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## TABLE OF CONTENTS

Introduction.....	3
<b>Chapter I.</b> Formation and development of relations between the Republic of Azerbaijan and the European Union.....	5
1.1. Trends in the development of world energy market in the conditions of globalization.....	5
1.2. Participation of the Azerbaijan Republic in the European Neighborhood Policy and Eastern Partnership program.....	18
1.3. Features of the European energy market and the role of Azerbaijan there.....	28
<b>Chapter II.</b> Cooperation projects between the European Union and Azerbaijan in energy sector.....	39
2.1 The oil strategy of the Republic of Azerbaijan and the EU.....	39
2.2. Projects of cooperation Azerbaijan and EU in the gas sector.....	50
2.3.Azerbaijan-EU cooperation in the field of the alternative energy development.....	63
<b>Chapter III.</b> Challenges and perspectives of cooperation between the European Union and Azerbaijan in the field of energy.....	68
3.1. The problem of ensuring energy security in the relations between the EU and Azerbaijan.....	68
3.2. Future prospects of European Union and Azerbaijan relations in energy sector..	76
Conclusion.....	84
Bibliography.....	86

## **Introduction**

**Actuality of the topic.** At this stage of the development of the world economy in the context of globalization, the issue of energy security and energy supply is one of the most important. At the same time, this issue is of importance for both energy producing countries and for the countries of consumers, economy of which is fully oriented towards imported energy resources. The problem of stable provision of the economy with the necessary quantity of energy resources with minimal risks occupies leading positions among the foreign policy issues of all countries of the world.

**Research objectives.** The object of the study of this thesis is the issue of energy cooperation between the Republic of Azerbaijan, which is one of the old oil-producing country and the European Union, energy resources of which are limited and the economy is focused on imported resources. The subject of dissertation research is the energy market of Azerbaijan. To achieve these objectives, the following tasks were singled out:

1. To consider the state of the world energy market in the context of globalization;
2. To consider the state of the EU energy market and the role of Azerbaijan there;
3. To consider the history and stages of development of cooperation between Azerbaijan and the EU;
4. To identify the projects and main directions of cooperation Azerbaijan with EU;
5. To identify the projects in the field of energy cooperation between Azerbaijan and the EU (oil, gas, alternative energy sources);
6. To identify the prospects for cooperation in the energy sector between the Azerbaijan and the EU;
7. To identify the problems that impede energy cooperation between the Azerbaijan and the EU.

**Theoretical and methodological basis of the research.** The theoretical basis of the research is the fundamental provisions in the field of the energy market, contained in the works of domestic and foreign scientists, classical and neoclassical theories of international trade, as well as the legal and regulatory documents of the country. In the analysis, the deductive method was used, since to a single conclusion came from general information. For analysis was used secondary data which was obtained from scientific publications, articles, government publications, media, etc. For the analysis was used both quantitative and qualitative data.

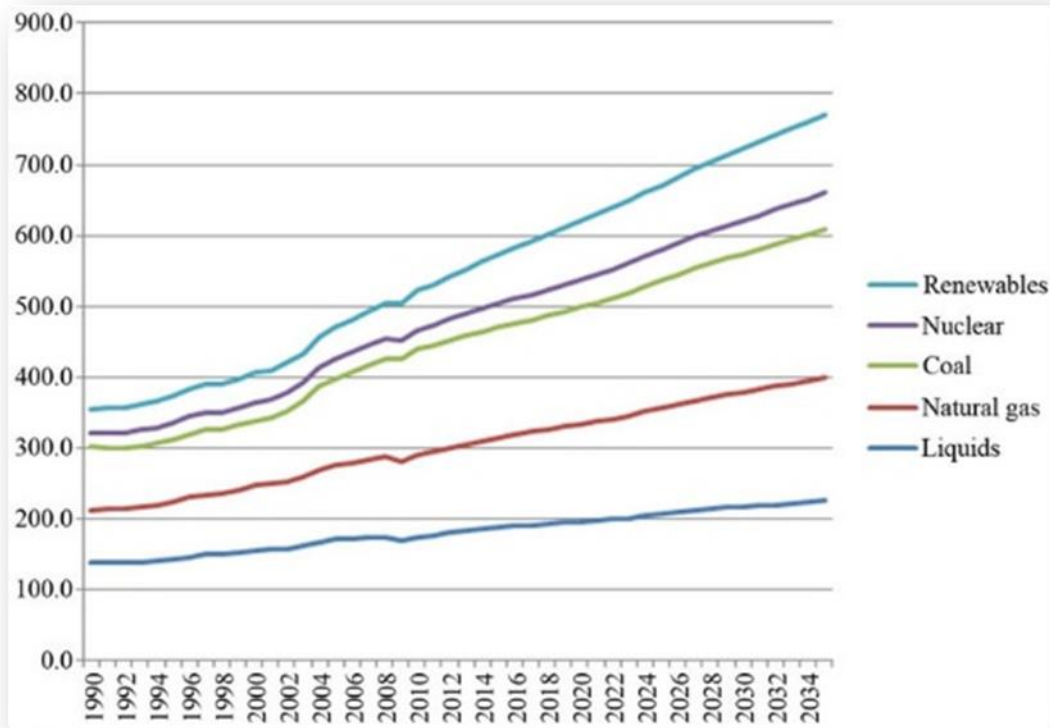
**Structure of research.** The thesis consists of introduction, 3 chapters, each of which is divided into sub-chapters, conclusion and reviewed literature list, 5 tables, 8 charts. The object of the study of the first chapter is the question of the formation and development of relations between the Republic of Azerbaijan and the European Union. This chapter examines such issues as the state of the global energy market in the context of globalization, Azerbaijan's participation in the European Neighborhood Policy and the Eastern Partnership program, as well as the general characteristics of the energy market of the European Union and the role of Azerbaijan in this market. The second chapter will consider energy cooperation projects between the European Union and Azerbaijan. Thus, it will consider cooperation projects in the field of oil, in the gas industry, as well as cooperation in the field of renewable energy resources. In the last chapter of this thesis, questions about the prospects for cooperation between Azerbaijan and the European Union in the energy field will be discussed. Separately, the issues and problems that represent an obstacle for the development of cooperation between them will be considered.

## **Chapter I.** Formation and development of relations between the Republic of Azerbaijan and the European Union.

### 1.1. Trends in the development of world energy market in the conditions of globalization.

The global energy market is now undergoing unprecedented changes under the influence of globalization. In modern conditions, the world economy is increasingly confronted with new challenges and changes. The development of the world economy is accompanied by an increase in energy consumption, which, despite the increased efficiency of use of energy resources at all stages of the energy cycle, requires the involvement in the economic turnover of all new volumes of resources. In recent years, oil prices fell sharply, and with them prices for other types of fuel fell in many regions of the world.

The globalization of the energy market in the world is deepening due to the strength of international trade, foreign investment, market economies and industrialization. This open energy market around the world made the issue of energy security and electricity consumption topical. This globalization of the energy market has prompted countries to pay attention to controlling demand and supply in energy consumption. Interaction of energy markets between the regions of the world is an optimistic step for the optimal resolution of the issue of energy security. And also the installation of projects on renewable energy sources will ensure the satisfaction of the growing demand for electricity. Globalization of the world energy market is not a new phenomenon. Throughout the centuries, countries have been trading internationally in this market. But the growth of the world population and the demand for energy over the past few decades have led to certain problems for the provision and planning of economic and energy security. Below is a table that illustrates global energy consumption since 2008 and the expected consumption until 2035 (Table 1).



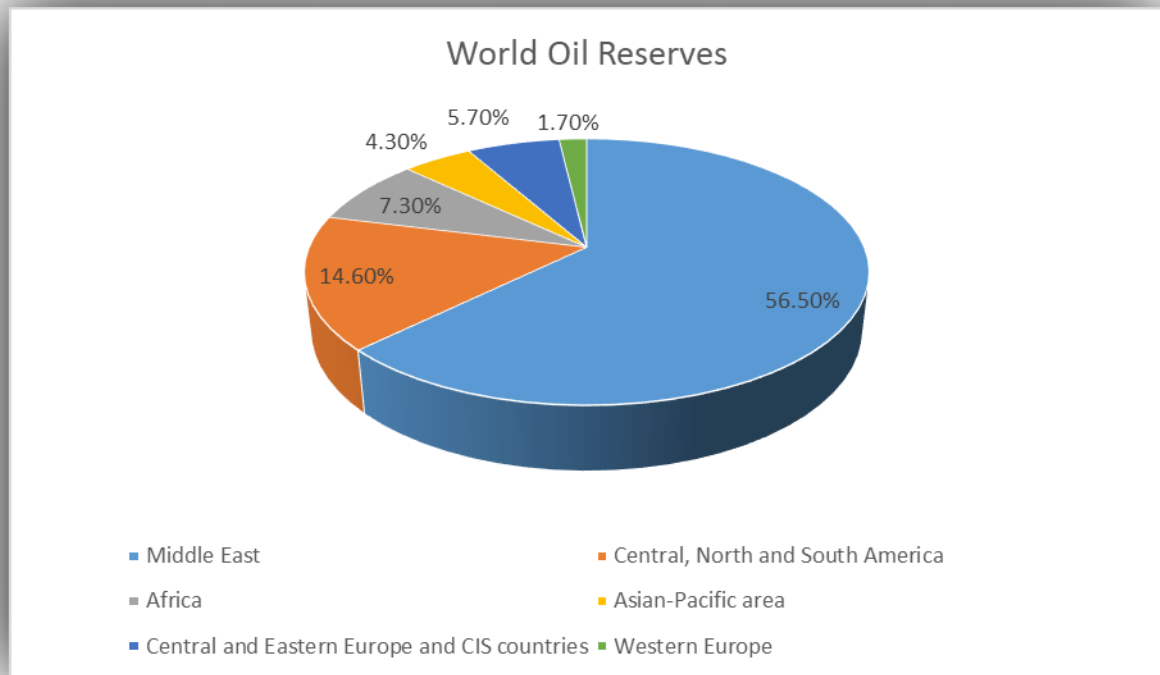
**Table 1. IEO report (International Energy Outlook report). [54]**

It follows from the report that world electricity generation increased by 87%. As estimated in 2010 world oil reserve was sufficient to satisfy 46.2 years of global production. Total proven gas reserves according to 2010 years estimations were sufficient for 58.6 years. The Resource / Production ratios are decreasing for each region, which is due to increased production. From 2007 to 2035, global renewable energy consumption averages 3.0% per year, and the renewable electricity production increases from 18% to 23%, according to Table 1. Also the share of coal production increases by an average of 2.3% per year. And it made coal the second fastest growing source of electricity in the world economy. Natural gas production is increased by 2.1% per year, and nuclear energy is increased by 2.0% per year.

In recent years, the problem of energy supply and demand has contributed to increasing the interdependence of the countries of the world, in other words, their welfare and security depend on each other. Countries that consume energy need to

constantly supply a growing amount of oil, gas and coal, and energy-producing countries need constant foreign capital to develop the facilities needed to extract more resources. Major oil producers experienced significant economic growth. On the contrary, rapid population growth and extensive commercialization, also industrialization lead to a high demand for energy. This question forced the Western countries to think about their electricity market and invest more in alternative energy market to reduce or stabilize their energy consumption.

In the structure of world energy consumption, oil takes the first place - about 30%, with the forecast of maintaining this indicator for many years to come. Gas and coal do not have many useful properties of oil - oil is convenient to transport. Thus, taking such a weighty place in the structure of the energy complex, oil is a factor that strongly influences the economy of individual countries, regions and the world. Reliable reserves of oil amounted to 139 billion tons in 2016. Probable reserves of oil from unconventional sources - oil shale and bituminous sands make up to 750 billion tons. Currently, a significant share of oil is extracted on the shelf - the Persian Gulf, the North Sea, the Gulf of Mexico, the Caspian Sea. After the Second World War, the largest deposits were discovered in the Arab countries, Iran, Iraq, as well as in North Africa, Nigeria, the shelves of Southeast Asia, Mexico, Alaska, the North Sea. The main importers of oil are the countries of Europe, Japan, the USA. The Organization of the Petroleum Exporting Countries is significant body on the world oil market, It has strong power to affect the supply and prices. Initially, this organization had the goal of coordinating the policy of selling crude oil by participating countries. OPEC was formed in 1960. In the formation of OPEC the main role were played 5 founder countries Iraq, Iran, Kuwait, Saudi Arabia and Venezuela, it also includes 12 member countries - Indonesia, Iran, Iraq, Kuwait, Algeria, Gabon, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela, Ecuador (joined the organization in 1973 and left it in 1992).



**Chart 1. World Oil Reserves (IEO report).[54]**

Thus, as we can see from chart1 most of the oil reserves fall on the share of Middle East countries-56.50%, and the share of Western Europe is only 1.70%. At the end of the 1950s, the volume of oil produced was greater than the demand for it. The price of oil, which was controlled by oil companies, fell, and together with the price, the volumes of profits of exporting countries fell. In addition to joining OPEC, some countries nationalized the extractive and processing petroleum industry, which brought huge profits to these countries. In the 1970s, the production and supply of oil on the world market by non-OPEC countries decreased. The organization did not miss the opportunity. The proposal was concentrated in the hands of OPEC in sufficient volume to conduct a successful increase in prices - there was a 15-fold increase in prices.

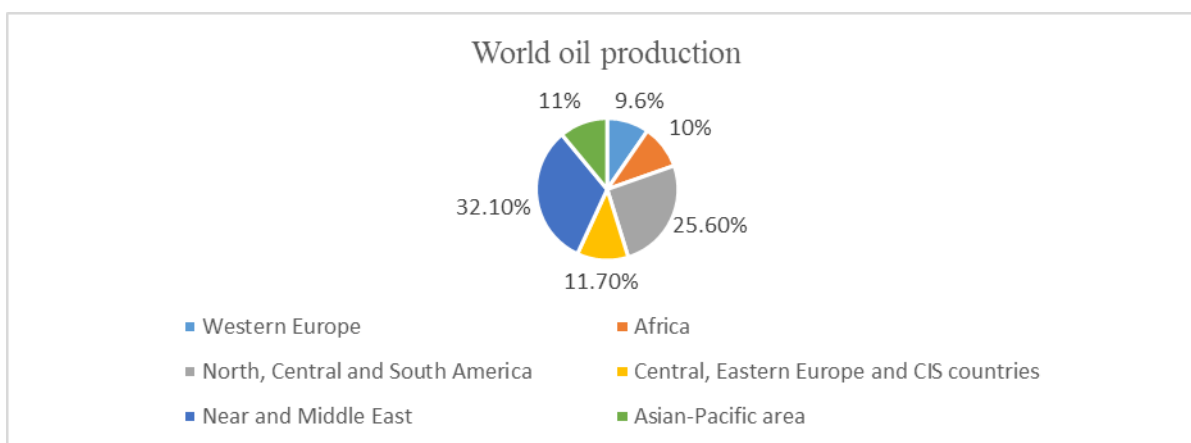


1973 became the end of the era of crude oil. The rise in prices shocked the global economy. Of course, the crisis led to a recession in the world economy, but it also had positive aspects. In many developed countries then began to search for other sources of energy, the transition to energy-saving technologies, it became clear that one can no longer unlimitedly draw from this source. Countries began to reduce the specific weight of oil in the fuel and energy balance. Demand for oil decreased, but OPEC countries received huge profits. In 1978 the world experienced a new crisis; this time as a result of the revolution in Iran. Oil production in this country fell sharply, and as Iran was one of the main producers, panic began again among consumers.

The war between Iran and Iraq, once again reducing the supply of oil, gave an additional impetus to the rise in prices. By the end of 1980, the price of crude oil was 19 times higher than 10 years ago. However, other countries joined the supply of oil - the countries of the North Sea basin, Mexico, Brazil, Egypt, China and India, which led to lower prices, and in 1986 the barrel of oil was \$ 9. The output of the former USSR reached 11.42 million barrels per day in 1989, accounting for 19.2% of world output this year. Another tactic of price control by OPEC countries is to establish a "ceiling" of oil products, which controls how much oil each country will produce. In 1980, it was overproduction and a drop in prices, due to the fact that some countries ignored this issue. Thanks to the huge oil reserves, the OPEC countries will remain a significant force on the world market in the foreseeable future. The Oil Depletion Analysis Center (ODAC), unlike OPEC, commented the cause of the crisis and think that it is not the policy of the oil-producing countries, but the depletion of the world's reserves of black gold. [1]

Oil is a non-renewable resource, the reserves of which will sooner or later be completely exhausted. The question is: how to determine the moment when the reduction in oil reserves will really affect its supply. The World Energy Outlook of

the International Agency says that the existing oil reserves will be enough for the world at least until 2020. René Dahan (one of the ExxonMobil executives) believes that there will not be a deficit in the world oil market for another 70 years.



**Chart 2. World Oil Production (IEO report).[54]**

The supply in 2007 increased by 3.3%. The main revenues came from the Middle East (mainly OPEC countries), from the countries of the Caribbean and Latin America. Production in North America and Europe remained almost unchanged, although there were changes in the production of Norway and the UK. The output of Africa increased by 4.8%, the output of the CIS countries also increased. The US production fell slightly, just 0.6%. Canada's products increased slightly. Oil production in Mexico and Venezuela has increased significantly, amounting to an additional 370 thousand barrels per day. The production in Mexico is growing mainly due to the shelf, Brazil's production has also grown. The increase in oil production in Africa was one of the important factors affecting the oil market. The supply of oil from this region increased by 325,000 barrels per day, or by 4.8%. Most of this amount falls on Nigeria and Libya - the OPEC countries. In general, the situation in the Western Europe region has hardly changed since 1996, but some changes have occurred in the production level of Norway and the UK. The UK mining output decreased by 0.8%; in Norway, on the contrary, increased by 1.5%. The countries of the CIS and Central and Eastern Europe. Oil production was significantly increased

by Russia. Kazakhstan also slightly increased by 66 thousand barrels per day oil production and further increase is expected in connection with the expansion of the operation of the Tengiz field. Azerbaijan is also expected to increase production for the project to exploit the Chirag deposit. Saudi Arabia and Qatar received an increase in quotas. But a large increase in exports could entail a further fall in oil prices.

Oil prices show a strong downward trend, which causes concern among exporting countries. Some experts see the current situation as a repeat of 1986. In 1986, Saudi Arabia almost doubled exports, contributing to this collapse in prices. But then OPEC members quickly coordinated their actions and they managed to restore the price of oil from \$ 9 per barrel in August 1986 to \$ 18.5 per barrel in February 1987. But then an important factor was played by such factor as strong demand for oil. This is the main difference between that period and the present one. It is difficult to say what will happen next with prices now. Under such conditions, many companies suspend their activities, many are scaling back and stop investing in R&D. Most likely, this situation will last until OPEC reduces oil exports or the demand for oil will rise.

And the global import and export of oil, according to the forecasts of international structures, may look like this in the future. The import of North American oil from the Persian Gulf in 2001-2025 will double. The main increase in crude oil imports in North America will come at the expense of Venezuela, Brazil, Colombia and Mexico, and later Nigeria, Angola and other West African countries. In return, the region will be able to receive a growing volume of oil from the Caspian Sea. The Caspian region, with its huge resource potential, has recently taken a strong place in the world trade turnover with hydrocarbon raw materials.

Recently, it was noticed the intensification in world oil market. The main factor of activation, of course, is the price of oil, which in recent years is determined not so much by economic, so much by political factors. As for gas, its exports are planned to

be launched from the Caspian in a short time in a western direction. It is also planned to build a long pipeline from Russia and Kazakhstan to Japan and China.

However, the International Energy Agency (IEA) can not influence the oil cartel, and OPEC does not intend to increase production. The reason for the IEA's concern is that the European market may suffer because of a sharp rise in US fuel prices. Supplies of oil, like oil reserves, are slowly but surely shrinking. Fuel supplies fell to a record level in the last 16 years in 2016. Interested in the growth of oil prices, the OPEC cartel at the end of 2016 twice reduced oil production, which reduced it by 1.7 million barrels per day. This reduction was quite enough to keep oil prices at an acceptable level for OPEC - around \$ 60 per barrel.

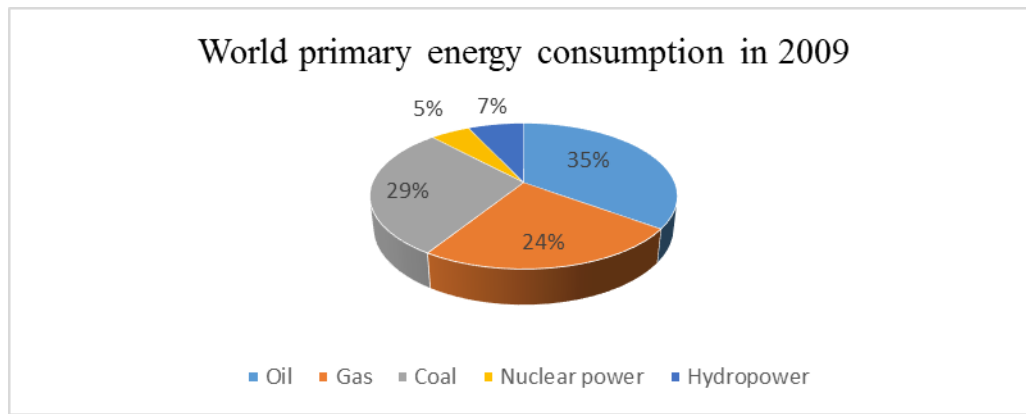
Despite the huge impact on the oil market, OPEC produces only 40% of the world's oil production. However, the countries that are part of OPEC own 77% of all the world's proven reserves. Non-OPEC countries (Canada, Great Britain, Norway, Mexico, China, Russia, USA and Azerbaijan) produce about 60% of oil, but their own reserves are rapidly depleted. As a result, in recent decades, the need to develop alternative energy sources is becoming increasingly acute.

The total oil reserves of OPEC member countries are currently estimated at 1,265 billion barrels, reserves of Russia and other CIS countries are 447 billion barrels, reserves of North America are 381 billion barrels, and non-OPEC developing countries - 282 billion barrels. The mechanism for regulating the world oil market by the OPEC organization is simple. All OPEC countries depend on income of their oil industry (the only exception is Indonesia, which receives substantial revenues from tourism, sales of gas and other raw materials). For other OPEC countries, the level of dependence on oil exports varies from 48% (UAE) to 97% (Nigeria). Economies of countries of the cartel participants directly depend on the world prices for hydrocarbon raw materials. On the other hand, prices should not have a negative

impact on the development of the world economy and, in particular, should facilitate the implementation of investments in the development of the oil industry.

World oil prices in the past 2017 period continued to creep down, reacting to a drop in crude oil consumption. 2017 was marked by a deal between the OPEC countries, which made considerable efforts to eliminate the surplus in the world market. The goal of exporters is to achieve a 5-year average level of oil reserves. Participants in the transaction continue to follow its terms clearly, demonstrating a high level of compliance with the agreements. The motive for the decision on the OPEC deal was a record drop in the price of oil in January 2016 - up to \$ 27.7 per barrel of oil. The first attempt to limit the offer was made back in April 2016 in the framework of OPEC, but the Doha summit failed. Then there was the OPEC meeting in November 2016, after which the situation slowly began to level off.

Following the results of 2017, the effect of the OPEC oil production reduction deal was fully manifested. The price of oil was firmly fixed above \$ 60 per barrel, which meets the interests of producers and consumers. For the latter, this was reflected in the stabilization of fuel prices. The highs were reached on December 12 at \$ 65.82. The share of natural gas in the fuel and energy balance of the world is very modest - 23%, which does not meet its advantages in comparison with other energy sources. Accordingly, the growth rate of the gas industry in most countries of the world is also low. Exception is represented by such countries as the Netherlands, Norway and a number of other European countries, as well as Russia in which already today natural gas is the main energy carrier. However, by 2020. It is expected that the share of natural gas in total energy consumption will reach 45-50%.



**Chart 3. World primary energy consumption in 2009** (International Energy Agency, World Energy Outlook-2009). [54]

As we can see from the chart above oil and gas still plays crucial role in energy consumption (35% and 24%), but proportion of coal also remains high in energy consumption.

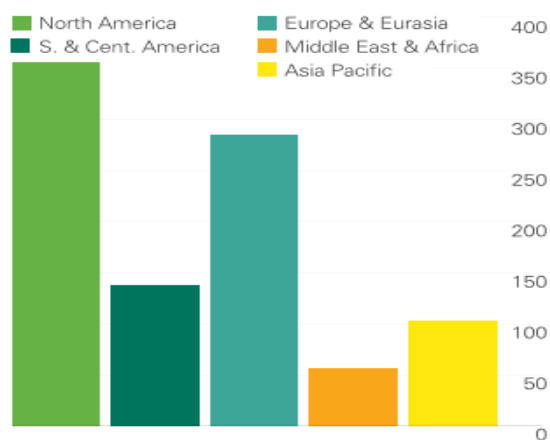
	Country	2012 (billion cubic meters)
1	Russia	48676
2	Iran	33780
3	Qatar	25069
4	Turkmenistan	10000
5	USA	8910
6	Saudi Arabia	8235
7	United Arab Emirates	6091
8	Venezuela	5563
9	Nigeria	5118
10	Algeria	4504

**Table 2.** World 10 countries in terms of gas reserves in 2012 (BP Statistical Review).

Proven gas reserves in the world is about 173 trillion cubic meters, if to add to them yet undiscovered reserves, which according to preliminary calculations, it is about 120 trillion cubic meters, this amount would be about 300 trillion. This amount

of gas is estimated that would be enough for about 65 years. However, its reserves are unevenly distributed, although the consumption of natural gas in the European Union is high, the reserves of this raw material are limited. Table2 shows the list of leading countries in terms of proven gas reserves. The top three countries include Russia, Iran and Qatar.

Thus, during the industrial revolution coal was the main source of energy, however in the second half of the 20th century, its importance has slightly decreased, mainly due to negative effect on the environment. Nevertheless, the fact that the use of coal is several times cheaper than natural gas and oil allowed coal companies to regain their investor position at a time when oil prices have increased significantly, and new technologies make it no longer a dirty fuel, as it was before. Increased demand for coal is now made by countries with developing economies, primarily China and India. High rates of economic growth, accompanied by active development of industry and construction of transport highways, cause the increased requirements of these countries in a cheap energy carrier. According to BP statistical review, world proved coal reserves are currently sufficient to meet 153 years of global production.[35]



**Chart 4. Reserves to production ratios by regions** (BP statistical review,2016).

According to BP statistical data reserves to production ratios of coal is highest in North America and Europe. In the countries of Eastern Europe and the territory of the former USSR coal consumption from 1990 to 2006 fell by almost 45%. In

Western Europe, the reduction in coal consumption in the 1990s, due to the transition to more environmentally friendly fuels, was 36%: in a number of countries, coal was displaced by natural gas, in France - by nuclear fuel. To date, the largest consumer of coal is China: it accounts for 38.6% of world consumption of this type of fuel. The second place is occupied by the USA, their share is 18.4%.

The United States, France, China, South Korea and Russia, produces 70% of global nuclear electricity. At the same time, the share of the United States and France totals 48%. Ten reactors were put into operation in 2016, half of them in China. Annual global investment in nuclear energy is many times less than in solar and wind generation. The oldest reactors are in Switzerland, their average age is 42.2 years. In the world, this indicator is 29.3 years, in the EU - 32.4 years. Switzerland at a recent referendum decided not to build more nuclear power plants. In Europe, there is an absolute reduction in the output of nuclear power. Reducing the cost of wind and solar energy technologies in recent years has led to a sharp drop in prices for solar and wind electricity. In the most favorable climatic regions, solar energy produces the cheapest electricity in the world. According to the BP statistics, share of China in net growth is highest, and it is increased by 24.5%. This was the fastest growth in absolute terms in the history of China. The generation in Japan and Belgium also increased dramatically, while in France there was a sharp decline (-8.1%, -7.7 million tonnes of oil equivalent).

Technical progress in the field of renewable energy sources (RES) allowed to achieve high enough growth rates of production of green energy (17-19% per year). Nevertheless, the use of wind, solar, geothermal and other renewable energy due to high initial capital intensity provides for less than 2% of commercial energy supply and concentrated in a relatively small number of countries. Half of the world capacity of RES is located in four states - the USA, Germany, China and Spain. According to BP statistical review in 2016, the world share of renewable sources reached 7.5%, in



2011 it was 4%. In the OECD countries in 2016, this figure is 10.9%, and in non-OECD countries it was about 4.8%. Although the share of renewable energy sources in world production and consumption is small, but for certain countries it is a significant part of the economy. Countries in which renewable energy sources contribute more than 20% of electricity include: Germany, Spain, the United Kingdom, Italy, Portugal, Denmark, Finland, Ireland and New Zealand.

Data on the actual trade in fuels directly indicate the growing importance of international supplies in securing the market. Thus, according to BP, from 1996 to 2009, the share of oil produced through international trade channels increased from 55.9 to 68.2%, and the share of natural gas from 19.0 to 29.4 %. The main buyers of oil and oil products are the USA, Japan and China (about 40% of interregional supplies), and natural gas - the USA, Japan, Germany and Italy - also about 40% of total international gas supplies.

## 1.2. Participation of the Azerbaijan Republic in the European Neighborhood Policy and Eastern Partnership program.

Relations Azerbaijan with the European Union began in 1991. Their basis is the Partnership and Cooperation Agreement, which entered into force in 1999 and provides opportunities for large-scale cooperation in the field of political dialogue, trade, investment, economy, legislation and culture with EU. Gradually, the political and economic situation in Azerbaijan improved after independence. In addition, the EU's interest in the oil and gas resources of the Caspian Sea and the possibility of diversifying energy supplies to Europe in the future contributed to the achievement of the "Partnership and Cooperation Agreement" (PCA), which laid the legal framework for Azerbaijan's relations with the EU. The treaty gave a new impetus to the relations between Azerbaijan and the EU.[56]

The "Partnership and Cooperation Agreement" between the EU and Azerbaijan was signed on 22 April 1996 in Luxembourg and entered into force on 1 July 1999 after passing the ratification in the Parliament of Azerbaijan in the European Parliament and in all national parliaments of the EU member states This Agreement had the following objectives:

- Ensuring the development of political relations between countries within the framework of appropriate political dialogues;
- Supporting efforts to strengthen democracy, the transition to market relations and economic development;
- Development of economic, financial, social, scientific, cultural cooperation, also trade and investment cooperation.

Azerbaijan with its huge energy resources is also of key importance in geopolitical terms. It is the wealth of the Caspian Sea that predetermined the EU's great interest in intensifying cooperation with Azerbaijan in the oil and gas sectors. In

this regard, the Action Plan included an item on mandatory restructuring of the State Oil Company of Azerbaijan (SOCAR).

Azerbaijan's aspiration to become an energy partner of the EU was explained not only purely economic benefits, but also political considerations - the Nagorno-Karabakh problem. The conflict, which began between Azerbaijan and Armenia in late 1988, continues to this day; it led to Azerbaijan's loss of 20% of its territories.

European Union's cooperation with Azerbaijan has gradually increased since that period. The European Neighborhood Policy is being applied to Azerbaijan at the beginning of 2004, as well as the Eastern Partnership Programm, in 2009. The protocol on Azerbaijan's participation in European Union's programs and cooperation with relevant agencies was adopted in July 2016. This new agreement should replace the Partnership and Cooperation Agreement and take into account more generally the common goals and challenges facing the EU and Azerbaijan today. Negotiations on the new agreement began on February 7, 2017 after the visit of President Ilham Aliyev to Brussels on February 6. The new agreement will be in line with the principles approved in 2015 as part of the revision of the European Neighborhood Policy.[45]

Since the enlargement of the European Union (EU) in 2004, the eastern direction had taken a prominent place in its foreign policy strategy. The main aim of European Neighborhood Policy (ENP) is to strengthen dialogue with neighboring countries and bring them closer to their standards. The desire to secure their borders and help the new states after the collapse of the USSR in building a safe and stable society prompted the European Union to develop a number of programs of cooperation with this countries. The main goal and essence of these programs were to expand and deepen the integration ties of various levels, as well as to regulate further

their relations with the countries of the EU. The European Neighborhood Policy includes the following principles:

- Closer political ties;
- Economic integration;
- Assistance in achieving EU standards;
- Support for economic and social reforms.

In the ENP participate 16 countries. Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, the Palestinian National Authority, Syria and Tunisia, Israel are Mediterranean partners, there are mainly Arab countries. Six countries of the CIS were involved in the eastern direction of the strategy: Azerbaijan, Armenia, Belarus, Georgia, Moldova and Ukraine. On June 14, 2004, the Council of the European Union decides to include the states of the South Caucasus in the scope of the European Neighborhood Policy. The geopolitical interests of the European Union in this region, as well as the fear for the security of its eastern borders, pushed the EU to establish closer contacts with the three states of the South Caucasus. On November 14, 2006 Action Plan on Cooperation of the European Union with Azerbaijan entered into force. It provides the following:

- Respect for common values in the conduct of political, economic and administrative reforms by Azerbaijan assumed to participation in the EU's internal market;
- Participation in the integration and liberalization processes to ensure the free movement for citizens, the turnover of goods, services and capital;
- More effective political dialogue and cooperation with EU member states;
- Preferential trade relations and open market, cooperation in the sphere of migration and the fight against drugs and organized crime, the promotion of investments, the flow of new financial resources, and support for membership in the World Trade Organization;

-Issues of the protection of human rights, democratic transformation, corruption, increasing bilateral and regional relations.[49]

One of the important provisions of the mentioned document was the EU's participation in the peaceful settlement of the Nagorno-Karabakh conflict by supporting the efforts of the OSCE Minsk Group, using the opportunities of the UN Security Council, strengthening the dialogue of the EU with states interested in a political settlement of the conflict in the South Caucasus.

After gaining independence on 18 October 1991, Azerbaijan declared its desire and interest in close cooperation with the European Community. However, serious political and socio-economic problems did not allow Baku to conduct an equal dialogue with European countries. As a consequence, in the early 1990s, The EU's cooperation with Azerbaijan was mainly related to the implementation of technical programs, such as:

-TACIS - "Technical Assistance to CIS Countries"- the program of the European Union to promote the acceleration of the process of economic reforms in the CIS. The cooperative framework included enterprise restructuring, development of the private sector, agriculture, energy and transport, public administration reform. From 1991 to 2006 for this purpose was allocated 7.3 billion euros. In the part of the TACIS program related to Azerbaijan, three main areas of cooperation are given priority: infrastructure, the private sector and the development of human resources. TRASECA and INOGATE are the main multilateral projects of TACIS, which are connected with Azerbaijan. Until 2004, our country was provided with financial assistance for 430 million euros from the EU in the following areas:

- food aid for refugees;
- energy projects, transport and food security, infrastructure reforms;

- restoration of some territories affected by the war (railway station in Fuzuli region, reconstruction of electric transmission devices, restoration of the drinking water and irrigation system, repair of schools).

From January 1, 2007, the TACIS program was replaced by the European Neighborhood and Partnership Program, which had a broader mandate and authority. In its orbit there were 17 countries, including Azerbaijan.[30]

-INOGATE - "Interstate program for the transportation of oil and gas to Europe" - international cooperation program in the energy sector between the EU, the Black Sea and Caspian countries. The program was founded in 1996. The Republic of Azerbaijan had been a Partner Country of the INOGATE Program since 1996 and a beneficiary of 33 of the 69 INOGATE projects. One of the aims of INOGATE Program to assist Azerbaijan in the energy sector. At first this applied only to oil and gas pipelines from Eastern Europe and the Caucasus to the EU. After the conference in Baku in 2004 and the conference in Astana, this program was transformed into a broader partnership in the energy sector and operates in four main areas:

- Ensuring energy security;
- Convergence of member countries' energy markets;
- Attracting investment in energy projects to achieve common and regional interests;
- Sustainable energy development.

- TRACECA-"Transport Corridor Europe-Caucasus-Asia"- program of international cooperation between the European Union and partner countries on the organization of the transport corridor "Europe-Caucasus-Asia". Framework of cooperation covered sea, air, road and rail transport, transport security and transport infrastructure. The purpose of this organization is to support the political and economic independence of these states, increase their ability to enter the European and world markets through alternative transport routes and encourage further regional

cooperation among the participating countries. It was founded in Brussels in 1993. The basis of the TRACECA was Brussels Declaration. Participants of this declaration were Azerbaijan, Armenia, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Soon the program was joined by Moldova, Mongolia and Ukraine; in 2000 - Turkey, Romania and Bulgaria, in 2009 – Iran. On September 8, 1998 in Baku, at the initiative of the Presidents of Azerbaijan and Georgia and with the support of the EU's TACIS-TRACECA program, an international conference was held under the title "Restoring the Historic Silk Road". Representatives of 32 countries and 12 international organizations took part in this conference.

Within the framework of the annual programs of the European Neighborhood and Partnership in 2007-2010 Azerbaijan was provided with assistance in the amount of 92 million euros: democratic development and effective management - 30 million euros, to support socio-economic reforms, fight poverty and strengthen administrative capacity - 32 million euros, to support economic and legal reforms in transport, energy and the environment -30 million euros.

Thus, the European Neighborhood Policy was aimed at supporting democratic and economic reforms in the countries of the South Caucasus, which consider a rapprochement with European structures as one of the priorities of their foreign policy strategy. The availability of energy resources and an advantageous geostrategic position have turned Azerbaijan into an advantageous partner for the European Union. Working closely together, each of the sides seeks to realize its interests: the EU - to diversify oil and gas supplies to Europe, using the resources of the Caspian region, thereby weakening dependence on Russia, and Azerbaijan - to settle the Nagorno-Karabakh conflict and provide access to its energy resources to European markets.[49]

The desire to secure their borders and the ability to bring "neighboring" states closer to European standards pushed the European Union to work out a number of

special programs for "neighboring" countries. The main goal and essence of these programs were to expand and deepen the integration ties of various levels, as well as to regulate their relations with the countries of the Union in the future. One of these programs was a regional program for six post-Soviet states, called the "Eastern Partnership".

The Eastern Partnership is a project of the European Union, which has the main stated goal of developing EU integration ties with six countries of the former USSR: Ukraine, Azerbaijan, Georgia, Moldova, Belarus and Armenia. It is considered as a kind of regional (eastern) dimension of the European Neighborhood Policy, which was initiated by the European Union with respect to its "new neighbors" after another expansion in May 2004. It aims to introduce political association and economic integration between the European Union and the Eastern partners. This implies the signing of new association agreements, including in-depth and comprehensive free trade zones and gradual integration into the EU economy. The question of the possibility of further joining the six post-Soviet countries to the European Union is not considered by the program.[38]

At a summit in Prague it was established the regional initiative of EU. This initiative united six post-Soviet states - Azerbaijan, Armenia, Belarus, Georgia, Moldova and Ukraine. Having signed the "Prague Declaration", Azerbaijan started implementing four thematic platforms of the "Eastern Partnership": democracy, economic integration, energy cooperation and contacts between people. Particular attention is paid to the energy aspect of cooperation. Occupying a favorable geographical position and possessing significant energy resources, Azerbaijan has become an active participant in the energy programs developed by the European Union for the Black Sea-Caspian region. Azerbaijan has achieved a number of positive results within the framework of the Eastern Partnership, such as the inflow of additional investments into the country's economy, energy partnership, educational



programs, an agreement on the liberalization of the visa regime. The main initiator of the Eastern Partnership was Poland, which, on May 26, 2008, with the support of Sweden, proposed to deepen relations with the "European neighbors". In accordance with the "Prague Declaration" signed at the summit, it was planned to build cooperation within the framework of four thematic platforms:

- democracy, effective governance and stability (civil service reforms, fighting corruption, cooperation in the field of justice and police, freedom of the media, etc.);
- economic integration and convergence with the EU's sectoral economic policies, including the creation of free trade zones;
- energy security (unification of energy policy and legal solutions in the "Eastern Partnership" states with the practice / law of the European Union, development of renewable energy sources);
- development of ties between people (this also includes issues of visa regime, migration and cultural cooperation).

In the framework of the "Eastern Partnership", the European Union is promoting the East Invest project, which is oriented towards the economic development of the partner countries mainly due to their strengthening and competitiveness. In cooperation with Azerbaijan, special attention is paid to the development of small and medium-sized enterprises, advisory services are provided to these enterprises. The main direction of integration is the Agreement on a Comprehensive Free Trade Area (DCFTA) with the EU. This agreement involves the elimination of customs barriers and customs quotas in all areas of trade. However, Azerbaijan does not consider this point of economic cooperation with the EU, since the country does not meet the main demand - it is not a member of the World Trade Organization. It should be noted that the adopted document "Eastern Partnership: road map" emphasizes that the "Eastern Partnership" will promote trade between

Azerbaijan and the EU in order to assist Azerbaijan in preparations for accession to the World Trade Organization, as well as to maintain a gradual alignment with the domestic market EU as a result of increased convergence of regulations. Despite the fact that the negotiations on Azerbaijan's accession to the WTO continue since 1997, the country does not hurry to open its market for foreign products. This has its own reasons, and the first of these is the protection of the local producer. Azerbaijan should first of all create conditions for its farmers and companies.

In Baku on November 13, 2004, an international conference on energy cooperation was held between the European Union, the Caspian countries and neighboring states. The conference resulted in the signing of a document called the "Baku Initiative" on the interaction of the energy markets of the countries of the Black Sea-Caspian region and the European Union. This partnership presupposed common approaches in the implementation of energy policies, trade, transit and environmental protection. Following the "Baku Initiative", the European Commission in April 2007 proposed a new initiative for regional cooperation -Black Sea Synergy. It included Bulgaria, Greece, Turkey, Moldova, Romania, Ukraine, Azerbaijan, Armenia and Georgia. For the European Union, the Black Sea region is an important transit zone for the supply of energy resources from the Azerbaijani sector of the Caspian Sea to Europe. In general, the energy policy of the EU in the South Caucasus is aimed at developing the energy potential of Azerbaijan as a producer and transit country of oil and gas. Along with the development of the oil and gas sector, alternative types of energy sources (solar, wind, water) are actively developing in Azerbaijan. Within the framework of the program "Eastern Partnership", the European Union coordinates the work of the State Company of the Republic of Azerbaijan on Alternative and Renewable Energy Sources.

Another direction of the "Eastern Partnership" is development and increase contacts between people. It helps countries familiarize themselves with other cultures

and traditions, better understand their neighbors, improve the quality of education. Thanks to the "Eastern Partnership", the Erasmus Mundus II program started in Azerbaijan - the second phase of the partnership, aimed at enhancing academic exchange between the European Union and partners. After receiving a mandate from the EU Council of Ministers, the European Commission in March 2012 began negotiations with Azerbaijan on simplification of the visa regime. The result of these negotiations was the signing on November 29, 2013 in Vilnius of the Agreement on the liberalization of the visa regime between the EU and Azerbaijan. These simplifications will affect government officials, students, journalists, researchers, citizens going to medical treatment.[34]

Despite a number of positive results, which Azerbaijan achieved within the framework of the "Eastern Partnership", Azerbaijan is dissatisfied with this format of cooperation. First, Azerbaijan cannot participate normally in the multilateral format of the "Eastern Partnership". This is hindered by the unresolved Nagorno-Karabakh conflict with Armenia, as a result of which Azerbaijan lost 20% of its territories and acquired about a million refugees. Secondly, not being a WTO member, Azerbaijan cannot sign an agreement with the EU on a comprehensive free trade zone.

### 1.3. Features of the European energy market and the role of Azerbaijan there.

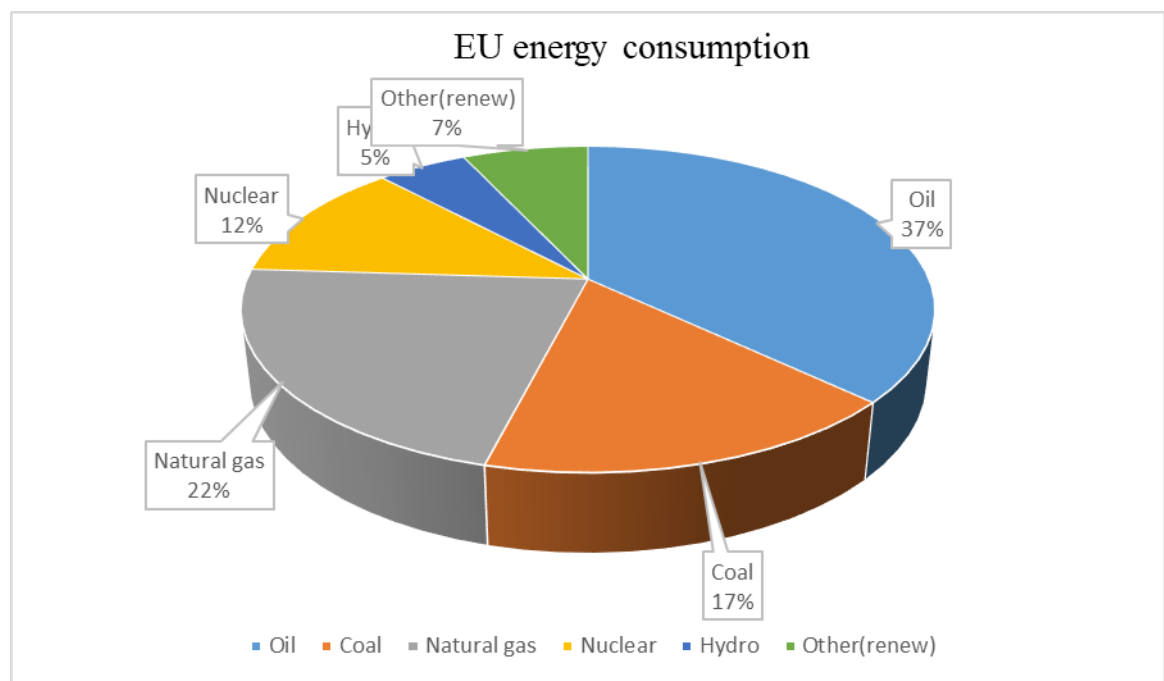
The problem of stable provision of the economy with the necessary quantity of energy resources with minimal risks occupies leading positions among the foreign policy issues of all countries of the world - both developed and developing. Indeed, in the field of energy security, highly developed countries have serious problems. Many of them do not have hydrocarbon resources at all (Japan, South Korea, Taiwan, some European countries, etc.) while others have old exhausted deposits (Great Britain, Norway, Netherlands). Today, one of the most important places in the state processes is the problem of energy security, and in the European Union this issue is one of the aspects of the foreign policy strategy. The European Union imports resources from various regions. It includes the Middle East countries, African region, Russia, Kazakhstan and Azerbaijan. In the XXI century the issues of determining prices for oil and natural gas, favorable conditions for the supply of hydrocarbons gradually went beyond the economic sphere and received a geopolitical focus. In interstate relations, the energy factor is present at all levels and on the agenda of many negotiations. The development of energy and maintaining its development at a sufficient level is a necessary condition for the functioning of production and services. Within the EU framework, energy development objectives are identified as a priority.

First of all, in the energy processes of the EU, it is necessary to note a significant share of oil. Among other sources in the EU energy policy, nuclear power and alternative energy sources (solar batteries, wind energy, etc.) take a significant place. However, these types of energy production are not yet sufficiently applicable in the conditions of the energy market in Europe, and the main place among the energy resources is allocated to natural gas. Most EU countries do not have their own gas resources and therefore have to import them. The exception is Norway, in part the Netherlands, Denmark and the United Kingdom.[11]

The main exporters of natural gas for the European Union are Algeria and Russia. To protect themselves from energy risks, the EU countries are trying to diversify energy supplies. The development of alternative gas transport routes occupies an important place in the strategic plans of the countries of Europe.

Issue of energy policy was in the Maastricht Treaty, in 1992. However, at that time, energy was not allocated as a separate direction for the development of European integration, but was considered as a tool for the formation of a common market and harmonization of the economic activities of the EU countries, a common shared energy policy appeared much later. The next stage of development was in 1996 and 1998, when a number of Directives regulating the electricity and gas market were adopted in the context of the formation of a common market in the energy sphere.

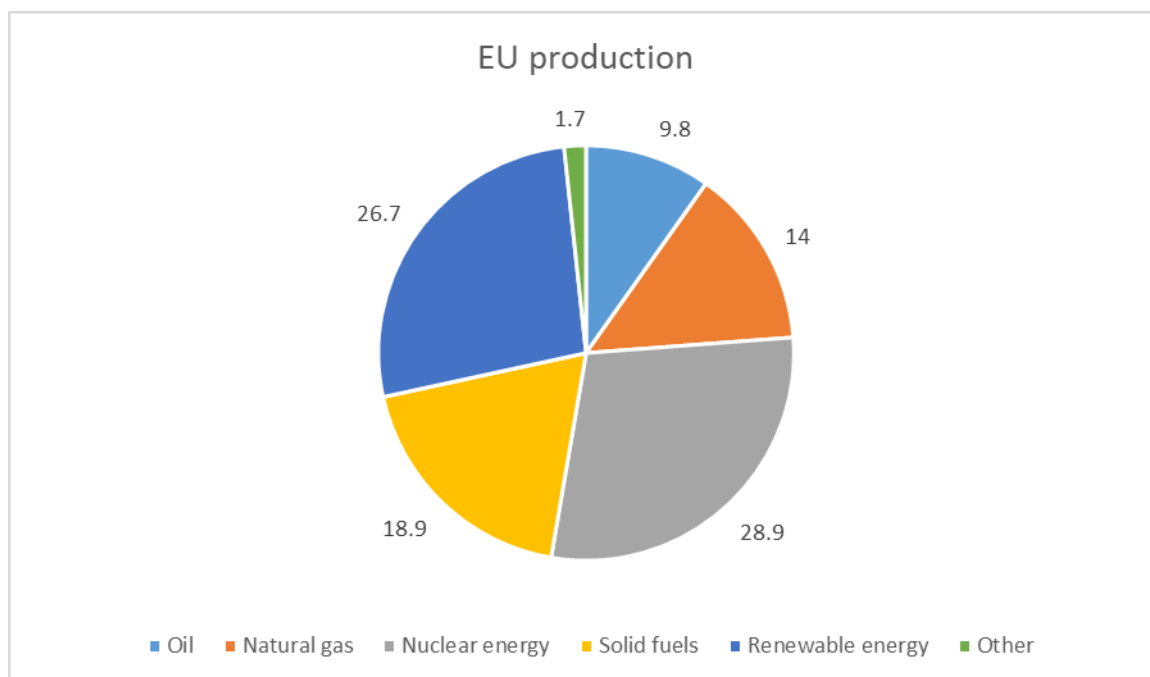
The first mention of the EU's common energy policy appeared in 2005, when the London session of the EU approved the concept of developing and approving this policy in the future. After the London session, in 2006 the last basic document in the field of energy policy was released, and the basic parameters of the future energy policy were set out. The document was published in the "Green Book" and was called "Towards a European Strategy for Sustainable, Competitive and Safe Energy". The main objectives of the strategy are to achieve high economic efficiency, ensure environmental protection and ensure security of supply. Of all the countries participating in the European Union, only the UK produces relatively significant volumes of oil - 68 million tons in 2009. Such a meager reserve of energy resources forces the European Union to import them annually.



**Chart 5. European Union total primary energy consumption by fuel in 2015**(Energy policy of the European Union).[50]

According to chart5 we can see that the proportion of oil consumption in EU total energy consumption is highest-37%. 22% of energy consumption falls on the share of gas.17% - on coal. According to statistics for 2011, the European Union ranks third in the world in terms of energy consumption, after China and the United States with an index of 12.9%. According to the data published on the website of the EU Energy Commission, the European Union imports 53% of energy resources, which is more than half of all energy that it consumes. The cost of this import is more than 1 billion € per day. The almost complete absence of its own energy resources forces the European Union to import them constantly, mainly from a narrow range of suppliers. Russia, Norway and Algeria provide 84% of imported gas supplies to the EU, and Russia, Norway and Saudi Arabia provide 60% of imported oil supplies. Europe's energy dependence, despite its gradual weakening, remains serious: according to Eurostat, on average, the EU depends on Russia in gas supplies by 30%, oil by 35%, coal by 26%. As the European Commission notes, six EU member

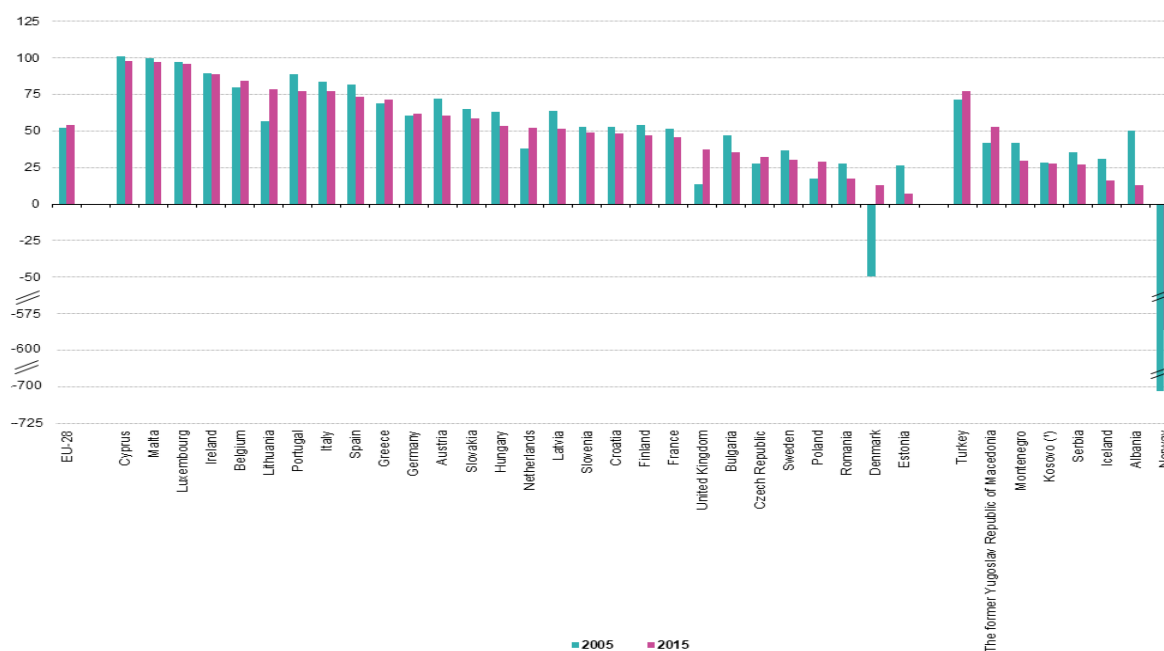
countries are characterized by 100% affection for Russian gas: these are Latvia, Lithuania, Estonia, Finland, Bulgaria and Slovakia.



**Chart 6. Production of primary energy, EU-28, 2015** (% of total, based on tonnes of oil equivalent).[50]

In energy production the highest proportion falls on nuclear power and renewable energy sources (28.9% and 26.7%). The European Union can not provide itself with its own resources, so the main struggle in building the energy market concerns external players and the formation of systemic relations in the matter of providing energy supplies. The European Union does not hide its growing concern with energy security. The declining production of energy resources of the EU member states leads to the fact that by 2030 up to 75% of oil and gas the EU will have to import, and imports can be carried out from a limited number of countries, for many of which there is a threat of stability. The development of relations with other African countries is topical. In particular, it is possible to create a Trans-Saharan pipeline. It is envisaged that the pipeline will pass through the territory of Nigeria, Niger and Algeria. Reserves of Nigeria's energy resources are indisputably important for the EU countries. This pipeline provides for the supply of natural gas from Nigeria to the

Mediterranean countries and can be considered by the European powers as an alternative resource for its energy system. However, it should be noted that, referring to the North Africa, Europe does not abandon its traditional relations in the field of energy supply with the Russian Federation. Between these partners there are special connections in the energy sphere. In addition to these directions, the possibility of cooperation between the countries of Europe and the Black Sea-Caspian region should be considered. For the EU, this region is a guarantee of a policy of diversification, since many reserves in the countries of the Black and Caspian Sea basin allow the EU to guarantee deliveries that do not depend on Russia.



**Chart 7. Energy dependency rate — all products, 2005 and 2015** (% of net imports in gross consumption, based on tonnes of oil equivalent).[53]

From chart7 we can see energy dependency on imports of EU countries on 2005 and 2015. And lowest dependency rate falls to Norway and Denmark. Due to the fact that Norway and Denmark are endowed with energy resources.

In connection with the need to establish a dialogue between producing countries, consuming countries and countries through which energy resources are



transported, the European Community proposed in February 1991 a proposal for a European Energy Charter, the purpose of which was to create uniform rules for the functioning of the international energy market. The Charter did not impose any legal obligations on the countries. In accordance with the document, cooperation between energy partners must be built on the following objectives and principles:

- development of open and efficient energy markets;
- conditions to stimulate private investment;
- no discrimination;
- respect for sovereignty over resources;
- recognition of the importance of environment in the energy field.

On the basis of these principles, the Treaty on the Energy Charter was signed on December 17, 1994 in Lisbon, which became a legally binding multilateral agreement. The Treaty covered virtually all areas of cooperation in the energy sector - investment, trade, transit and energy efficiency. To date, the treaty has been signed or acceded to by states in Europe and Asia. Among these states was the Republic of Azerbaijan. On December 2, 1997, the Energy Charter Treaty and the Protocol on the Energy Charter on Energy Efficiency was ratified by Milli Majlis of Azerbaijan and Related Environmental Aspects that officially came into force on April 16, 1998. Having accepted the terms of the Energy Charter, the leadership of Azerbaijan demonstrated its desire to strengthen the energy dialogue with the European Union.

The European Union is the main trade partner of Azerbaijan, the EU countries account for almost half of the republic's foreign trade. Azerbaijan is of particular interest to Europe as a guarantor of its energy security. Azerbaijan is a country with huge energy resources. As far back as 1846, i.e. more than 10 years before the discovery of oil deposits in Pennsylvania (1859) in Azerbaijan, on the territory of Bibiheybat the first oil well was gushing. By the way, the first production of oil by industrial means was carried out in Azerbaijan in the XIX century. It should be noted

that the interest of European countries in Azerbaijan has its own prehistory, which began as early as 1870-1890 with the penetration of Western capital into Baku oil production. In 1872, oil was extracted in the vicinity of Baku (Balakhany, Sabunchi and Ramany). The development of oil production attracted the Nobel brothers in Baku, who in 1875 bought extensive Balakhani deposits and built an oil refinery, and two years later commissioned an oil pipeline. Following the Nobels in 1892 in the oil industry of the region appeared the Rothschilds, who founded the company "Binbo".[58]

They started construction of small oil tankers for transportation oil on the Caspian Sea and its subsequent pumping to barges on the Volga. The Rothschilds also invested in the construction of a railway from Baku to Batumi and the construction of an oil pipeline that was completed in 1905. However After the entry of the Caucasus region into the Soviet state, Europe lost interest in it for many decades. Also for the first time in the world in 1949 oil was produced in Azerbaijan from offshore oil deposits. The collapse of the USSR and the formation of new independent states again aroused the interest of European countries in the Caucasus.

In the early 1990s the European Community has developed and started implementing technical assistance programs for the countries of the former Soviet Union, paying particular attention to the energy cooperation. To organize the uninterrupted supply of oil and gas from the Caspian region to the markets of Western Europe, the European Community proposed the project "Management of interstate oil and gas pipelines" aimed at the integration and restructuring of the existing pipeline systems of the newly independent states. The adoption of two political decisions in the mid-1990s of the last century was of decisive importance in shaping the country's oil and gas policy, the author and inspirer of the new energy strategy of Azerbaijan

was the national leader Heydar Aliyev. At the same time, this showed the readiness of the republic to contribute to the energy security of Europe.

For Azerbaijan, an energy dialogue with the EU is a way to attract investment and create favorable conditions for the speediest resolution of the Nagorno-Karabakh conflict. For the European Union, an effective energy dialogue is an opportunity to access Azerbaijani energy resources for the diversification of hydrocarbon imports. Thus, the strategic partnership of the EU-Azerbaijan in the field of energy reflects a deep mutual interest of both sides.

A few months after Azerbaijan's inclusion in the European Neighborhood Policy, on November 13 2004 it was held in Baku an international conference on energy cooperation between the European Union, Caspian states and other neighboring countries. The conference resulted in the signing of a document called the "Baku Initiative" on the interaction of the energy markets of the countries of the Black Sea-Caspian region and the European Union. Such a partnership presupposed common approaches in the implementation of energy policies, trade, transit and environmental protection. This initiative was aimed at attracting countries of the Black and Caspian seas, as well as members of the EU countries to a broad discussion of the problems of energy cooperation. The development of an energy dialogue between the EU and Azerbaijan was facilitated by the signing on November 7, 2006, of the Memorandum of Understanding in the Energy Sector by Azerbaijan and European Commission. Memorandum laid the foundations for a closer bilateral energy partnership.[59]

At present, SOCAR supplies oil from Azerbaijan to more than 30 countries of Europe, Asia and America. A quarter of all oil exports from Azerbaijan in 2015 fell to Italy, a quarter of the export of petroleum products - to Malta. In 2015 Azerbaijan exported about 35 million tons of oil. Italy (25%), Germany (13%), Indonesia (10%), Israel (9%) and France (8%) became the largest buyers. Fourth of the total export of

oil products was to Malta, 16% to Turkey, 14% to Georgia, 10% to Gibraltar and 9% to Italy. The Southern Gas Corridor, a large-scale energy project worth more than \$ 40 billion, is developing successfully. The southern gas corridor will allow the country to produce additional volumes of natural gas and so it will increase the transportation of gas from Azerbaijan to European markets. Another important initiative jointly implemented with Azerbaijan's neighbors is the Baku-Tbilisi-Kars railway connecting Azerbaijan, Georgia and Turkey, which provided new transport links between Asia and Europe.

Russia ranks first in the world for gas production. In Europe, the demand for Russian gas continues to grow. So, in 2013 the volume of gas sales by the Gazprom Group to non-CIS countries amounted to a record 174.3 billion cubic meters since the crisis of 2008.m of gas. Italy became the leader of growth, the volume of exports to which, in comparison with 2012, increased by 67%. The volume of gas sales by Gazprom in the UK increased 42%, and exports to Germany increased by 21%. [59]

Significant impact on the development of Russian-European relations is provided by the European Commission (EC). In March 2015, the EC active debate on the new energy strategy of the EU, the adoption of which was accelerated in connection with military-political events in the Ukraine. Particular attention should be paid to the problem of sanctions imposed in the Russia in 2014, because of the Russian-Ukrainian crisis. These include a ban on long-term lending to the largest Russian banks and the provision of energy technologies, including deep-sea drilling, without which the development of Arctic shelf deposits by Russia is not possible. In a way, the crisis around Ukraine led to the cooling of relations between Russia and the EU and the freezing of the activities of the Energy Dialogue, which resulted in the destruction of the positive potential of Russian-European cooperation. The EU announced its readiness to restart the energy

relations with Russia after resolving the conflict in Ukraine and stopping the use of energy resources as a factor of influence.

The energy factor is often used to achieve political goals, as evidenced by the conflicts between the Russian Federation, Ukraine and Belarus as transit countries. The desire of the Russian Federation to consolidate the status of the leading energy partner of the EU causes reasonable fears in the European Union. Western analysts propose to the European Union to even conclude a pact on collective energy security, under the terms of which its participants will support each other during the crises. In these conditions, the importance of Azerbaijan as a strategic partner of the EU increases. The energy security of supply for the EU countries should be logically compensated by security for the energy producing countries. Azerbaijan has demonstrated that can provide the European Union with guaranteed energy resources that relieve its dependence on Russian supplies. And although pressure is exerted on Azerbaijan, the government of the country, unlike Ukraine, was able to prevent Russian interference in the agreement on Shah Deniz. On the eve of the signing of the contract in Baku, the EU blocked an agreement with Russia on the South Stream gas pipeline project. The energy security of the EU largely depends on the security of Azerbaijan as an energy producer, since the supply and demand of energy resources in the context of globalization are interrelated. It should be taken into account that in Western political practice the concept of energy security presupposes "the guarantee of energy supplies through the formation by the consuming country of the required political and economic rules for the supplying countries, or the creation of certain external economic, political and other conditions for energy supplying countries". In the case of Azerbaijan, such a condition, there must be an objective solution to the Nagorno-Karabakh conflict.

Thus, one of the main directions for solving the problem of energy supply of the EU countries should be associated with the development of non-traditional and

renewable energy sources and high energy efficiency of consumption, however, classical energy resources occupy the main sector in the energy policy of the European Union. The geographic direction of energy policy occupies a significant place in the policy of diversification. It can be said that the geography of supplies for the EU is expanding. For the EU, on the one hand, it is important to build relations in a strategic channel, and on the other - to try to counteract dependence. Therefore, as we see, the EU in its strategy builds active relations with African countries, Middle Eastern countries, and also the countries of the Black Sea-Caspian region in order to ensure diversification of energy supplies.[44]

## **Chapter II.** Cooperation projects between the European Union and Azerbaijan in energy sector.

### **2.1 The oil strategy of the Republic of Azerbaijan and the EU.**

The oil industry of the world's oldest oil country, Azerbaijan, for its 150-year history has gone a long way of development. In the middle of the 19th century, oil production began in Azerbaijan in an industrial way. In 1848 in Baku, an oil fountain that struck a borehole from the Bibi Heybat deposit laid the foundation for the production of "black gold" in Azerbaijan in an industrial way. Already in 1899 Azerbaijan came out on the first place in the world for extraction and processing of oil and gave half of the world oil production. Until “The Contact of the Century”, more than one billion tons of oil was produced in Azerbaijan. And it was in Azerbaijan that for the first time in the world oil was extracted industrially. This fact takes a special place in the world history of oil. With the application worldwide of this innovative experience acquired by oil specialists in Azerbaijan in the field of oil and gas production, our country has become known since the middle of the twentieth century as one of the main centers of world oil engineering. In many historical events Azerbaijani oil also played important roles. For example we can say about the victory over German fascism during the Second World War. In this victory Azerbaijani oil was a decisive factor. Due to the fact that about 75 million tons of oil were produced in Azerbaijan. 80% of the total gasoline and 96% of the various oils produced by the former USSR during the war years fell to Baku. [48]

Azerbaijan immediately after gaining independence began to look for ways to develop its oil and gas fields. However, Azerbaijan did not have sufficient financial and technical capabilities for its independent development, which required it to attract Western oil companies in 1990s. At that time Azerbaijan faced many difficulties: the Nagorno-Karabakh conflict with Armenia, the uncertain status of the Caspian Sea; and the consent of neighboring Russia and Iran also with the presence of Western

companies. Therefore, for the first time in attracting foreign companies, Azerbaijan pursued political goals, rather than economic and commercial purposes.

However, only at the end of the 20th century, after gaining independence Azerbaijan got the opportunity to develop the oil industry in accordance with national interests. This opportunity was implemented in 1993 by Heydar Aliyev, who came to power in Azerbaijan. In the early 1990s, a total crisis in the political, economic and military spheres in Azerbaijan was associated with the collapse of the USSR. Taking as a basis the use of the oil factor to find a way out of a difficult situation, under the leadership of Heydar Aliyev, the oil strategy of Azerbaijan was developed. [21]

The oil strategy is a long-term national development program that involves the country's energy resources into economic circulation, relying on the principle of mutual benefit, cooperation with large foreign oil companies. The main condition for the development of this strategy was the observance of the interests of both current and future generations. This principle is expressed by Heydar Aliyev's words: "Oil is the greatest wealth of Azerbaijan, belonging to the people, and not only to the current generation, but also to the future." [60]

The first agreement, signed within the framework of Azerbaijan's oil strategy, provides for the joint development of Azeri, Chirag and Guneshli fields in the Azerbaijani sector of the Caspian Sea with foreign oil companies. Hydrocarbon fields were estimated at 670 million tons of oil and about 130 billion cubic meters of gas in these fields. Negotiations on the preparation of this contract lasted more than a year in the cities of Baku, Istanbul and Houston, and in September 1994 the contract was ready for signing. This contract provides for the joint development of the energy resources of the above-mentioned fields with 11 large oil companies representing 8 countries of the world. Subsequently, this agreement became known as the "Contract of the Century". 13 companies were represented in the Contract of the Century (Amoco, BP, McDermott, Unikal, SOCAR, Lukoil, Statoil, Exxon, Turkish



Petroleum, Penzoi, Itochu, Remko, Delta) from 8 countries (Azerbaijan, Turkey, USA, Japan, Great Britain, Norway, Russia and Saudi Arabia). The contract of the century opened the way to signing 26 more agreements with the participation of 41 oil companies from 19 countries. [55]

This contract laid the foundation of Azerbaijan's new oil strategy and its current rapid development. From that moment a new stage of development of Azerbaijan was launched. President Aliyev was able to achieve the desired results for the country. The fact that Western companies participated in the Contract of the Century allowed Aliyev to achieve stability in the country and conduct a balanced foreign policy in the medium term. This development in Azerbaijan was a challenge for Russia, which was a major player in the region and considered Azerbaijan in its sphere of influence.

Azerbaijan needed to adopt an appropriate legal framework for cooperation with Western energy companies that participated in the exploitation of Azerbaijani fields. Such a legal basis was the Production Sharing Agreement (PSA). According to this PSA, the oil company incurs the costs of exploration and production of minerals, and then within a certain period of time reimburses its incurred costs from the profits received. The contract usually lasts no less than five years, but not more than 30 years. At the end of this period all property under the agreement passes to the state control - which is the owner of the right of ownership of the subsoil. PSA became the main document for the "Contract of the Century", which is considered to be the central project for Azerbaijan exactly it, influenced subsequent processes not only inside the country, but also in the region as a whole.

In the early 1990s, the government of Azerbaijan began negotiations with Western companies, including British Petroleum, Statoil, Amoco and Unocal, to develop these oil fields. The government of Azerbaijan signed a contract on September 7, with the alliance of two European companies, the British BP and the Norwegian Statoil. The Alliance got the right to explore the Dostlug field, it was later

named Chirag. The proportions between "Azneft" and the alliance were equal. When forming the alliance, two-thirds of the shares belong to BP and one third - Statoil. After signing the second agreement between the BP / Statoil alliance and the recently established State Oil Company (SOCAR), the sides started operations on the Chirag field in March, 1993. The government of Azerbaijan announced several months later its intention to combine the development of the Azeri, Chirag and Gunashli fields within the framework of a single contract with the goal of improving the efficiency of offshore development. Also, receiving a share from BP, the Turkish oil company TPAO was included in the consortium.

From February 4, 1994, negotiations began with Western companies. Negotiations with Western companies were conducted with two deposits at the initial stage: Azeri and Chirag. But for the Gunashli field, Azerbaijan would like to start production of the field independently. The exclusion of the Gunashli field from this block was a requirement of Russia. In addition, the Russian side expressed a desire to acquire a 20% stake in Lukoil and control the main export pipeline through the Russia. It should be noted that the main oil production of SOCAR was extracted from the shallow part of the Gunashli field. There annually 6.5 million tons of oil were produced. The state oil company did not have the necessary equipment to exploit oil in a deeper part. That is why the parties returned to the inclusion of the Gunashli field in a contract which located at a depth of 200 m.

As a result of the revision, a number of changes were made to the contract. The contract of the century was concluded for 30 years. The participants were initially the following companies: SOCAR (Azerbaijan) 20%, British Petroleum (UK) 17.127%, Amoco (USA) 17.01%, LUKOIL (Russia) 10%, also Pennzoil (USA) 9.82%, Unocal (USA) 9.52%, Statoil (Norway) 8.563%, McDermott International (USA) 2.45%, Ramco (Scotland) 2.08%, Turkish State Oil Company (Turkey) 1.75% and Delta-

Nimir (Saudi Arabia) 1.68% These companies established the Azerbaijan International Operating Company (AIOC).

Companies were subjected to PSA, so after the return of investment, the proceeds from the sale of oil should have been divided according to a formula calculated in accordance with world oil prices. As a result, the Azerbaijani government was to receive up to 80% of revenues from the sale of oil, and 20% - among companies. Thanks to the high oil prices in 2005-2008 in world market and as a result the high income from oil production, Azerbaijan exceeded its 80%. Initially crude oil production expected to be 10 thousand barrels per day; but production was 25-30 thousand barrels per day. Large oil reserves and high oil prices allowed Azerbaijan to receive up to 85% of the profit from this project. In addition, the oil reserves were recalculated in these deposits, which allowed to increase the initially estimated crude oil reserves in the Azeri-Chirag-Guneshli oil fields from 511 million tons to 640 million tons, and then to 730 million tons. In June 2007 estimated reserves were 900 million tons, for a number of sources even more. The quality of Azerbaijani oil, offered for sale under the brand name "Azeri light" in world markets, also positively affected the income. Azerbaijan's oil has highest quality in energy market, it is weighs even lighter than Saudi Arabia's. During this period, Azerbaijan's GDP has grown significantly due to high revenues from exports of oil. For example, GDP growth in 2005 was 26.4%, in 2006 - 32.5%, in 2007 - 25% and in 2008 - 10.8%. Over time, the members of the consortium and their share of participation changed in the Contract of the Century.

The Contract of the Century was a political decision, not an economic one. After the Contract of the Century, the interest of Western countries in Azerbaijan increased. This made the balanced foreign policy viable and allowed the country to move to a more independent course of action. For many years for the first time in the country there was political stability. Soon a second contract was signed for the

development of a promising Shah Deniz field. It should be noted that the Shah Deniz field was discovered in 1976. But due to the lack of technologies and financing, the project could not be implemented in the Soviet period. Shah Deniz is a maritime field, it was investigated by BP in August 1999. Instead of the expected oil, a large amount of gas was discovered in the field. [32]

Azerbaijan has signed more than 30 production sharing agreements since the Azeri-Chirag-Gunashli and Shah-Deniz agreements. Using the experience of these agreements, in 1997 the government of Azerbaijan and State Oil Company (SOCAR) signed five PSA's. Consortiums for the Lankaran-Talish, Yalama / D-222, Absheron and Oguz deposits have been created. Azerbaijan in the period from 1998 to 2000 participated in the creation of six consortiums for the development of offshore fields in the Azerbaijani sector of the Caspian Sea. The agreements that were signed in the period 1998-2000 had a distinctive feature. For example, unlike the "Contract of the Century" and the consortium "Shah-Deniz", the share of SOCAR in these contracts increased, and sometimes this share reaching 50-60% of the volume of production.

Another trend that was observed in later contracts is the fact that Azerbaijan began to join consortiums with other European and Asian companies along with American and British companies. The reason for this step is to strive to create a balanced relationship between companies from different countries. It can also minimize political disagreements with any country or company. The success of many contracts was not the same as the "Contract of the Century" and "Shah Deniz". It should be noted that exploration works in many wells were carried out in periods when oil prices reached their minimum in the world markets within the range of 8-12 dollars per barrel. The attractiveness of these hydrocarbon deposits has once again grown with the rise in oil prices on world markets.

Nevertheless, according to a new trend: SOCAR today is financially more experienced and strong and now prefers to explore and develop the most attractive

deposits independently. SOCAR has rejected a number of proposals from several companies to take part in the development of the shallow Gunashli field. However, along with low oil prices, another reason for the suspension of development of offshore deposits in the early stages was the unresolved status of the Caspian Sea. This problem related to the legal status of the Caspian Sea arose after the collapse of the Soviet Union, when the four Caspian states were divided by Russia, Azerbaijan, Kazakhstan and Turkmenistan.

One of the main tasks after Western companies were engaged in the development of oil and gas fields was the creation of appropriate transport corridors for the export of energy resources from Azerbaijan to world markets. Azerbaijan does not have access to the open sea, it can solve this problem only by building a pipeline. The transport route needed to be designed to export oil from the Azeri, Chirag and Guneshli fields in the late 1990s. It was in the US interest to reduce Russia's influence on the development of energy projects in Azerbaijan and the Caspian Sea region. The reason for supporting the construction of a new export pipeline by the US was this fact. It could be achieved by building an alternative pipeline running through Russia - the Baku-Novorossiysk oil pipeline - or the transport corridor across Georgia - the Baku-Supsa pipeline.

April 17, 1999 in the history of independent Azerbaijan there was another extremely important event-the ceremony of commissioning the Baku-Supsa oil pipeline and the Supsa terminal located on the Black Sea coast of Georgia was held. Through the port of Supsa, exports to the world markets of oil extracted from the Chirag field began and for the first time the Azerbaijani oil flowed not to the north, but to the west.[43]

The Azerbaijani government and the consortium agreed to construct pipelines in two directions as a result of the negotiations: first through Russia, through the Baku-Novorossiysk pipeline, oil is transported by a tanker from Novorossiysk

through the Black Sea, and then to the ports of the Mediterranean Sea. The length of this pipeline is 1,347 km, of which 231 km pass through Azerbaijan with a capacity of up to 6 million tons of oil per year. The Baku-Supsa pipeline route became the second route, the length of this pipeline is 917 km, of which about 492 km pass through the territory of Azerbaijan. The capacity of the pipeline is about 5.5-6 million tons per year. Azerbaijan carried out diversification of transport routes through the construction of the Baku-Supsa oil pipeline. Baku-Supsa oil pipeline, provided access to European markets of Azerbaijani oil bypassing Russia.

With the increase in oil production due to Azeri, Chirag, Guneshli fields, it became necessary to build the main export pipeline. The reason for this was a limited number of exports from two pipelines: the total capacity of Baku-Novorossiysk and Baku-Supsa was no more than 11 million tons. However, since 2005 Azerbaijan planned to supply at least 20 million tons of oil.

One of the main directions of Heydar Aliyev's oil strategy is to increase the export of oil to world markets. The great work on the implementation of the Baku-Tbilisi-Ceyhan, designed to ensure long-term protection of Azerbaijan's interests, the development of large-scale economic cooperation, and the delivery to the world markets of ever-increasing oil production, was successfully completed. For the first time, about the construction of this pipeline was announced at the meeting of the Presidents of Azerbaijan, Georgia and Turkey in Trabzon on April 26, 1998, as the main export pipeline. On October 29, 1998, a preliminary agreement was reached on the project with the signing by the Presidents of Azerbaijan, Georgia, Turkey, Kazakhstan and Uzbekistan, as well as the US Secretary of Energy, of the Ankara Declaration on supporting the construction of the main export oil pipeline on the Baku-Tbilisi-Ceyhan route.

During the Summit of the Heads of the OSCE member states in Istanbul, Azerbaijan, Georgia and Turkey signed on November 18, 1999 the Agreement "On

transportation of crude oil through the main export pipeline Baku-Tbilisi-Ceyhan through the territory of the Azerbaijan Republic, Georgia and the Republic of Turkey". At the same time the "Istanbul Declaration" was signed by Azerbaijan, Georgia, Turkey, Kazakhstan and the United States as expression of support for the project. Thus, Heydar Aliyev took another step to ensure Azerbaijan's long-term political and economic interests, to implement large-scale international cooperation, to establish peace, stability and security in the region.

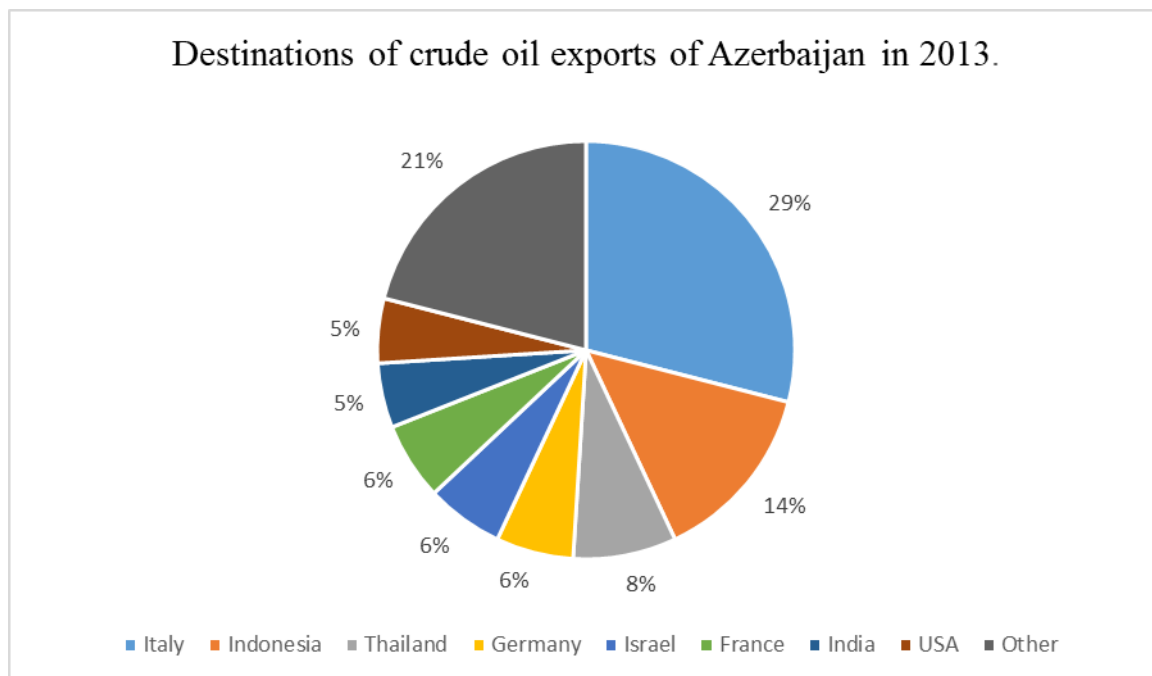
On September 18, 2002, the construction of the Baku-Tbilisi-Ceyhan pipeline began in Sangachal. The ceremony was attended by the heads of three states. The docking of the Azerbaijani part of the pipeline with the Georgian part took place in October 2004. On May 28, 2006, Azerbaijani oil reached Ceyhan, and on July 4 the first tanker, loaded with oil, departed. On July 13, 2006 in Ceyhan, it was the opening ceremony of the largest energy project of the XXI century - the main export pipeline Baku-Tbilisi-Ceyhan.[8]

\$ 4 billion was spent on the construction of an oil pipeline with a length of 1,744 km stretching from the Sangachal terminal to the Mediterranean port of Turkey Ceyhan. Shareholders of the project, created for the construction and operation of the pipeline, are BP (30.1%), SOCAR (25%), Shevron (8.9%), Statoil (8.71%), TPAO (6.53%), ENI (5%), Total (5%), Itochu (3.4%), INPEX (2.5%), ConocoPhillips (2.5%) and Amerada Hess (2.36%).

In the future, this oil pipeline will transport not only Azerbaijani oil to the world markets, but will also become the main pipeline for the countries of the Silk Road. The Baku-Tbilisi-Ceyhan oil pipeline has great importance for Azerbaijan, Georgia, Turkey, Europe and the whole world in terms of economic, political, and energy security.[32]

The oil strategy turned Azerbaijan into a state that first mastered the huge energy potential of the Caspian Sea and formed a qualitatively new economic model

of the region's development that expanded the political and economic ties between Europe and Asia that implemented such huge projects as INOGATE, TRACECA, etc., which played an important role in the development of the Caucasus transport corridor, which has great weight in the Caspian and Caucasus regions, which has become one of the world's oil centers.

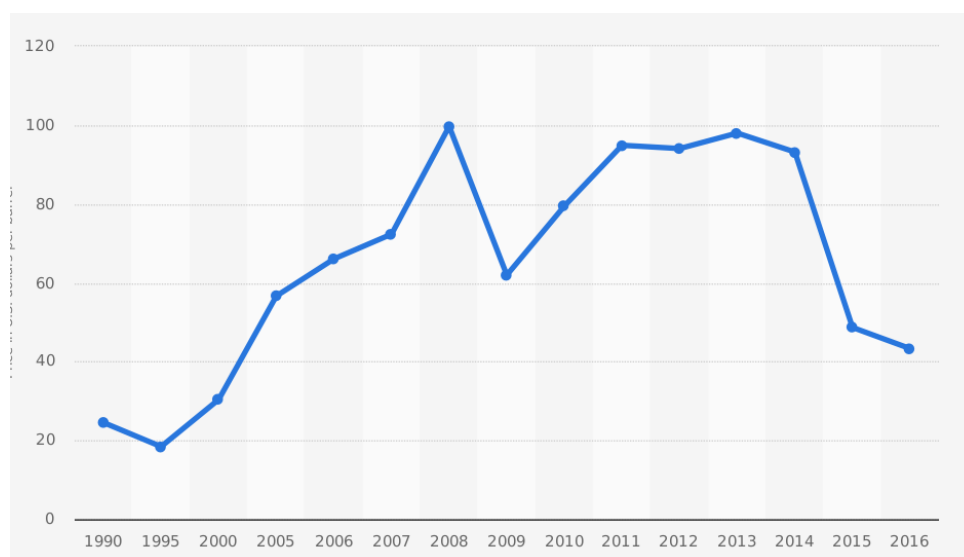


**Chart 8. Destinations of crude oil exports of Azerbaijan in 2013** (Source: State Statistical Committee of the Republic of Azerbaijan).

As we can see from above chart the main directions of crude oil exports of Azerbaijan in 2013 were Italy, Indonesia, Thailand, Germany, Israel, France, India, USA and other countries. Thus, at present, SOCAR supplies oil from Azerbaijan to more than 30 countries of Europe, Asia and America. A quarter of all oil exports from Azerbaijan in 2015 fell to Italy, a quarter of the export of petroleum products - to Malta, almost a quarter from the export of petrochemical products - to the Netherlands. In 2015, the total volume of Azerbaijani oil exports amounted to 35 million tons. Italy (25%), Germany (13%), Indonesia (10%), Israel (9%) and France (8%) became the largest buyers. In 2015, 1.9 million tons of oil products and 241



thousand tons of petrochemical products were exported from Azerbaijan. Last year, SOCAR exported a quarter of total oil exports to Malta, 16% to Turkey, 14% to Georgia, 10% to Gibraltar and 9% to Italy. The main buyer of petrochemical products was the Netherlands (22%), China (19%), Turkey and Russia (16% and 15% respectively). The role of the oil sector in the economy of Azerbaijan is high, but oil prices are unstable, which causes a certain risk. Below is a table of changes in oil prices on the world market from 1990 to 2016.



**Table 3. Average annual oil price from 1990 to 2016 (US dollars per barrel).**

Though, in view of the high volatility of oil prices, along with the oil sector, it is necessary to develop other directions of the energy sector. Azerbaijan also has sufficient potential in the gas sector. With the discovery of the Shahdeniz field, the ground was created for the development of the gas industry in Azerbaijan in the 21st century and the transformation of the state into an exporting country not only of oil but also of gas.

## 2.2. Projects of cooperation Azerbaijan and EU in the gas sector.

The "Contract of the Century" once again demonstrated Azerbaijan to the whole world as an oil country, the first results from the large Shahdeniz gas and condensate field located in the Azerbaijani sector of the Caspian represented Azerbaijan as a country with the ability to export large volumes of gas. According to the results of prospecting and exploration work, announced by geologists in 2007, the field has one trillion cubic meters of gas reserves. The contract on the joint development of the Shahdeniz field signed in 1996 is the second major project, the implementation of which, as part of the oil strategy of Azerbaijan, began after the "Contract of the Century", which already has real results. In December 2006, a large-scale development of the field began.

During the official visit of the Azerbaijani President Heydar Aliyev to Turkey on March 12, 2001, the "Agreement between the Republic of Azerbaijan and the Republic of Turkey on the supply of natural gas from Azerbaijan to the Republic of Turkey, sale and purchase of natural gas" was signed. During the visit to Baku on September 29, 2001, President of the Republic of Georgia signed an agreement "On transit, transportation and sale of natural gas through the territory of Georgia."

The construction of the Baku-Tbilisi-Erzurum gas pipeline was launched in 2005. This pipeline provides transportation of the resources of the Shah Deniz gas field to world markets, and the operation of this pipeline began in early 2007. The total length of the pipeline is 971 km, diameter - 1066 mm (42 inches), the throughput - up to 20 billion cubic meters of gas. Since the date of commissioning, 383 million cubic meters of gas have been sent to Georgia via this pipeline to Georgia, and 2.8 billion cubic meters of gas to Turkey (since July 2007). On July 3, 2007, natural gas extracted from the Shahdeniz gas condensate field in the Azerbaijani sector of the Caspian sea via the Baku-Tbilisi-Erzurum gas pipeline entered the Turkish gas pipeline system.

Azerbaijan is also an alternative source of natural gas for a number of neighboring countries through the development of the Shah Deniz gas condensate field. On the initiative of the European Commission (EU) on the establishment of the Southern Gas Corridor and the additional construction of Trans-Anatolian Natural Gas Pipeline (TANAP), as well as the relevant European gas network in Central and Eastern Europe, natural gas of Azerbaijan to ensure the desired diversification of these regions.[2]

Shah Deniz is a offshore field that was explored by BP in August 1999. Instead of the expected oil, a large volume of gas was discovered in this area. Total reserves are estimated at 1.2 trillion cubic meters of natural gas and 240 million tons of gas condensate. Shah-Deniz is located 70 km from Baku in the south-west direction at a depth of 50 to 600 m, occupying a total area of 860 km<sup>2</sup> with the prospect of finding additional hydrocarbon reserves in deeper horizontal layers.

The aim of the EU's Southern Gas Corridor is to attract gas from alternative sources and through alternative routes, namely, from the Caspian region to European markets. Eastern and South-Eastern Europe depended on gas supplies from Russia. This is detrimental to the independent development of the policies of these states. The EU supports the Southern Corridor, which is aimed at reducing energy dependence in Russia over these countries and opening the direct access of the Caspian states to the European gas markets. [13]

After the Declaration of the Southern Gas Corridor between the EU and Azerbaijan which was signed in 2011, Azerbaijan's role became key, as it is the only and important gas supplier for the opening of the Southern Corridor at early stage. In addition, the country is seen as the initiator of transport infrastructure. After the expansion, the South Caucasus Pipeline (SCP) will be able to transport gas from the Shah Deniz I and II fields (SDI and SDII), as well as from other gas fields offshore

Azerbaijan (up to 35 billion cubic meters), as well as from Turkmenistan and Kazakhstan in the long term.

In addition, Azerbaijan initiated the Transanatolian Pipeline (TANAP), a strategically important pipeline. This pipeline is designed to transport Azerbaijani gas throughout Turkey, to the borders of the EU. The State Oil Company (SOCAR) will represent Azerbaijan in the project, which will own a controlling stake of 51% (it will be financed by the State Oil Fund of Azerbaijan (SOFAZ)).

In 2002, the European Commission presented a project on the diversification of the flow of gas to Europe under the name "Nabucco", which was supposed to symbolize implementation of the EU energy policy. Nabucco is an unrealized project of a 3300 km long gas pipeline from Turkmenistan and Azerbaijan to the EU countries, primarily Austria and Germany. Preparation of the project was conducted since 2002. Initially, the construction was planned to begin in 2011, and completed by 2014, but the project was postponed several times because of problems with possible gas suppliers. June 28, 2013 it was announced that the Nabucco project was closed, the priority project is now the Trans Adriatic Gas Pipeline. [40]

And in June 2006 in Vienna, the energy ministers of Austria, Hungary, Romania, Bulgaria, Turkey and a member of the European Energy Commission agreed to launch a project to build the Trans-Caspian gas pipeline Nabucco. The Nabucco project caused mixed reactions and heated debates in European countries. However, the complexity of the negotiation process on the status of the Caspian Sea, the availability of alternative projects "South Stream" and "Nord Stream", as well as the later realized unprofitability of the project suspended its implementation.

The Nabucco project has long been considered the main competitor of the Russian project of the South Stream gas pipeline. The Russian side expressed concern that some EU countries, while supporting Nabucco as a European project, may not agree to the construction of the South Stream on its territory. Only Turkey suspended

the project before the end of 2011, however on December 28, 2011 the Turkish leadership officially allowed Russia to build a gas pipeline in its special economic zone. December 7, 2012 Russia began construction of the South Stream gas pipeline, which will run along the bottom of the Black Sea from the Russian station to the Bulgarian port, and then through the Balkan Peninsula to Italy and Austria. In 2009, it was planned that the construction of the gas transportation system will be completed by 2014. On March 4, 2010, Turkey ratified its participation in the Nabucco project and the construction of a gas pipeline through its territory. However, by the end of March, negotiations for the supply of Azerbaijani gas to Europe between Ankara and Baku were suspended because of the contradictions caused by Turkey's attempts to normalize relations with Armenia. October 15, 2010 - Hungary and Romania opened 47 kilometers of the Nabucco gas pipeline on the Arad-Szeged route, which connects the Hungarian and Romanian gas distribution systems, the site passes through Hungary. Earlier, the Romanian section of the 60-kilometer-long gas pipeline was built, which was built by Transgaz. In early 2012, a representative of the Turkish Energy Ministry said that Turkey will no longer support the Nabucco project. He expressed the opinion that alternative to this gas pipeline projects would be much cheaper and easier to implement. At the end of February 2012 it was reported that the consortium of the Nabucco project had decided to reduce the capacity of the pipeline by half and carry it only through Bulgaria and Austria.

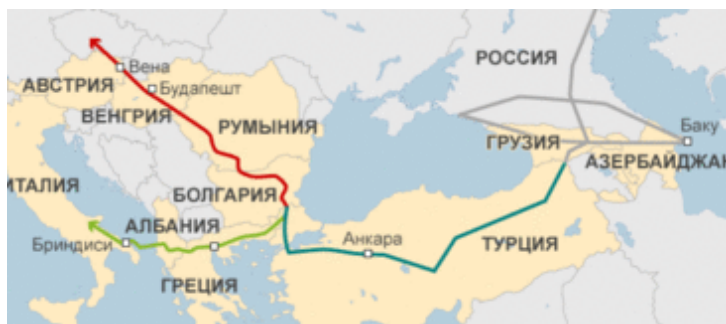
Having abandoned the Trans-Caspian gas pipeline Nabucco, Europe in May 2012 proposed a new version of the gas pipeline - Nabucco West, which was a shortened version of the Nabucco. According to Nabucco West, 1,300 km of the pipeline from the Turkish-Bulgarian border to the Austrian city of Baumgarten was planned. Passing through Azerbaijan, Georgia, Turkey, Bulgaria, Romania, Hungary and Austria, the new gas pipeline was supposed to ensure the supply of Azerbaijani gas from the Shah Deniz-2 field to the European markets.

However, the Nabucco West project is by no means the only candidate to the Shah Deniz-2 field. In June 2013, the consortium for the development of the Azerbaijani Shah Deniz gas field abandoned Nabucco West as a route for gas transportation, choosing an alternative route that would pass through Greece and Albania to Italy via the TAP gas pipeline. The Nabucco West Consortium then stated that it will seek other sources of gas for its gas pipeline. On June 26, 2013, the Austrian gas company OMV Gas GmbH, which heads the consortium for the construction of the Nabucco gas pipeline from Turkmenistan and Azerbaijan to the EU countries, officially announced the cancellation of the project.

The Southern Gas Corridor is a project to expand the South Caucasus Gas Pipeline (Baku-Tbilisi-Erzurum), as well as the construction of the TANAP gas pipeline in Turkey and its extension in Europe - the TAP gas pipeline. The estimated length of the project is 3,500 kilometers. The main objective of the project is to increase the security of gas supplies to Europe, reduce the share of Russia as a gas supplier and exclude Ukraine as a gas transit. The declared cost of the project is about 45 billion dollars. [29]

This project is largely perceived as another attempt to put an end to Russia's monopoly on the export of energy resources to European countries. However, despite this, some experts do not view the Southern Gas Corridor project as a threat to Russian gas supplies. Russian experts believe that the implementation of the Southern Gas Corridor project does not pose an immediate threat to Russia, but in the future, if other suppliers join this route, this will seriously compete with Russian gas supplies. Experts believe that gas supplies will not start soon, and in case of implementation, Azerbaijan will not be able to export more than 10 billion cubic meters of gas per year, but if the countries like Iran, Turkmenistan, Iraq are connected to the project, the volume of exports will be 30 billion cubic meters per year, which will already constitute a serious competition for Russia in the matter of energy exports to Europe.

The Turkish side is also interested in Azerbaijani gas. On November 20, 2012 year, Azerbaijan ratified the Azerbaijan-Turkey intergovernmental agreements on "Sale, purchase, transit tariffs and transit of natural gas through the territory of Turkey" and "On the Trans-Anadolu gas pipeline system (TANAP)" (Trans-Anatolian pipeline). The "TANAP" gas pipeline was developed for the transportation of Azerbaijani gas from the border of Georgia with Turkey to the west of Turkey and further to Bulgaria or Greece. Another serious competitor to Nabucco West was the Trans-Adriatic Pipeline (TAP) construction project, which was to transport Azerbaijani gas from the Shah Deniz-2 field through Greece, Albania, and the Adriatic Sea to southern Italy. The merger of the gas pipeline with the TANAP gas pipeline was envisaged. In their opinion, TANAP, along with opening an energy corridor for the export of Azerbaijan's gas resources to the European market, will also increase Turkey's strategic importance in the region and its energy security. The project will open an energy corridor through which Azerbaijan transports its gas resources to European markets and that in the foreseeable future, potential suppliers in



Central Asia, the Middle East and the Eastern Mediterranean will be able to access the market through this new route.[43]

After lengthy negotiations with the leading companies participating in the Nabucco West projects - TAP and the consortium for the development of the Shah Deniz-2 field, as well as evaluating such factors as commercial feasibility, financial feasibility, engineering, safety and rational operation, the possibility of a phased expansion, the Azerbaijan decided on June, 2013 in favor of TAP. Thus, the Trans-

Anatolian gas pipeline (TANAP) will be constructed to transport Azerbaijani gas through Turkey, which will ensure delivery of gas to the borders of Europe, after which gas will flow through the Trans-Adriatic gas pipeline (TAP) through Greece to the south of Italy.

According to Azerbaijani experts, gas from the Shah Deniz-2 field will start to enter the Turkish market as early as 2018, and the European gas market will be delivered in 2019. Thus, annual volume of gas production expect to increase to 16 billion cubic meters. 10 bcm of this gas will be sent to European market and 6 bcm to Turkey. Shah Deniz-2, TANAP and TAP are the largest energy projects, and the implementation of this projects will ensure long-term sustainable economic development of Azerbaijan. It is expected that the construction of TANAP will be completed in 2018, and TAP - in 2020, so that in the same year the first Azerbaijani gas went to Europe.

The "Southern Gas Corridor" is also has priority among the projects for the EU and due to the fact that provides for the transportation of 10 bcm of Azerbaijani gas through Georgia and Turkey to Europe. At the first stage of the project, gas which produced in the Shah Deniz field is considered as the main source for the project. At a later stage, other fields may be connected to the project. Gas in the second stage of the field will be exported to Turkey and to European markets.

In many respects, the expectations of the project are related to the fact that it is due to this project that the energy map of Europe can change, and, accordingly, the stability in the entire energy system of the countries of the European Union (EU) will increase. The project is able to provide the safest route of energy supplies to the Balkans, Europe will have a real chance to get closer to Central Asia and the Caspian region. In turn, for Azerbaijan, the implementation of this project is a matter of fundamental importance, as it vividly confirms that it is our country that has been elected as a reliable partner, which opens up new European horizons - significant



markets for energy sales, which is quite deserved. After all, Azerbaijan has established itself as a reliable partner, which can be relied upon in such important issues as diversification of supplies, bypassing other countries in the region.

The "Southern Gas Corridor" project finds great support from such a leading state as Great Britain. The activities of this European country as a partner of Azerbaijan and the main investor in the energy sector since the first years of independence of our country deserve special attention. A good example of this is the model of successful cooperation of BP. The British government supports the energy projects of Azerbaijan, implemented with the participation of BP, and the South Caucasus project fully meets the European policy of diversification of gas sources, routes and counterparts. In this sense, the proposals of powerful financial institutions, such as the European Investment Bank, to provide financial support for the construction project of the Trans Adriatic gas pipeline, confirm the great interest in gas supplies from Azerbaijan to the external markets of Europe. And this fact is an indicator of the successful energy diplomacy of Azerbaijan - as a result of the policy of our state.

The EU consumes 1825mln t of oil equivalent, which makes up 16% of the global energy mix. The EU's economy is based on crude oil and natural gas; however in some member states, such as France or Sweden, nuclear power is a significant source of energy generation, while in others such as Poland coal is the most popular energy resource.

	<b>Proven reserves of conventional gas (tcm)</b>	<b>Reserves of non-conventional gas (tcm)</b>	<b>Production (bcm)</b>
1	2	3	4
Russia	44,6	-	607,0
Iran	33,1	-	151,8
Qatar	25,0	-	146,8
USA	8,5	24,5	651,3
Turkmenistan	7,9*	-	59,5
Algeria	4,5	6,5	78,0
Australia	3,8	11,5	45,0
China	3,1	36,0	102,5

Norway	2,1	2,3	101,4
Canada	2,0	11,0	160,5
Kazakhstan	2,0	-	19,3
Libya	1,5	8,0	4,1
Azerbaijan	1,4	-	14,8
Netherlands	1,1	0,5	64,2
Brazil	0,5	6,5	16,7
Mexico	0,4	19,0	52,5
Argentina	0,3	22,0	38,8
UK	0,2	0,6	45,2
Ukraine	0,2	1,2	18,2
Poland	0,1	5,3	4,3
South Africa	0,0	14,0	0,0
France	0,0	5,1	0,0

**Table 4. Natural gas reserves and production in the world (2011)** Sources: BP Statistical Review of World Energy 2012, Energy Information Administration 2011.

	1990	2000	2011	2015	2020	2025	2030	2035
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Azerbaijan	10	6	15	20	36	43	49	49
Kazakhstan	7	12	19	47	49	55	61	68
Turkmenistan	85	47	60	85	104	110	119	128
Uzbekistan	41	56	57	72	70	70	69	69
Total	143	121	151	224	260	278	298	315
Share of world	6,9%	4,8%	5,1%	6,3%	6,8%	6,9%	6,9%	6,9%

**Table 5. Gas production in the Caspian states (in bcm).** Sources: IEA World Energy Outlook 2010.

As we can see from table3 and table4 the proportion of gas production of Azerbaijan growth from 1990 till present, it continue to growth and has huge future perspectives. Due to the limited oil and gas reserves, the EU is heavily dependent on energy import. Its dependence on oil imports is estimated at 85%, while the dependence on imports of natural gas is approaching 65%. These numbers, according different estimations, will even increase in the future, which is not optimistic taking into account fluctuation and instability in energy productivity at the world. The majority of oil and gas producing countries are authoritarian regimes – they very often have nationalistic resource policies and use energy as a foreign policy tool, a real challenge for the EU’s peaceful identity. Moreover, the sharp increase of

energy demands in the developing Asian countries has significantly squeezed the energy security margin of the EU.

The EU borders on four regions – Russia, Norway, Middle East/North Africa and the Caspian – that are well-endowed with these energy-rich regions in its energy trading. The EU does not enjoy government-backed energy diplomacy and promotes energy projects not as effectively as does the US, Russia or China. The EU's weakness is most pronounced in the Caspian region, where other actors have managed to contract most of the oil and gas volumes that Central Asian states produce, eliminating them as an alternative source of supply for the EU.

The EU's energy strategy is aimed at satisfying three major goals of energy security: security of supplies, economic competitiveness and environmental protection. What adds to these goals the most is multiplication of energy corridors and interconnections, as well as creation of a unified legal regulatory framework in energy trade based upon secure free competition. Therefore the main principles of EU energy policy are diversification and liberalization of economy.

In recent years, the EU has been trying to get better access to Caspian region and to its gas supplies. After the Russo-Ukrainian gas conflict in 2009, the European Commission initiated the Southern Gas Corridor project as the fourth major gas supply route into the EU, aimed at diversifying the routes and sources of gas imported into Europe. This project is crucial, taking into account the projected drop in gas production in Norway and the new EU member states' unwillingness to boost their dependence on Russian gas imports. The pipelines built as part of the project were meant to facilitate the import of gas from Azerbaijan and Turkmenistan, as well as from the Middle East (Egypt and Iraq), not excluding Iran in the future. Since the very beginning, the Southern Corridor has been seen as a posing a challenge to Russian interests. Moscow has therefore been impeding the implementation of this project, first of all through proposals of alternative pipelines – at the beginning the Blue

Stream 2, and later on the South Stream. Russia also offered to buy all gas from the Shah Deniz field in Azerbaijan, which for the time being is the only secure source of gas for the Southern Corridor. These efforts have so far produced limited results, as the construction of South Stream has not begun yet and Azerbaijan is still interested in exporting its gas to the EU. [13] For external energy suppliers, the EU's endeavors to liberalize the EU gas market has enormous significance. The liberalization of the EU gas market is the most contentious issue for non-EU gas suppliers.

The demise of the Soviet Union and the division of its mineral wealth among a few states created serious expectations within the EU for accessibility of gas from multiple suppliers and through many energy corridors. These hopes, in reality, turned out to be quite difficult to realize. So far, geography determines the flow of energy, as only Azerbaijan located on the west bank of the Caspian Sea, has become a supplier of the EU gas market via Georgian and Turkish territories. Other Caspian energy exporters have to deliver gas either via the Russian pipeline system or a new-opened route to China. In the Caspian crude oil supply to Europe, Azerbaijan plays also a very decisive role as both a producer and transit state. Azerbaijan has enough oil transportation capacity in place and a strategic question is how to use this infrastructure when oil production in this country begins to decline. Azerbaijan has already become a transit country for Kazakh crude oil and the South Caucasus is an important strand in Kazakhstan's own vision of multiple export routes for oil. The routes to European markets via Azerbaijan and Georgia are important export options for Kazakhstan's oil, as its production capacity may increase significantly over the next decade. There are no decisions yet whether the existing Baku-Tbilisi-Ceyhan pipeline would expand or a new pipeline from Baku to the Black Sea would be constructed for Kazakhstan's projected increase in oil output. However, additional export capacity was offered by Russia, which has already constructed the BPS 2 and

decided to enlarge the Tengiz- Novorossiysk pipeline (Caspian Pipeline Consortium).[29]

For the EU's benefit, as well as for the improvement of Azerbaijan's and Kazakhstan's position on the energy markets, these two states should perceive themselves not as competitors but rather as states with common interests. Closer cooperation between Baku and Astana in oil sector would be welcomed by the EU member states interested in diversifying their oil import portfolio. The return to the original direction of the flow through the Odessa-Brody pipeline in 2010 has opened the possibility of bringing Caspian oil to refineries in the Czech Republic, Slovakia and Hungary, and raises the potential for bringing it to refineries in Poland and Germany.

There are also positive results related to the project of the Southern Gas Corridor. In October 2011, Azerbaijan and Turkey reached agreements on the transit and supply of gas. In June 2012 they signed an agreement, which states the construction of the Trans-Anatolian gas pipeline (TANAP). Therefore it is uncertain whether the Azerbaijani gas will reach Central Europe through Nabucco West or whether it will be delivered to Southern Europe along the Trans-Adriatic route. The final decision made by Azerbaijan will be based more on the country's plans to buy some assets in the European states, rather than on the price offered for the gas. [14]

In reality Azerbaijan and Turkey are becoming key players in the implementation of the Southern Gas Corridor who have strengthened their position in the relations with the EU. What may affect the appearance of the fourth gas corridor to Europe are Russia's measures taken in order to impede this project and hinder EU-Azerbaijan gas cooperation. For sure the TANAP agreement, which is the crucial element of the implementation of the Southern Gas Corridor, threatens Russia's economic and political interests both in the EU and in the Caucasus. Therefore, Moscow will be much more determined in speeding up its effort on the South Stream

project as well as in using some political pressure on Azerbaijan. The EU, which is focused on the diversification of gas sources and supply routes, should be more engaged in the implementation of the Southern Gas Corridor and closer cooperation with the states and companies involved in the construction of this project.

### 2.3. Azerbaijan-EU cooperation in the field of alternative energy development.

Thanks to the development and production of national oil and gas resources, Azerbaijan was able to achieve social and economic growth. Considering that fossil fuel is an exhaustible resource, Azerbaijan intends to activate the development of renewable energy sources. The favorable geographic location of the country, its climatic conditions and economic potential have created good opportunities for the effective use of renewable energy sources, such as wind, hydro, solar and geothermal energy.[20]

Since 2000, the Government of Azerbaijan has stepped up its economic activities with regard to renewable energy sources. Due to the fact that wind in Azerbaijan blows more than 250 days a year, so it can contribute to the generation of 2.4 billion kWh of electricity per year. This type of energy is profitable due to lower cost, affordability and environmental sustainability. Azerbaijan is a sunny country where 2400-3200 hours of sunlight per year. Thus, Azerbaijan also has the potential for the development of solar energy. For this reason, Azerbaijan increase investments in the development of alternative energy sources. The strategy in this direction was drafted and its basis is the "State Program for the Use of Alternative and Renewable Energy Sources" signed on April 21, 2004. Another state program in 2005 signed the "State Program for the Use of Alternative and Renewable Energy Sources for 2005-2013". As a result of this program, in 2009 year Azerbaijan established the State Agency for Alternative and Renewable Energy (ABEMDA). One of the major investment projects in this sector is the launch of an experimental polygon in Gobustan. It was launched in 2011 and includes a hybrid station with a capacity of 5.5 MW, as well as a dispatch center. The polygon provides solar energy in Gobustan.

The Azerbaijani government formulated legislative bases in the field of renewable energy, and also developed state programs and created the necessary state structures. The State Agency on Alternative and Renewable Energy Sources

(SAARES) under the Ministry of Industry and Energy of Azerbaijan is the main normative institution in this sphere in Azerbaijan. The SAARES's main task is to assess sustainable energy potential, formulate appropriate policies, including tariff policy, develop and enforce appropriate procedures.[5]

In addition, the government has intensified cooperation with various international organizations, foreign companies and donor countries for various projects in the field of renewable energy. The government is also considering the use of financial and economic incentives, for example in the field of taxation and customs regulation, to attract additional foreign investment in the development of renewable energy sources.

In cooperation with UNDP, Agency launched a new project. The project launched in the spring of 2011 was named "Promoting Development of Sustainable Energy in Azerbaijan." The project received financial support from the European Commission in the amount of 500,000 € and \$ 790 thousand from the Government of Norway. Although the development of renewable energy sources is one of the strategic priorities of the state and for this purpose there is a corresponding resource base, the legal and institutional environment is not yet sufficiently attractive for potential investors.

The aim of this project is to assist the government of Azerbaijan in overcoming these obstacles by reviewing, supplementing and amending existing legal and institutional frameworks. This project should contribute to the achievement of the Millennium Development Goals in Azerbaijan. In June 2012, SAARES was abolished, and on its basis the State Company of the Republic of Azerbaijan on Alternative and Renewable Energy Sources was established.

Since June 2012, the State Company of the Republic of Azerbaijan for Alternative and Renewable Energy Sources has been operating in Azerbaijan, which cooperates closely with the European Union.



In June 2014 a seminar was held in Baku with the participation of representatives of the EU profile project on improving financial incentives for the use of alternative and renewable energy sources, as well as raising the level of energy efficiency, where it was announced that Azerbaijan plans to increase the share of alternative energy to 20% by 2020 in the country's energy balance. The head of the EU profile project Magro Gomez Miguel highly appreciated the projects implemented in the country for the development of alternative energy.[57]

To achieve optimal results, the government of Azerbaijan actively cooperates with leading international organizations, such as the European Bank for Reconstruction and Development (EBRD), United Nations Development Program (UNDP), World Bank, the Asian Development Bank (ADB), the Organization for Security and Cooperation in Europe, United Nations Conference on Trade and Development (UNCTAD), International Finance Corporation (IFC), United Nations Economic Commission for Europe (UNECE), the United Nations Industrial Development Organization (UNIDO). In addition, there is close cooperation with the profile companies of Austria, Germany, Great Britain, Norway, Switzerland and South Korea. The government attaches special importance to stimulating the development and application of modern technologies in the field of renewable energy sources to ensure the sustainability of the country's socio-economic development. [46]

Azerbaijan has already made significant progress in developing and adopting a regulatory framework, government programs and action plans aimed at developing the renewable energy sector. Taking into account Azerbaijan's cooperation with the European Union on the basis of the European Neighborhood Policy, the Eastern Partnership and other regional projects, as well as the importance of access of the national goods to the EU market, the necessity of harmonizing the country's legislation with international standards and best practices is being considered. This will increase the inflow of foreign investment, technology and technical assistance,

provide institutional capacity, and eliminate risks and give confidence to foreign investors. A number of projects have been prepared and implemented in this direction, including the twinning program, regional programs and the UN INOGATE development program, as well as 14 million euros allocated for the development of alternative energy sector.

EU recommendations on renewable energy for Azerbaijan:

1. Development of renewable energy sources should remain a priority for Azerbaijan. The renewable energy strategy should include a schedule indicating the goals and objectives for RES.
2. Efforts should be concentrated on the use of solar and wind energy potential
3. Part of the revenues from oil and gas should be channeled to the development of renewable energy sources, and a fund on RES must also be established.
4. Rules and methodology for setting tariffs and incentives for attracting investments in the RES sector should be developed.
5. It is necessary to increase the role of SAARES in ensuring the leading role in the field of renewable energy development in Azerbaijan.

In Azerbaijan at present, some goods related to the use of clean energy and increasing energy efficiency have been exempted from customs duties and VAT. Within 10 years, these benefits will be granted for certain imported devices, spare parts for them and components for their production. The strategy on the use of alternative and renewable energy sources in 2015-2020 has already developed and submitted for by State Agency for Alternative and Renewable Energy Sources of Azerbaijan.[51]

Although at present this sector is not so developed in Azerbaijan, but Azerbaijan has a sufficiently large potential for the development of alternative and renewable energy. Thus, in this sphere, Europe is and can become in the future reliable partner. Azerbaijan already has partner relations in this area with a number of

European countries. One of the leading French companies CNIM in 2008 won a tender for the amount of 346 million euros for 20 years for the construction, operation of waste at the power plant in Baku. In Eastern Europe, this plant is the largest in this area with a capacity of 500,000 tons of waste. From the European Union's strategy in the field of R & D, the innovation policy outlined in the National Energy Strategy, Azerbaijan can benefit. It is in this area that Europe is very developed due to the lack of rich sources of non-renewable raw materials in the region.

### **Chapter III.** Challenges and perspectives of cooperation between the European Union and Azerbaijan in the field of energy.

#### **3.1. The problem of ensuring energy security in the relations between the EU and Azerbaijan.**

In the first decade of the 21st century, the majority of the world's nations faced the problem of ensuring energy security that was not inferior to the importance of national security. Moreover, if we consider energy security in conjunction with economic and national security, we can single out it as one of the main aspects of ensuring the national interest of the state and its national security. The reason for the increased interest in energy problems is caused both by the high level of energy consumption in the developed countries of Europe and North America, and by the increasingly serious threat of a shortage of oil, natural gas, and coal - non-renewable sources of energy. Despite all the innovations related to the use of renewable energy sources, it is known that the role of fossil fuels will remain important and dominant. Among them, crude oil and natural gas, the reserves of which are distributed unevenly, are largely responsible for energy security in the world. [58]

The EU, includes the world's most developed economies, but has limited access to energy reserves and it must provide large sources of energy from various sources at stable and reasonable prices to maintain economic performance and to sustain economic growth. Thus, in 2005, it was decided to diversify the energy market of EU. Western countries see Azerbaijan as a guarantee of their energy security in the EU and therefore raised the level of relations to a higher degree.

Also for Azerbaijan, activation of energy contacts with the EU gives an opportunity not only to receive a hard currency, but also to modernize its economy. For Azerbaijan, the intensification of cooperation with the EU in the energy sector will provide an opportunity to strengthen the national currency, and in general will enhance the opportunities for modernizing the national economy. The importance of

Azerbaijan for the EU depends both on its energy resources and on strategic location of Azerbaijan. In addition, its ability to pursue an independent foreign policy allows Azerbaijan to play the role of alternative gas supplier for the European Union through the Southern Gas Corridor Project. Azerbaijan is important for the energy security of Europe and the diversification of supplies. At the present stage, two documents form the basis for the energy dialogue between Azerbaijan and the EU. These are the Memorandum of Understanding on the Strategic Partnership in the Field of Energy signed with the EU in 2006 and in 2011 Joint Declaration on the Southern Gas Corridor. The Shah Deniz-2 project, the South Caucasus pipeline through the territory of Azerbaijan and Georgia, to expand the Trans-Asian and Trans-Adriatic gas pipeline will facilitate the implementation of plans for strengthening close cooperation with the EU, as well as addressing the issue of energy security.[46]

The main principles of Azerbaijan's energy security are ensuring reliable energy supply, pipeline security, diversification of energy sources, and consideration of necessary environmental requirements. To date, the role of Azerbaijan is becoming very important in the process of providing European countries with oil and gas, and in the development of the energy strategy of Europe. Also, the importance of Azerbaijan as an energy partner of Europe is reinforced by the political situation between the European Union and Russia, the events that took place in Ukraine, and the increase in the European Union's domestic demand for oil and natural gas. But despite a number of prospects for cooperation, a number of problems have an impact on the further development of this cooperation. Among them we can note the following risks:

- One of the important points in the policy of the EU and Azerbaijan in the field of energy security is the problem of pipeline security. It is necessary to consider the fact that pipelines, including the pipeline of the Southern Gas Corridor, pass through the territory of many countries, which are also directed to European markets, and the safety of the pipelines must be provided by two partners. The

geographical position of Azerbaijan's pipelines is associated with a risk. Routes of oil and gas pipelines are laid through the territories in conflict-affected areas, which increase the need to ensure the safety of oil pipelines. Today Azerbaijan has 4 pipelines (Baku-Novorossiysk, Baku-Supsa, Baku-Tbilisi-Ceyhan, South Caucasus Pipeline), and the issue of ensuring their security is very important for the country. Ensuring the safety of pipelines is a problem not only for Azerbaijan, but for its energy partners, in particular, here it is about the EU. This is one of the important issues in energy supplies. The base oil field in the Azerbaijani sector of the Caspian Sea is the Azeri-Chirag- Guneshli. Production in this field began in 1997. The largest gas field is Shah Deniz, which was opened in 1999. An important component of the energy infrastructure is the pipeline system for exporting oil and gas resources to world markets. Through the Baku-Tbilisi-Ceyhan (BTC) pipeline (1,768 km), oil from Azeri-Chirag-Guneshli and condensate from Shah Deniz through the territory of Azerbaijan, Georgia and Turkey are delivered to world markets. To date, the issue of a terrorist attack on the energy system is still quite relevant. These energy infrastructures connecting the world energy markets are attractive enough for terrorists. Such an event purpose of which was to strike at the main energy markets occurred in August 2008. At the pumping station in the Turkish part of the Baku-Tbilisi-Ceyhan pipeline, the terrorists staged an explosion. The Turkish authorities did not recognize this event as a terrorist attack, but suspicions were in the bottom situation of the actions of the PKK. Therefore, the risk from a possible terrorist attack by the PKK or other groups is still possible. Baku-Tbilisi-Ceyhan is the main pipeline connecting the Azerbaijani market with European for the transportation of oil, so the issue of ensuring its security is important.

- Another risk is the reduction in oil and gas production. Although Azerbaijan has sufficient potential and opportunities to produce and use alternative energy resources, but still oil and gas production remains paramount. However, this carries a big risk from the point of view of energy security, because they belong to exhaustible energy resources. Reserves of oil and gas affect the main production process in Azerbaijan, and it is also an important export resource. According to the report of the US Energy Information Administration, oil reserves in Azerbaijan were estimated at 7 billion barrels, and natural gas reserves - 35 trillion cubic feet to January 2014. The decline in oil production is also associated with oil prices and at the same time reserves. Crude oil production also affects oil revenues in the country. The production of crude oil fell to 70.8% from 76.6% in the period from 2010-2014. Reducing the levels of oil production can also contribute to a reduction in investment in this sector, which also raises some risks.
- Modernization of energy infrastructure and efficient use of energy resources. For the development of the energy sector, quite a lot of investments are needed to provide the appropriate infrastructure. However, if we are talking about the development and use of alternative types of energy, a modern infrastructure is needed here more. Many programs in the energy complex have already been implemented in our country. Thus, from 1994, period of signing the "Contract of the Century" there were more than \$ 100 billion invested in the economy of Azerbaijan. Of these, 42 billion were invested in the oil and gas sector, most of these investments are foreign. Azerbaijan invests in development and production, modernization of renewable energy sources in accordance with the Strategy of Renewable Energy Sources for 2012-2020.
- Russian influence. After independence of Azerbaijan with the collapse of the USSR, the country began to pursue an independent policy, including

economics. The country began to establish relations with neighboring states including the European countries, but at the same time Azerbaijan was careful enough and tried not to jeopardize relations with Russia. This factor is nevertheless, to a certain extent, a barrier for deepening relations in the field of energy security with the European Union. The expansion and development of Azerbaijan's relations with European Union and international organizations has important moment: it has to “fight” between the West and Russia, which are in the interest of influence in the region. Russia is very jealous about the issue of integration of countries located on the territory of the former USSR to Europe. And she demonstrates it openly. Looking at the countries surrounding Azerbaijan, we see Russia on one side, on the other - Iran, and with the third - Armenia, which is under full control of Russia. And only Georgia is our strategic partner. Azerbaijan is not a member of the Eurasian Economic Union. Azerbaijan is also not Armenia, in order to refrain from cooperation with the European Union under the pressure of Russia. Azerbaijan can freely establish and intensify cooperation with the European Union. But if Azerbaijan strengthened relations with NATO, and, like Georgia and Ukraine cases, set itself the goal of becoming a member of NATO, it would face strong pressure from Russia. As a strategic partnership between Azerbaijan and Russia should not affect the relations between the EU and Azerbaijan, so our relations with the European Union should not affect the friendly relations between Azerbaijan and Russia that have a strategic component.[41]

- From the point of view of ensuring energy security, the Nagorno-Karabakh conflict between Azerbaijan and Armenia poses a certain risk. This factor may have a negative impact on future projects with Western partners, as well as on investment in the energy sector. This issue is a barrier to the development of the energy infrastructure of Azerbaijan. The European Union objectively because



of its energy security is interested in the policy of increasing its presence in Azerbaijan. However, four resolutions on the liberation of the occupied Nagorno-Karabakh and adjacent territories, which were adopted by the UN Security Council, are still ignored with impunity by Armenia. But the European Union does not react in any way to such a violation of the norms of international law. The European Union has not yet developed a single position on the Nagorno-Karabakh conflict. However, there have not yet been announced any real plans to involve the European Union in solving the vital problem of the Nagorno-Karabakh conflict for Azerbaijan. In May 2015 in Riga, the fourth European Union summit on the problem of the "Eastern Partnership" was held, the purpose of which was to move from a single platform for integration of the six member countries with the EU to individual programs of cooperation within the national interests of partner countries. In the final document, the European Union guaranteed its support for the principle of territorial integrity, independence and sovereignty of all its partners. However, the plan of cooperation with Azerbaijan provides the need for taking into account the UN Security Council resolutions, and also other documents of the OSCE. And the plan of interaction with Armenia regarding the settlement of the Karabakh conflict provides for the inclusion of international principles and norms, including the principle of self-determination of nations. Thus, the main goal of the "Eastern Partnership" declared by Brussels - the spread of common values and EU norms to neighboring countries - is nothing more than words in this direction. Azerbaijan believes that at present the European Union does not take steps to solve vital issues of Azerbaijan, does not make serious efforts to resolve such problems of regional security as the prevention of Armenia's aggression policy and its territorial claims against neighboring states, the restoration of the violated territorial integrity of Azerbaijan.[45]

- One of the possible barriers and problems that harms the integration of Azerbaijan into the energy union of Europe is the passive participation of the republic in the Eastern Partnership Program. Improving relations with the EU, as well as increasing the participation in the Eastern Partnership program will be able to deepen the role of Azerbaijan in the Energy Union. And thus it will enable the development of the energy market in Azerbaijan.
- Another barrier to the further development of energy cooperation may be the unresolved status of the Caspian Sea. The current stage in the development of energy cooperation in the Caspian region is characterized by increased contradictions between individual countries. The availability of hydrocarbon resources and an advantageous geographical location for the construction of new pipelines for export energy resources to world markets made the Caspian region the center of a clash of interests between the countries of the region, as well as other states. The issue of determining the legal status of the Caspian Sea became relevant after the collapse of the USSR. Due to emergence of new subjects of international law - Azerbaijan, Kazakhstan and Turkmenistan – it was raised the issue of delimitation and determination of legal status of the Caspian Sea between the five countries. The main energy resources of Azerbaijan are concentrated in the basin of the Caspian Sea (including the Azeri, Chirag, Gunashli, Shah-Deniz fields). The Republic is the main producer of oil and natural gas in the Caspian. Its share in the potential reserves of the region is 17.2%, proved natural gas reserves - 12.9%, in oil production - 33.6%, in natural gas extraction - 3.8%. The main problem of developing energy resources remains the settlement of the legal status of the Caspian. There is no common opinion among the Caspian states, although a number of interstate agreements have been signed (with the exception of Turkmenistan and Iran). Iran claims two deposits belonging to Azerbaijan. The Caspian basin is

characterized by regional conflicts. To fully use the transport capabilities of the Caspian Sea, it is necessary to resolve and agree on the issue of its legal status.

Thus, the issue of ensuring energy security and deepening energy cooperation is an important direction of Azerbaijan's economic policy. In turn, this issue is also important for the European Union, whose energy sector depends largely on foreign supplies of resources. Azerbaijan is a major supplier of oil and gas, but also has a sufficiently large potential for the development of alternative energy sources. And cooperation in the energy sector with the EU has prospects both for Azerbaijan and for the EU. Thus, the national energy policy of Azerbaijan and the EU has common goals, but there are many barriers and unresolved problems that need to be considered for further development of energy cooperation. These issues require special attention include the issue of the unresolved status of the Caspian Sea, the unresolved Nagorno-Karabakh conflict, passive participation of Azerbaijan In the program of the Eastern Partnership, the instability of prices and supplies in the world market of energy resources, the need for a constant flow of investment in this sector, as well as the influence of Russia on this region.[24]

### 3.2. Future prospects of European Union and Azerbaijan relations in energy sector.

As already known, the EU's relations with Azerbaijan began in 1991. Their basis is the Partnership and Cooperation Agreement. This act was signed on 22 April 1996 in Luxembourg and entered into force in 1999. This document provides opportunities for large-scale cooperation in the field of political dialogue, trade, investment, economy, legislation and culture. On 2016, the EU Council accepted the mandate of the European Commission. And also it was approved the EU High Representative for Foreign Affairs and Security Policy. Azerbaijan emphasizes the importance of cooperation with the European Union. The share of EU countries in total investments in Azerbaijan is 24 percent. More than 1,400 European companies operate in Azerbaijan. Azerbaijan signed a memorandum on strategic partnership with eight EU countries. But a separate interest is the question of the opportunities and further prospects of Azerbaijan's cooperation with the European Union in the energy sector. Azerbaijan has established itself as the leading state in the region, as a guarantor of Europe's energy security, and these are the fundamental factors that greatly contribute to the increase of Europe's interest in Azerbaijan.[24]

The collapse of the Soviet Union and the distribution of its mineral wealth among individual states have caused serious expectations in the EU for the possibility of supplying gas from numerous suppliers and through many energy corridors. After the collapse of the USSR, the oil industry of Azerbaijan was completely rebuilt. Since the restoration of the country's independence in October 1991, Azerbaijan has become a bridge between several regions, as well as an important energy and transport hub for Europe, Russia, Central Asia, the Middle East and the United States. So far, the geographical distribution of resources, as well as the location of countries, has determined the flow of energy, so only Azerbaijan located in the west of the Caspian Sea has become a gas supplier of the European Union through the territory of Georgia and Turkey. Other Caspian countries must supply gas via Russian pipelines, or via a

new-opened route to China. In the period from 2000 to 2004, Azerbaijan produced about 15 million tons of oil per year. In the period from 2005 to 2010, the volume of oil was increased to 50 million tons. Despite the economic crisis in 2008-2009, oil production did not decrease. A small decline occurred in 2011 in this sector in the amount of 10%. Thanks to Socar's policy, when crude oil prices were high, the company diversified its investments, while other oil companies were primarily involved in oil production and development. The company, on the basis of its strategy, also invested in projects for processing, transportation and sale of oil and gas, thus the investment portfolio was diversified. SOCAR has offices in Turkey, Georgia, Kazakhstan, Iran, Switzerland, USA, Romania, Great Britain, Austria, Germany, Ukraine and Belgium. Also a company in Singapore, Switzerland, Vietnam, Nigeria and other countries established trading companies. In the supply of Caspian crude oil to Europe, Azerbaijan also plays an important role as a transit country and a producer country. Azerbaijan has enough oil transportation facilities. Azerbaijan became a transit country for Kazakhstan's crude oil, thus, the South Caucasus is an important export route for many countries. Routes through Azerbaijan and Georgia to the European energy market is an important export option for both Kazakhstan and other neighboring countries. With the implementation of new transport projects, Azerbaijan will occupy a central place on the Silk Road between China and Europe.[15]

The fact that Azerbaijan initiated the implementation of the second phase of the Shah Deniz gas condensate field development project is a serious step in ensuring the transportation of natural gas produced for the Southern Gas Corridor project. The final implementation of this project will further strengthen the interest of Europe and the United States towards Azerbaijan and will be a great help for the expansion of Azerbaijan's strategic partners among the EU member states.

To date, Azerbaijan and the EU are working to finalize negotiations on a new agreement. The new agreement should replace the 1996 agreement on partnership and cooperation, which will allow more to take into account the common goals and problems that the EU and Azerbaijan are facing today. The new agreement provides approximation of Azerbaijan's legislation and other legal procedures to the international and trade norms and standards of the EU, which should lead to improved access of Azerbaijani products to the EU markets. The EU is main trade partner of Azerbaijan. To date, the EU accounts for about 50 percent of Azerbaijani exports and about 25 percent of imports. The cooperation of the EU and Azerbaijan is of importance for Brussels, therefore it is very important that the level of energy cooperation between Azerbaijan and the EU is dynamically growing. Azerbaijan has established itself in the world and the region as a guarantor of European energy security as a reliable strategic partner that can be trusted and with whom it is worthwhile to build long-term cooperation. In this sense, the project of the Southern Gas Corridor is of great importance. It provides for the transportation of 10 billion cubic meters of Azerbaijani gas from the Caspian region through Georgia and Turkey to Europe.

2018 is an important year for Azerbaijan, as the country celebrates the 100th anniversary of its statehood. This year is also important for the country's bilateral relations, since negotiations are under way to conclude a new comprehensive agreement. It is also expected that it will soon be possible to sign a mutually beneficial agreement on the Common Aviation Area, which will open many opportunities for Azerbaijan, increase the number of tourists, which will help diversify the country's economy and further strengthen the desire to become a transport and logistics center. The country cooperates and continues to cooperate in many important areas with the EU in the future, and for fruitful cooperation in the next year it is necessary:

- to maintain the pace and progress in the construction of the Southern Gas Corridor, which will allow the Azerbaijani gas to enter the EU market in 2020;
- make the best use of the recently opened Baku-Tbilisi-Kars railroad, the facilities of the Baku port and the free trade zone to increase the volumes of transport and trade;
- to intensify efforts to assist Azerbaijan in diversifying and reforming the economy by providing the best European technologies and progressive solutions that can make the country more competitive, capable of attracting more investments from the EU not only in the energy sector but also other non-oil investments.

The Eastern Partnership has bilateral and multilateral aspects. The EU is ready to work and is already working in both directions in Azerbaijan, as well as in other countries of the Eastern Partnership. This allows the country not only to get acquainted with the best practice of the EU in various fields, but also to share its experience with partner countries from the Eastern Partnership region on important topics. Azerbaijan gives priority to bilateral relations. A new comprehensive agreement will further determine the scope and ambitions of our relationship. However, it is also necessary to note the fact that energy cooperation between the EU and Azerbaijan goes beyond the "Southern Gas Corridor", covering the sphere of renewable energy sources and interaction in improving energy efficiency.[34]

It is not ruled out that in the future when deciding to expand the Trans-Adriatic pipeline (TAP) capacity, Russian gas will be transported through it. United States signed a law on 2 August. This law introduces a new package of anti-Russian sanctions. Under the new law, may fall companies Royal Dutch Shell, Engie, Wintershall, OMV and Uniper, which decided to invest 4.75 billion euros in the construction of the Nord Stream-2 gas pipeline. The second branch of the "Turkish flow" Russia intended to withdraw to the European part in the region of the Turkish-

Greek border - the Ipsala region. It is in this area that the border with the European Union is planned to be crossed by Azerbaijani gas running along the Southern Gas Corridor, where the Trans-Anatolian pipeline (TANAP) connects to the Trans Adriatic Pipeline (TAP). This is possible if Russia and the European Union resolve their relationship within the framework of the Third Energy Package. And after that, perhaps Russian gas will go through the TAP. But this does not mean that 15.75 billion cubic meters of Russian gas through the second branch of the Turkish Stream can be supplied by TAP, which is planned to expand by 10 billion cubic meters. The third energy package means that one side can pump only 50 % of resources. It should be noted that the main shareholders of the TAP project. They are: BP - 20%, SOCAR - 20%, Snam - 20%, Fluxys - 19%, Enagás - 16%, Axpo-5%. Shareholders of TANAP: SOCAR - 58%, BOTAS - 30%, BP-12%.

Also, in 2018, drilling works will start at the fields “Babek” and “Absheron”.The State Oil Company of Azerbaijan (SOCAR) plans in the second half of 2018 to begin exploratory work at the “Babek” field in the Azerbaijani sector of the Caspian Sea.SOCAR plans to start gas production from the Babek field in 2019. Also, exploration work is under way on the “Umid” field. “Umid” is in development since 2012, and over the past period this field produced about 1.5 billion cubic meters of gas and 237.4 thousand tons of condensate. Contracts for the fields “Umid” and “Babek” were signed on January 12, 2017 and entered into force in May 2017. This block of two deposits is located in the deep-water part of the Azerbaijani sector of the Caspian Sea, 75 km from Baku. Reserves of these fields are accounted as 600 bcm of gas and in addition also 110 million tons of condensate. At the Umid field in the next 3-5 years, SOCAR plans to build 2 platforms for drilling at least 8 high-productive wells.At the final stage there are works on the preparation of the development and investment decision-making program for the “Absheron” field. At the first stage, extraction from the field will amount to 1.5 billion cubic meters of gas per year. It is



expected that in 2022-2023 in the second phase, production at the field should reach 5 billion cubic meters per year. The deposit is located 100 km from Baku at a depth of 500 meters. The presence of significant reserves in the field, which may exceed 350 billion cubic meters of gas and 45 million tons of condensate, was confirmed in September 2011 by the French company “Total”. SOCAR has high expectations in terms of growth in gas production for these fields. The development of these projects will allow SOCAR to increase gas sales both within Azerbaijan and abroad. So far, SOCAR reduces gas production. In 2016, SOCAR, through its own funds, produced 6.3 billion cubic meters of gas compared to 6.871 billion cubic meters in 2015, reducing production by 8.3%. In the first half of 2017, the company produced 2.95 billion cubic meters of gas by its own resources, compared to 3.16 billion cubic meters of gas produced in the first half of 2016, a decrease of 6.6 %. In addition to its own production, SOCAR also receives natural gas from the Shah Deniz field and associated gas from the Azeri-Chirag-Gunashli block, where SOCAR works in partnership with foreign partners. The total volume of gas produced from contracted and independently developed fields in the first half of 2017 amounted to 14.13 bcm compared to 14.94 bcm produced in the first half of 2016.

Thus, Azerbaijan and Turkey are important players in energy market and they have huge role in the implementation of the Southern Gas Corridor project. Russia has taken a number of measures to prevent cooperation between Azerbaijan and the EU. TANAP agreement, which is the main element of the Southern Gas Corridor, contradicted both the economic and political interests of Russia both in the EU and in the Caucasus. The European Union needs to diversify its energy supply routes. In February 2018, the EBRD (European Bank for Reconstruction and Development) provided a loan of 60 million euros for the construction of the BRUA gas pipeline (Romania, Bulgaria, Hungary and Austria) in the Southern Gas Corridor project. In March this year, the governments of Azerbaijan and Germany agreed on a loan

guarantees worth \$ 1.5 billion to finance the Southern Gas Corridor. However, this project is subject to certain criticism, because the resource base for filling the TAP gas pipeline is not sufficient in Azerbaijan. Gas production in Shah Deniz field is 10 bcm. If we take into account the consumption of a part of the gas in Turkey, it is not enough even to fully fill the first stage of the gas pipeline, especially taking into account the already functioning Baku-Tbilisi-Erzurum gas pipeline. Supplies from other Caspian fields are limited, due to the unresolved status of the Caspian Sea, namely through Turkmenistan. Supplies of gas through the territory of Iran and Iraq are limited due to the laying of gas pipelines in the region of military operations with Syria and through the zones of conflict between Turkish troops and the Kurdistan Workers Party. Thus, the development of new fields in Azerbaijan will ensure the appropriate resource base and increase the further prospects for cooperation with the EU.[24]

Also, in general, how the relations between Azerbaijan and the European Union will develop - depends first of all on the position of the EU on the Karabakh issue. Azerbaijan considers it fundamental that the European Union formally declare support for the principle of territorial integrity of Azerbaijan. Such a generally unified position was expressed by politicians and experts in Baku, commenting on the November 24, 2017 summit in Brussels of the Eastern Partnership. But twenty-five years of international mediation to resolve the conflict and return of territories under Baku's jurisdiction have not been crowned with success. Four resolutions (822, 853, 874 and 884) of the UN Security Council in 1993 on the Nagorno-Karabakh conflict remain unrealized. These resolutions confirm that the Azerbaijani territories are occupied by Armenia. The South Caucasus is becoming a strategic hub for Europe, the international consequences of the Nagorno-Karabakh conflict are becoming ever more significant, especially to ensure the security of neighboring regions between the Middle East and Central Asia.[44]

In addition to cooperation in the energy sector, Azerbaijan cooperates and has a future prospect of cooperation on other issues with the EU, such as climate change, justice reforms, the development of small and medium-sized businesses, transport, etc. Also, the EU mission conducts a large number of events, educational festivals on familiarization of Azerbaijani citizens with the culture of European peoples. 2017 was the most intensive year in public diplomacy for an EU delegation with the largest coverage of regions and the use of various instruments. This included debates, discussions, lectures, the European bus tour to the regions, the European Festival of Tolerance IMAGINE in Baku, the European Film Festival, the launch of the AvropadASAN radio program on ASAN Radio and the web portal [www.sizinavropa.az](http://www.sizinavropa.az).

Thus, speaking about the prospects for cooperation, it can be noted that cooperation in the energy sector of Azerbaijan with the EU corresponds to the interests of both the EU, which needs to diversify energy supplies, and Azerbaijan to which this cooperation will ensure high economic growth, opportunities for access to the European market, opportunities for country to become an important player in international economic relations in the context of globalization of the world economy. Also, cooperation between Azerbaijan and the EU goes beyond energy cooperation, covering other directions of the economy, as well as transport, jurisprudence, culture, art, etc. and also has prospects in these industries.

## **Conclusion**

The object of the study of this thesis was the issue of energy cooperation between the Republic of Azerbaijan and the European Union. Relations between Azerbaijan and the European Union began in 1991. Their basis is the Partnership and Cooperation Agreement, which entered into force in 1999 and provides opportunities for large-scale cooperation in the field of political dialogue, trade, investment, economy, legislation and culture with EU. Gradually, the political and economic situation in Azerbaijan improved after independence. In addition, the EU's interest in the oil and gas resources of the Caspian Sea and the possibility of diversifying energy supplies to Europe in the future contributed to the achievement of the "Partnership and Cooperation Agreement" (PCA), which laid the legal framework for Azerbaijan's relations with the EU. The EU's cooperation with Azerbaijan was mainly related to the implementation of technical programs, such as: TACIS, TRASECA and INOGATE and etc.

The oil industry of the world's oldest oil country, Azerbaijan, for its 150-year history has gone a long way of development. In the middle of the 19th century, oil production began in Azerbaijan in an industrial way. Azerbaijan immediately after gaining independence began to look for ways to develop its oil and gas fields. However, Azerbaijan did not have sufficient financial and technical capabilities for its independent development, which required it to attract Western oil companies in the early 1990s. The "Contract of the Century" once again demonstrated Azerbaijan to the whole world as an oil country, the first results from the large Shahdeniz gas and condensate field located in the Azerbaijani sector of the Caspian represented Azerbaijan as a country with the ability to export large volumes of gas. Based on the research we can draw the following conclusions:

1. Considering that fossil fuel is an exhaustible resource, Azerbaijan intends to activate the development of renewable energy sources. In order to ensure

sustainable development of the country, Azerbaijan attaches great importance to the issue of the use and development of alternative and renewable energy sources. In this direction, cooperation with the EU is also developing and has perspectives.

2. To date, the role of Azerbaijan is becoming very important in the process of providing European countries with oil and gas, and in the development of the energy strategy of Europe. The energy resources of the European Union are limited and the links with this cooperation with Azerbaijan have prospects for both Azerbaijan and the EU. For Azerbaijan, access to the EU market will also increase opportunities of non-oil sector development. In this case, Azerbaijan will be able to reduce the dependence of the economy on energy sector.
3. Thus, the national energy policy of Azerbaijan and the EU has common goals, but there are many barriers and unresolved problems that need to be considered for further development of energy cooperation. These issues require special attention include the issue of the unresolved status of the Caspian Sea, the unresolved Nagorno-Karabakh conflict, passive participation of Azerbaijan in the program of the Eastern Partnership, the instability of prices and supplies in the world market of energy resources, the need for a constant flow of investment in this sector, as well as the influence of Russia on this region.

Thus, speaking about the prospects for cooperation, it can be noted that cooperation in the energy sector of Azerbaijan with the EU corresponds to the interests of both the EU, which needs to diversify energy supplies, and Azerbaijan to which this cooperation will ensure high economic growth, opportunities for access to the European market, opportunities for country to become an important player in international economic relations in the context of globalization of the world economy. Also, cooperation between Azerbaijan and the EU goes beyond energy cooperation, covering other directions of the economy.

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## **Summary**

In the first decade of the 21st century, the majority of the world's nations faced the problem of ensuring energy security that was not inferior to the importance of national security. In the European Union this issue is one of the aspects of the foreign policy strategy. Thus, the relationship between the European Union and Azerbaijan, especially in energy sphere located in a strategically important direction for both partners. Azerbaijan is a major supplier of oil and gas, but also has a sufficiently large potential for the development of alternative energy sources. Thus, the national energy policy of Azerbaijan and the EU has common goals, but there are many barriers and unresolved problems that need to be considered for further development of energy cooperation.

## **Xülasə**

21-ci əsrin birinci onilliyində, dünya xalqlarının əksəriyyəti milli təhlükəsizlik əhəmiyyəti aşağı olmayan enerji təhlükəsizliyinin təmin edilməsi problemi ilə üzləşib. Avropa Birliyində bu məsələ xarici siyasət strategiyasının istiqamətlərindən biridir. Beləliklə, Avropa Birliyi ilə Azərbaycanın neft və qaz sahəsində münasibətləri strateji cəhətdən böyük əhəmiyyət daşıyır. Azərbaycan neft və qazın əsas tədarükçüsüdür, eyni zamanda alternativ enerji mənbələrinin inkişafı üçün kifayət qədər böyük potensiala malikdir. Enerji sektorunda Aİ ilə əməkdaşlıq həm Azərbaycan üçün, həm də Aİ üçün perspektivlidir. Beləliklə, Azərbaycanın və Aİ-nin milli enerji siyasəti ümumi məqsədlərə malikdir, lakin enerji sahəsində əməkdaşlığın gələcək inkişafı üçün nəzərə alınması lazım olan bir çox maneələr və həll olunmamış problemlər var.

## **Резюме**

В первом десятилетии XXI века большинство стран мира столкнулись с проблемой обеспечения энергетической безопасности, которая не уступала важности национальной безопасности. В Европейском Союзе этот вопрос является одним из аспектов внешнеполитической стратегии. Таким образом, отношения между Европейским Союзом и Азербайджаном, особенно в энергетической сфере, расположены в стратегически важном направлении для обоих партнеров. Азербайджан является основным поставщиком нефти и газа, но также имеет достаточно большой потенциал для развития альтернативных источников энергии. Таким образом, национальная энергетическая политика Азербайджана и ЕС имеет общие цели, но есть много барьеров и нерешенных проблем, которые необходимо учитывать для дальнейшего развития энергетического сотрудничества.

## Report

**Actuality of the topic.** At this stage of the development of the world economy in the context of globalization, the issue of energy security and energy supply is one of the most important. At the same time, this issue is of importance for both energy producing countries and for the countries of consumers, economy of which is fully oriented towards imported energy resources. The problem of stable provision of the economy with the necessary quantity of energy resources with minimal risks occupies leading positions among the foreign policy issues of all countries of the world.

**Research objectives.** The object of the study of this thesis is the issue of energy cooperation between the Republic of Azerbaijan, which is one of the old oil-producing country and the European Union, energy resources of which are limited and the economy is focused on imported resources. The subject of dissertation research is the energy market of Azerbaijan. To achieve these objectives, the following tasks were singled out:

8. To consider the state of the world energy market in the context of globalization;
9. To consider the state of the EU energy market and the role of Azerbaijan there;
10. To consider the history and stages of development of cooperation between Azerbaijan and the EU;
11. To identify the projects and main directions of cooperation Azerbaijan with EU;
12. To identify the projects in the field of energy cooperation between Azerbaijan and the EU (oil, gas, alternative energy sources);
13. To identify the prospects for cooperation in the energy sector between the Azerbaijan and the EU;

14. To identify the problems that impede energy cooperation between the Azerbaijan and the EU.

**Theoretical and methodological basis of the research.** The theoretical basis of the research is the fundamental provisions in the field of the energy market, contained in the works of domestic and foreign scientists, classical and neoclassical theories of international trade, as well as the legal and regulatory documents of the country. In the analysis, the deductive method was used, since to a single conclusion came from general information. For analysis was used secondary data which was obtained from scientific publications, articles, government publications, media, etc. For the analysis was used both quantitative and qualitative data.

**Structure of research.** The thesis consists of introduction, 3 chapters, each of which is divided into sub-chapters, conclusion and reviewed literature list, 5 tables, 8 charts. The object of the study of the first chapter is the question of the formation and development of relations between the Republic of Azerbaijan and the European Union. This chapter examines such issues as the state of the global energy market in the context of globalization, Azerbaijan's participation in the European Neighborhood Policy and the Eastern Partnership program, as well as the general characteristics of the energy market of the European Union and the role of Azerbaijan in this market. The second chapter will consider energy cooperation projects between the European Union and Azerbaijan. Thus, it will consider cooperation projects in the field of oil, in the gas industry, as well as cooperation in the field of renewable energy resources. In the last chapter of this thesis, questions about the prospects for cooperation between Azerbaijan and the European Union in the energy field will be discussed. Separately, the issues and problems that represent an obstacle for the development of cooperation between them will be considered.

The object of the study of this thesis was the issue of energy cooperation between the Republic of Azerbaijan and the European Union. Relations between

Azerbaijan and the European Union began in 1991. Their basis is the Partnership and Cooperation Agreement, which entered into force in 1999 and provides opportunities for large-scale cooperation in the field of political dialogue, trade, investment, economy, legislation and culture with EU. Gradually, the political and economic situation in Azerbaijan improved after independence. In addition, the EU's interest in the oil and gas resources of the Caspian Sea and the possibility of diversifying energy supplies to Europe in the future contributed to the achievement of the "Partnership and Cooperation Agreement" (PCA), which laid the legal framework for Azerbaijan's relations with the EU. The EU's cooperation with Azerbaijan was mainly related to the implementation of technical programs, such as: TACIS, TRASECA and INOGATE and etc.

The oil industry of the world's oldest oil country, Azerbaijan, for its 150-year history has gone a long way of development. In the middle of the 19th century, oil production began in Azerbaijan in an industrial way. Azerbaijan immediately after gaining independence began to look for ways to develop its oil and gas fields. However, Azerbaijan did not have sufficient financial and technical capabilities for its independent development, which required it to attract Western oil companies in the early 1990s. The "Contract of the Century" once again demonstrated Azerbaijan to the whole world as an oil country, the first results from the large Shahdeniz gas and condensate field located in the Azerbaijani sector of the Caspian represented Azerbaijan as a country with the ability to export large volumes of gas. Based on the research we can draw the following conclusions:

4. Considering that fossil fuel is an exhaustible resource, Azerbaijan intends to activate the development of renewable energy sources. In order to ensure sustainable development of the country, Azerbaijan attaches great importance to the issue of the use and development of alternative and renewable energy



sources. In this direction, cooperation with the EU is also developing and has perspectives.

5. To date, the role of Azerbaijan is becoming very important in the process of providing European countries with oil and gas, and in the development of the energy strategy of Europe. The energy resources of the European Union are limited and the links with this cooperation with Azerbaijan have prospects for both Azerbaijan and the EU. For Azerbaijan, access to the EU market will also increase opportunities of non-oil sector development. In this case, Azerbaijan will be able to reduce the dependence of the economy on energy sector.
6. Thus, the national energy policy of Azerbaijan and the EU has common goals, but there are many barriers and unresolved problems that need to be considered for further development of energy cooperation. These issues require special attention include the issue of the unresolved status of the Caspian Sea, the unresolved Nagorno-Karabakh conflict, passive participation of Azerbaijan in the program of the Eastern Partnership, the instability of prices and supplies in the world market of energy resources, the need for a constant flow of investment in this sector, as well as the influence of Russia on this region.

Thus, speaking about the prospects for cooperation, it can be noted that cooperation in the energy sector of Azerbaijan with the EU corresponds to the interests of both the EU, which needs to diversify energy supplies, and Azerbaijan to which this cooperation will ensure high economic growth, opportunities for access to the European market, opportunities for country to become an important player in international economic relations in the context of globalization of the world economy. Also, cooperation between Azerbaijan and the EU goes beyond energy cooperation, covering other directions of the economy.