

REGIONAL ASPECTS OF BOURGAS-ALEXANDROUPOLIS PETROL PIPELINE

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Abstract

The following scientific research discusses issues, connected to the construction of the Bourgas-Alexandroupolis petrol pipeline, from the point of view of the energy policy of the European Union (EU). The established relations between the EU and Russia lead to a demand for alternative opportunities for the construction of such infrastructure. The Bourgas-Alexandroupolis pipeline is the only infrastructural facility in this region that passes only through the territory of countries that are all members of the EU (Bulgaria and Greece). This is a circumstance that definitely makes petrol deliveries more secure. On the other hand the accomplishment of the project needs many regional ecological problems to have been solved beforehand. That's why the research's author suggests that such major investment projects of international significance are to be approved in advance by the countries from the Black sea area. Such a preliminary decision would be a guarantee for preserving the sustainable development of the Black sea.

Keywords: European Union (EU), energy policy, petrol pipeline, sustainable development, Black sea area, strait area.

1. INTRODUCTION

The Bourgas-Alexandroupolis pipeline is the only pipeline that passes only through the territory of countries that are all members of the EU (Bulgaria and Greece). From this point of view on the basis of the relation between production and end use, the pipeline is included in the European energy policy. A part of the pipeline's supply will be done by the Russian oil-extracting industry, and the rest – by the Caspian Pipeline Consortium (CPC) that is of interest for companies like British Petroleum, Shell, Chevron and others (see Fig. 1). The product will be transported to European Mediterranean harbours in Italy, France and Spain and then will reach Holland, Belgium and Germany through the already existing pipeline network. A part of the deliveries (mainly by Chevron) will be directed to the USA.

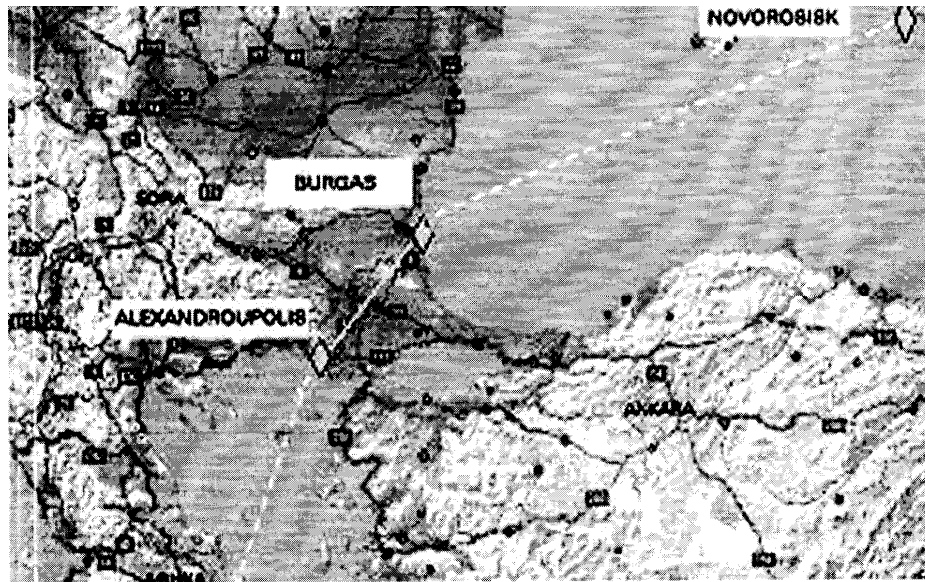


Figure no. 1 Supply map of the Bourgas-Alexandroupolis pipeline

The accomplishment of the pipeline will directly support the interests of several European countries in the field of energy. Building this pipeline at the same time with other ones cuts down the potential financial effectiveness of the latter and may lead to a midterm decline or delay of their accomplishment by investors.

The author's goal is, taking into consideration EU's energy policy and the project for the construction of the Bourgas-Alexandroupolis pipeline, to look for a decision that protects the sustainable development of the Black sea area.

2. EUROPEAN ENERGY POLICY

Led by a will to avoid new energy crises, the EU realizes its concept for a common policy in the field of energy supply. This policy was officially titled Energy Policy for Europe (EPE). It's interconnected with the contract for energy community with South-Eastern Europe. Europe's energy policy includes the realization of a more open and effective dialogue with Russia as it is a leading gas supplier to Europe. This is the basis for EU's decision for opening new routes for gas supply, especially from the Caspian Sea. There lies EU's concept for constructing pipelines, as the necessary investment in the next 20 years will reach an amount of 1 trillion EUR.

The policy of "energy effectiveness" in the Black sea region is connected to interest declared and means used by the Russian Federation. It is among the world's leading oil and natural gas producers and owns the biggest confirmed natural gas deposits. So Russia controls geographically and geopolitically the main routes for oil and natural gas from the Caspian region, and in certain cases cooperates with Kazakhstan, Turkmenistan, Azerbaijan and rarely Uzbekistan. In the near future this position of the Russian Federation can't be competed with by another country. On the other hand Russia is not independent regarding

the transit of the exported oil and natural gas through the territory of other countries. So the increasing demand of oil and natural gas on a global scale imposes a complex approach to energy safety.

Russia's energy policy in this direction includes:

- Accepting the relations with the transit countries, which on practice results in a price increase for the delivered quantities of oil and natural gas;
- Directing the main stream of export of energy resources toward the energy market of the member countries of the EU with some diversification of the energy supply;
- Guaranteeing stable and worthy conditions for the transit of energy resources. Building an energy resource infrastructure with alternative routes and direct access to EU's energy market;
- Keeping the leadership in Central Asia through the creation of an additional energy resource transport infrastructure that connects the region's countries to Russia's pipeline system, and thus guaranteeing supply of additional amounts of oil and natural gas;
- Extracting oil and gas resources from the Arctic shelf;
- Diversifying Russian energy resources, which are directed for export.

For fulfilling the rising EU's demand, an increase in Russian energy resource supply is necessary, but so is investment and technology from the other party as well. The aim of these relations is to reach transparency and sustainability of prices on the energy market, as well as to lower the instability and to increase the ability to forecast the global energy market through raising the reliability of the energy supply. So the parties look for an increase of commercial cooperation in the energy sector and of the corporate cooperation in the fields of research, extraction, processing, transportation and distribution of energy resources, as well as the realization of common projects in third countries.

The fields of common interest between the EU and Russia are four, as follows: energy resources trade; investment; energy infrastructure; energy security and safety. In this direction, activities are being organized with the aim of creating a harmonized system for monitoring the oil-and-gas infrastructure and markets. An important moment for achieving this is the undersigning of the Energy Charter, which Russia considers very important for solving emerging problems with the transit of the energy resource supply. The Russian Federation doesn't agree to consider EU's countries as a united territory. Russia defends the idea of formation of transit fees on the basis of investment and exploitation costs, adequate to norms of profit. The charter suggests the implementation of a mutual control over the transit of energy resources, modernization of energy resource infrastructural systems and achieving a long-term balance between demand and supply of energy resources on an international level. The energy dialogue between the Russian Federation and the EU is being realized inside the frames of the parties' economic contradiction.

An accomplishment of the Bourgas-Alexandroupolis project is another try of Russia to secure for itself an access to the European energy market, cutting down diversification of routes and its own dependence on transit countries. In this direction the interests of Turkey also matter; they are based on the following:

- The crossroad location of the country, giving opportunities for the development of transit routes for energy resources from South Caucasus, Near and Middle East, Central Asia and the Caspian region, Northern Africa, the Balkan peninsula and the Black sea area;

- The necessity of diversification of sources and routes of supply of energy resources to meet the national demand;
- Simultaneous work on two large issues: mediation for the problematic Near-East and Arabic region and Turkey's integration to the EU.

Turkey's oil-processing industry is a result of the consecutively realized Energy Strategy of the country. The pipeline, which is now in exploitation – Baku (Azerbaijan)-Tbilisi (Georgia)-Ceyhan (Turkey) with a capacity of 50mln MT per year and the alternative pipelines in the Black sea strait area: Samsun-Ceyhan (Trans Anatolian pipeline) with a length of 554km and a capacity of 60mln MT per year; Kiyikoy (on the European Black sea coast North of the Bosphorus)-Ibrikbaba (Saros bay on the Aegean sea), Trans Thracian pipeline (between the European coasts of the Black and Aegean seas) with a length of 193km and a capacity of 60mln MT per year; Eregli (Anatolian Black sea coast)-Izmit (Izmit bay in the Sea of Marmara)-Ali Agha (on the Anatolian Aegean coast) – all give Turkey a monopolistic key role as a transit country for Russian, Near-East, Central-Asian and Caspian oil deliveries to countries in South-East, Southern and Central Europe. There is a project for building an enormous reservoir park and an oil-processing plant with a capacity of 15mln MT per year in Ceyhan. This would create a basis for the foundation of an oil stock market and an oil index.

If the Bourgas-Alexandroupolis project was accomplished, it would compete with Turkey's interests in the field of energy and would deny its chance of being the sole monopolist regional centre for transit of energy resources. But on the other hand this project would solve an extremely important problem, that Turkey faces – the constantly increasing traffic of tankers through the strait zone.

The permeability of the Black sea strait area (including the Bosphorus and the Dardanelles) in terms of traffic of oil-tankers nowadays reaches 3.7% of the world's consumption of oil, and there is a constant tendency of increase of this percentage. During last years the number of tankers has risen from about 4200 to about 10000 per year, which is an increase of about 240%; the volumes of transported oil have increased from 60 to 145mln MT per year, and 2/3 of them are Russian and Kazakh oil.

The planning of activities in cases of emergency, in these conditions of surcharged seafaring traffic, is an ever more important obligation of the Istanbul Maritime Administration, which is responsible for the safety of seafaring. The ships that are nowadays navigating through the strait zone are four times bigger than the tankers, involved in the accident in 1994. The limitations to ships for travelling through the straits only by daylight lead to forced delays before entering the straits and causes demurrages. This fact shows that sea transport is not the most proper way to transfer energy resources in the Black sea region, taking into consideration the specific features of transportation through the Bosphorus.

Building oil and gas pipeline infrastructure in most cases is characteristic to industrial states. Post-industrial states have a well-developed pipeline infrastructure for the transportation of oil and its products and natural gas to end users. The development of a pipeline transit infrastructure leads to an increase in risks to ecology and people's safety. There is a certain risk of diversions and terrorist actions against pipelines, as they are hundreds of kilometres long and their complete safety is very hard to achieve.

Partnership and cooperation in the sphere of energy resources gain a special importance for the relations between suppliers (respectively – representative exporters) from the region, which are the Russian Federation, the Near East and the Caspian region – on the one side, the main consumer-countries from South-East, Central and Western Europe – on the

other side, and the transit countries: Ukraine, Belarus, Turkey and the Southern-Caucasus countries – on the third side. All consumers' claims for delays of deliveries are directed to producers and their representative exporters. Formation and carrying out of a coordinated external energy policy is vital to the EU. This is a prerequisite for guaranteeing the balance between demand and consumption by means of established clear, sustainable and common norms, valid for the whole chain of participants from the producer to the consumer on the basis of the accepted Energy Charter of the EU. The end result depends on the willingness of the participating parties to avoid both extreme options on the energy market – creation of monopoly or getting into crisis because of a shortage of energy resources.

3. THE BOURGAS-ALEXANDROUPOLIS PROJECT

Bulgaria is among the main producers (exclusively of electrical energy) and consumers of energy resources in the region. Bulgaria's geographical location between EU's South-Eastern part and Russia on the one hand, and between the EU and the Caspian region and Near East on the other hand creates considerable opportunities for a diversification of types, sources, traces, and suppliers of energy resources and for the establishment of a competitive energy market, reflecting the tendencies on the energy market.

The priority of the energy policy of Bulgaria is the development of the national, regional and transcontinental infrastructure in order to:

- Increase the number of opportunities for production and international exchange of electrical energy;
- Diversify the deliveries to the country and the energy resource transit to the region of South-Eastern Europe and the EU;
- Develop projects of national importance, leading to economical benefits, independence, or fulfilment of engagements taken;
- Develop projects of regional or common European importance, leading to economical benefits and independence, but also to geopolitical advantages and a leadership in the region, of course in accordance to European infrastructure policy;
- Develop strategic projects, meeting the requirements of certain criteria and leading to serious geopolitical advantages, economical benefits and independence.

As a member of the EU, Bulgaria has a commitment according to Chapter 14 "Energy" from the Treaty of Accession to the EU. This fact indulges the country to follow the requirements of the common European energy legislature. Apart from North- and Southwestern parts of the EU, which diversify their energy resource supply among Russia, Norway and Algeria, the Southeastern part of the EU and especially Bulgaria have quite limited opportunities for a diversification of energy resource supply. The EU membership obliges countries to harmonize their national energy policy with the European. So Bulgaria (as well as Romania and Greece, which are in the same region) has signed the Energy Charter with its Transit Protocol, and the contract for Energy Community in Southeastern Europe. The strategic stock of oil and its products, necessary for the country's security, is determined by the consumption of energy products. The connection between the national economic growth and energy consumption is undoubted. Oil's share in the total volume of primary energy, used in Bulgaria, is 33%. In terms of natural gas and oil, the dependence from import is between 90 and 100%. Bulgaria is among EU's countries with highest indicators of energy consumption for a unit of industrial product.

The need of oil in Bulgaria is satisfied mainly by import. The Russian Federation is the main source of oil and the sole natural gas supplier. Bulgarian legislature in the field of oil and oil products imposes maintaining an obligatory stock of 1.250mln MT of oil as well as an amount of oil products, equal to their consumption in the country for a 90-days period; these amounts have to be reached gradually by 2012. As of 31 March 2009 Eurostat detects that this amount has reached the level of 57-days consumption in the country

The project of the Bourgas-Alexandroupolis pipeline should take into account the fact, that Bulgarian refinery Lukoil Neftochim Bourgas is stipulating the creation of a reservoir park with volume of 600 000 to 1mln MT. The directive for maintaining and increasing stocks includes in the term “stocks” the load onboard of tankers in terminals, waiting for the preparation of documents by the port authorities in order to unload, as well as the amounts in reservoir parks at the beginning of pipelines. This is in accordance to Council Directive 2006/67 of the EU.

The geopolitical interest in the pipeline is a result of interests, declared by global and regional political actors, that reflect upon the identified circumstances in the Black sea region, that are problematic to oil and oil products supply. Other important features are the physical and geographical characteristics of the region – mainly the limited permeability of the straits. There is an ecological threat to be considered too – the high seismic activity of the Anatolian mountainous plateau and Caucasus. A key moment is the necessity of restricting the dependence of exporters and consumers of energy resources on the possible pretensions of key transit countries.

Through pipeline traces transit countries stream to deliver the necessary quantities of oil at minimum fees to their own oil storages and plants, while doing transit to Western and Central Europe at higher fees. In the course of exploiting the Bourgas-Alexandroupolis pipeline, Bulgaria would find itself in the position of an oil transferring country. It's necessary to underline that the Bourgas-Alexandroupolis pipeline guarantees a higher level of security due to the fact that it passes through the territories of Bulgaria and Greece and so the rules for transit of energy resources and the exploitation procedure will accord to the contract for the Energy Charter and the Transit Protocol, connected to it.

The negotiations for the realization of the Bourgas-Alexandroupolis project are going on for over 14 years. In 2007 Bulgaria, Greece and Russia signed a treaty for cooperation in building and exploitation of the pipeline. The project is important as it creates conditions for Russia to get an outlet to Mediterranean markets.

Thus Bulgaria is turning into one of the most important countries for the transit of oil in the region. For normally exploiting the pipeline Bulgaria and Greece will build large petrol storages with a volume reaching 600 000 MT. Regardless of this fact the project is controlled extremely by the producer (Russia), which has to guarantee oil deliveries that would make the pipeline rentable.

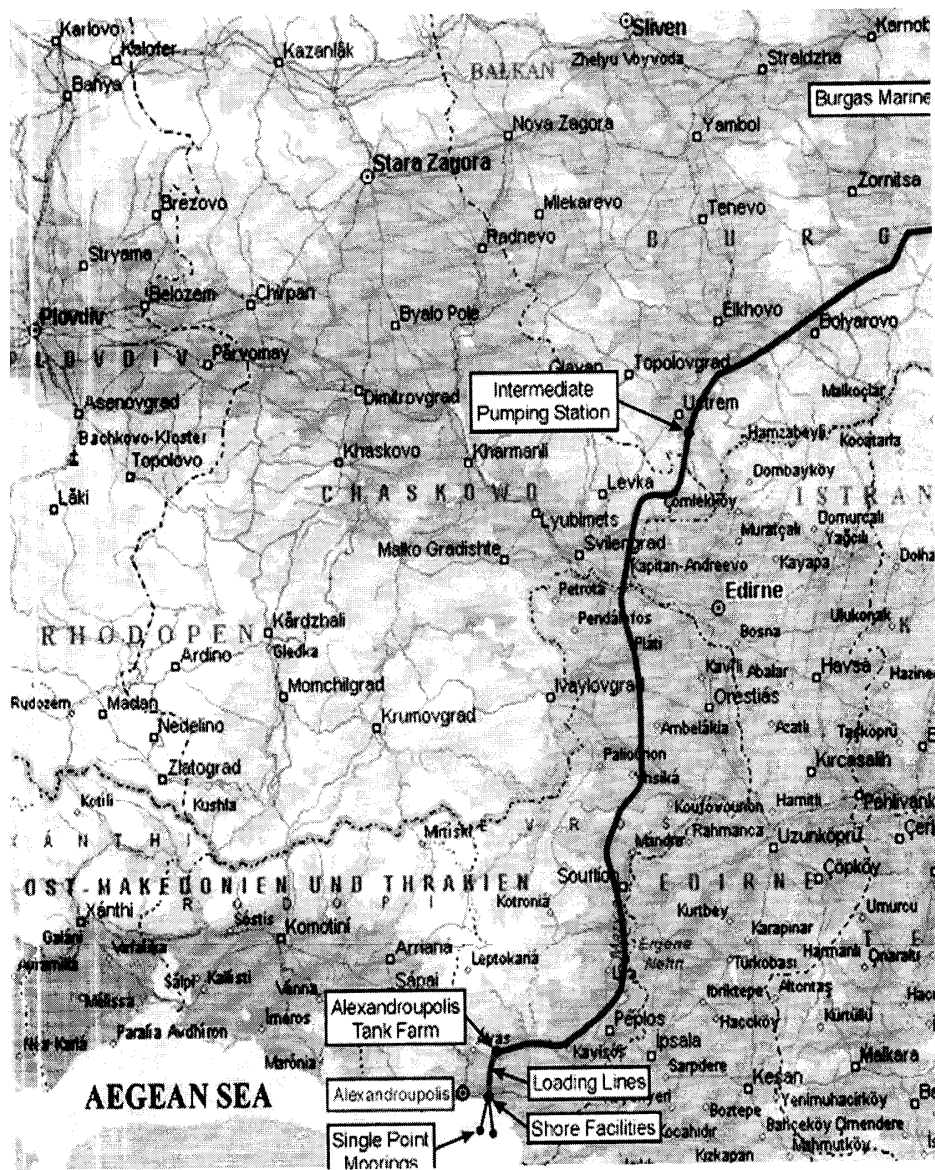


Figure no. 2 Trace of the Bourgas-Alexandroupolis pipeline

According to the project on Bulgarian territory in the Bourgas bay there will be an oil buoy constructed, where the unloading of tankers will take place. There is an opportunity for Bulgarian companies to participate in the transportation of oil from Novorossiysk to Bourgas (Figure 2). The pipeline itself will be 285km long and will have a transit function only.

Its aim is to lower (not to stop though) the traffic of tankers with crude oil through the Bosphorus and the Dardanelles. The officially declared capabilities are 35mln MT per year that can be expected to increase to 50mln MT. This means that the Bourgas bay will process from 400 to 700 tankers with volumes of 150 to 300 thousand MT each yearly. I.e. between 700 000 and 1mln barrels of crude oil will be passing through the pipeline, or 155mln litres every day. There is a prognosis in the project that Bourgas will surpass the world's biggest crude oil port – Rotterdam, which nowadays processes about 100mln MT yearly. To make a comparison – nowadays the Bourgas port receives 6.5mln MT crude oil per year, all of it for the needs of Bulgarian refinery Lukoil Neftochim Bourgas. The financial benefit of Bulgaria from construction and exploitation of the Bourgas-Alexandroupolis pipeline according to the calculations in the project is expected to reach 35mln USD per year. If we compare this to the revenues from the sector of tourism, we find out that an increase of revenues in the latter of even only 1% would compensate for the expected profit if the pipeline project failed.

For the determination of fiscal and non-fiscal payments, fees and compensations Bulgaria and Greece as parties of the treaty for transit of energy resources will use as basis the results from the technical and economical grounding and the concept that the conditions for transfer of oil products through the pipeline have to be competitive in comparison to other routes for transportation of petrol in the region.

Russia is the main shareholder of the Bourgas-Alexandroupolis project with 51% of the capital. Bulgaria and Greece have 24.5% each. The Bulgarian side has to consider the competitiveness of the pipeline, while the company, managing the pipeline can determine prices as it wishes.

With the aim of increasing the economic effectiveness of construction and exploitation of the pipeline, the Bulgarian and Greek sides indulge themselves to grant the managing company their most favourable taxation regime with the following details:

- Acquittance from the obligation to pay VAT for import of equipment for activities, connected to construction and exploitation of the pipeline, under the condition of reverse export;
- Shortening the term for refund of VAT, paid for materials, services and activities, necessary for the construction and exploitation of the pipeline;
- Determining all fiscal and non-fiscal payments and compensations in favour of Bulgaria and Greece in terms of the quantities of petrol, transferred through their territories, that would be enough for the project to be economically efficient.

4. POSSIBLE REGIONAL ECOLOGICAL CONSEQUENCES FROM BUILDING THE BOURGAS-ALEXANDROUPOLIS PIPELINE

Ecological problems, connected to the construction and functioning of the pipeline, origin mainly from the process of transfer of energy resources, which will be realized by means of big Russian tankers. They will remain several kilometres off the shore, as due to their deep wade they will not be able to enter the port and be places by the wharf. This imposes the use of a floating buoy and from it to the shore – a pipe, laid on the sea bottom. The ship approaches the buoy (being a technological facility with a weight of 70 to 80MT), connects to it by means of 250 to 300-metre-long hoses and the unloading of oil begins at a flow of 10 thousand MT per hour. The hoses lead the buoy to the pipe on the sea bottom. They move together with the ship and can twist according to the stream and waves. The

hoses are made of special matter but still remain the only barrier between oil and water. So each time a tower has to draw the tanker to make sure it won't hit the buoy, which might lead to oil-spillages in the sea. Technical or human mistakes, sea current or proximity to the sea bottom could also be reason for spillages.

The trace of the pipeline crosses directly park Rosenets, Lake Mandrensko, mountain Strandzha and river Tundzha and reaches Greece. So there has to be a second oil-carrying station as the product has to be constantly pushed till it reaches Alexandroupolis. On the Greek end of the pipeline there is a possibility for positioning the tanker nearby the coast, the whole pipe remains on the ground and there is a much better chance of pumping out the oil in case of spillage due to undoing of ties.

The Black sea hides true hazard for the unloading from tankers to the pipe, regardless of the modern facilities, as they can't guarantee much safety in case of large waves. A spillage is also possible because of breakage in the pipe. Another hazard originates from high summer temperatures, because of which tankers overheat and emit large quantities of poisonous and explosive vapour in the air.

On Bulgarian territory for the purposes of the construction of the pipeline hundreds of decarees of woods in mountains Strandzha and Sakar have to be cut down as placing the pipe will demand securing a wide trace. Certain parts of these mountains are protected territory; part of the land that the pipeline would cross belongs to European ecological network Nature 2000. To do massive cuttings means starting processes of erosion of the soil, landslides, and other unfavourable processes.

There are ecological hazards to the very coastal line itself. If it's not properly cleaned and the sea pushes it to the beach, a quantity of oil turns into a strong pollutant, soaking into sand, soil, etc. Bourgas bay is shallow and closed. Water currents are weak here. These characteristics make the dispersion of oil spillages practically impossible. So experts recommend the construction of a stationary port, like the one in Rotterdam, as a most ecologically safe variant. It would replace the 2 or 4 buoys, placed in the Bourgas bay 7km from the coast that now lie in the project for the pipeline.

This type of port is the basic method in Venezuela, Nigeria, Angola, Persian Gulf, Indonesia. In Western Europe there are very few buoys with limited application, with maximum annual capacity of 5mln MT and close to a stationary facility. In case of any type of breakdown, the buoy technology presumes an immediate spillage of 200 to 300MT of the product. Overall, all these technologies presume a certain percentage of operative spillages of oil into the water. On global scale operative spillages from tankers are equal to spillages from big accidents with tankers, and 5 times less than operative spillages at stationary facilities. As an illustration, Holland uses 200 stationary wharfs and no buoy.

It's definitely important to note that nowhere in the world is there a similar facility in a bay of tourist significance and a closed circulation of the water, as is Bourgas bay, a part of the world famous Black sea coastal line. A possible oil spillage would have its worst effect on the tourism sector in the region. Even without spillages into account, the wrong concept of tankers, discharging oil just in front of the most visited beaches of the Bulgarian Black sea coast would definitely be accepted poorly by the tourists. If this would lead to presumably 5% decrease in the number of tourists (compared to 2009), for one year Bulgaria would bear losses in the tourism sector that are three times bigger than the profit the country would gain from transit fees from exploitation of the pipeline. Another loss would be the loss of employment in the field of tourism that would exceed by far the 1000 new jobs, set in the project for the pipeline.

There are expectations that building and functioning of the pipeline would indirectly influence the real estate market in the region. The expected fall of prices is about 10%. While even only the taxes paid by refinery Lukoil Neftochim Bourgas are a much bigger amount than the country's total profit from the pipeline. All these details show that the 35mln USD per year, agreed upon in the treaty, that would be Bulgaria's profit from the pipeline, can neither compensate for the losses of the affected sectors, nor correspond to the level of risk to the Bulgarian Black sea coast. It shouldn't be forgotten that the project's price would reach 1 to 1.5 billion EUR.

5. CONCLUSION

As a conclusion we should note that regardless of the economical and geopolitical interests, reflected in the building and exploitation of the Bourgas-Alexandroupolis pipeline, certain regional ecological problems demand to be solved. From this point of view the author believes it's necessary to change the approach and strategy for making decisions for realization of such large investment projects, affecting the interests of different countries. To achieve this it's necessary to:

- Absolutely precisely determine the future demands of oil and natural gas of EU's members as well as their dependence on supply from Russia and the Caspian region;
- Determine which EU-members, that are doing transit of energy resources, should receive equal rights to participate in the negotiations between producer and consumer;
- Create a structure in the frames of Europe's energy policy, whose aim should be to defend the interests of countries that transit energy resources to EU-members;
- Set in contracts for transit of oil and natural gas the principle that EU-members, performing the transit, are treated as a part of the physical and economical space of the union;
- Set in every contract for transit of oil and natural gas, for the needs of EU-countries, a compensation program for covering losses, that originate from economical, social and ecological problems, of the energy resources transferring countries;
- Set as a common rule the obligation for paying for private land that is needed to be expropriated for the purposes of investment projects in the field of energy resource transit, according to the highest prices in the EU at the respective moment.

The issue of the sustainable development of the Black sea area lies in the agenda of the construction and exploitation of the Bourgas-Alexandroupolis pipeline. In the process of searching for balance between economic interest and the necessity to satisfy the needs for energy resources, the priority should still be the preservation of the ecological equilibrium of the Black sea. So the author's position is that before the participants have signed contracts for the realization of projects for transmission of oil and natural through the Black sea area, they should be coordinated with all Black sea countries. This is the way to previously detect all ecological risks from the accomplishment of the future project. This is also the way to determine who is responsible in case of ecological problems, originating from the exploitation of the energy trace. This is the only way to protect the interests of all Black sea countries that would share losses from a large ecological catastrophe in the Black sea. A timely realization of this view can be done through The Black Sea Economic Cooperation.

References

- [1] Bulgaria - Energy Mix Fact Sheet – www.ec.europa.eu/energy/31.08.2009
- [2] Jaffe, Amy Myers, Russia and the Caspian States in the Global Energy Balance, James A. Baker III Institute for Public Policy – Rice University, 6 May 2009, p.8
- [3] Leonard, M.,N. Popescu, A Power Audit of EU – Russia Relations, ECFR Policy Paper, London, 2007
- [4] Oil Market Report (OMR). International Energy Agency (IEA), Paris, France, 12 August 2009 – www.oilmarketreport.org/13.08.2009
- [5] Turkey's Energy Strategy, Ministry of Foreign Affairs, Deputy General Directorate for Energy, Water and Environment, Ankara, June 2006.
- [6] Vessel Traffic Statistics in the Istanbul Straits 2003-2007, confidential report, Ministry of Transportation, General Directorate of Coastal Security. Obtained from the Turkish representative to the international Maritime Organization.
- [7] България ще иска нейни фирми да взят нефт до тръбата Бургас-Александруполис - www.mediapool.bg/25.10.2009/
- [8] Дюлгерова, Н. Кавказки гамбит. Вектори на сигурността в енергетиката, Военно издателство, С. 2009
- [9] Няма особени причини да не продължим „Бургас-Александруполис” – www.mediapool.bg/25.10.2009/
- [10] Още въпросителни около руските енергийни проекти – www.mediapool.bg/30.09.2009/
- [11] Плевнелиев, Р. Бургас-Александруполис е икономически необоснован – www.mediapool.bg/30.08.2009/