sense of community under this umbrella.

The confrontational rather than cooperative pursuance of regionalist projects relates to the complex mixture of economic and security concerns, which is referred to as 'economic security'.[18] Although the launching and existence of international institutions promises to overcome these divergences it does not necessarily mean the states would be willing to compromise.[19] Cooperation entails development and the mutual use of the economic potential of participating states whose politics and security are interlinked. In the case of BSEC, a daring experiment undertaken by its participating governments, the declared willingness to embark on a cooperative process has not really followed the pattern of the European Community, whose founding fathers envisaged the snowballing effect

of economic cooperation as a means of long term pacification of the antagonisms between nation states.

At first, the BSEC statespersons did start with the basic idea of a common policy of a free trade area as they adopted the Declaration of Intent for the Establishment of the BSEC Free Trade Area on 7 February 1997. In the Yalta Summit on 5 June 1998, they also further reiterated their 'political will to gradually establish a BSEC Free Trade Area as a long-term objective and to elaborate a Plan of Action of a staged process to that end'.[20] The Parliamentary Assembly of BSEC (PABSEC) also showed its support in that regard.[21] However, this intention still remains one of the longstanding open- ended issues. In the meantime, to the opposite effect of what has been stated, some of the BSEC states continue to assert their willingness to retain trade agreements on their own terms or in a rather narrow bilateral format that implies that they do not necessarily take into account the dimension of regionalisation. It could therefore be argued that the BSEC governments find their national capacity much more suitable than a collective one to deal with issues of such regional importance.

The special BSEC regulations, if agreed to, may contest the discriminatory agreements stemming from the EU membership of some BSEC countries, in the areas of trade and border control. In answering the question of whether Turkey is being a genuine promoter of regionalism or rather has aimed to reach its targeted interests by multiplying its cards, it is worth reminding that this Turkish initiative dates back to the period of its negotiations for the Common Customs Tariff Union.[22] It is possible, too, that Turkish leadership aspired to playing a role akin to that of the British, who took on the role of organising the mechanism for the distribution of Marshall Plan funds through The Organisation for European Economic Cooperation.[23]After all, this was a period when Turkey needed to diversify its exports because of the domestic manufacturers' lobby, which included the textile industry.

The Parliamentary Dimension of Black Sea Regionalisation

PABSEC is a 'related body' of BSEC, but it does not enjoy a status similar to that of the European Parliament (EP) in the case of the EU. The BSEC Charter determines the relationship between the two branches of BSEC as being merely 'on a consultative' basis and the assembly is not fully democratic.[24] The important aspect to mention is that PABSEC parliamentarians are not directly elected; instead, the national parliaments of BSEC member states delegate their group of representatives. Although the countries participating in

BSEC cooperation involve a common parliamentary body, this body can only make recommendations and has no real say on the political and economic issues of its member states.

According to the Rules of Procedure in PABSEC, the composition of the Assembly is based on demographic criteria, with a total of 76 parliamentarians. The parliaments of Albania, Armenia, and Moldova have four delegates appointed to deal with PABSEC; the number of delegates is five for Azerbaijan, Bulgaria and Georgia; six for Greece and Serbia; seven for Romania; nine for Turkey and Ukraine, and finally twelve for Russia. All delegations have their secretaries residing back in the capitals. National delegations of BSEC states convene twice a year in ordinary session. The first plenary took place in 1993 in Istanbul and the most recent 37th plenary session took place in June 2011 in Kyiv. Apart from resolutions on procedural amendments, budgetary issues, and the admission of new members, an absolute majority is required (Article 23). With regard to the adoption of declarations, reports and recommendations, which are classified as political decisions, there is 'a system of double majority vote constituting support by not less than half of the national delegations of the Assembly and the majority of the total number of the members of the Assembly'.[25]

There are three essential committees on i) Economic, Commercial, Technological and Environmental Affairs, ii) Legal and Political Affairs, and iii) Cultural, Educational and Social Affairs. Drafts are adopted at the committee level before being submitted to the General Assembly by the rapporteurs. Each committee has a secretary who, along with the Secretary General and the Deputies, is seated in the PABSEC International Secretariat hosted in Istanbul. General Assemblies, which means the meetings of the Bureau, the Standing Committee and plenary sessions of the Assembly, are hosted by the country of the president and usually take place in the premises of the national parliaments (Article 11). The Standing Committee, which is composed of the heads of the national delegations, meets one day before the General Assembly and agrees on the agenda, oversees the implementation of the administrative decisions by the Assembly, endorses the budget before its referral to the Assembly for approval, and is also responsible for coordination with BSEC as well as other external cooperation (Article 7).

These is no mechanism whereby the PABSEC, or the rest of the related bodies of BSEC, is consulted or issues are referred to it by the Council of Ministers or any other BSEC body of less status. PABSEC has thus no functions similar to the EP, which also was a consultative body but has been given more say and has progressively developed into a co-legislative power of the EU. Established on 26 February 1993, the PABSEC

represents the parliaments of the member states and once the individual members are appointed by the speakers by the national parliaments, they present their credentials verified by the Standing Committee- to the President of PABSEC, who then submits them to the General Assembly for ratification (Article 3, PABSEC Rules of Procedure). It should be highlighted that the PABSEC has no political or legislative powers. PABSEC has been constantly making efforts to heighten its political potential through a status upgrade aimed at 'achieving a higher degree of interaction between the PABSEC and the BSEC', within the existing norms of international practice, pointing to the parliamentary dimensions of other arrangements enjoying greater status.[26]

Minilateral Cooperation as Complementary Process to Regionalisation

The present paper looks at Black Sea regionalism, and apart from BSEC, the sea is also encircled by various other groupings. Mini-lateral cooperation or sub-cases of the broader case at hand are viewed here from a regional perspective. Obviously, the set of existing formal cooperative mechanisms altogether constitute Black Sea regionalisation, albeit in a loose group. In order to fully understand the regionalisation, it is important to be neither oblivious of these loose groupings nor to discard their importance. It would seem appropriate to apply a holistic approach to the region- but not to apply a holistic evaluation, as it does not seem logical to regard the BSEC region as completely isolated or coherent, given that it overlaps and intersects with many other regions. The WBSA represents a complex mosaic, so it is not an easy task to gain an overall comprehension of it without looking at its various segments. The other organisational contributions that are components of the regionalisation of the WBSA should not be overlooked.

Although these minilateral cooperative organizations consist of a more limited number of states, in contrast to BSEC, they are composed of more consistent and more equal actors. While BSEC is the initial pillar of evolving (or imminent) Black Sea regionalism, other mini-lateral organizations have followed. Regardless of their efficiency, a number of organizations exist concurrently on the same territories as the BSEC. Their existence may be a necessary (but not sufficient) sign of adequate cooperative features denoting regionalism. One of the non-BSEC cooperative arrangements is the Black Sea Littoral States Border/ Coast Guard Cooperation Forum (BSCF) which gathers the littoral states of the Black Sea. As suggested by its name, this entity deals with issues such as combating pollution from land-based sources as well as maritime transport. The

BSCF coordinates relevant agencies in its member states via the Informational Coordination Centre, headquartered since 2003 in Burgas, Bulgaria. The Commission on the Protection of the Black Sea against Pollution (CPBSP) is another cooperative framework existing in the region. Although entities such as the GUAM Organization for Democracy and Economic Development and the Black Sea Naval Cooperation Task Group (BLACKSEAFOR) make no direct mention of their (eventual) contribution to the regionalisation process of the WBSA in the general sense, they can nonetheless be considered to be important elements of this process.

The mini-lateral cooperative institutions, even though they are of significant contribution, are loosely linked to the general pattern of Black Sea regionalisation. However, the fact that they are dealing with the region in part rather than as a whole could mean disintegration, rather than integration, of the Black Sea region.

EU and TRACECA member states are envisaging a closer cooperation with regard to the development of the EU-South-Eastern Axis and the integration of the TRACECA corridor with the Trans-European transport networks.

Regionalist Business Cooperation

In the early post-Cold War period, what prompted the debate on emerging regionalism in this part of the globe were not only the establishment of BSEC and other intergovernmental organisations across the wider Black Sea area, but also tangible projects of transportation infrastructure and energy pipelines. The states, having seen that Russia was not cooperating, decided to gather around other kinds of regionalist initiatives. All the cooperative arrangements, however much they overlap, have their part to play in the complex pattern of Black Sea regionalisation. Although the arrangements around the sea have certain shared regionalist assumptions about the Black Sea, they coexist in a rather loose mode. (It has been observed there is still a dilemma for the participating countries between historical residues on the one hand and the appeal of emerging patterns of cooperation on the other). In spite of this, they all envisage a common European perspective for the area in one way or another.

Business links are the essential elements of regionalisation. Therefore, integrated transport and roads systems are vital to the facilitation of intraregional cooperation. A Memorandum of Understanding for the coordinated development of the Black Sea Ring Highway has been agreed on and an ambitious project is to be realised by the BSEC members. It is worth noting

that Turkey has almost completed its part of construction. Further to this, on 19 April 2007, the Black Sea Ring Highway Caravan departed from Belgrade and continued on a clockwise route to Odessa via Baku and on 28 May 2007 arrived in Istanbul, its final destination. The pilot project was organised by the International Road Transport Union (IRU) and the Union of Road Transport Associations in the Black Sea Economic Co- Operation Region (BSEC-URTA) under the patronage of the BSEC Secretary General. The mission was to identify any problems for the border crossings of lorries (which are essential for trade and transportation), to explore the existing road infrastructure, and to raise public awareness of BSEC. The identified obstacles were 'border delays caused by congestion and administrative procedures and transport permits needed to carry out goods'.[27] Border delays have cost € 229 Million in total to the BSEC economy.[28]

The role of the Black Sea itself is also acknowledged by BSEC. The Memorandum of Understanding on the Development of the Motorways of the Sea in the BSEC Region, signed in Belgrade on 19 April 2007, inaugurated activities aimed at developing a transport network and the construction of the ring highways around the Black Sea approximating 7,000 kilometres in length to connect the regional cities around the sea as well as integrating the region with Eurasian transport links.[29]

The energy policies of BSEC states have never been aimed at being regionalised, as it has been a matter of bilateral relations and has never been integrated to the plurilateral BSEC format.

It needs to be mentioned that BSEC itself lacks a compatible and interconnected infrastructure and harmonised regulations to carry out such ambitious ideas as mentioned above. But geographically, the region is one of the important strategic areas of the planet, as it is also a hub and transit route for many continental and inter-continental routes. Therefore, there happen to be other transport corridors (beyond the BSEC format) that also ultimately contribute to Black Sea regionalisation. The Transport Corridor Europe - Caucasus - Asia (TRACECA) or the 'New Silk Road' is a scheme stretching from the Black Sea region across to central Asia through various transportation routes. Currently, EU and TRACECA member states are envisaging a closer cooperation with regard to the development of the EU-South-Eastern Axis and the integration of the TRACECA corridor with the Trans-European transport networks.[30]

The regionalisation of railway infrastructures is beyond the BSEC format but is on the agenda of various states in the BSEC region through the TRACECA corridor project. The 105 kilometre

long railway connection between Kars (Turkey) and Axalkalaki (Georgia), and its extension to Marabda (to link with Tbilisi),[31] which are currently under construction, will not only help to increase the partner countries' transit capacity and efficiency between Europe and Asia, but also accelerate the integration to transport lines that are important for Europe. These projects are therefore expected to serve the rapprochement and increased interaction of the wider region with continental Europe.

Transport is an important element of regionalisation as it facilitates the movement of peoples. In the case of the BSEC region, direct flights connect some BSEC capitals, but not all of them. At this point in time, Turkish Airlines appears to be in the lead and plays a bridging role by connecting the regional capitals as well as other major cities via Istanbul. Where roads are concerned, the existing road infrastructure is under construction, which includes the Black Sea Ring highway. In other words, there is no integrated interaction mechanism in the BSEC area as a whole.

Cross-Border Energy Cooperation: Regional Oil and Gas Pipelines

Energy cooperation has been an essential factor for European integration through the EU. Perhaps one of the fundamental problems hindering regional integration in the WBSA is that the governments have not yet bridged their differences on energy projects and they do not seem to even be creating conditions under which their race could be based on competitive grounds. The energy policies of BSEC states have never been aimed at being regionalised, as it has been a matter of bilateral relations and has never been integrated to the plurilateral BSEC format. There have been cooperative energy projects among a limited group of BSEC countries (i.e. Azerbaijan, Georgia and Turkey), however, which constitute a rather loose form of regionalisation in a smaller part of the WBSA. This is the case with cooperation in the oil and gas energy sector. Azerbaijan and Russia are the countries that define the WBSA as a region with oil reserves. Azerbaijani crude oil is carried by the Baku-Tiflis-Ceyhan (BTC), Baku-Supsa (in Georgia) as well as the Baku-Novorossiysk (in Russia) oil pipelines. The BTC delivers the major proportion and since 2006 has worked seamlessly except for an isolated incident along a section of the pipeline in Eastern Turkey, which caused disruption for about two weeks.[32] There have been instances when even a Central Asian country (Kazakhstan) also used this pipeline to sell its oil.[33]

Russia, being in the immediate neighbourhood of a consumer with enormous demands (the EU), is in a

position to maintain high prices for natural gas. Thus, the alternative gas pipelines, backed by the West, are believed to have the potential to diversify natural gas suppliers and delivery routes for EU, which would also reduce Russia's confidence as a dominant energy supplier. When fully realised, this pipeline will transit gas from the world's richest gas regions, namely the Caspian region and Middle East, to consumer markets in the EU. Therefore, the Southern Gas Corridor infrastructure is considered to be vital to meet the energy needs of the EU since presently 42 % of the Union's imports come from only Russia.[34]

The energy factor was the central motivation for wider cooperation in the region in the mid-1990s and especially after the well-known 2008 winter crisis over issues of Russian gas transit to the EU through Ukraine. Turkey's location, in particular, paves the way for it to seek an enhanced role as a bridge or 'energy shopping mall' and to negotiate confidently as a big transit country. Turkey's increased importance in the energy sector might mitigate the scepticism of some EU statespeople towards Turkish-EU membership which has been a prolonged process since it began in the 1960s.

The first non-Russian supplier of natural gas- the Turkey-Greece (and in the future -Italy) Interconnector (TGI), also known as the Southern European Gas Ring Project, has, since 18 November 2007, been a pivotal link between Caspian countries supplying gas to the European market (as well as potential Central Asian supplies), and certainly serves to assist the energy diversification and energy security policies of the EU. Because of Europe's great demand for gas, it is reasonable to expect that its dependence on energy imports will continue to grow over the next years. This means that Azerbaijan is poised to become one of Europe's newest main sources of supply, in addition to the oil that is mainly pumped through the Baku-Tbilisi-Ceyhan pipeline.

The delivery of gas supplies is quite different from that of crude oil as the former needs prior arrangements and regulations, including long term set prices, along with (most desirably) undisrupted pipeline infrastructures from the producer all the way to the consumer.

Obviously, the delivery of gas supplies is quite different from that of crude oil as the former needs prior arrangements and regulations, including long term set prices, along with (most desirably) undisrupted pipeline infrastructures from the producer all the way to the

consumer. Despite the longstanding concerns for the feasibility of the unrealized Nabucco pipeline project,[35] with the approval of the Trans Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP), the Southern Gas Corridor has kept its importance. There is yet no clear commitment from Turkmenistan whether they will also supply this gas pipeline to export their natural gas to the European market except the fact that Turkmenistan also agreed to annually provide 40bn cubic metres (1,412bn cu ft) of spare gas in order to fulfil the EU-backed gas projects back in 2010.[36]

The coexisting overlapping cooperative mechanisms at the minilateral level may seem to be impinging on the superiority of the broader BSEC format, but they do not in fact undermine the existent state of play, in economic and political spheres, exercised within the boundaries of this regional system.

We observe that the countries are conscious of the vital role of energy cooperation in improving regional integration in their neighbourhood. On 7 June 2013, the president of the Azerbaijani State Oil Company (SOCAR) announced the possibility of supplying Armenia with natural gas, hinting at the benefits of resolving the ongoing Nagorno Karabagh conflict.[37] The more closely these countries work, the more helpful it will be forregional integration and regional development. The success story of Azerbaijan, Georgia and Turkey resembles that sort of cooperation. The Trabzon Declaration (8 June 2012) of the Ministers of Foreign Affairs of Azerbaijan, Georgia and Turkey stipulate that these three countries are fully committed to reinvigorating the economic charm of the WBSA. With the Turkey-Greece interconnector, we can observe that the cooperation is even spreading to the interested countries. These projects are not only of a bilateral or trilateral nature. They have a huge potential to contribute to the regionalisation in the wider neighbourhood and to ensure peace and stability in this part of the world.

Conclusion

The paper has attempted to enhance the understanding of the mechanisms of political interaction in the BSEC region and its subareas. The states have not yet replaced their bilateral, even minilateral relationships with Black Sea regionalism. Since 1992, the BSEC region witnessed quite a few summits of the leaders, and some ostensible attempts to improve and integrate the region. Regionalisation is gaining ground and many regional

organisations have given it a considerable amount of weight although there are no regular consultations between and among the existing plurilateral and minilateral organisations that are coexistent in the WBSA. The possible affirmative role of regionalisation has been scarce as steps towards regionalisation have been left in short supply by the driving forces (i.e. the states). The crucial point is that the regionalist projects lack the very mandate and appropriate facilities needed to fulfil the tasks that were articulated by the statespersons themselves- and it seems that this approach is unlikely to change, given the attitude of the states towards the institutions they created. Their unwillingness to share their sovereignty remains strong. The fact that BSEC lacks a sense of ownership of the process implies that regionalisation around the Black Sea is not an ultimate goal, or even a priority, for its member states. Nevertheless, as regional cooperation is, in principle, *de rigueur* for good neighbourly relations, the states maintain such a framework.

BSEC does not seem to be actively tackling the key problems for its aims, neither has it built up its own capacity for action, increased the coherence or unity among the BSEC family, or given substance to the idea of Black Sea integration. Although BSEC may not exercise influence to the extent that other prominent international organisations (i.e. the EU) do, it has become a regional actor, albeit an unassertive one, in the wider Black Sea area. Its potential role in multilateral regional relations, particularly in non-crisis ones, is in all probability influential, regardless of the fact that member states easily block decisions even if there is little probability of these contravening their vital interests.

Region building, as a long term project, is a gradual and lengthy mission, which demands real willingness by the parties' elites (or by leaders) combined with easily accessible resources.

All the factors such as the establishment of wide-ranging BSEC-related and affiliated bodies and working groups are the signs of, and play an important role in, the emergent regionalisation in the Black Sea area, if fulfilled promptly and properly. Thus, the regionalism at hand has managed to chalk up impressive developments on some levels. The coexisting overlapping cooperative mechanisms at the minilateral level may seem to be impinging on the superiority of the broader BSEC format, but they do not in fact undermine the existent state of play, in economic and political spheres, exercised within the boundaries of this regional system. Considering the overall development and the complex multiplication of pro-regionalist moves around the sea, one can conclude that

there is regionalisation and that it is in the making. The existing interstate cooperative mechanisms constitute dynamic resources for Black Sea regionalism. On the other hand, these include states locked in political conflicts that constitute a fundamental setback to this process. Indeed, institutionalisation does not automatically indicate the establishment of an 'island of peace'.[38] The degree of regional integration therefore depends to a greater extenton the constraints (e.g. interstate conflicts) and the willingness of the statespersons in the region's capitals.

The existing conflicts, sources of instabilities and tensions are asymmetric risks with larger implications for the entire security of the WBSA. This also challenges European security directly, though the European Union has not done enough, out of its potential, to reconcile the conflicting parties. The extensive regional interests of Russia seem to be at odds with, if not contradictory to, the other regionally-powerful actors' interests because of the increasing political, economic and military activities of the Western powers in the WBSA. The whole idea of economic cooperation around the sea is exceedingly controversial and politicised. Along with enjoying a revival among countries with old animosities, and reinforced by modern events, economic cooperation provides a path to national economic development, which tends to be the main reason for the states' interest in it. After all, region building, as a long term project, is a gradual and lengthy mission, which demands real willingness by the parties' elites (or by leaders) combined with easily accessible resources.

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