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**ENERGY PROFILE OF THE REPUBLIC OF AZERBAIJAN
RECENT DEVELOPMENTS AND THEIR IMPACT ON THE EUROPEAN
UNION'S ENERGY SECURITY**

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Declaration

I hereby declare that I have written the present thesis independently. All the quotations and sources that I used in this thesis are listed in the bibliography. I also declare that the present thesis has not been used to obtain a different or the same degree.

In Prague, May 18, 2012

Signature

“The fact remains that, if the supply of energy failed, modern civilization would come to an end as abruptly as does the music of an organ deprived of wind. [But] ... the still unrecognized 'energy problem' ... awaits the future.”

Frederick Soddy, 1912

Abstract

This thesis will focus on Azerbaijan's oil and gas industry; how the country uses its energy revenues within its economy; how it avoids economic pathologies such as the "Dutch Disease"; Azerbaijan's role within the Caspian Basin, and finally, the European Union's energy security and how Azerbaijan's energy resources can impact it. The Republic of Azerbaijan is a natural resource-rich country, and uses its energy resources as a means of socio-economic advancement and stability. Recent developments within the country's natural gas sector have allowed Azerbaijan to become a net gas exporter.

The EU's growing demand for energy resources illustrates how important it is for states to have access to secure, stable, and diverse sources of energy. Energy resource exploration and the subsequent export of these products to international markets play a crucial role for the Republic of Azerbaijan's economy. Therefore, this thesis will first provide a brief evaluation of the history of Azerbaijan's energy sector; an overview of the current situation and recent developments; and explore how energy revenues are being distributed in the economy. It will define the interests of other important actors such as Russia, Turkey and the USA; and finally, it will assess the EU energy security, the role of Azerbaijan as the Caspian basin country in this concept, key challenges and effective mechanisms to overcome existing or future possible challenges.

Keywords: Azerbaijan, EU, Caspian Basin, Russia, Oil & Gas, Resource Curse/'Dutch Disease', Pipelines, Energy Security, Diversification.

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Acronyms and abbreviations

ACG:	Azeri-Chirag-Guneshli
AIOC:	Azerbaijan International Operating Company
AZN:	Azerbaijani manat
bb/d:	Barrels per day
bcm:	Billion Cubic Meters
BP:	British Petroleum
BTC:	Baku-Tibilisi-Ceyhan
BTE:	Baku-Tbilisi-Erzurum
DWG:	Deepwater Gunashli
ECT:	Energy Charter Treaty
EIA:	Energy Information Administration
EITI:	Extractive Industries Transparency Initiative
ENP:	European Neighborhood Policy
EPP:	Eastern Partnership Program
EU:	The European Union
GDP:	Gross Domestic Products
IMF:	International Monetary Fund
EITI:	Extractive Industries Transparency Initiative
ITGI:	Interconnector Turkey-Greece-Italy
MSs:	Member States
NIGEC:	National Iranian Gas Export Company
NK:	Nagorno-Karabakh

OSCE:	Organization for Security and Cooperation in Europe
PSAs:	Production Sharing Agreements
SEEP:	The South East Europe Pipeline
SOCAR:	State Oil Company of the Azerbaijan Republic
SCP:	The South Caucasus Pipeline
SOFAZ:	State Oil Fund of the Republic of Azerbaijan
SSC:	State Statistics Committee
TACIS:	Technical Assistance to the Community of Independent States
TANAP:	Trans-Anatolian Pipeline
TAP:	The Trans Adriatic Pipeline
tcf:	Trillion Cubic Feet
TEN-E:	Trans-European Energy Networks
TRACECA:	Transport Corridor Europe-Caucasus-Asia
USA / U.S:	The United States of America
USD:	US dollars
USSR:	The Union of Soviet Socialist Republics
USTDA:	The United States Trade and Development Agency

Key objectives

The main idea behind this research is to evaluate energy matters for the Republic of Azerbaijan and the EU. How energy resources affected the socio-economic and political life of Azerbaijan, as well as the EU energy demand and the meaning of ‘energy security’ for the EU. Within this context, the present work tries to analyze the EU relations with the Caspian basin state of Azerbaijan as well as the key developments and achievements in this field. The aim of the work was to analyze and identify energy issues, as energy resources is a determining factor for the economic development and stability of the Republic of Azerbaijan. Energy revenues played a crucial role in the socio-political and economic life of the country. Using these revenues the country built a strong economy and invested energy earnings in human capital. The establishment of the State Oil Fund of the Republic of Azerbaijan eliminated the risk of the “Dutch Disease”. It is an energy resource-rich country and is, thus, highly interested in exporting its oil and natural gas to international energy markets and attracting foreign capital. The main issue Azerbaijan faces is the lack of infrastructure needed to export natural gas to the European energy markets. In spite of this challenge, the country still manages to export natural gas from the pipeline Shah Deniz I. However, exports of gas from the Shah Deniz II project will require more powerful pipelines.

Moreover, Azerbaijan has a certain role to play in the EU’s energy security situation. Nowadays, the EU has a serious challenge in terms of energy supply. It is plagued with problems related to suppliers, transit countries, rising energy prices, high dependence on fossil fuels, and internal market differences. Each EU MS has a different energy policy aimed at attempting to guarantee its own respective energy security. This tendency to focus on energy security at the state level was exacerbated during the economic crisis; no state wants to take care of another. Thus, the most effective way to guarantee energy security is to act in unity by adopting a coherent and common EU energy policy. It will take many steps to establish a strong partnership which guarantees the

security of its energy supply (An Energy Policy for Europe, 2007).

This work aims to highlight the importance of energy resources for the Republic of Azerbaijan, the key developments in this sector, how the country utilizes its energy revenues, the achievements it has accomplished, as well as some remaining problems. Another key issue which it will touch on is the effective measure to solve EU energy problems via a common energy policy as well as diversification of sources and supply routes. Conflicting energy policies between member states only worsens the situation. The EU must cooperate with the Caspian region more intensively in order to bring new energy projects to life, which can help it achieve the ultimate goal of securing its energy future.

Scope of work & methodology

The present thesis consists of general introduction, four chapters and conclusion & recommendations. The introduction of the thesis gives general background of the issue, highlighting general overview of the energy situation. The first chapter attempts to evaluate the energy industry of the Republic of Azerbaijan; developments in its oil and natural gas sectors; and how it exports its natural wealth to the world energy markets. The second chapter evaluates energy revenues, how oil and gas money are utilized in the national economy. It attempts also to analyze the ‘resource curse’ and ‘Dutch disease’, as well as touching upon the role of SOFAZ, to underline how the country has managed to escape this negative economic pathology. The third chapter attempts to evaluate the energy security of the EU by highlighting challenges and offering ways in which EU MSs can address these important issues. In this chapter the concept of energy security clearly demonstrates the necessity of taking effective mechanisms to overcome potential challenges. The EU energy market clearly illustrates the high degree of dependence of the EU on fossil fuels, and this indicator is rising each year. In the final fourth chapter the EU’s energy security challenges are analyzed within the context of political, economic and environmental perspectives. By analyzing in detail those 3 perspectives, this thesis

identifies the key problems and challenges facing the EU, as well as its main objectives, which by attaining it hopes to solve existing and future challenges. It discussed EU-Azerbaijan bilateral relations, analyzing the relationship's main points of cooperation, and how the parties can develop these in the future. It touches upon the EU's interests in the region, and the respective stances of states such as the U.S., Russia, and Turkey. Finally, conclusion & recommendations aimed at finalizing the research work, and on the basis of the results to give the corresponding recommendations within the context of the topic.

The thesis primarily utilizes qualitative research method with top-down approach. Most importantly the evaluation of relevant literature to ensure a clear and coherent understanding of the issues is at stake. The present thesis will use various sources regarding the topic in order to cover the issue. It will mainly focus on books and reports and the EU Directives within the context of the topic to analyze this outstanding research. There will be also review of different articles published in various newspapers and journals. Besides, electronic sources will be also reviewed to get information regarding the topic. It hopes to present a clear picture of what is going on within the energy industry of Azerbaijan, how this pertains to European energy security, as well as fundamental concepts that characterize energy security in accordance with the EU vision.

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Introduction

Energy resources are one of the key factors affecting a state's economy, political system; social stability, and development. Diversifying energy supplies, securing access to energy rich regions and ensuring safe export of energy resources to the global energy markets are some of the most important objectives of both energy producers and consumers. With the recent growth in demand and prices for energy resources, the sectors strategic significance has become more pronounced. The main aim of this thesis is to show the importance of energy resources in an increasingly globalized world, to underline the importance of oil and natural gas to the Republic of Azerbaijan, to define key aspects of European energy policy, and the role of the Republic of Azerbaijan with regards to European energy security. This thesis will argue that the Republic of Azerbaijan, with its vast hydrocarbon resources, could be an important component of the EU's energy supply. It will elaborate on this topic, as well as provide an overview of Azerbaijan's energy profile, and the wider issue of European energy security.

The EU faces many challenges to its energy security, as it is highly-dependent on increasingly expensive oil and natural gas. Problems stemming from the lack of a cohesive energy policy make the situation even more complicated. With these facts in mind, this work will analyze different aspects of these topics by using data and charts. The topic of energy is very important for both Azerbaijan and the EU because oil and natural gas revenues bring a massive amount of money and foreign investment to Azerbaijan. It is vital for the EU to find alternative energy sources to meet its growing demand. At the same time, it should be noted that the EU is highly interested in energy insurance. The search for new energy resources and their subsequent injection into the global energy markets is part of these broader energy security issues which tend to be connected with terms like "hard power" and "soft power" in many regions of the world, including the Caspian Basin. Direct EU access to the Caspian Basin could provide an alternative source

of energy for Europe, which is hugely reliant on Russia. This would diversify the energy supply routes, thus providing energy insurance. The Republic of Azerbaijan is in good position to initiate new energy projects that could carry huge amounts of the Caspian natural gas to the European energy market. This thesis will evaluate the importance of energy resources for the Republic of Azerbaijan, the role of Azerbaijan as energy resources supplier to the European energy markets, as well as key challenges to the EU energy security. It will use the following hypotheses;

- Azeri energy potential and politics of oil-gas sales;
- Azerbaijan managed to avoid the negative pathology of resource curse that have affected other resource-exporting countries, such as ‘Dutch disease’;
- EU demand for energy and its politics of security;
- Diversification of supplies and supply routes, as well as a common energy market can insure the EU energy security.

Energy is very important to the functioning of any state. More specifically, fossil fuels compose 87% of the world energy market, oil makes up 40% of the world market, coal 24%, and natural gas 23%. So coal and gas together are just slightly more than oil (Plank Foundation, 2011, p.23). The recent economic crisis greatly impacted global energy markets, and some of the world’s most powerful states began focusing more on politics relating to energy security. The viability of energy resources and growing demand for oil and gas demonstrate the importance of energy politics in international relations. World energy consumption rises year by year, so energy security is of central importance to their strategies. To explain these increases it should be noted that the world’s population is growing and large countries such as China and India are undergoing massive urbanization and industrial development. Growing demand for energy resources means that energy-poor states will be highly-dependent on supplies from energy-rich countries, with whom economic and political cooperation is not always easy. In addition, rising energy prices make their economies more vulnerable to price changes. However, governments must provide secure energy supplies since they are vital for their economies. In spite of the fact that some states try to develop alternative energy resources to decrease their dependence

on fossil fuels, it is still a fraction of the world energy market. According to BP's statistics on renewable energy, 'the share of renewable power in global energy consumption reached 1.3% in 2010, up from 0.6% in 2000. Renewable resources accounted for 2.2% of OECD energy consumption in 2010, compared to 0.6% in non-OECD states' (BP, 1996-2012). This fact once again confirms that fossil fuels will continue to play an important role in the global energy consumption.

Developing countries require more energy resources, and this trend continues year by year. Thus, energy-rich countries dictate energy prices in world markets, becoming leading actors in the international arena. For this reason, many industrially developed countries are highly interested in energy rich regions in order to ensure adequate oil and natural gas sources for their growing energy demand. Nowadays, we can see great competition between countries like the USA, China, Russia, and India (as well as large supranational institutions like the EU) for access to energy-rich regions such as Central Asia, Middle East, and Caspian Basin. Consequently, energy resources came to dominate these countries' foreign policies, as well as helping them gain prominence in the international political and economic arena. However, energy resource availability in different regions of the planet is a key. Global energy consumption is growing rapidly, and the main reason is the economic development of countries such as China, India, the USA as well as supranational institution EU, etc. For instance, according to BP Statistical Review of World Energy June 2011, we can note that the global energy consumption indicator of +5.6% is the strongest growth since 1973, and the Chinese share of global energy consumption with indicator 20.3% is the world's largest (BP, 2011, p.2).

Oil and natural gas are the main sources of global energy, and represent important factors in the global economy. As Papaspanos argues:

“ [...] supply and demand differential of energy sources will increase due to a merging of certain factors. On the supply side, the major reserves of the world where supplies can be easily extracted are rapidly depleting and on the demand side, the growing world population and the rise of the emerging economies will generate a strong upward pressure on fossil fuel prices” (Papaspanos, 2010, p.6).

One can therefore emphasize that ready access to reasonably priced energy supplies is crucial for the economic development of every state. High energy prices naturally contribute to high prices, so state economies which are primarily based on energy exports are vulnerable to price fluctuations. In addition, people's incomes depend on energy prices. Therefore, leading economies try to control energy prices and meet their domestic energy demand by utilizing their own energy sources and limiting foreign imports. The use of domestic energy sources is always favorable, both politically and economically, because it decreases dependence on foreign energy. According to Papaspanos, some leading economic powers such as the USA, Germany and China use their own domestic energy sources which help them meet a certain amount of their energy demand, but most EU MSs are highly-dependent on imports (ibid., 2010). For this reason, MSs must think about their energy security, specifically diversifying energy sources and supply routes. Having this in mind, it should be noted that single energy strategy can be very effective in the long-term. Lack of such a mechanism simply worsens the situation, and consequently widens the gap between Eastern and Western European states.

In spite of the importance of energy security, the EU does not have a cohesive energy strategy. The natural gas crisis between Russia and Ukraine demonstrated once again the necessity of both an efficient consumer-producer relationship and an open dialogue between transit countries. As a result of this crisis, EU institutions began energy dialogue within the framework of energy policy. The policy was about three key objectives as it found its basis in Green paper 'sustainability, security of supply, and competitiveness. However, with regards to these aforementioned objectives (especially security of supply)', the EU could not find effective tools for implementation. Therefore, energy resources from the Caspian Basin may be an efficient means of guaranteeing ready access to energy resources. The EU must pay attention to the countries which are, or can be, potential energy suppliers to the European energy markets.

An important project with regards to the Azeri-EU energy relationship is Shah Deniz project, the huge natural gas field in Azerbaijan. The second phase of the Shah

Deniz field will produce enough natural gas to allow Azerbaijan to export to global energy markets. It is therefore very important to launch an effective dialogue between the two actors in order to build the necessary transport routes to carry Azeri natural gas to the international energy markets. Of course, the infrastructure necessary for transporting natural gas from Shah Deniz II may stimulate other countries to join the project and export their respective natural resources to the energy markets via pipelines. Turkmenistan could become another possible exporter, as it is another Caspian Sea state with huge natural gas resources. As we know, there are EU-supported negotiations between Azerbaijan and Turkmenistan focused on building a Trans-Caspian pipeline to carry Turkmen gas to Azerbaijan, and from there on to the European energy markets. Therefore the existence of a transport route initially designed to carry Azeri gas to the European energy markets could stimulate development of other projects as well. The decision to begin respective projects must be made as soon as possible though. Because Azerbaijan's natural gas consumption is lower than its total production, allowing it to export its natural gas to foreign energy consumers. In this respect, as stated above when Shah Deniz II production begins gas output will be even higher.

The country can be an important natural gas exporter to the European energy consumers. However in order for this huge energy project to be successful it is important to establish a constructive and well-rounded producer-consumer dialogue. This will allow the various actors to resolve any outstanding issues regarding transit, price, export routes, etc. For this matter, recent developments in the natural gas sector have allowed the Azerbaijan's energy policy to focus on strategic objectives, establish infrastructure, and attract the foreign investment necessary for the full realization of these energy projects. Rising European demand for natural gas represents an opportunity for Azerbaijan to establish close ties with European consumers, and in this context, Azerbaijan has launched active dialogues with energy consumers. However, the lack of a single European energy policy is one of the key challenges to further cooperation. A cohesive European energy policy will contribute positively to this producer-consumer dialogue and allow for

accelerated progress on projects. Shortly, over the course of the past two decades, many states showed their growing interest in the Caspian region, specifically its rich hydrocarbon resources. Exploration of the Caspian Basin's hydrocarbon resources (namely oil and natural gas), and their eventual export to the international energy markets, may contribute to the economic development of many regions and help energy hungry countries meet growing demand. This provides energy insurance for them, which is an essential aspect of energy security.

Touching upon the role of energy resources in socio-political life of Azerbaijan, it should be noted definitely that energy revenues played crucial role for the country's economic development. As it is known, the first industrial oil production began at the Bibi-Eybat field in 1949, confirming the importance of Azerbaijan in this sphere. Of course, the role of energy resources in Azerbaijan's socio-political life is great. Huge energy revenues contributed to its economic survival, as well as its transformation into a leading economy in the region. Thanks to effective energy revenue management the country managed to avoid economic problems as well as secure its macro-economic development. Energy earnings helped develop other sectors of the economy. However, unfortunately, the economy is still largely based on energy resources, which is a key challenge to the long-term development. Building a diversified economy that's not overly-dependent on the energy sector must be the government's main priority.

Energy resources saved the country from collapse, and in general the country utilizes revenues effectively. Thanks to effective economic management, the country managed to avoid 'Dutch disease' and secured its macro-economic development. It is well known that natural resource-rich countries could face serious economic risks, thus those countries must implement more careful economic policy. In fact, it is possible to underline that all possible negative impacts of natural resources on economic development is connected either with a states, or at least, can be controlled by them. For that matter, education, development of social and judicial institutions, level of bureaucracy and corruption has an effect on economic development as well as effectiveness to avoid

negative consequences of natural wealth. In the context, Azerbaijan achieved positive results such avoidance of ‘Dutch disease’, but there are still serious problems. Issues like corruption and how these energy revenues are utilized are two major examples. This economic disease is the main issue/mechanism preventing full economic integration and growth. If Azerbaijan is to develop and secure its future economic growth it is vital to establish transparency in all spheres of the economy, as well as to eliminate mismanagement of resources.

In summary, it is worth noting that the huge energy resources of the Caspian Sea attract the attention of powers like the USA, China, Russia, and the EU. Accordingly, they aim to get access to this region and control these resources. Those actors will use various economic and political tools to protect their interests in the region. Therefore, the Republic of Azerbaijan, a relatively small country blessed with a strategic geographic location, must guarantee its security and development using its natural wealth to its advantage. Azerbaijan’s effective energy strategy contributes to its politico-economic development. As a result, today Azerbaijan is the leading economic power in the region.

Chapter 1: Energy sector of Azerbaijan after independence

1.1. Preface

The Republic of Azerbaijan as the Caspian basin country shares borders with Turkey, Russia, Georgia, Armenia and Iran. The oil industry of the Republic of Azerbaijan has deep historical roots. The first industrial method for refining crude oil began in the Absheron peninsular in 1830s and 1840s century. By 1899 Baku provided more than half of the world's oil, surpassing countries such as the USA, Argentina and Peru. This idea of Azerbaijan as a historical leading energy producer is supported by the work of M. Babayev (2009). Azerbaijan established itself as the Caspian Basin's leading exporter of oil and natural gas to the international energy markets provides secure supply for consumers. Looking back at history, it is worth noting that after the dissolution of the former Soviet Empire, many states gained or restored independence and began to develop and implement independent foreign policies. After the collapse of the USSR, Azerbaijan faced serious economic and political problems. The war between Azerbaijan and Armenia over the NK region led to political and economic instability, which had an adverse effect on the socio-political life of the country. It was clear that the young, independent Azerbaijan could not develop and explore oil fields alone; therefore it was decided to attract foreign investment to the country. So, Azerbaijan used its huge oil and natural gas resources as a means of development.

1.2. Crude oil and its impact on Azerbaijan's energy profile

After the restoration of its independence, Azerbaijan was able to raise its geopolitical importance in the Caspian region thanks to former President Heydar Aliyev's oil strategy. As we know, energy resources can be useful and profitable when you are able to attract foreign capital investment, as well as to find potential buyers for energy sources. So, while Azerbaijan managed to attract foreign capital investment for its oil industry, foreign investors saw Azerbaijan's energy resources as an opportunity to resolve their own energy security issues, as well as a chance to profit from the huge energy projects. The "Contract of the Century", was signed on the 20th of September 1994 and opened a new era in Azerbaijan's development. The shareholders of the project are as follows; "Azerbaijan (ACG) Limited – 11.6461%; BP Exploration (Caspian Sea) Limited – 35.7828%; Statoil Absheron a.s. – 8.5633%; INPEX Southwest Caspian Sea, Ltd – 10.9644%; Turkish Petrol S.C – 6.75%; Exxon Azerbaijan Limited – Exxon Mobil – 8.0006%; ITOCU Oil Exploration (Azerbaijan) Limited – 4.2986%, Chevron Texaco – 11.2729%; and Amerada Hess – 2.7213%" (SOCAR, 2012). This was the first important step towards the development of the oil industry, and the 'oil factor' became a key piece of leverage for solving important domestic issues such as strengthening independence and economic development. Since that time, Azerbaijan has signed several other important contracts with foreign companies on the basis of PSAs, which have contributed to the further inflow of foreign capital investment into the country's energy sector.

It should be noted that the development of the country's oil and natural gas sector accelerated the development of other sectors of economy; such as chemical, electrical, and mechanical engineering as well as the steel industry. This contract set the foundation for the Republic of Azerbaijan's post-independence economic development. The contract was signed for the term of 30 years, and during these years 511 ml tons of oil would be extracted from the above-mentioned oil fields, as well as 253 million barrels of extracted oil would belong to Azerbaijan. The capital investment price of the project was about \$7.4

billion US dollars and foreign companies provided 80% of the capital investment (Oil Strategy of Heydar Aliyev, 2011, pp.6-17). Another important aspect of the contract was the fact that along with oil, natural gas would also be extracted, and that all of this extracted gas would belong exclusively to Azerbaijan. It meant that huge amounts of money would enter the country's budget, this was important for political, economic, and social reasons. With this in mind, it is necessary to emphasize that at the end of the 20th century, the oil factor became a historically important factor in the future development of the Republic of Azerbaijan. The development of the oil industry contributed to the strengthening of the Republic of Azerbaijan's independence, the development of infrastructure and creation of a welfare state. It was also an important step towards solidifying the Republic of Azerbaijan's position as a major actor within the international arena.

1.3. Oil production and consumption

As mentioned before, the “Contract of the Century” attracted huge foreign capital investment to the country's energy sector. Since then, Azerbaijan has been exporting energy resources to global markets and enjoying huge profits. The SOCAR has had a huge effect on the country's socio-economic life. As the authors Ciareta and Nasirov state “since 1994, SOCAR has signed a total of 29 PSAs, including contacts to explore the ACG fields” (Ciareta et al. 2010, pp.3-4).

Table 1: *Oil extraction indicators in the country*

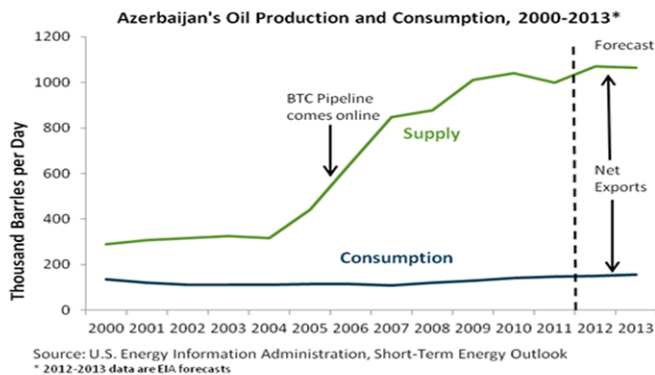
<i>Years</i>	<i>Oil extraction (including gas condensate)</i>
1994	9563

1995	9161
1996	9100
1997	9071
1998	11424
1999	13807
2000	14017
2001	14909
2002	15334
2003	15281
2004	15549
2005	22214
2006	32268
Commodity	32186
2007	42598
2008	42523
Commodity	44395
2009	50416
Commodity	50364
2010	50838
Commodity	50692

Source: *The Statistical Committee of the Republic of Azerbaijan and own construction*

These statistics indicate how much oil was extracted between 1994 and 2010. After initially gaining independence, oil production in Azerbaijan was quite low between 1992 and 1997. But after putting the BTC oil pipeline into operation oil production grew quickly, as the country took advantage of opportunities to produce and sell more oil to the international energy markets. As it is clear, peak oil production was in 2010, when the country produced more than 50 million tons of oil.

Figure 1: Oil production & consumption



Source: As cited in U.S. Energy Information Administration, Azerbaijan

This chart shows that oil production was growing year by year and that as oil production grew so did the net exports. As a result of growing net exports, oil revenues grew as well. With this in mind, it should be noted that the largest oil field in Azerbaijan is ACG field, which had the highest oil production in the country's history. Most of the extracted oil is being exported via the BTC oil pipeline, and the other part via the Baku–Supsa and Baku–Novorossiysk Pipelines, which will be addressed in the following sub-section.

1.4. Oil pipelines and geo-political importance of BTC

As an oil and natural gas producing country, the Republic of Azerbaijan needs pipelines to export its huge energy resources to the international energy markets. It is worth noting that in the recent years pipeline politics have played an important role for many states because the process of exporting oil from producers to consumers involves different actors, and each of those actors constantly tries to defend their own interests. Crude oil pipelines are the most viable method of exporting or importing petroleum.

BOX 1. *What is crude oil?*

Crude oil commonly known as petroleum is a mixture of hydrocarbons - from almost solid to gaseous. These were produced when tiny plants and animals decayed under layers of sand and mud millions of years ago. Crude oil doesn't always look the same – it depends where it comes from. Sometimes it is almost colorless, or it can be thick and black. But crude oil usually looks like thin, brown treacle.

There are three types of crude oil;

1. Heavy crude which is dark, thick and sticky
2. Light crude which is a light golden color and flows easily
3. Medium crude

For more information visit: Thomko Petro Chemical Blog, (<http://thomko.squarespace.com/what-is-crude-oil/>).

Many energy exporting countries in the world use pipeline systems to handle their own domestic distribution as well as for exporting to other states. For instance, as Nersesian states; “crude oil pipelines have been built to transfer the oil from landlocked Caspian basin to Black Sea ports, and the major pipeline has been built to ship Caspian crude oil to Mediterranean port in Turkey, and from there to the Western energy markets” (Nersesian, 2010, pp.194-200). So, Azerbaijan exports most of her crude oil via pipelines. Only a small portion of the crude oil is exported by railway and tankers. There are three main crude oil pipelines that transport Azerbaijani crude oil to international energy markets. For this reason, crude oil pipelines play a critical role in socio-political life of the country. Exporting its oil resources allows Azerbaijan to develop its own economy and to diversify its energy exportation routes, which is a vital from geopolitical and economic goal. Now, let us talk about these pipelines in detail.

1.4.1. The Baku-Novorossiysk pipeline

After independence, the Republic of Azerbaijan began to export its crude oil, and in these first years it did this via the Baku-Novorossiysk pipeline, which passed through the Russian Federation. It was profitable for Azerbaijan to use this existing pipeline, which was already carrying Russian and Kazakh crude oil to Novorossiysk. The first real export option was via Russian territory, since that was the most rational choice from strategic and political vantage points. Thus, Azerbaijan was interested in using the Northern Caucasus oil pipeline to provide oil to consumers. One can argue that at that time, it was the only possible way to transport Azeri crude oil. But energy power-politics is a complicated issue, and due to the socio-political situation within the country, as well as negative attitudes towards Russia, Azerbaijan had the option not to cooperate with Russia. The Republic of Azerbaijan faced the choice of either leaning towards Iran or beginning to look for other alternative routes. Azerbaijan made the right decision in using this pipeline to export its oil and get revenues for its economy. In this context, it should be noted that “the northern route, which opened in December 1997, consists mainly of upgraded sections. The upgrading and replacement of the 1,411 km section within Russia was the responsibility of Russia’s pipeline monopoly Transneft, which also financed the work. In return, Transneft receives a transit fee of 15.67 USD per ton” (Karagiannis, 2002, pp.27-31).

When analyzing this pipeline, it is important to underline both the advantages and disadvantages it provides to Azerbaijan. First, exportation of Azeri oil via Baku-Novorossiysk was a clever and rational choice because the young independent country needed to have access to markets in order to gain profits for to further develop its energy sector and overall economy. Additionally, the Russian Federation was interested in striking an energy deal with Azerbaijan, so from a political point of view it was wise move to cooperate with neighboring Russia. In brief, Azerbaijan managed to export its oil to the international markets and at the same time diversify the country’s energy transportation routes, and at the same time to cooperate with Russia to gain some political leverage.

These key points were the most positive aspects of the contract to export Azerbaijan's crude oil via Baku-Novorossiysk oil pipeline.

What about the harmful aspects of the project for Azerbaijan? To answer the question it should first be noted the most important fact about the quality of crude oil. Azerbaijani crude oil is known as "Azeri light", and according to BP the sulfur content of Azeri light is 0.14%, while the sulfur content of Ural oil is 1.13%. Azerbaijan's high-quality oil was mixed with lower quality Ural oil, which lowered the price of the exported oil (Ibrahimov, 2007). All the aforementioned data underlines crucial facts about the Baku-Novorossiysk oil pipeline. In the end, it is crucial to note that growing oil production required new and alternative routes, and Azerbaijan manages to diversify its exportation.

1.4.2. The Baku-Supsa pipeline

Development of the country's oil sector contributed to increased crude oil exports, and this in turn demanded alternative pipelines. At that time Azerbaijan was exporting its crude oil mainly via the Baku-Novorossiysk oil pipeline. But former President and national leader Heydar Aliyev made the right decision to establish new transport routes for Azerbaijan's crude oil supply via Georgia. From a geographical and economic standpoint, exportation of energy resources from Azerbaijan to the Black Sea via Georgia is the only rational choice. A Russian monopoly on the export of all of Azerbaijan's oil was not favorable for Western companies. Therefore, in spite of Russian pressure and challenges, the government of Azerbaijan managed to begin new projects with the intent of diversifying Azerbaijan's energy routes. Dependence on just one transportation route was not economically or politically favorable. The contracts signed between AIOC, SOCAR and Georgia focused on the exportation of "Azeri light" brand oil to the international energy markets via the Baku-Supsa line through Georgia (Central Asia and Caucasus, 2010). Realization of the project was a political and economic victory for both Georgia and Azerbaijan. Azerbaijan could export its "Azeri light" brand oil directly to the global energy

markets without mixing it with lower quality Ural oil. In addition, compared to the Baku-Novorossiysk oil pipeline, the transportation of crude oil to Supsa was around just \$ 13, 14 per ton, whereby to Novorossiysk was around \$ 15, 67 (Azerbaijan.az, 2012). Georgia, in turn, became a transit country and bridge connecting Caspian energy resources with the global energy markets. The country profited from the project in its role as transit territory, which stimulated its economic development. The Baku-Supsa oil pipeline opened a very important door for Georgia, allowing it to participate in future energy projects. These days it is obvious that the country is participating in large important projects, which is favorable from both political and economic standpoints.

In the end, it should be noted that Baku-Novorossiysk and Baku-Supsa oil pipelines transported a total of 48.7 million tons of crude oil between 1999 and 2005 to the international energy markets (OCAZ, 2012). However, the oil production capacity of Azerbaijan required a new and more powerful pipeline to carry increasing amounts of crude oil from energy rich Azerbaijan to the international energy markets. Azerbaijan would be able to export the country's most valuable product and to gain huge earnings for its economic development. And on the other hand, consumers would be able to use this oil to meet their energy demand as well as to insure their energy security. Therefore, the decision to open new oil pipeline, namely BTC was one of the most important decisions in the country's history.

1.4.3. The Baku-Tibilisi-Ceyhan pipeline

It is important to note that after the Republic of Azerbaijan gained independence, the oil sector became important once again to the future development, and the BTC oil pipeline undoubtedly played a crucial role to these goals. Development within the oil industry contributed the strengthening of independence, establishment of infrastructure and a welfare state, as well as representing an important step towards the future perception of Azerbaijan in the international arena. It was a continuation of successful energy policies

implemented by the Republic of Azerbaijan throughout the 1990s. The pipeline opened new opportunities for Azerbaijan to export its oil to the Western energy markets by-passing Russia. “The BTC pipeline’s capacity is 1 million barrels of oil per day, and \$3 billion of investment. It is a total of 1768 km. in length: 443km in Azerbaijan, 249km in Georgia, and 1,076km in Turkey. The pipeline started operation on May 10, 2005 and the first crude oil reached the Ceyhan terminal in Turkey on the 28th of May 2006” (BP, 2012). The project was really important for Azerbaijan. This pipeline was more than just an oil pipeline though. It connected the Western energy markets directly to the energy rich Caspian Basin, which was important from a geopolitical standpoint. Of course, as in all projects there were concerns about the construction of the pipeline, but the completion of this ambitious project solved three main issues;

First, “a pipeline transported Caspian energy resources to the Western energy markets and created a critical new source of supply;

Second, a pipeline provided the newly independent states of the South Caucasus and Central Asia a degree of control over the export of their energy resources.

And finally, the pipeline passes straight to the Mediterranean, bypassing the Bosphorus strait. It contributes to avoid ecological problems posed by the transit of huge tankers through the strait” (Starr F., 2005, pp.7-15).

It is important to underline that the realization of the pipeline was real success for the Republic of Azerbaijan. It was more than just an economic project as it gave impetus for economic, political and security cooperation with Turkey as well as tangible integration with Europe. In addition, it decreased the country’s dependence on Russian energy. As Ismailzade and Cornell argue “BTC has been instrumental in developing and strengthening the so-called “East-West” energy transport and telecommunications corridor” (Cornell et al. 2005, pp.61-69). This project opened up a new era for economic development and allowed Azerbaijan an opportunity to export its oil without Russia, instead relying on Georgia and Turkey to connect it with Western energy markets. And from a geopolitical point of view, it was the first project connecting more closely the South Caucasus countries

with the Western world. It also demonstrated clearly the integration of Azerbaijan and Georgia with Europe. The project contributed to the economic, political, and energy security of all involved parties. The pipeline contributed to the energy security of Europe, diversifying energy supply and creating economic and energy security. At the same time, it provided insurance for Western consumers and guaranteed that Western energy markets would no longer depend solely on Middle East and Russian energy resources. From this strategic point of view, the BTC pipeline is a very important project not only for Azerbaijan, but also for its partners. It provides energy security for the consumers, and as they gained access to a new energy hub, they diversified their respective supply routes. Thus contributing positively to helping them meet growing energy demand from their domestic economies. For other parties, the project opened a new opportunity for economic development, huge amounts of money from export and transit routes infused much needed financing, but the pipeline also provided employment opportunities in the states. In addition, the project acts as a guarantee of regional security, owing to the closer economic relations and interests the states were able to build, flourishing through mutual cooperation.

The pipeline not only contributed economically to the involved parties, but also politically strengthened their independence. It provided an opportunity for the Caspian region countries to export their own crude oil to the Western energy markets without depending on Russia. Dependence on Russia would always be an Achilles' heel for energy exporting countries, and Azerbaijan managed to diversify its energy routes, which is a very important achievement of the oil strategy founded by the former President Heydar Aliyev. With a maximum capacity of 1 million bbl/d of oil, the pipeline could correspond approximately 1.3% of the global oil supplies (Elkind, 2005, pp.39-50). However, one of the most important aspects of the project is its economic dimension, as the project has attracted huge financial resources to Azerbaijan's economy, and guaranteed the future economic development of the country. Exporting its oil to the Western energy markets via this pipeline, the country will be able to get profit about \$140 billion USD at world oil

prices of \$45 USD per barrel (Cornell et al. 2005, pp.62-63). Another important feature of the project was that it stimulated the development of the future projects in the region. It actually gave impetus for cooperation between the regional states. Azerbaijan and Georgia in particular established very close political and economic relations as well as strengthened their political, economic and security links with Europe and the USA. Kazakhstan also participated in the project, but not as actively. The country mainly cooperates with China and Russia in the field of energy. In the end, it should be noted that the project established closer ties between energy suppliers and consumers, contributing to their economic development and energy security. As the countries, searching their political and economic status, this project presents for the involved parties a ground basis for the role of strategic suppliers as well as transit countries of the world's most important goods, namely energy resources (Elkind, 2005, p.39). Summing up the idea, it should be noted that that the BTC pipeline faced many problems and many experts thought about it as a dream or illusion, but due to efforts of active and interested parties, the project managed to come to fruition, and that was a real victory and benefit for all parties involved.

1.5. Natural gas market, the current situation and future expectations

After gaining independence, the government of the Republic of Azerbaijan focused on developing its energy industry and exporting these supplies. Thanks to its successful energy policy Azerbaijan managed to attract foreign investments to help it develop its energy sector. As it was mentioned in the previous section, from the first years of independence crude oil export to the world energy markets played a crucial role in strengthening Azerbaijan's economic and political independence. After realizing successful projects with foreign energy companies in the exploration and export of crude oil, the country managed to become a natural gas exporter as well. Cooperation with international energy companies enabled Azerbaijan to explore and develop new natural gas fields, which opened a new era for the country in which it could meet its own demand as

well as export natural gas to energy markets. Subsequently, with the startup of the Shah Deniz natural gas field, the country became a net gas exporter.

BOX 2. *What is natural gas?*

Natural gas is a fossil fuel. It is a combustible mixture of hydrocarbon gases. While natural gas is formed primarily of methane, it can also include ethane, propane, butane and pentane. In its purest form, such as the natural gas that is delivered to your home, it is almost pure methane. Methane is a molecule made up of one carbon atom and four hydrogen atoms, and is referred to as CH₄. So, Natural gas is a vital component of the world's supply of energy. It is one of the cleanest, safest, and most useful of all fossil fuels.

For more information visit: Natural Gas.Org, (<http://www.naturalgas.org/overview/background.asp>).

This is a big opportunity for the country to profit from its huge natural gas reserves by supplying gas to consumers. The natural gas is mainly produced at Shah Deniz (23 m³/d), but natural gas from ACG (34 m³/d) is also an important source. However including gas fields such as Umid raises estimated reserves to roughly 200 m³/d . The total reserves of natural gas in Nakchivan, Shafag, Asiman may be around 5 bcm (Day.az, 2010). When analyzing the natural gas market situation in the country, it should be noted that natural gas explorations differ in complexity. Most projects are aimed at developing fields with huge natural gas reserves. According to the forecasts given by SOCAR, the total investment of the foreign companies by the PSA contracts will reach \$60 billion in the short run (Rzayeva, 2011, pp.56-57). The interest and huge investments by foreign energy companies in the natural gas sector of Azerbaijan once again highlight the importance of the country to the energy market. Discoveries of huge natural gas fields opened up a new era for Azerbaijan's energy industry and consequently allowed Azerbaijan to become a gas exporter. These developments show that the expected gas reserves of the country are much

higher, and that the country will be an important source of energy supply to the world energy markets. Mr. Abdullayev, President of SOCAR, said that:

“...by 2015 the total volume of gas production in the country will reach 35-40 bcm and Shah Deniz II will add some 16 bcm of gas per year after 2017. By 2018 the annual total volume of gas production will reach up to 50 bcm; from this amount, 15 bcm is considered for domestic consumption, and 30-35 bcm for export” (ibid., 2011, p.58).

However it was not so easy for the country to export natural gas as well as meet the demands of its own domestic consumption. Azerbaijan mainly imported natural gas from Russia and in this way the country faced problems regarding the price. It is clear that from the time of independence until 2007, in order to meet its domestic natural gas demand Azerbaijan obliged to import gas from Russia. But after 2007 Azerbaijan stopped importing Russian gas, which became the main point of tension between Gazprom, the Russian gas giant, and Azerbaijan.

The issue stemmed from Gazprom's decision to double natural gas prices for Azerbaijan when they left the old, stable price for Armenia. This decision caused huge public discussions throughout the country. As a result the government decided to stop buying Russian natural gas and rely on domestic supplies. Plus, after increasing production of natural gas in 2010 Azerbaijan was producing around 28.5 bcm, allowing it to become a net exporter. About 66% of total production is used to meet domestic demand and 34% for export, mainly to Russia, Georgia and Turkey (Ciarreta et al. 2011, p.5). The reasons Gazprom decided to double natural gas prices for Azerbaijan was political rather than economic. Azerbaijan's growing role in the region as an energy producer prompted the Russian government to show its power and remind Azerbaijan that it is the only state in the region which can pressure Azerbaijan both politically and economically. However, the response of Azerbaijan's government was quite reasonable, and it should be underlined that it surprised Russia. Azerbaijan stopped importing Russian natural gas and at the same time SOCAR stopped exporting crude oil via the Baku-Novorossiysk oil pipeline. Those responses showed Russia that Azerbaijan would not accede to Russian pressure any more,

as Azerbaijan now had the economic and political power to counter Russian policies. The political and economic moves of the country exactly were made possible by the Shah Deniz natural gas field. These huge natural gas reserves made it clear that energy resources would contribute to Azerbaijan both economically but also politically. In my mind, this natural gas field began a new era for Azerbaijan in which it would be more economically and politically significant in the region. This era was also marked by closer relations with European energy consumers. Therefore, it is very important to talk about this important natural gas field in detail.

1.5.1. Shah Deniz gas field

The Shah Deniz field is the most important contributor to Azerbaijan's energy market. The project made foreign energy companies pay attention to Azerbaijan's gas sector. Starting of Shah-Deniz production from 2006 till 2010 roughly 49.7 million barrels of produced condensate was exported to energy markets (SOCAR, 2012). Currently, natural gas from Shah Deniz I is being sold to international and domestic markets. Thanks to this important project Azerbaijan has begun to export gas, attracting huge amounts of capital to its economy. It should be noted that the main aim of the project is to export natural gas from this field to European energy markets, thus promoting the development of the new Southern Corridor (Azerbaijan, Turkey and Europe) which will meet growing natural gas demand as well as guarantee energy security. At the present time the first phase of the project has finished, and now the second phase of this important energy project is underway.

The second stage of the Shah Deniz project will increase capacity and allow Azerbaijan to become one of the important natural gas exporters in the region. The second stage of the project might play an important role in relations between EU and Azerbaijan in terms of energy. Natural gas from Shah Deniz II will increase Azerbaijan's role as natural gas supplier. In turn, Europe will be able to import Azerbaijani gas, which will diversify its

imports and decrease dependence on Russia. However there are some complicated issues that must be solved in order to export natural gas from Shah Deniz II to the European energy markets. One of the main issues is the export route. As we know, exportation of natural gas is quite different from the exportation of crude oil. In order to export natural gas, it is important to find a market, then to attract investment to the project, and later to start supply. After the start of the Shah Deniz project, Azerbaijan began to export natural gas from this field via the SCP, which is called also BTE gas pipeline. The construction of the pipeline with the capacity around 7 bcm was completed by the end of 2006 (ibid., 2012). This pipeline is the main source linking Caspian gas from Azerbaijan to Turkey via Georgia. According to the SSC Republic of Azerbaijan, in 2011 760,400,000 m³ of gas was exported via this pipeline (news.az, 2011). This amount of natural gas was exported to the Georgian and Turkish energy markets. At the present stage the extracted natural gas from Shah Deniz I is sufficient to meet Azerbaijan's domestic demand and to export to Georgia and Turkey. However with much bigger opportunity of natural gas export, the country is interested in exporting these resources to the European energy markets. Therefore it is important to built new supply routes for exportation. Considering the above-mentioned facts, Shah Deniz Consortium is thinking about various projects which can potentially carry natural gas from Shah Deniz II to the European energy markets.

In addition to these developments in Azerbaijan's gas sector, it also signed a contract for gas sales with Russia and Iran. As for trade with the Russian Federation, Gazprom and SOCAR signed a contract on the purchase of Azerbaijani natural gas. Based on this agreement in January 2010, 1 bcm of Azerbaijani natural gas was exported to the Russian Federation (Gazprom, 2012). One of the most important aspects of the contract was the fact that the parties could always increase the volume of purchased natural gas upon agreement between themselves. In this case, the natural gas deal with Gazprom demonstrated that Azerbaijan is highly interested in exporting its gas in spite of energy routes. As we know, the contract was signed during the period of discussions regarding the sale of Azerbaijani gas to the European energy markets via Turkey. The parties could not

agree with the transit price of Azerbaijani gas or the price which Turkey would pay for Azerbaijani natural gas. Therefore, the contract signed with Russian energy giant Gazprom was mainly symbolic, its point being to demonstrate that Azerbaijan is ready to consider alternative options to sell its gas. The terms of contract did not limit the maximum amount of gas, and this in turn, was quite clear example that the parties could always increase the amount. Despite the current amount, Russia is interested in increasing the purchase of Azerbaijani gas, or even potentially buying all Azerbaijan's of natural gas. However, it is not politically favorable for Azerbaijan, and therefore the country wants to diversify its export routes. Azerbaijan's priority is to export its natural gas to energy markets via Turkey, because these two countries are strategic allies. At the same time, diversifying its energy export routes allows Azerbaijan to secure its position and pressures Turkey to accept a higher transit price. It should be noted that in 2011 Turkey finally signed an agreement determining the rules for the transit, supply volumes, and prices of gas which Azerbaijan exports to Turkey. According to the terms of agreement, Ankara has agreed to transit 10 bcm of gas per year. At the same time, Azerbaijan agreed to sell to Ankara up to 6 bcm of gas from Shah Deniz II by 2018. Besides, the price of the natural gas (around 6 bcm) presently exported by Azerbaijan to Turkey will not be changed till 2018 (Centre for Eastern Studies, 2012).

The country also sells a small amount of natural gas to Iran. According to energy deal signed between SOCAR and the NIGEC, 800 million cubic m³ of natural gas was exported to Iran for the purpose of supplying the Nakhchivan Autonomic Republic, an Azeri exclave. This was done as part of arrangement involving 1.2 million cubic m³ of gas meant for Iranian domestic use (news.az, 2010). As we can see the contract with Iran in its present state is not economically vital. However, it is sales of Azerbaijani gas to Iran are important from a strategic viewpoint. In order to supply the natural gas to the Nakhchivan Autonomic Republic, Azerbaijan completed an energy deal with Iran. However Iran is really interested in increasing the volume of exported natural gas from Azerbaijan. In this sense, Azerbaijan considers all of its export options, but the priority is the European

markets. With this in mind, it should be also noted that a small amount of Azerbaijani natural gas is being sold to Greece, via Turkey. This goal demonstrates that Azerbaijan wishes to export its natural gas to the European energy markets and play an important role in the EU energy security. Towards this end Azerbaijan has cultivated an active dialogue with European countries such as Bulgaria, Romania, Italy and Hungary, which are also interested in Azerbaijani natural gas. It is obvious that Shah Deniz II will provide an opportunity for Azerbaijan to export huge volumes of natural gas to both European and Turkish energy markets.

The Shah Deniz project is very important for Azerbaijan's economic and political fortunes. The project gave Azerbaijan more freedom to maneuver both politically and economically, thus allowing it to become a regional leader. From an economic standpoint, huge foreign investments were attracted to the natural gas sector, and as a consequence, the Azerbaijani economy greatly profited. However, in my mind, the main advances were political in nature. The crisis stemming from the natural gas price dispute between Russia and Azerbaijan gave Azerbaijan an opportunity to highlight its new position. It also enabled them to stop buying Russian gas during the Russian-Georgian crisis. Azerbaijan became the main natural gas supplier to Georgia. All these political moves demonstrated that Azerbaijan has a stable energy strategy which allows it to guarantee the energy security of itself and its regional neighbors. Regarding this energy strategy, agreements between Russia and Iran should be mentioned. Those agreements showed a positive direction in terms of energy relations. Azerbaijan fully understands that it is unfavorable to have tensions with the Russian Federation, and that cooperation with Gazprom advances Azerbaijan's political and economic interests.

In general, the export of energy resources to international energy markets requires a careful and long-term-oriented policy. It is vital to find as many buyers as you can, and then to guarantee the security of supply routes. If you depend on one country to sell your energy resources or to export them to international markets then there will always be potential issues with pricing and transit costs. In this situation you will not have the

leverage to maneuver successfully. However, with diverse supply routes a state can sell natural resources to different buyers, allowing for much more flexible policies. Having this in mind, Azerbaijan managed to partially build a diverse set of markets. However there are major issues facing Azerbaijan with regards to its natural gas exports from Shah Deniz II. Therefore, the country must consider all of the options available to them due to the Shah Deniz II. Of course, the priority will be the European energy markets, but one must not forget the Chinese energy market, where Azerbaijan could also potentially send its natural gas. Growing Chinese demand for energy resources means Beijing will have to look to new countries for resources, and China has shown interest in the Caspian region. Azerbaijan must consider all possible export options for the huge natural gas resources it will gain from Shah Deniz II.

To summarize this section, the recent announcement of the Shah Deniz consortium, which outlined possible projects aimed at sending natural gas from Shah Deniz II to the European energy markets, was a positive step for Azerbaijan. Four possible routes were considered high on the agenda. These are the ITGI pipeline project; the TAP pipeline project; the Nabucco pipeline project; and finally the SEEP project (Natural gas Europe, 2012). It is important to mention that all these projects are part of the Southern Gas Corridor, which will potentially take Azerbaijani natural gas to European energy consumers. According to Gerhard Roiss, CEO of the OMV:

“[the] ITGI pipeline project is not on the agenda any more as possible route to carry Azerbaijani natural gas to European energy markets”. So at the present stage three possible routes such as TAP, Nabucco and SEEP are considered as the future supply routes of natural gas. The Shah Deniz consortium will exactly decide by April of the current year the definite pipeline which will carry natural gas from Shah Deniz field to European energy consumers (ibid, 2012).

Such a decision is favorable to both producers and consumers. Now these three possible pipelines are on the high agenda and one of them will be chosen by Shah Deniz consortium. The Azerbaijan government supports all of these projects and looks forward to other possible projects. Obviously these projects have pros and cons which must be

analyzed before the final decision. Therefore this thesis will try also to analyze these possible supply routes in the corresponding chapter.

Chapter 2: Revenues from the energy resources & Azerbaijan economy

2.1. Background and Overview of the economy

Under Soviet rule, the Republic of Azerbaijan's economy was based on a Soviet model which emphasized central control over the economy, as well as a lack of circulating money, private enterprise, and free trade. Oil exploration and oil refinement always played an important role in the economic life of the country. Therefore when discussing the country's economy it is important to underline the role of energy resources and the huge economic profits gained from the export of these resources to international energy markets. It is necessary now to mention some important developments in Azerbaijan's economy in the years following independence. Specifically, how Azerbaijan managed to restore its economic standing and became a leading economic power in the region despite many political and economic challenges. As it is well known, the collapse of the Soviet Empire, as well as conflicts such as the NK war, destroyed the economy of newly-independent Azerbaijan. As a result of those events, economic output downturned around 60% from 1989 to 1995. GDP indicators declined almost 60%, agricultural profit fell 43%, and industrial profit around 60% during 1989 -1994 years (Ciarreta et al. 2011, p.2). Azerbaijan's economy was close to collapse, but energy exploration and export agreements with international companies played a crucial role in the country's development. That's why this thesis argues that energy resources were the leading factor in the economic development of the country. Due to this successful energy strategy the country managed to ensure economic growth, secure its future economic development and establish effective energy dialogue with the European energy consumers.

But in spite of these positive indicators it is necessary to also mention the negative

ones. Azerbaijan's economy still mainly depends on oil and natural gas revenues, and the non-oil sector is relatively undeveloped. If the country wants to secure its long-term economic development and stability, it should diversify its economy; develop a non-oil sector of its economy; and invest more money in hi-tech research. Recent developments such as the exploration of huge natural gas resources allowed Azerbaijan to become a natural gas exporter, which attracts finances to the its economy. However it is not a sure-fire way to guarantee long-term economic stability. In this case a vital question is how Azerbaijan chooses to use and invest its oil and gas revenues, which will greatly impact the future of the country. Towards this end, this thesis will evaluate this important issue and try to illustrate some key factors and state policies.

Table 2: *Gross Domestic Product (GDP) growth rate (%) in Azerbaijan, years 1994-2011*

Year	Change GDP in %
1994	19.7
1995	11.8
1996	1.3
1997	5.8
1998	10.1
1999	7
2000	11.4
2001	9.9
2002	6.1
2003	11.2
2004	9.8
2005	26.4
2006	34.5
2007	23.4

2008	10.8
2009	9.3
2010	5
2011	2.8

Source: *Index Mundi, CIA World Factbook and own construction*

Azerbaijan's GDP began really to grow after signing of the "Contract of the Century." The sale of energy resources played a critical role in GDP growth, and in this context, it should be noted that changes in world energy prices dramatically improved Azerbaijan's GDP growth rate. As mentioned previously, there was chaos after independence, which naturally resulted in economic failings due to the disintegration of existing socio-political and economic relations. However, energy resources helped economic growth, especially in the years following 2000. It was then that the economy began to experience a boom period due to increases in oil export revenues. This era of growth was a result, firstly, of the rise in oil and gas price increases that began in 1999; and secondly, the vigorous economic recovery that began for the region as a whole in 1999 and is set to continue in 2004 and beyond' (World Bank, 2005). Large revenues from oil and natural gas sales allowed the government to decrease poverty, increase minimum salaries and open new work places. It is obvious that the energy sector played a crucial role in Azerbaijan's economic survival. Considering this, it is worth analyzing the energy sector in detail, showing how Azerbaijan managed to avoid the 'resource curse / Dutch disease' that affects other natural resource exporting countries.

2.2. SOFAZ vs. resource curse / Dutch disease

The Republic of Azerbaijan's economy is mainly based on revenues derived from energy resources; therefore there were always concerns about efficiency and allocation of

energy revenues. If not executed properly, it is difficult to avoid the ‚resource curse/Dutch disease‘, as well as to secure future macroeconomic development and economic stability. These main concerns were in the high agenda of the government, and thanks to long-term oriented economic and political policy, the government managed to effectively avoid pitfalls and establish economic stability and macro-economic development. Before analyzing the economic aspects of Azerbaijan’s case it is important to talk about the negative pathology of ‚resource curse Dutch disease‘. These economic factors play an important role in natural resource based economies, and if governments want to avoid these problems they must implement stable economic policies based on high levels of transparency regarding how the revenues are utilized. With this in mind, it should be noted that corruption, government mismanagement of resources, and weak, undemocratic institutions lead to those negative economic phenomena. To avoid them governments must establish transparent, strong, and trustworthy institutions, which will then be able to utilize revenues to develop the economy, secure macro-economic stability, and diversify the economy of the respective country. The following section will discuss the ‚resource curse/Dutch disease‘, and afterwards touch upon the economic policies of the Republic of Azerbaijan and how its government is using oil and natural gas resources to develop and diversify its economy.

2.2.1. Resource curse

George Soros (2007) states that the “resource curse is the term used to describe the failure of resource-rich countries to benefit from their natural wealth.” One can cite many examples of natural resource-rich countries which are actually poorer and more socio-politically unstable than countries with relatively fewer natural resources. The most obvious examples are some of the natural resource-rich African countries (Congo, Angola, and Sudan to name a few) which have been swept up in civil war. Nigeria suffers from endemic corruption and undemocratic regimes, while resource-poor countries such as

Burkina Faso and Ghana are equally poor but more peaceful and democratic (Humphreys et al. 2007, p.1). This economic phenomenon was first described by Professor Richard Auty to explain an economic situation where countries with many natural resources failed to use their revenues to establish and develop stable economies, while countries with limited natural resources managed to develop and build stable economies. As a result, the economic growth of the countries with limited natural resources was even greater than the economic growth of natural resources rich countries (Auty, 1993). So, we can see that the term 'resource curse' plays an important role in the economies of resource-rich countries. Numerous studies by economists such as Sachs and Warner show that a lack of natural resources has not proven to be an absolute barrier to economic success. ,Examples of such situations include Asian states such as Korea, Singapore, Taiwan and city-state Hong Kong. These states achieved booming export industries based on exporting manufactured goods, and achieved rapid economic growth without reliance on natural resources. On the other hand, many natural resource-rich countries have struggled to generate self-sustaining economic growth, and have even succumbed to deep economic crises' (Humphreys et al. 2007, pp. 1-3). Norway is good example of a state that managed to use its natural resources revenues to establish a stronger economy. Norway used energy revenues to invest in other spheres of its economy, and consequently managed to diversify it. In short, the country's economy evolved as a mixed one where almost all of its areas are highly developed. As a result, living standards in Norway are very high. The differences are highlighted when one compares the cases of African versus Asian states. Compared with Africa, Asian countries were better able to use wealth derived from natural resources for economic development. Numerous studies and examples underscore this economic issue, but to understand more thoroughly it is necessary to look at the nature of the the term.

The term 'resource curse' is not confined to just oil and natural gas, it can refer to all sorts of resources. However this work will mainly focus on oil and natural gas due to the specific nature of the Azerbaijani case. That is, how it used oil and natural gas revenues to develop its economy, become a regional leader, and avoid 'Dutch disease'. Before

analyzing the term resource curse, it is worth noting the reason that natural resources such as oil and natural gas sometimes do not aid economic growth, and indeed how they can have a negative effect on it. To understand the differences between natural resources and other types of wealth, it should be noted that natural resources do not need to be produced, they just need to be extracted, and since it is not a result of a production process, the generation of natural resource wealth can happen quite independently of the state's other economic processes. It can take place without corresponding connections to other industrial sectors and without participation from large segments of the labor force (Humphreys et al. 2007, p. 4).

Another important aspect of natural resources, especially oil and natural gas, is that these resources are non-renewable, and consequently that the revenues gained from their extraction must be used in such way in order to secure future economic development and stability. Oil and natural gas play a crucial role for the economy of the exporting country, as well as the world economy in general. The availability of oil and natural gas has political and economic importance, and governments might use this advantage to gain leverage in their respective politico-economic situations. For instance:

“...such governments might be keen for corruption and implement inefficient economic policy. Owing to pressure from special interest groups the “voracity effect” arises; the state expenditures begin to grow swiftly, faster than the amount of rent, while revenues from the export of oil and natural gas are often used by government to implement investment projects that do not give positive returns “white elephant effect”. In its turn, oil and gas sector becomes the most attractive object for investments, attracting major financial flows that do not reach other sectors of the economy, where a decline begins the “Dutch disease” effect. In general these factors cause economic stagnation rather than growth“ (Gel'man et al. 2010, pp. 3-4).

Accordingly governments must deal with the aforementioned negative factors effectively if they want to avoid falling prey to the ‘resource curse’. Avoiding the ‘resource curse’ depends on the policies of governments, and how they want to use natural resources in the long-term. So, all these negative aspects can be avoided. Certain individual case studies

illustrate that the 'resource curse' is dependent on certain circumstances, and is anything but inescapable. Adopting a coherent energy strategy and transparent state regulations on the energy sector are useful mechanisms against the resource curse. This work will touch upon the Azerbaijani case, underlying key positive and negative factors affecting their situation. There are several manifestations of the resource curse, the most famous being "Dutch disease". This term came about as a result of natural gas field exploration in the Netherlands. The next section will cover this phenomena in more detail.

2.2.2. Dutch disease

Dutch Disease is a term meant to explain some of the negative consequences of capital inflow from natural resources. „The idea lies behind an increase in revenues from natural resources will de-industrialize economy by raising the exchange rate, which makes the manufacturing sector less competitive and implicating public services with business interests“ (Miller et al. 2010, pp.174-175). Dutch disease has a negative impact on national currencies and can devastate traditional export industries.

The term was first observed in the Netherlands after natural gas fields were discovered in the North Sea. Following this discovery, the Netherlands began exporting its natural wealth. However, the export of natural gas stimulated a rise in the real rate of national currency that in turn, had negative effects on other sectors of economy. This rise in the real rates of national currency has negative effects on other sectors and the whole economy in general. “The rise of real exchange rate makes exporting non-natural resource goods more difficult and competing with imports (spending effect). At the same time, domestic resources such as labor and materials are shifted to the natural resource sector (resource pull effect)“ (Ebrahim- Zadeh (2003) cited in Humphreys et al. 2007, p.5). In other words, in Dutch disease, manufacturing resources flow from industrial sectors to the materials and services sectors. Generally, Dutch disease impacts the economy negatively, and there might be many other consequences of this tendency. As we can see from these

examples, Dutch disease has negative influence on the overall economy. Therefore, to eliminate this dynamic, countries must implement carefully crafted economic policies with regards to revenues from natural resources. Specifically, how these revenues will be used within the economy and, perhaps most importantly, how the diversification of the economy will positively affect other sectors.

However, another important aspect of Dutch disease is what is referred to as the 'volatility effect'. World oil and natural gas are not stable. Therefore, if a country's economy is dependent on the export of these natural resources then the exchange rate will fluctuate with the prices of exported natural resources. „The revenues from energy resources are volatile, and the volatility of income comes from three sources; the changing rates of extraction over time; the variability in the timing of payments by corporations to states; and fluctuations in the value of the natural resource produced“ (ibid.,2007). In the years 2005-2006 when world oil prices were high, Azerbaijan's GDP growth rate picked up. This, in turn indicated that the country's economy is highly dependent on energy incomes. Therefore the change of oil prices is a major influence on the country's GDP growth. However, Azerbaijan managed to keep its national currency stable, which was a crucial achievement that allowed it to avoid inflation. In finance, high volatility (a statistical measure where market price or income can be changed over time) in the national exchange rate generally has negative effects both on sectors connected with foreign trade and on the volume of foreign investments in the economy. It works like this: „as a result of huge capital inflows, consumer demand rises, but the industry suffering from the Dutch disease cannot succeed for the rise of incomes that in turn, feed inflation. For example during the oil price booms in the 1970s, countries like Mexico and Nigeria experienced such an effect“ (ibid.,2007).

In summary, energy incomes do not always help develop an economy, and in some cases can even harm it. The main challenges are typically weak states with corrupt institutions, a lack of democracy, unfair income distribution, poor educational levels, and civil war. Experience shows that not the all citizens of oil and natural gas rich countries

live in prosperity and enjoy high living standards. The Arab Spring once again confirmed that in political and economic events are interconnected. In spite of some of these states' energy resources, people lived under an autocratic regime where corrupt and undemocratic government institutions utilized energy incomes primarily for military spending. Another example of this dynamic is that of Nigeria. Its economy is based mainly on oil sales, which are the basis of government revenue. But inefficient regulations and corrupt, undemocratic institutions prevent the economy from growing. As a result, oil-rich Nigeria faces social difficulties and widespread poverty due to political instability, poor education, corruption and crumbling infrastructure. Shortly, the Republic of Azerbaijan, also an oil and natural gas rich country, managed to avoid some of these negative factors and secure its economic development. Of course, there are still problems which must be addressed in order to guarantee a strong and stable economy in the long-term. Having this in mind, it is important to note that efficient government energy policies allowed the country to avoid 'Dutch disease', as well as to become the leading economy in the region. The following section will now address the role of government and other corresponding organizations in the utilization of oil and natural gas earnings. Specifically, how these earnings contribute to the development of other sectors of the economy, and some of the remaining problems in this sphere.

2.2.3. SOFAZ in national economy

The resource curse might create serious economic problems for natural resource-rich countries, and to eliminate that risk, governments require corresponding political and economic policies. Resource-rich countries use various strategies to avoid economic challenges for their respective economies. Within Azerbaijan, oil and natural gas revenues play a crucial role in economic development, therefore it is vital for the country to escape the potential negative consequences of energy wealth. Azerbaijan managed to avoid serious negative consequences of the resource curse by establishing a transparent

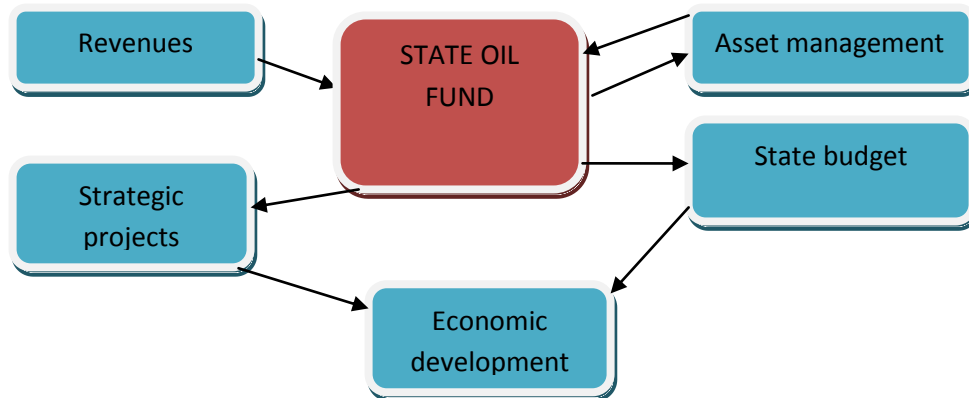
management structure for energy revenues. Transparency is a critical factor in avoiding the resource curse, and towards this end the Republic of Azerbaijan established SOFAZ. The goal of this organization was to create transparency and establish effective governance with regards to both the sources of oil revenue and their uses (World Bank, 2005). This was the government's first step towards establishing future economic development, which, in turn, contributed to the development of other sectors of economy. After signing important energy contracts the country attracted massive amounts of cash to its domestic economy, and in order to control these revenues and their subsequent utilization, the government decided to establish such structure. The main aims of the SOFAZ are the following;

- „Preservation of macroeconomic stability, ensuring fiscal-tax discipline, decreasing dependence on oil revenues and stimulating development of the non-oil sector;
- Considering that oil and gas are depletable (non-renewable) resources, ensuring intergenerational equality with regard to the country's oil wealth and accumulate and preserve oil revenues for the future generations;
- Financing major national scale projects to support socio-economic progress‘ (SOFAZ, 2012).

The key aim of the Fund is to ensure effective management of energy revenues, which are vital to the country's future economic development. The establishment of the Oil Fund, as well as its participation in the EITI, contributed to transparency in energy resource management. This is part of a long-term oriented government plan to develop the economy and at the same time eliminate the aforementioned potential economic issues. It was established as a legal body directly responsible to the President of the Republic of Azerbaijan. This is reflected in the structure of the organization, specifically how the President directly appoints its director. Therefore the Fund depends heavily on the President, and what he/she decides is beneficial in terms of socio-economic policy. „The Fund's main purpose is to accumulate and manage energy revenues, as well as their investment in international stock markets. It also deals with reducing the possibility of inflation, securing macroeconomic stability (which can be harmed by oil incomes going

directly to the state budget), as well as protecting the national economy from the potential negative impact of foreign currency inflows“ (Cornell 2011, pp. 235-236).

Figure 3: SOFAZ and national economy



Source: *State Oil Fund of the Republic of Azerbaijan 2011 and own construction*

This figure illustrates that the role of the Fund is based on multiple goals. One of its main tasks is transferring money from the Fund to the state budget, which in turn, reduces possible economic problems (like inflation). It also contributes to the development of other non-oil sectors of economy by funding investments in numerous other socio-economic projects. It also plays an important role with regards to Azerbaijan’s strategic currency reserves. The Fund’s reserve currency (in USD) secures financial sustainability and economic development, at the same time its cooperation with international institutions such as World Bank, IMF, EITI and USTDA contributes to the Fund’s improvement of its activities, which is important from a strategic standpoint. But what about expenditures of the Oil Fund? The main socio-economic programs in the country are being realized thanks to money transfers from SOFAZ. The expenditure policy of the Fund is concerns three primary directions;

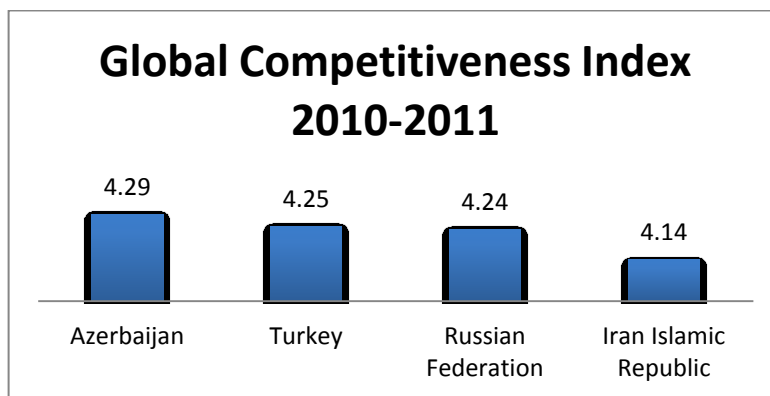
1. Transfer to the state budget;
2. Infrastructure and social project funding;
3. And administrative expenses (SOFAZ, 2011, p.13).

It is important to emphasize that one of the key objectives to avoid possible negative consequences of the resource curse is investment in infrastructure, social projects, and the development of a non-oil economic sector. Human capital also plays an important role in the life of each country and society. Investment in human capital will contribute to a country's socio-economic development in the long-term. Therefore, building human capital in Azerbaijan became one of the key priorities of the government. The Fund finances the "State Program on the Education of Azerbaijan Youth Abroad in the years 2007-2015." Within the framework of this program, the Oil Fund has provided 19.8 million of AZN since 2008 (ibid., 2011, p.15).

Azerbaijan managed to avoid most of the potential negative economic consequences of the resource curse, but there are still problems regarding corruption, high dependence on energy resources, and the growth of an economy based on oil and natural gas revenues. Corruption is a key problem in post-Soviet energy resource-rich states and it creates obstacles for economic integration and development. This is very beneficial when oil revenues are invested in non-oil sectors of the economy, such as infrastructure development etc. But even if SOFAZ tries to effectively manage the revenues, other issues can become problematic. Many international organizations criticize the country because of corruption, and one can find many corruption reports where Azerbaijan does not fare well. For instance, according to Transparency International's 2011 Corruption Perceptions Index, New Zealand is least corrupt country while Azerbaijan ranks 143 out of 183 countries with a score of 2.4. This Index ranks countries based on how corrupt their public sector is perceived to be. Corruption is obviously a serious problem within the country, and there is great necessity to overcome this social ailment (Corruption Perceptions Index, 2011, pp.4-7). Since this issue was the most salient problem for the national economy, an anti-corruption campaign launched by President Ilham Aliyev. This campaign aims to reduce corruption, (especially with regards to the utilization of energy revenues within the domestic economy) as well as maintain economic development and stability in the long-term period. However, at the same time, while this campaign may be a promising start to

future anti-corruption reforms, it cannot fully eliminate corruption within the country. In order to avoid corruption, it is important to establish effective strategies based on previous experiences. Cooperation with international institutions that deal with improving transparency can be effective. The establishment of transparent institutions; attendance by government personnel at international anti-corruption seminars will also contribute to the successful achievement of this goal. Such reforms can solve the problem both in the short and long-term. In general, Azerbaijan achieved good results in terms of its economy, as evidenced by its standing as the region's leading economy. Recent economic achievements were highly praised by international organizations. According to the Global Competitiveness Index's 2010–2011 rankings and 2009–2010 comparison, Azerbaijan is in the 57th position, leaving behind large neighboring countries like Turkey, Russia and Iran. This index's conclusions show that the country's economy is heading in a positive direction, but there are still problems that must be addressed (Global Competitiveness Report, 2010-2011, pp.15-16).

Figure 4: *Competitiveness index*



Source: *The Global Competitiveness Report 2010-2011, World Economic Forum and own construction*

Last but not least, it should be also noted the high dependency of Azerbaijan's economy on oil and gas money, and the necessity of creating opportunities for faster growth within non-oil sectors of the economy. The country suffers from a high dependence

on energy exports and a lack of non-oil production that can be competitively traded. Most of Azerbaijan's export to world markets is represented by energy resources; therefore its long-term economic development situation is not favorable. The rate of economic growth in the long-term period always declines with the rate of growth of labor productivity and capital. It is therefore important to develop a non-oil sector; open new jobs outside this sector; as well as to export non-oil products to world markets. If a country's economy depends mainly on oil and gas exports, then export capacity of other non-oil sectors tends to be less developed and competitive. Of course, one can argue that oil and gas revenues can only help economic development, and that there is thus no danger to the economy as a whole. However, this is true only from the short to the medium term period in which capital from energy resources are used for various purposes. In the long-term, this strategy will destroy a state's economy, making it weak and less competitive. For energy resource-rich countries it is important to ensure a diverse economy. This involves using energy revenues to build and develop non-oil sectors of the economy; the effective use of revenues for infrastructure projects; the creation of a hi-tech industry and the development of human capital, which is an important factor to any economy. Azerbaijan managed to realize many of these objectives, and by addressing the remaining challenges the country's economy will grow even faster, becoming more powerful.

Chapter 3: EU energy security and the role of Azerbaijan as a potential energy supplier

3.1. Preface

I would like to begin by noting that the current issue of the EU energy security is still a very outstanding one. As we know, the end of the 20th century stimulated the rise of geo-political importance for energy resources, notably crude oil and natural gas, which in turn, contributed to the reinforcement of a multi-level state cooperation within the energy sphere. I think that this situation became more serious and crucial with the growing prices of oil and natural gas, which perpetrated a new demand and an effective energy strategy towards global energy market. Therefore national states as well as supra-national institutions began to pay great attention to their energy policies. Thus, as a result of all development in global energy markets, it became increasingly important to establish well-grounded energy cooperation between energy producers and consumers in order to secure future energy stability.

Talking about this issue, one can underline that not all the countries have sufficient amounts of oil and natural gas to meet their domestic consumption and also secure a future economic growth. Dependence on natural resources created economic troubles, and that factor served to develop the energy security concept, because without an energy security guarantee, no states can insure their future economic development. Having this in mind, we can emphasize that within the last two decades of energy diplomacy, the bilateral and multilateral levels between states have gained in importance. I think that the EU, as supranational institution, must build an effective mechanism to implement such an energy policy that should be able to protect interests of the whole institution in general and not only individual MSs. As energy players in the global energy market, individual EU MSs are too weak to secure their energy stability. Hence, in this context, the common energy

policy will be a good political and economic leverage.

It is clear enough that the natural scarcity of EU MSs contributes to a high dependence of foreign energy suppliers such as the Middle East, Africa and Russia. Therefore, the main strategic objective of the EU is to insure its energy security in the long run. In this context, it should be noted that the enlargement of the EU, when Central and Eastern European as well as Mediterranean countries joined the EU in 2004, only made the whole energy picture of the Union more complicated. The high dependence of Eastern European countries on oil and natural gas import and the lack of effective energy strategies once again proved the necessity of an effective energy management not on an individual level, but on a communal level, since the diversity between the states aggravates the situation, causing pressure on the establishment of single and effective energy management as well as secular energy supply on the communal level. For instance, according to the Czech Ambassador at Large for Energy Security H.E. Vaclav Bartuška; “There is still no unified energy policy of Europe, as there are two Europes. The first one is the North, which did its homework, namely by diversifying its supplies and the other one is the Central Eastern Europe which did not do that” (Bartuška, 2012, pers. comm., 10 February). Considering all the facts, one can stress that the EU dependence on oil and natural gas will be rising in a long-term perspective. Consequently, to secure its energy security, it will be very important to develop a favorable consumer-producer dialogue to diversify energy resources and insure a stable energy supply, subsequently, building a unified energy strategy for all MSs.

3.2. The concept of “Energy security”

To better understand why energy security is so important for the EU, it is crucial to briefly analyze the concept of energy security. For instance, as Mr. Bartuška states; “When talking about energy in general, the first topic becomes the public opinion about energy, because energy must be either made somewhere or brought from somewhere.

Thus, this question is actually quite narrow. As for many experts, energy means the price of electricity, gasoline, etc., and that price is too high” (Bartuška, 2012, pers. comm., 10 February). Considering it, we can underline that the concept of energy security gains much more importance day by day.

As mentioned above energy security is really broad subject. As an example, one aspect of the term is the ability to turn freely from one source of energy to another. For that matter, in Europe natural gas is gaining over other sources because it is clean and safe (Haghighi, 2007, p. 11). It demonstrates that leading economies of the Community will prefer using natural gas in power generation. Additionally, there is a difference in terms of energy security for importers and exporters. Talking about the importers interest, the energy security refers to the situation where states face no energy shortages and meet their energy needs at no excessive cost without further deteriorating the state of the environment. In brief, it is the case when states ensure adequate energy supplies from reliable suppliers and at reasonable prices (Proedrou, 2012, p.3). Other important definitions as cited by Proedrou (2012) have the following meanings;

- *“The guarantee of a stable and reliable supply of energy at reasonable prices (Qingyi 2006);*
- *Securing adequate energy supplies at reasonable and stable prices in order to sustain economic performance and growth (Eng 2003) (ibid., pp.3-4).*

Hence, energy security for importers simply means a stable supply and a reasonable pricing. Because unstable energy supplies as well as volatile energy prices represent the biggest challenges for energy dependent economies. This factor has a direct impact on market dynamics, whereby energy rich countries dictate and manipulate their prices. This mechanism helps them procure a political and financial advantage. For example, if the country has a running problem with democracy and human right issues, and is also an important energy exporter, it shall then use its energy supply as a political and financial leverage. That situation transforms energy supply into a blackmailing tool that can be used at the countries will. That scenario also clearly illustrates how energy security affects

directly and indirectly its consumers.

Moreover there is the other perspective of energy security from the exporters' viewpoint. Making analysis of this perspective, it should be noted that "energy security equates with security of demand at competitive prices that will guarantee significant profits for the exporter with no extravagant cost to the environment" (ibid., 2012). So, we can see that the competitive and high price of energy is important for energy producers, because in many cases, the economy of the energy rich countries depend on energy revenues; consequently high prices are favorable for their respective national economies. In brief, if we generalize the two perspectives of energy security, it should be clear that "energy security is a sound balance between energy supply and demand serving the purpose of facilitating sustainable socio-economic development for both energy producers and consumers" (ibid., 2012).

Summing up, economic development's effectiveness and competitiveness in global markets are mainly connected with economic security that interconnects directly with energy security issues. Growing economies demand more energy resources. As a result, fossil fuels began to play an important role in foreign policies. Consequently, energy diplomacy is balanced in the national interests and their aftermath of socio-political and economic outcomes. In my thesis, I will evaluate the energy security issues of the EU and the key problems and challenges in this field. In general, the EU is a very important political and economic union and an effective energy strategy is necessary for its future stable economic development and enlargement. In this respect, it is useful to analyze the key aspects of the EU energy security model. Trying to show the current challenges and key objectives to overcome existing or expected challenges, which to my mind, may be the most effective tool for guaranteeing its future energy security.

3.3. The EU energy mix

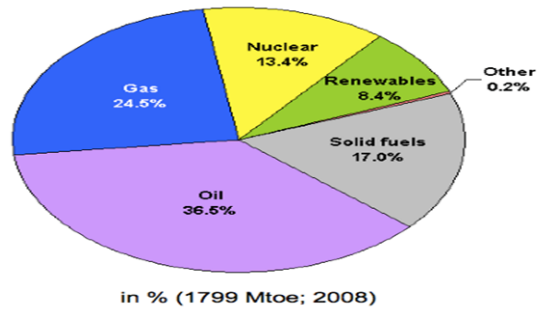
Mentioning this energy issue and the EU energy policy, the Euratom treaty, which established the European Atomic Energy Community was based on the European Coal and Steel Community. The Paris Treaty, signed between France, Germany, Italy and the Benelux countries was the first important step to organize a common market of coal and steel between the involved countries. However, after those Treaties the EU did not pay much attention to its energy strategy. As a result, especially due to the EU enlargement, serious diversity in terms of energy policy appeared between EU MSs. Nowadays, the EU is one of the biggest energy consumers in the world. The European demand for energy is mainly supported by fossil fuels such as crude oil, natural gas and coal. In this respect, we must mainly find out exactly what forced the EU to think about its energy security, to implement effective energy policy? To answer this question, the fossil fuels price increase has made the market price volatile for energy consumers. The natural gas crisis between Ukraine and Russia, the September 11 terrorist attacks and instability in the Middle East has forced the EU governance to think seriously about energy security of this big supra-national institution. All the aforementioned factors contributed to the important consensus with regard to energy security importance, the security of supply and last but not least the common energy market.

Talking about the energy market situation, we can underline that nowadays ‘the EU imports around 50% of its energy needs, and according to Commission this figure will rise up to 70 % by 2020 or 2030. To be clear, energy imports account for 6% of total imports, whereby 45% of oil imports come from the Middle East and 40% of natural gas imports come from Russia’ (The European Commission, 2000, p.2). If we analyze the energy market situation, we can see that the oil consumption and imports have the outstanding share, and after oil, comes natural gas and nuclear energy respectively. However, recent developments in Japan after the Fukushima nuclear power plant breakdown showed the risks of nuclear energy. Therefore, this made the EU MSs reconsider their strategy about

the future of nuclear energy. Precisely, one of the biggest EU MSs, Germany, decided to shut down all of its nuclear power plants by 2022. According to it, importance of fossil fuels will raise, especially natural gas, as countries will prefer to replace nuclear energy by natural gas. In this respect, the growth of natural gas will stimulate high prices as well as new secure sources, thus making it the key challenge for the energy policy. To avoid this negative factor, the EU must make effective management in terms of renewable energy such as solar, wind and water, which will be able to decrease substantially the amount of fossil fuels as well as contribute to a clean and sustainable energy development.

Touching upon the EU energy security, the energy policy of the Community did not find its roots in the Common Foreign and Security Policy, since there was no existing legal basis for the development of a common external energy policy (Youngs, 2009, p. 22). In addition as Mr. Vaclav Bartuška notes; “There is no unified energy policy or strategy for all MSs, and actually now they are not interested in it, because Europe has more serious problems like the economic crisis. In this context, the Euro means everything, you can deal with energy issues somehow, but Euro crisis will have an effect on everything else.” These factors clearly illustrates the energy diversity in policy of EU MSs, where individual MSs formulate their own policy, launch an energy dialogue with the energy exporting countries that harms EU interests as well as gives an opportunity to energy producers to use energy as a tool against the EU foreign policy. This is why the idea of a collective EU plan to protect and secure its future energy consumption is primordial and is a crucial step in shielding itself against volatile energy prices. Hence a unique dialogue would be able to form stable prices and a secure supply.

Figure 5: *EU Gross Inland consumption (2008)*



Source: Background on energy in Europe, European Commission

Above-mentioned figure once again confirms the importance of the issue. If the EU cannot take the necessary effective measures on a communal level, then the high external dependence and divergence between MSs will create a socio-political and economic risk. At the present time, the EU is not a strong energy player on the energy market, and does not have enough of its own resources to interfere in further energy developments.

Chapter 4: The EU's energy security challenges

4.1. Overview of the energy policy

As it was mentioned above, the concept of energy security is really broad, therefore to make it clearer, let us analyze it in three aspects;

- *Political;*
- *Economic;*
- *Environmental* (Yorkan, 2006, p.65).

Touching upon this important issue, one definitely must emphasize that today in our globalizing world, energy and politics are interconnected. Why? Because an effective dialogue between energy producers and consumers is very important to insure energy supplies. In this context, we should underline that ‘Green Paper: Towards a European strategy for the security of energy supply’ adopted by European Commission was a reasonable mechanism towards this vital issue. According to the document, Commission specified key objectives for the future energy strategy in order to secure its energy strategy in the long term perspective. These key objectives were the followings;

- *“The Union must rebalance its supply policy by clear action in favor of a demand policy. The margins for maneuver for any increase in Community supply are weak in view of its requirements, while the scope for action to address demand appears more promising;*
- *With regard to demand, the Green Paper is calling for a real change in consumer behavior. It highlights the value of taxation measures to steer demand towards better-controlled consumption which is more respectful of the environment;*
- *With regard to supply, priority must be given to the fight against global warming. The development of new and renewable energies (including bio-fuels) is the key to change”* (Green Paper, 2001, p. 4).

As we can see from the key objectives, they show an effective energy strategy for MSs in the long run. Here, one can underline that the lack of sufficient energy resources in the EU makes it dependent from external actors, and the high dependence on certain actors without any other alternatives makes this situation more complicated. Therefore, effective dialogues on the mutual interest with the energy rich regions may be a good option for such insurance. For that matter, diversification of supplies and the security of supplies are very important to start energy cooperation with different countries. Thus, the Caspian basin countries are a possible option for the diversification of supplies. Azerbaijan with its oil and natural gas can act as an important energy player for the EU in the long-term perspective.

In fact, the Caspian energy cannot replace entirely the Russian energy supplies to the European energy markets, but it may be a good alternative to meet growing consumer demand, as well as decrease the dependence. Considering this, the diversification of energy supplies is not against the Russian interest. Because on the one hand, the EU is interested in energy cooperation and close partnership with Russia due to its growing energy demand, and on the other hand, availability of alternative supplies will give the EU governance an opportunity to hold negotiations based on the mutual interests. Accordingly, diversification of supplies will contribute positively to the security of supplies, which envisages engaging with the Caspian and the Middle East regions on a long-term basis, both politically and economically (The EU Energy Policy: Engaging with Partners beyond Our Borders, p.4. 2011). So, we can see that the security of supply is mainly aimed to avoid potential risks in terms of energy supply, and at the same time, access to other energy rich regions, respectively the aftermath oil and natural gas supply to the European energy market will definitely balance the confliction of powers between the EU and major suppliers.

Another important document adopted by European Commission towards this outstanding issue was 'Energy 2020: A strategy for competitive, sustainable and secure energy'. Making analysis of the main principles of this document, we can underline that the main objectives are sustainable, safe, affordable as well as secure energy. At the

present time, the EU energy policy has legal basis in the Lisbon Treaty and legal basis on energy policy whose aims are to:

- *“ensure the functioning of the energy market;*
- *ensure security of energy supply in the Union;*
- *promote energy efficiency and energy saving and the development of new and renewable forms of energy;*
- *promote the interconnection of energy networks”* (Energy Policy, 2011).

As we can observe, the main priorities of the EU common energy policy are: ‘energy efficiency, sustainable and affordable in price energy, climate objectives, investment mainly to renewable energy sources and development of common external energy policy’ (ibid.,2011). However, it is impossible to say that EU will be able to fulfill all the objectives of Energy 2020, because existing key challenges are still high, and the diversity between MSs slows down the process. Now let us talk about these challenges in the framework of the three aforementioned perspectives such as political, economic and environmental.

4.2. Political aspect

Talking about energy politics, we can definitely underline that the growing importance of energy resources influence the foreign diplomacy of countries. This factor contributed to the appearance of energy politics, which is still very outstanding in our globalizing world. However, we should emphasize that the important documents adopted by the EU Commission regarding energy security were really important steps to avoid a future crisis. But one of the key questions still remains, if the EU has already achieved those goals or will it be able to achieve them at all? The answer will be examined in terms of energy security and politics. As I showed above, the launch of an energy dialogue with energy producing countries and the creation of an access to new energy rich regions will definitely promote the security of their supplies and its diversification. Therefore, the EU energy policy aims to achieve these vital goals, and so, I would like to talk about key

energy supplier to Europe, Russia, because as many energy experts state: ‘Russia is a really important energy supplier to the EU, nevertheless it is also an unpredictable player.’ From the recent history, we can observe that the Russian energy politics resulted in problems for the European countries.

4.2.1. Russia and the EU

Russia is the main energy supplier to the European energy market. The Russian share in oil imports are 33%, and 21% in natural gas (ibid., 2011). However, without a diversification of supply routes, the share of gas will increase in the future because of the negative attitude by some countries towards nuclear energy. As it is obvious, the role of fossil fuels will rise and for this reason, Russian Federation and the EU have to cooperate closely. The EU is a big energy market of the Russian and as a result, the EU MSs and Russia depend on each other. The relations between parties were based on the Partnership and Cooperation Agreement, which came into force in 1997. The agreement’s objectives envisaged to establish free trade area, build economic and technical assistance grounding as well as facilitation in Russian’s accession to the WTO (Haghighi, 2007, p.343). Taking into account energy cooperation between the EU MSs and Russia, we can divide the dependence of the EU MSs on Russian energy into three respective groups;

- *“The First group includes countries such as Spain, Sweden, the UK, the Netherlands, Portugal, Belgium and Ireland, which have low dependence on Russian energy resources;*
- *The second group includes countries such as France, Germany and Italy, which have medium dependence;*
- *Finally, a third group includes countries such as Austria, the Czech Republic, Greece, Hungary, Poland, Romania, Slovenia, Finland, Latvia, Lithuania and Slovakia (to be precisely the last four countries obtaining 100% of the imported energy from Russia)”* (Youngs, 2009, pp. 79-80).

The third group countries are mainly former Soviet bloc countries, which became the EU MSs after their independence. Nevertheless, the lack of their own energy sources as well as an effective energy management put these countries at a high risk. Additionally, the EU

internal domestic energy market is not developed enough to protect these countries. As Mr. Bartuška states: “It is very important to create one single market, whereby interconnectors are really important, so in time you need, you will be able to get gas from Norway to other MSs, and that would really work, therefore the building of interconnectors is really a reasonable way” (Bartuška, 2012, pers. comm., 10 February). It becomes obvious that the EU simply needs to develop interconnectors between MSs. For instance, to connect the Baltic States with the Central European gas market, this will avoid a future possible crisis. For example, one can show interconnector between Bulgaria and Romania. As stated by the Bulgarian economy, energy and tourism ministry; “The gas interconnectors will ensure the security and diversification of gas deliveries to our country and the region, and will contribute to the achievement of true liberalization of the national and regional gas market” (SETimes, 2012). This proves the value of this mechanism for Bulgaria, who mainly depends on the Gazprom’s natural gas supplies to secure its supply as well as avoid possible risks in terms of energy supply.

There exists the ECT that establishes a legal framework of energy cooperation between the EU and other energy producers and consumers. For that matter, “through this Treaty, the EU saw the opportunity to secure access to Eastern markets for its energy industries, that was the chance that was not easily reachable till that time.” Shortly, the Treaty touches upon the vital aspects on energy sector such as trade, transit, investment and dispute settlement (Haghighi, 2007, pp. 189-192). It was really important objective to ensure energy security in terms of secure supply for the EU. Actually, the ECT became the important legal document with regard to energy cooperation. The treaty also envisages the following key aspects;

“[...] in exchange for guarantees of investment protection and promotion given by the all involved signatory parties, the EU MSs would ensure closer cooperation with the FSU and CEE countries in the field of energy investment as well as regards access to EU energy markets. Plus, FSU states would gain access to investment capital and technology from the EU that would help them to develop respective energy industries and aftermath export” (ibid., p.191).

Many industrialized powers saw the ECT as fully EU-backed document that supports EU energy interests and ambitious at all. For instance, the Russian Federation as one of the key players of the Treaty refused to ratify it. In this respect, we should underline that the Transit Protocol negotiations were the key problematic matters between Russia and the EU regarding the ECT (Real instituto elcano, 2009). If we generalize the main factors why Russia refused to ratify the protocol, we can emphasize on the two main factors as the Russian energy giant Gazprom did not want to lose its hegemonic monopoly in the energy sphere. Besides, the supply of the Russian's own energy resources to the European energy market, Gazprom also controls the energy supplies from Central Asia. So it is very clear that Russia always tries to prevent other sources of gas coming to Europe, since it is not favorable for them from the geopolitical and economic standpoint. The parties could not achieve an effective mechanism to resolve disputes connected with energy supply as well as other important issues. Being an important energy supplier to the EU, Russia will play an important role in the European energy markets; therefore, effective dialogue is very vital for mutual relations. As the Ukrainian-Russian gas crisis once again showed the EU, that the formulation of a mechanism based on the interest of both parties is necessary. The mechanism would cover all the aspects of energy cooperation, such as how to solve or avoid possible transit and to maintain stable prices.

The next issue is connected with democracy, transparency and human right in the Russian Federation. However, the EU does not have enough political and economic power to put pressure on Russia. High dependence on Russian energy as well as diversity between EU MSs is the main weak point of the EU. In this respect, I will emphasize on the individual energy deals of some countries like Germany, as well as the close cooperation of energy companies such as Italian "ENI" or French "France de Gas" with the Russian giant Gazprom that harms the EU interests. It is clear that Russia uses very popular ancient Roman political strategy "Divide and conquer" in order to dictate its rules and save its hegemony. For instance, when it comes to democratic matters in the Russian Federation, MSs are in no position to criticize the Russian government. In this respect, the correlation

of energy dependency of different MSs on the Russian energy supplies may be the key reason to express the single powerful position of all MSs towards the issue (Youngs, 2009, pp. 98-99), and clearly demonstrates the weakness of the common energy strategy of the EU MSs. Here, I want to support my opinion by bringing an example of “Nord Stream” natural gas project between Germany and Russia. The project enabled exports of the Russian gas via the Baltic Sea to Germany bypassing transit countries. The project was direct energy cooperation between Gazprom and Germany. Of course, Germany managed to get additional supply to meet its energy demand, and this is favorable from its economic point of view. However, it is more favorable for Russia to dictate its rule for a divided Europe. In order to get positive results on its foreign energy policy, on the one hand, the EU has to save relations with its major energy supplier – Russia, on the other hand, insure access to new energy rich regions, to diversify energy consumption as well as supply routes, which will decrease its energy dependency on Russia.

Summing up my idea, I would like to note that the EU must seriously rethink its goals, what do MSs want and expect? To build such an energy strategy, where all MSs will act with a single voice, an effective internal market and a close cooperation with the Caspian region and Central Asian countries is in order to block Russia from extending its sphere of influence. A dialogue with Turkey, the country that has a strong influence in the region and an important transit system to carry the Caspian as well as Central Asian energy resources to the European energy market, is highly vital, because the security of supplies and supply routes from energy rich regions to the European energy market gain more and more importance by year.

4.2.2. The EU and the Caspian basin/Azerbaijan

After the dissolution of the former Soviet Union, the geo-political map of the Caspian basin changed. Consequently, countries gained independence and began to implement their own foreign policies. One of the most important factors of the region is its huge energy

resources that attract the attention of many regional and non-regional states. Touching upon the importance of the region, big powers such as the U.S. and the EU activated their policy towards the region mainly after energy crisis. The energy crisis in the world promoted the development of the notion of energy security, which became an integral part of every states foreign policy. Using effective energy diplomacy states tried to establish relations with energy resource rich countries, to get direct access to the region and then export the oil and natural gas to their energy markets. Just quick note that the Caspian basin countries such Azerbaijan, Kazakhstan and Turkmenistan have huge oil and gas resources, which can meet growing demand of industrial powers. I continue with the case of the EU, where its own declining energy resources as well as growing demand for oil and natural gas seeks an alternative supply to ensure its energy security. Therefore, the Caspian basin may be a really good alternative in terms of energy for other EU big energy suppliers such as the Russian Federation, Middle East and Africa. So far one can underline especially that the Caspian natural gas will be good mechanism to decrease EU dependence on the Russian natural gas.

Table 3: *Oil reserves in the Caspian basin countries (2010)*

<i>Country</i>	<i>Billion barrels</i>	<i>World ranking</i>
Kazakhstan	30.00	11
Azerbaijan	7.00	19
Turkmenistan	0.60	39

Source: *EID, International Energy Statistics and own construction*

Table 4: *Natural gas reserves in the Caspian basin countries (2010)*

<i>Country</i>	<i>Billion cubic feet</i>	<i>World ranking</i>
Turkmenistan	265	12
Kazakhstan	85	13
Azerbaijan	30	26

Source: *EID, International Energy Statistics and own construction*

As we can see from the statistics, these countries have sufficient amount of oil and natural gas to export to the European energy market, but to achieve this, it is very important to establish an efficient energy dialogue. In order to help these countries to develop their energy sectors and realize energy projects to supply the Caspian energy resources to the EU. However the main question still remains unclear, whether the EU is ready to implement such a policy? The key objective for the EU should be a stable and unique position towards this issue. To answer the question, I can quote Mr. Bartuška's vision about the issue; "There is no unified European energy or foreign policy, and consequently, different countries have various positions and their own policy regarding this issue. For instance, for some MSs the region is very important, while for others it is not" (Bartuška, 2012, pers. comm., 10 February). This idea once again confirms the lack of an effective mechanism how to behave with the region. Now, let us talk in detail about the EU-Azerbaijan relations, cooperation in the energy sphere as well as key achievements, future expectations, and finally existing problems between the two parties.

The Republic of Azerbaijan with its oil and natural gas began to attract foreign energy companies as a result of successful energy policy led by the former President Heydar Aliyev. Precisely after signing the "Contract of Century" with foreign energy

companies, active energy dialogue and cooperation began between Azerbaijan and Western companies. Huge Western investments in the country strengthened its socio-economic development as well as its independence. Hence, it would be very proper to underline the role of the BTC oil pipeline. Avoiding Russia, it contributed to the Western way of development of the country, which was very vital in a socio-economic and geopolitical way. It also gave way to the realization of the BTE gas pipeline. The BTC pipeline was a strategic project and it contributed positively to the U.S and the EU energy interests.

The EU-Azerbaijan relation was built through main programs such as “TACIS, TRACECA, EPP and ENP. Through these programs, the EU assisted and supported the country in a technical and economic way to develop its energy sector, transport, environment, as well as to establish transparency in its economy, especially regarding energy revenues utilization in home economy, strong democratic institutions and to protect justice” (Yorkan, 2006, p. 77). In this context, we should discuss ENP towards Azerbaijan. The ENP extension to the Southern Caucasus and its respective attention to the Republic of Azerbaijan connected the country’s importance as an energy supplier to the European energy markets. The other secondary factor may be an attempt to bring together two confronting countries Armenia and Azerbaijan, hoping to make some progress on the NK conflict (Youngs, 2009, p.113). It presents to all involved parties’ relations based on a mutual commitment to common values such as: ‘democracy, human rights, rule of law, good governance, market economy and sustainable development’ (Commission of the European Communities, 2004, p.9). Considering the complicated geostrategic situation in the Southern Caucasus, the EU also aimed to prevent future possible wars and crisis in this region. In the framework of EPP, one of the main objectives was also the visa facilitation between countries. At the present time, the Azerbaijan government started active negotiations on visa readmission and facilitation with the EU Commission, which will be very an important step for the future development of bilateral relations.

In general, one can definitely state that the main goal of the EU regarding these

programs and policy had an intention of gaining access to the Caspian region and to control the rich hydrocarbon resources. In this respect, we can link this intention with the purpose of diversification of supply as well as its supply routes and the development of the Southern Corridor part of this policy. Azerbaijan's close energy cooperation with the EU and its future desire to deepen these relations once again confirm that the country really intends to take active part in the EU energy security plan. As a clear example of close corporations should be Shah Deniz natural gas field and aftermath gas export to the EU energy markets. This supply will definitely decrease the EU dependence on Gazprom's gas supply, which is important in order to eliminate Gazprom's monopoly over the European gas market. In this respect, it is highly important to talk in brief about future possible pipeline routes, which will be able to carry Azeri gas, and maybe later, Turkmen gas or other sources to the European energy market.

4.2.2.1. Future potential pipelines

As it was noted above, the role of energy resources in the EU-Azerbaijan bilateral relations is quite obvious and important. After the exploration of huge natural gas reserves in the country, the importance of Azerbaijan as an energy supplier to the European energy market became more prominent. In this respect, it is worth talking about possible pipeline routes, which will be able to carry Azeri natural gas from Shah Deniz II to the EU. As Mr. Mareš states; "Considering the growing demand of the EU for natural gas as well as need to control the Gazprom's monopoly in the European natural gas market, energy projects from the Caspian region, which are an important part of the Southern Corridor, such as Nabucco, TAP or SEEP, are gaining much more importance year by year. In this context, it is advisable for EU to demonstrate a political as well as an economic will to realize these possible projects" (Mareš, 2012, pers. comm., 11 April). As I mentioned in my previous section, four projects such as Nabucco, ITGI, TAP and SEEP were on the table. However the Shah Deniz consortium decided to exclude the ITGI from the list of pipeline projects,

consequently for the present time, the projects Nabucco, TAP, and SEEP are on the table of discussions. As such, importance of Shah Deniz II stage with around 16 bcm of natural gas available, six of which is considered for the Turkish consumption and the rest ten bcm for the EU energy consumers (Paul et al., 2011, p.1). So, the main question is here, which project will carry gas from the Caspian region to the EU energy market. In this respect, one can definitely underline that 16 bcm is not a big volume of gas, therefore it is very definite to choose the most economically sound project.

Touching upon the Nabucco project, it should be noted that this is very strategic and long pipeline. The pipeline with a capacity of 31 bcm of gas in the long run needs other natural gas sources, because the 16 bcm of Azeri gas will be commercially sufficient for the first stage of supply. In order to make this project economically sound, additional gas source will be very important. In this respect, Turkmen natural gas is being considered as the potential source to meet those requirements; therefore the European Commission officially supported the negotiations between officials in Baku and Ashgabat to build a Trans-Caspian pipeline to supply also Turkmen gas through the Southern Corridor. At the present stage, there are several challenges regarding this project, and the most important ones are the natural gas source and economical high cost of the project, which make the so-called pipeline vulnerable. As we know the key aim in gas agreements is to show a stable source, transit agreement and finally go to consumers.

Analyzing the Nabucco project, one can underline the complexity to export Turkmen gas via this project because of the position of other Caspian basin states like Russia and Iran. In reality, the EU cannot cling on this energy game and cannot give security guarantees both to Ashgabat and Baku. Brussels is just interested in the gas source to meet a growing demand for gas; consequently any other projects may satisfy them. Plus, Turkmenistan has enough projects to export its gas to Russia and China. Considering the growing interest of China in Turkmen gas sources, as well as their ability to launch an effective energy dialogue with the Turkmen President Gurbanguly Berdimuhamedow that can give commercial and political guarantees to Ashgabat, potential perspective of

Turkmen gas for the Western direction is quite complicated. With such a development of events, it proves that the future of Nabucco project is like a blind alley. To sum up, these challenges seem to be a preventive mechanism against the Nabucco project, whereby Azerbaijan considers all possible routes to export its gas to energy markets; therefore Shah Deniz consortium and the Azerbaijani government evaluate all other options to supply gas from the Shah Deniz II.

One of the alternatives is TAP. After decision has been done regarding the ITGI project, the TAP project, with a capacity of 10 and maximum of 20 bcm per year, became key contender to Nabucco. The project mainly aims to supply gas from the Caspian region to Italy. This project would consider using the existing gas infrastructure and the available volume of gas is sufficient for the involved parties (ibid., 2011). In sum, TAP is considered for Italian market, but it cannot attain the strategic goal of Nabucco, which would be able to supply a huge volume of gas to Central and Eastern Europe, diversifying their supply routes and sources, as well as decrease their high dependence on Gazprom's gas monopoly. For the short term, the project may be considered as economically sound from the energy producers' and consumers' standpoint, however in the long-run, the project would not be able to realize its strategic aim, notably to supply the huge volume of Central Asian, Caspian and Middle East gas sources to the European energy market and reduce the Russian dependence.

To mention BP-backed SEEP, this project is favorable from an economic standpoint for all the involved parties. The project would use the existing gas infrastructure and consequently is much shorter and cheaper than Nabucco. According to the BP Azerbaijan President Rashid Javanshir; "SEEP looks really more profitable than Nabucco (West) project" (Natural Gas Europe, 2012), and Nabucco West considers to begin the project from the Turkish-European border and not in Azerbaijan. It is also worth noting that one of the main advantages of the SEEP project is its broad energy market coverage. However, in spite of all the economic advantages, it simply cannot be as strategically important as Nabucco, but making comparison of projects, one definitely can underline

that SEEP is favorable for the medium term in terms of diversification after Nabucco. As Mr. Mareš noted; “Aside from other problems, the Nabucco consortium has economic problems to finance a huge and costly project, therefore in the short term; it would be more realistic to invest and build a not so costly project to supply gas to the European energy market” (Mareš, 2012, pers. comm., 11 April).

Summing up, it should be noted that Azerbaijan is interested in deepening its energy relations with the West, and naturally, to realize the most profitable project and that Baku should evaluate all possible variants. To be clearer, the choice will be evaluated on the basis of the criteria: “being a shareholder in the winning consortium and fully utilizing the pipeline with commercially guaranteed sources of supply (underutilization would result in very high transportation tariffs); plus, Azerbaijan doesn’t want to pay for unsubstantiated pipeline capacity” (Paul et al., 2011, p.1). Finally, on the basis of that, it should be noted that officials in Baku and Ankara are actively negotiating TANAP to carry gas via Georgia to the Turkish border and the aftermath links with the possible version of Nabucco. All key developments clearly show that Azerbaijan is still looking for the most profitable project both from the economic and political standpoint and having its own investment opportunities, the country can build infrastructure for energy supply and play a leading management role. All possible projects where officials in Baku would invest money must be analyzed clearly in order to make an economically sound project.

4.2.2.2. Perspectives

As for the conflict of resolution of objectives in the EU between Armenia and Azerbaijan over the NK conflict, this big and important supranational institution simply did not achieve any positive results. To my mind, they just have a waiting position and expect OSCE Minsk Group Co-Chairs, namely France, U.S and Russia to solve the conflict or at least to save status-quo, because any kind of war in the region will put in danger major energy projects, and consequently Western company’s investments,

especially in Azerbaijan. So naturally, analyzing the EU attitude towards Azerbaijan, we can emphasize on two perspectives;

- the EU perspective;
- Azerbaijan's perspective:

From the EU perspective

To be clear, what the EU and Azerbaijan expect from each other, as well as key problems preventing deeper cooperation. Reviewing from the first perspective, one can underline that Azerbaijan wants the EU to implement a more stable policy without double standards towards it. Despite, close energy cooperation as well as the EU interest in the region; there is still lack of common policy towards the region that can give a security guarantee over the Russian influence. Having close relations with the EU and future intentions to take active part in its energy security, Azerbaijan expects active policy regarding the NK conflict as well as security insurance in face of the Russian and Iranian presence.

Another problematic issue might be EU's continuing political uncertainty towards the possible energy projects in the framework of the Southern Corridor. Azerbaijan's government wants the EU to take more active role in this project, on the one hand it wants to assist in negotiations between Turkmenistan and Azerbaijan over the Trans-Caspian gas pipeline, and on the other it wants to eliminate the Russian factor. But at the present time, it seems very difficult to support the aforementioned idea. Mr. Bartuška's take on the issue is this: "The EU is interested not only in Azerbaijan but in the other countries such as Turkmenistan and Kazakhstan. However, the main question is whether the EU can present security guarantees or not? Azerbaijan wants a security guarantee and it wants it from Europe, but the August war between Russia and Georgia showed that Europe actually did nothing, even for its close friend" (Bartuška, 2012, pers. comm., 10 February). Active EU involvement in the NK conflict will promote further

positive developments between the involved parties. The EU can play an important role in the conflict's resolution, and the recent resolution of the European Parliament regarding the necessity of restoration of Azerbaijan's territorial integrity and withdrawal of Armenian forces from the occupied territories may be sign that the EU is moving in this direction. Still, this is not pro-active enough to solve the conflict, and it is worth noting that the EU does not have a coherent vision regarding what mechanism they will use to solve the conflict. It just wants the involved parties to not launch military operations, which is against the EU's interests in the South Caucasus. This is one example of the challenges in relations between the Republic of Azerbaijan and the EU. Considering Azerbaijan's strategically important location and the importance of the country as an energy supplier to the European energy market, which will promote the diversification of the EU's energy supplies and ensure its long-term energy security, the EU must take a consistent approach to all parties and conflicts in the region. This will demonstrate its transparency and strategy towards the region, which will bring conflicting parties closer and facilitate future conflict resolution. In summary, it should be noted that Brussel's main interest in Azerbaijan is its energy resources. The challenges facing the EU and Azerbaijan prevent closer cooperation and integration. But in spite of Azerbaijan's economic development and progress, the EU is not satisfied with the state of its democracy or human rights.

From the Azerbaijan's perspective

It is clear that the EU wants access to the Caspian region, and in doing so, to ensure its energy security. Therefore, various programs launched by the EU are directed at development within these countries, and specifically at their energy sectors. Besides its energy interests, the EU is also interested in democracy, human rights and transparency within the economy. However, one cannot say that all of the EU's goals have been achieved, or even that they will be in the foreseeable future.

With regard to the EU's interests in Azerbaijan, it is worth mentioning that energy

resources and their supply to the European energy market are extremely important. The BTC pipeline has already been opened and it represents an important aspect of energy cooperation between Europe and the Caspian region. The project represents an opportunity for future cooperation and integration of the relevant Caspian region countries. However, other factors pose challenges to stronger bilateral relations. As mentioned above, democracy, human rights and transparency are weak points for Azerbaijan. Due to these factors the EU exerts pressure on the country. Various reports regarding these indicators show Azerbaijan getting poor scores. For instance, according to the EU Commission's review from 2008; 'Azerbaijan made no progress on democracy or human rights, the oil sector was dominant in the economy, inflation rose and corruption worsened.' Considering these facts the country's progress in the framework of ENP was very small (Youngs, 2009, p.116). However, Azerbaijan was interested in implementing reforms to make progress and fasten its integration process in the framework of the ENP. In this respect the European Commission report from 2011 should also be mentioned. According to this report Azerbaijan managed to make progress in the framework of the ENP, especially in the area of macro-economic stability and efforts to address poverty and attain socio-economic equilibrium (European Commission, 2011, pp.1-3). So as one can see the country primarily achieved results in its economic sphere, but other issues such as democracy and human rights are still a headache for Azeri leaders. According to the same report, the country must implement reforms to meet Action Plan commitments in the area of democracy, specifically the electoral process, the protection of human rights and fundamental freedoms, and the independence of the judiciary (ibid., 2011).

The anti-corruption campaign launched in 2011 by the Azerbaijani President, was accepted as a positive mechanism towards eliminating corruption and establishing transparency in all spheres of the economy. However, now it is difficult to tell whether the campaign solved all of the problems or eliminated corruption. Progress was achieved in energy cooperation, and presently Azerbaijan is continuing to support all energy projects with EU and demonstrating its full support for EU energy supply diversification, which is

an obvious sign of the country's commitment to the future integration process. Azerbaijan supports the Southern Gas Corridor, which is very important for the EU's efforts to decrease its dependence on Russian gas. To this end, in 'January 2011, during the visit of European Commission President Barroso to Baku, a Joint Declaration on the Southern Corridor was signed, confirming the will of parties to supply natural gas to the European gas market'' (ibid.,2011). In summary, both the EU and Azerbaijan have managed to make some progress, but the aforementioned problems prevent fuller cooperation and integration. It should be also noted that besides the EU, there are other countries with interests in Azerbaijan, and if the EU does not want to lose its privilege it ought to use effective political mechanisms to negotiate and solve the key challenges between the parties. Finally, in order to make the picture clearer, the next section will analyze approaches and interests of countries such as the U.S., the Russian Federation, and Turkey in the region, though it will mainly focus on the Republic of Azerbaijan.

4.2.3. Position of Russia, the U.S. and Turkey towards Azerbaijan

This thesis emphasized the fact that other regional and non-regional states also have their respective interests in the region. To this end, Azerbaijan's energy cooperation with regional states as Russia and Turkey, as well as non-regional global powers like the USA are important. First, let us talk about Azerbaijani-Russian relations, how both countries cooperate, and key challenges in bilateral relations.

a. Russia

Azerbaijan and Russia cooperate in many spheres, but this thesis will focus on energy cooperation between states and briefly the NK conflict resolution. Azerbaijan is an important energy supplier in the Caspian Basin, it should be emphasized that it possesses rich energy resources (namely oil and natural gas) as well as the potential to be an important transit country with which to supply Caspian and Central Asian energy resources

to the European energy market. This could potentially make Azerbaijan a competitor to Russian energy interests. Azerbaijan's energy policies are mainly directed towards the West. As a result, the BTC oil pipeline and BTE gas pipeline were built to connect Azerbaijan to Western energy markets, thereby reducing Russia's leverage. Presently, Russia does not have an energy mechanism with which to pressure Azerbaijan, therefore the Russian influence in Azerbaijan is mainly connected with political factors (Shumilin, 2008, pp. 120-121).

It is important to underline the NK conflict; Russia plays its most important role here. Within Azeri society many people believe that the resolution of the conflict depends on Russia. However, if Russia was interested in resolving the conflict, it would be resolved within a short period of time. The reality is that Russia plays a vital role in the South Caucasus conflict; it prevents further integration of the region into the European political and economic institutions and tries to weaken Western interests in the region. Azerbaijan managed to eliminate its energy and supply route dependence on Russia, ensuring its energy security in the long term. Such developments showed Russia that it lost the energy battle against the West for Azerbaijani energy resources; therefore it is important to implement another mechanism to pursue dialogue with Azerbaijan. After the commencement of the Shah Deniz natural gas field Azerbaijan became a net gas supplier and its potential in this field forced the Russian energy giant Gazprom to rethink its strategy towards the Caspian region and Central Asia. Gazprom tries to increase its role and control all natural gas resources from the Caspian basin as well as Central Asia so that it might block possible natural gas supplies from reaching the European energy market by-passing Russia. This would allow Moscow to preserve its energy monopoly. To this end, Gazprom announced its readiness to purchase the whole of Azerbaijani gas exports.

The active dialogue with Turkmenistan to buy natural gas as well as prevent a possible Turkmenistan- Azerbaijan natural gas deal via the TCP is another obvious attempt at preserving this monopoly. To this end, Russia complicates issues for Azerbaijan by citing a law of delimitation in the Caspian Sea, which states that "it is not possible to build

any pipeline via the Caspian Sea without permission of all the Caspian states. “An article in the draft agreement regarding a trans-Caspian gas pipeline says that it could be built only after three countries involved (Azerbaijan, Kazakhstan, and Turkmenistan) come to an agreement with the others, Russia and Iran” (MilAz, 2011). But it is clear that, due to economic and political interests, Russia and Iran will never agree with the project. Plus, Russia offered higher prices during its energy dialogue with Turkmenistan, and this can be understood as a Russian attempt to keep Western competition at a distance and control natural gas under its monopoly, and consequently to pre-empt any future problems with the gas balance (Overland, 2009, p.12). All these examples show that Russia still has imperialistic interests in the region, and is consequently using all of its political, economic, and military leverages to pressure regional states.

Azerbaijan reached an energy deal with Russia in order to diversify its energy supply routes and gain support from Russia on the NK conflict. However, there are serious issues facing closer bilateral relations. Russia wants to fully control Azerbaijan’s resources and prevent its integration into Europe. But Azerbaijan will never accept Russian neo-imperialism. The present situation demands that the political elite in Azerbaijan implement a balanced political course towards Russia in order not to face serious challenges from its big neighbor, especially in terms of the NK conflict. Azerbaijan must be very careful when dealing within the confines of this geopolitical chessboard. It is ambitious to become a vital transit player in the export of Central Asian energy resources to the European energy markets, but this is clearly against Russia’s interests. Naturally, Russia has some leverage, especially the NK card, with which to pressure Azerbaijan. This is a serious challenge to Azerbaijan and its territorial integrity, whereby Russian influence is quite visible and strong. Therefore, the first priority must be restoration of its territorial integrity, and later in the long-run, the country must cooperate with Turkey more to try and integrate with the NATO. Turkish help can be the most effective mechanism to guarantee its political and energy interests.

b. The USA

Washington has interests in the Caspian region in general, and Azerbaijan in particular, with its rich energy resources attracts much more attention. The Caspian region is at the center of the interests of many powerful regional and non-regional states. In general, Europe and the U.S. see the Caspian region and Central Asia as an alternative to OPEC, which is considered in the West as a source of energy threats (Shumilin, 2008, p. 98). The U.S. and Azerbaijan cooperate in different spheres, the most important of which is counter-terrorism. Azerbaijani peacekeeping forces participated in peacekeeping operations in Kosovo, Afghanistan and Iraq.

Another key field of cooperation is energy relations. After signing the “Contract of the Century” U.S. energy companies actively participated in oil and gas field exploration. U.S. energy companies are shareholders in three international PSAs aimed at exploiting Azerbaijani oil and gas fields, including the AIOC (Nichol, 2010, pp.9-10). The U.S. supported important energy projects such as the BTC oil pipeline and BTE gas pipeline, which allowed Azerbaijan to bypass Russia when exporting its natural resources to world energy markets. The political and economic support of the U.S. helped Azerbaijan decrease its political and energy dependence on Russia, and turned the country into an important energy player in the region. Azerbaijan aims to deepen its relations with the West, therefore it is in the U.S.’ interests to support future discussions between energy rich Caspian basin countries and possible transit countries, to facilitate future energy projects which will supply energy resources to world energy markets without Russia’s help.

Energy factors play an important role in U.S. foreign policy towards the region. For instance, the U.S. strongly supports and lobbies for possible energy projects like Nabucco, which will connect Caspian natural gas to the European energy markets. This is a very important energy project which could play an important role in the EU’s energy security. Azerbaijan is an energy resource-rich country with the potential to play an important role in future EU energy security, which is naturally in line with U.S. interests. The visit of

Richard Morningstar, U.S. Secretary of State's Special Envoy for Eurasian energy to Azerbaijan in June 2010 is telling. In his presentation entitled "The U.S. Energy Policy in the South Caucasus and Caspian Region" at the Center for Strategic Studies under the President of the Republic of Azerbaijan, Ambassador R. Morningstar emphasized: 'the U.S. strongly supports opening a new corridor, a Southern Corridor, to bring natural gas from the Caspian region to Europe. These projects could help to diversify gas sources and open new supply routes to Europe. A Southern Corridor would provide commercial benefits for the countries of the Caucasus and Central Asia and also create a long-term partnership based on mutual interests with Europe'. He noted that:

"Azerbaijan is a key country in the Caspian basin and we encourage the transit of Kazakh energy sources via Azerbaijan to the world market. There will not be a Southern Corridor without the Azerbaijani gas from the Shah Deniz II. We support projects to supply Caspian energy resources to Europe since they play an important role in Europe's energy security" (Morningstar, 2010, speech at SAM).

All these developments highlight U.S.- Azerbaijan mutual interests, and in the near future the U.S. will focus more on the region. Recently, because of the wars in Iraq and Afghanistan, U.S. attention on the region evaporated.

However, this is the energy picture of mutual relations between countries. Considering the U.S. role as a "super power" and one of the co-Chairs of the OSCE Minsk Group tasked with solving the NK conflict, Washington also has security interests in the region. In this respect, the role of the U.S. is not very strong, and it cannot, or it is not just interested in, giving security guarantees to the regional states that fear Russian efforts to increase its influence. The U.S. position on the NK conflict is the same as the other co-Chairs; to not allow new military operations and to keep the status-quo, which is not in the interests of Baku. Azerbaijan expects real and serious steps towards the conflict resolution, but the U.S. gave almost all the responsibility to Russia. They see the status-quo as a satisfactory result with which to promote their energy interests in Azerbaijan, as possible war may harm economic interests of the U.S. companies in Azerbaijan. This approach

harms the integration process of the regional countries and at the same time strengthens Russian influence within the region. So, it would be proper to state that if U.S. wants to strengthen its position both in the Caspian region and Central Asia, and control energy resources from these regions, they should adopt a policy in order to be able to control the situation and decrease Russian influence on the political elites of respective countries. Countries such as Kazakhstan and Turkmenistan have limited options as to how they supply their energy resources to the European energy market, as their main export goes either East via Russia or West to China (Olcott, 2009, pp.1-4). To this end, only Azerbaijan supplies a large volume of its energy resources to the West while bypassing Russia. Azerbaijan is interested in deepening energy relations with the U.S. and its respective allies. In this respect, the U.S. can concentrate on Azerbaijan and subsequently collect other energy rich countries in the region under its umbrella, and considering the rising role of China as an energy player, Washington must act quickly, as the Caspian and Central Asian energy resources will be vital for energy security in the long-term. Interests and regional states' contribution to the oil and gas spheres, as well as long-term projects of "big powers" meant to establish a strong base in the region will not be just a part of the energy game. Truly, it will be a "big and important energy policy", where all involved parties strive for power (Shumilin, 2008, pp. 113-114).

In summary, it is important to emphasize that the U.S.' position towards Azerbaijan is stable; the countries have mutual interests in energy deals, this is positive aspect of their relationship. However, in terms of other issues such as democracy, human rights, and the U.S.' role in the NK conflict resolution process, both countries have issues with the other. Thus, if U.S. really wants Azerbaijan to integrate into the West, it must do its best to resolve the NK conflict, and to not just accept the current position. This will have a positive effect on reforms, decrease Russian influence on the regional states, and accelerate the South Caucasian countries' integration to the West.

c. Turkey

Turkey and Azerbaijan have a long history of relations. Everybody remembers the famous words of former President and national leader Heydar Aliyev, “one nation, two states”. This expression shows the depth and importance of bilateral relations between the two countries. Ankara supports Azerbaijan in all issues and has important energy relations with it. Turkey’s important geostrategic location and its influence and close relations with Azerbaijan and Central Asian countries allow it to be an important energy player for Europe. So, it is quite obvious that Turkey will play an important strategic role for the EU because of its location, as it is located between the energy resources-rich countries of the Caspian region and Middle East and energy hungry consumers within the EU. Thus, Ankara realizes its importance as one of the key energy players in diversification of EU energy resources and supply routes. In turn, the EU is interested in diversifying its energy imports through the Southern Corridor via Turkey (Yigitguden, 2010, pp.17-18).

When looking at relations from an energy resources perspective it can be noted that, since it is an energy rich country, it was very important for Azerbaijan to export its natural wealth to European energy markets. In this respect, taking advantage of its cultural history Turkey was the best way to export oil and natural gas. Azerbaijan and Turkey realized important energy projects such as BTC and BTE via Georgia to Turkey, bypassing Russia allowed Azerbaijan to diversify its supply routes, and most importantly, decrease its dependence on Russia. Another important dimension to Turkish-Azeri relations is a possible project to carry Azeri gas from Shah Deniz II to the European energy markets. To this extent, three possible energy projects exist; namely Nabucco, TAP and SEEP, which may turn Turkey into a key transit country in transporting Caspian and (possibly) Central Asian gas to the EU. Ankara realizes its geographical and geostrategic importance to the transport of energy resources from the Caspian region, Central Asia, and Middle East to the European energy market. Consequently, it is highly interested in becoming an energy center with the condition of having a “natural gas headquarters” in its

territory (Grib, 2009, pp. 168-169). Such a situation will give Turkey many political and economic advantages, especially with regards to the EU. The Turkish-Azerbaijani energy relationship is very important from a geo-political standpoint for both countries, and naturally both must support each other, since Turkey needs Azerbaijan for its energy security as well as for its goal of becoming a transit country. And Azerbaijan needs Turkey to export its natural wealth to Europe without utilizing Russian pipelines. In spite of their close relations, there has been tension between the countries, such as when they could not agree on gas prices for Turkish domestic consumption. This was an example of a lack of effective mechanisms in the producer – consumer dialogue. However, with the involvement of high-ranking government officials, the issue was solved in the name of mutual interests. In general, Turkey's interest in Caspian energy politics demands that the country ensure wise political and economic involvement in the region. In this context, securing reliable energy sources at affordable prices from the regional energy resources are the key objectives of the Turkish internal and external policy (Sasley, 2001, pp. 231-232).

Last but not least, an important issue is the Turkish position towards the NK conflict. The resolution of this conflict is a key priority for Azerbaijan's domestic and foreign policy. Ankara closed its borders with Armenia after it occupied 20% of Azerbaijan's territory. Consequently, Turkey supports the territorial integrity of Azerbaijan. Security in the region is a very sensitive issue, and the August war between Russia and Georgia clearly demonstrated the vulnerability of security issues in the South Caucasus. Due to close relations between Armenia and Russia, it is necessary for Azerbaijan to establish a military alliance with Turkey in order to ensure both its political and energy interests. In the worst scenario, Turkey can be a security guarantee for Azerbaijan against a possible Russian threat. Summing up this thesis' vision about the issue, it should be noted that Turkey and Azerbaijan must act together in order to eliminate geostrategic challenges against these countries. Active Turkish involvement in Central Asia may also promote the realization of future important energy projects, where

Azerbaijan and Turkey will automatically be turned into transit countries, which naturally strengthen their respective positions in the geopolitical arena.

4.3. Economic aspect

Touching upon the issue from an economic standpoint, it should be mentioned that there is a strong economic dimension to energy security which is mainly connected with the vulnerability of the market economy. In this respect, stable and secure energy markets play an important role in preventing vulnerability (Yorkan, 2006, p.77). An important aspect of this is the Energy 2020 Strategy, which defines the main elements of such a strategy. According to this document, the EU internal market is disintegrated and lacks transparency, accessibility and choice. It also says that the security of internal energy supplies is weakened by the delays in investments and technological progress. Companies that deal with the energy sector have problems like the monopoly of state control on price determination, which in turn prevents the establishment of an integrated gas and electricity market of MSs (European Commission, 2010, p.9). Market liberalization and an integrated internal energy market are reasonable ways to solve the problems connected with internal market in the long term perspective.

4.3.1. Internal energy market

The key element of an internal energy market regarding gas and electricity is market liberalization. An analysis of the Internal Market Energy (until 2011), yields key objectives of the document, which is aimed at establishing fair competition as well as common rules for the generation, transmission and distribution of electricity (The European Parliament and the Council, 2003). Gas and electricity market liberalization is among the priorities of the EU, and there are several Directives aimed at establishing effective mechanisms to regulate this sector. One example is the establishment of internal market for gas and

electricity (from 2011). It is worth mentioning that these documents aim to establish more effective markets with fair competition, transparency and better consumer protection. To be clear, the security of supply gains much more importance. Hence MSs should pay more attention to the balance of supply and demand on their national markets and ensure the integration of national markets at one or more regional levels, as a first step towards the integration of a fully liberalized internal market (The European Parliament and the Council, 2009). These measures are considered to be effective mechanisms to bring together MSs gas markets and avoid a possible crisis. In this respect, the role of LNG should be also noted because it plays an important role to the EU gas market. The document says the following:

- *“operating, maintaining and developing transmission systems, storage and/or LNG facilities with due regard to the environment;*
- *ensuring non-discrimination between system users;*
- *and providing system users with the information they need to access the system”* (ibid., 2009).

In terms of electricity, the main aim is the creation of a sustainable and transparent sector with better competition and consumer rights. In general, a competitive, secure and environmentally sustainable electricity market is the key aim in achieving this objective (Commission of the European Communities, 2007). These EU initiatives seem to be effective and represent important steps toward establishing a single energy market by liberalizing MSs’ energy markets. However, while this looks great on paper, there are still big problems such as diversity between MSs.

In summary, we can underline that the energy crisis; rising energy prices, and the vulnerability of the market show the need for the EU to establish a fully-integrated internal market as a means of avoiding a future crisis. Although some progress regarding internal energy markets have been made, it is a very important issue which needs to be analyzed carefully before the full integration deadline in 2014. In order to eliminate the remaining challenges, protect the interests of consumers and producers, and most importantly,

liberalize the gas and energy markets. These steps should not have negative effects on the consumption of liquefied gas and electricity per household. ‘The goal of attaining full and effective market integration by 2014, as envisaged by the Third Energy Packet adopted by Parliament in 2009, may add an extra 0.8% to EU GDP by 2020, opening new employment opportunities and promoting a low carbon economy’ (EU Commissioner for Energy, 2012).

4.3.2. Diversification of energy sources and supply routes

The diversification of supply routes may be another important factor for the EU’s energy security. Towards this end, serious measures are taken by the EU to diversify both its supply routes and sources. This big supra-national institution is one of the biggest energy consumers in the world, therefore energy security is defined by secure supplies, and diversification of supply routes is an important part of this and becomes more important each year. In this respect a review of the Energy 2020 document is in order. This document was the Commission’s attempt to define the importance of this issue. Regarding the diversification of supplies, the key objective is to ‘develop secure and competitive sources of energy, decrease the share of high carbon sources of electricity generation, and to invest and develop renewable energies’ (European Commission, 2010). It should be noted that EU aims to increase its alternative energy sources, especially natural gas, to meet its growing demand and decrease high dependence of some MSs such as Finland, Lithuania, Latvia or Slovakia on Russian natural gas. Therefore, new energy rich regions such as the Caspian basin or Central Asia are attractive for the MSs. New energy projects which will be able to potentially carry energy resources, especially natural gas, to the EU may be effective energy mechanisms and a means of improving energy dialogues between consumers and producers. Azeri natural gas from the Shah Deniz II is important in this regard, since it is considered for export to the European energy markets. This is a viable means of diversification, and considering Turkmenistan’s interest in selling its natural gas

to the EU via Azerbaijan. The construction of the Trans-Caspian pipeline through the Caspian Sea between Azerbaijan and Turkmenistan only increases the importance of the region. It is clear that EU wants new resources and new supply routes, however there are still different strategies for improving diversity in the MSs' approaches. As mentioned in the previous section, energy deals of some EU MSs such as Germany's deal with Gazprom to build Nord Stream is a clear example of such diversity. This deal is good for the German energy sector, but in general, it is against the overall interests of the EU. Poland was against it because the pipeline went through Baltic Sea, by-passing the country, it showed that Gazprom prefers to cut bilateral deals with key EU MS like Germany so that it can to dictate its rules more effectively in the energy market.

Another objective, which is among the EU's priorities in order to insure its energy security, is to build interconnectors between MSs. In this respect, it should be emphasized that gas interconnectors between regions are the best solutions for avoiding an energy crisis because the Russian-Ukrainian crisis clearly demonstrated a lack of effective management in solving the crisis for Europe. For this matter, TEN-E's key aims are supporting interconnection, interoperability and development of trans-European networks for transporting electricity and gas, which are important aspects to the efficient work of the internal energy market (The European Parliament and Council, 2006). With this in mind, one can underline natural gas networks that have already been agreed upon;

- *NG 1 United Kingdom–northern continental Europe, including Netherlands, Denmark and Germany (with connections to Baltic Sea region countries)–Russia*
- *NG 2 Algeria–Spain–Italy–France–northern continental Europe*
- *NG 3 Caspian Sea countries–Middle East–European Union (“The Nabucco pipeline”)*
- *NG 4 LNG terminals in Belgium, France, Spain, Portugal and Italy*
- *NG 5 Underground storage in Spain, Portugal, Italy, Greece and the Baltic Sea region (Infrasite, 2004).*

As we can see TEN-E could play a crucial role in the diversification process, however there are still barriers to implementing the project fully and overcoming other existing challenges. On the one hand, it is important to define project feed costs as well as other

divergences regarding natural gas interconnections in the framework of feasibility study, and on the other hand to guarantee stable gas flow between involved parties should another gas crisis arise. With this in mind the role of LNG should be emphasized, as its use is increasing each year.

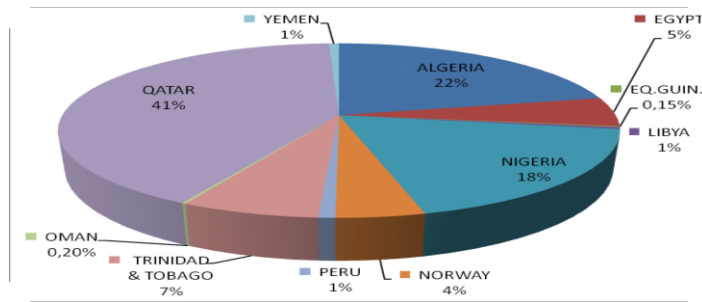
BOX 3. What is LNG?

LNG is liquefied natural gas, a clear, colorless, non-toxic liquid that forms when natural gas is cooled to around -160°C. This shrinks the volume of the gas 600 times, making it easier to store and transport to markets around the world. When LNG reaches its destination, it is returned to a gas at re-gasification facilities. It is then piped to distribution companies, homes, businesses and industries.

For more information visit: Shell Global, (http://www.shell.com/home/content/innovation/meeting_demand/natural_gas/lng/what_is_lng/).

LNG terminals will play a crucial role in the diversification process, and the development of this sector will make it possible to decrease the importance of pipelines and the Gazprom monopoly in the European gas market. In short, the improvement and development of interconnectors and LNG terminals will advance and insure EU energy security in the long term.

Figure 6: LNG imports in Europe per exporting country (2010)



Source: GLE presentation (GLE Publications)

4.4. Environmental aspect

The environmental aspect of EU energy security is also an important element of its strategy. Climate changes and carbon (CO₂) emissions have made the EU think about its strategy towards developing clean and sustainable energy. The Energy 2020 objectives envisage reducing greenhouse gas emissions by 20%, raising renewable energy use from 20% to 30% if the conditions are right, and making a 20% improvement in energy efficiency (European Commission, 2010, pp.2-3). The use of renewable energy sources and their improvements will contribute positively to EU energy security and decrease its dependence on fossil fuels. From an economic standpoint, renewable energy sources also stimulate development of advanced technology and create new employment opportunities. For instance, the European renewable energy technology development currently employs 1.5 million people and by 2020 this number could rise to 3 million (European Commission, 2011, pp. 2 and 11). This indicator confirms the importance of improving renewable energy technology. Last but not least, MSs must cooperate closely to improve cost efficiency; they do not have to focus only on their own national targets. For instance, according to the Commission's analysis, around 10 billion Euros per a year could be saved if MSs provided renewable energy as product in a single market rather than in national markets (ibid.,2011). This shows the necessity of market integration between MSs.

Table 5: *National overall targets*

EU MSs	Share of energy from renewable sources in gross final consumption of energy, 2005 (S2005)	Target for share of energy from renewable sources in gross final consumption of energy, 2020 (S2020)
Belgium	2,2%	13%
Bulgaria	9,4%	16%
Czech Republic	6,1%	13%

Denmark	17,0%	30%
Germany	5,8%	18%
Estonia	18%	25%
Ireland	3,1%	16%
Greece	6,9%	18%
Spain	8,7%	20%
France	10,3%	23%
Italy	5,2%	17%
Cyprus	2,9%	13%
Latvia	32,6%	40%
Lithuania	15,0%	23%
Luxemburg	0,9%	11%
Hungary	4,3%	13%
Malta	0,0%	10%
Netherlands	2,4%	14%
Austria	23,3%	34%
Poland	7,2%	15%
Portugal	20,5%	31%
Romania	17,8%	24%
Slovenia	16,0%	25%
Slovak Republic	6,7%	14%
Finland	28,5%	38%
Sweden	39,8%	49%
United Kingdom	1,3%	15%

Source: *Official Journal of the European Union, DIRECTIVE 2009/28 and own construction*

As we can see from the aforementioned national overall targets regarding the share of energy from renewable sources to gross final consumption of energy in 2020, all EU MSs have prioritized the development of renewable energy sources. The table shows that some

MSs, such as Latvia, Sweden, Finland, Austria and Portugal, are above 20% of renewable energy usage, and these countries plan to develop it even more. In sum, renewable energy sources, especially solar, wind and geothermal energy will be able to replace noticeable amounts of fossil fuels, decreasing EU energy market dependence of external supply sources in the long run. If the EU invests heavily in this sector it can develop and improve it dramatically. Here again, market integration between MSs will be very important to reduce future costs.

Conclusion & Recommendations

In our globalizing world, energy issues play a crucial role for many states. In this context, energy security constitutes one of the key elements of foreign policy. Despite the fact that there is no sustained response to a consensus about energy security, there appears to be key aspects like diversification of sources and supply routes, stable energy resources at reasonable prices, security of transit routes and economically sound projects that may be considered as a core of it.

As it was mentioned, oil and gas played a crucial role for Azerbaijan in its path for strengthening the independence. It became the main factor for the country's economic, political, social stability and development. For that matter, the "Contract of the Century" opened a new era in the country's socio-economic development and strengthened its position within the international arena. By implementing an independent foreign policy, Azerbaijan aimed to establish producer-consumer dialogue on mutually advantageous basis with Western countries in the hopes of attracting foreign capital investment to its energy industry. The vital energy project, the BTC pipeline, was the result of these fruitful dialogues. It diversified the country's energy supply routes and helped Azerbaijan establish political, economic and security links as well as fastened the integration process into European and Euro-Atlantic structures. At the same time, it opened new opportunities for future energy projects connecting the Caspian Sea to global energy markets. Thanks to oil and gas revenues, the country established a strong and diversified economy. Doing this, it has managed to avoid the negative pathology of resource curse 'Dutch disease'. To this end, SOFAZ played an important role with regards to how the Oil Fund contributes to the national economy. On the other hand, existing problems threaten Azerbaijan's continued economic success. The most serious of these is corruption. Dealing effectively with this issue should help eliminate the potential of any serious economic disease. Of course, anti-corruption campaign may be considered as a good approach against corruption in general.

Within the context of this topic, the recent developments in the energy sector of the country such as exploration of Shah Deniz II field brought the notice of the European energy consumers to Azerbaijan. The project turned the country into a net gas exporter that can play an important role in the European gas supply. Taking into account Azerbaijan's interest to export its energy resources, there must be an effective consumer-producer dialogue and cohesive strategy that are important in order to realize all their necessary energy projects. The EU must understand that many entities have diverse interests in the region. Therefore, the lack of the effective strategy towards the regional countries may result in losing its position in this important geo-political location. Considering it, the EU must take more effective steps to strengthen its position and hedge against the increasing Russian influence. The EU active involvement in the conflict resolution processes could be an effective mechanism to this end. It is important to underline that in terms of the energy dialogue between Azerbaijan and the EU, natural gas plays a crucial role. Thus, if the EU wants to insure its energy security in the long term perspective, it must embrace a stronger and unified strategy towards the country and the Southern Corridor. The fact remains that new pipeline projects are needed to supply gas from Shah Deniz II field to the European energy market, and the EU must demonstrate a strong political will to realize this project. In brief, Azerbaijan's potential to export oil and natural gas to the Western markets is growing year by year, followed by the EU demand to ensure its energy security.

Another important idea is the energy security of the EU with its challenges and solutions in which EU MSs can address these important issues. The importance of the energy security will rise in the foreseeable future; therefore it is necessary for the EU to have an effective energy strategy to ensure stable economic development and enlargement. The EU energy market clearly illustrates the high degree of dependence of the EU on fossil fuels, and this indicator is rising each year. In this respect, it should be noted that the high dependence on external energy resources is being affected by the declining domestic production of energy sources by the EU. At the same time, rising demand for energy resources within the competition of other big energy consumers makes the energy market

volatile. Should this tendency continue the EU energy market could become even more vulnerable. The volatility of prices has an impact on the multiples economies that cannot buffer themselves against it. It is necessary to note that the lack of an effective and cohesive energy strategy damages the EU's overall interests. Disparate MSs security strategies give external energy players like Russia more leverage and allow them to dictate the rules to the European energy market. Besides, individual MSs cannot be strong enough to compete with other big energy consumers. Therefore, inter-relation between key objectives of the EU policy and establishment of unified energy strategy could protect the overall EU interest in the international arena. In order to insure its energy security the EU must launch effective dialogue with both energy producers and transit countries, because without effective dialogue on the mutual advantage basis, it is simply impossible to guarantee secure and stable energy supply. It should recognize interdependence between producers, consumers and transit countries. The energy cooperation incorporates many players, such as consumers, producers, transit countries, governments, energy companies and so on, but the most important fact is inter-state relations between involved parties. In this context, each actor seeks to protect their respective interests. For instance, consumers are interested in stable and secure energy supply with affordable prices, whereby producers are interested in revenues from energy resources selling, as well as investment and technology to develop their energy industry. This objective is very obvious in the energy industry and interests of Azerbaijan as well.

Analyzing the EU's energy security, it becomes clear that decentralized decision-making process regarding energy issues harms its interest. The key mechanism with respect to energy security belongs to the national governments, whereby each government has its own strategy and interest towards the issue. For that matter, some MSs don't even have a coherent energy policy to guarantee its own security; therefore unified energy policy that can deal with all possible challenges with regard to energy security could insure security not only for some individual MSs, but for all the Community. Having it in mind, it is possible to emphasize that there is a legal basis for a unified energy policy, but the lack

of political will between the MSs prevents it.

Finally, according to the analysis, it should be noted that several positive measures have been already taken in the Community level, plus there is a legal basis to face energy challenges, and for that matter, the role of diversification will be very important. Additionally, the establishment of effective internal markets and closer cooperation between all MSs will also be an important factor to this end. Other steps such as the establishment of interconnectors will help cover almost the entirety of the EU energy markets, as well as the construction of LNG terminals that will be another effective mechanism with which to ensure the energy security of all EU-27. Last but not least, sustainable energy resources may decrease dependence on fossil fuels. If EU MSs have clear visions regarding what constitutes an effective strategy and market integration, then it will of course promote energy security in the long term perspective. In sum, on the basis of analysis, it is possible to make the following recommendations;

- The Republic of Azerbaijan as natural resource-rich country must decrease dependence of the national economy on oil and gas revenues and allocate funds from oil and gas for development of other sectors of its economy. Development of such sectors of the economy as hi-tech and tourism can guarantee sustainable macro-economic development as well as future economic security of the country. In this respect, the investments from oil and gas sectors to the aforementioned sectors of the economy must be the key objectives of the investment policy of the country.
- Management of energy revenues in the economy must be done in such way to eliminate any possible ways of corruption. Establishment of the separate and independent ‘Anti-Corruption Department’, which will control all the sphere of the national economy. Participation of the staff of such Department in various international programs and seminars about anti-corruption measures will promote positively for the future transparency and stability in financial and economic systems of the country.
- Regarding bilateral relations between Azerbaijan and the EU, the parties must intensify dialogues in order to eliminate the existing and the future challenges, which hinder cooperation and deepening relations. In this context, active involvement of the EU in the NK conflict resolution will

promote naturally improvement of such issues as democracy, human rights and transparency in the country, which may be considered as ‘Achilles’ heel’ vis-à-vis the EU. The NK conflict prevents the full integration of the country into the European structures.

- In terms of the EU energy security, the EU must act with one unique voice and at the same time to have a clear and unified strategy towards the region. It will naturally help to realize the future energy projects to deliver the Caspian and Central Asian energy resources to the European energy market that will reduce the EU MSs’ dependence on the Russian energy resources.
- To insure its energy security from the middle to the long term perspective, the EU must work out political initiatives as well as unified energy policy, whereby all 27 MSs will have the common energy interests and act with the single voice in the international arena, which in turn, will give the EU advantage vis-à-vis the main energy exporters and other big energy consumers.
- Other basic elements which will be able to promote the EU energy security in the long run must be the diversification of supplies and supply routes as well as establishment of strong common energy market. In this respect, it should be noted that natural gas interconnectors between MSs and LNG terminals can avoid any possible energy crisis. Finally, investment and development of renewable energy sources will reduce dependence on the fossil fuels and diversify energy market in the long term perspective.
- Last but not least, it is worth underlying that the future enlargement of the EU will demand cohesive energy strategy as the diversity between MSs only worsens the energy market, consequently making it more vulnerable. Therefore the aforementioned recommendations both regarding Azerbaijan and the EU may be considered as useful mechanisms to face the problems and solve them, as well as guide a discussion for a future research agenda.

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2: Interview with Mr. Michal Mares, Secretary of the Special Envoy for Energy Security. April 11, 2012, 13:00 pm at the Ministry of Foreign Affairs of the Czech Republic. Loretánské náměstí 5, 118 00 Praha 1.