Black Sea Economic Co-operation

Topic B: Hydrocarbon Resources exploitation in the Black Sea region countermeasures and sustainable development

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Description of the topic

The Black Sea itself is under serious threat. Elaborate work needs to be done in this sphere individually and collectively by the Member States and with the support/involvement, when and where needed, of the Third Parties who are also responsible, albeit partly, for the existing pollution. The NGO support and active participation in combating pollution is an effective way and needs to be propagated.

The exploitation resources has increased in the past years making such issue considerable under the BSEC agenda. The need to head towards a sustainable transportation as well as means of extraction of hydrocarbons is a now more than ever needed. The BSEC must face the burden to promote cooperative activities and furthermore decide upon a common framework on environmental protection.

Introduction-Hydrocarbons in general

Hydrocarbons are one of the Earth's most important energy resources. The predominant use of hydrocarbons is as a combustible fuel source. In their solid form, hydrocarbons take the form of asphalt.

Extracted hydrocarbons in a liquid form are referred to as petroleum or mineral oil, whereas hydrocarbons in a gaseous form are referred to as natural gas. Petroleum and natural gas are found in the Earth's subsurface with the tools of petroleum geology and are a significant source of fuel and raw materials for the production of organic chemicals.

The extraction of liquid hydrocarbon fuel from sedimentary basins is integral to modern energy development. Hydrocarbons are mined from tar sands and oil shale, and potentially extracted from sedimentary methane hydrates. These reserves require distillation and upgrading to produce synthetic crude and petroleum.

Oil reserves in sedimentary rocks are the source of hydrocarbons for the energy, transport and petrochemical industry.

Hydrocarbons are economically important because major fossil fuels such as coal, petroleum and natural gas, and its derivatives such as plastics, paraffin, waxes, solvents and oils are hydrocarbons. Hydrocarbons — along with NOx and sunlight – contribute to the formation of tropospheric ozone and greenhouse gases.

Petroleum and gas are the two significant hydrocarbon resources that influence the economies of the littoral states. Black Sea's basin proven reserves are vast. Some of the littoral states such as Romania, Ukraine, Russian Federation are included in the top 100 list of countries with the biggest hydrocarbon proven reserves on the planet.Shows of oil and gas have been observed on the shores of the Black Sea since antiquity, with the first commercial production beginning no later than 1857 in Romania – and possibly 1842 or earlier in Azerbaijan. Since then, Romania witnessed two peaks of oil production, one of gas, and is now a net importer of both. Azerbaijan saw two peaks of oil output and is now on a sprint to a third, much higher one. Ukraine, once a net gas exporter (yes – before its gas production peaked in the mid-1970's) is now heavily dependent on imports from Russia. Other countries, believed to be poorly endowed with petroleum, also went through boom and bust cycles of their own – Georgia during the 1980's, Bulgaria during the 1970's, and Moldova as well – but production there was and remains marginal.

While all of the littoral countries around the Black Sea except, of course, Russia, are today net oil and gas importers, the case of Ukraine stands out. Its proven oil reserves are small, only 0.4 billion barrels at the end of 2007, smaller than those of Romania (0.5 billion barrels) and about the same as Turkey (0.3 billion barrels). However, Ukraine boasts about a trillion cubic meters of gas reserves, a resource base that would generally be adequate enough to make the country self-sufficient in natural gas, since the reserves are equivalent to some 15 years of consumption at current levels. However, Ukraine imports up to two-thirds of the consumable gas at prices that it can hardly afford.

Most of the Black Sea, both the shelf and the deeper areas, is believed to be prospective for oil and gas. Indeed, numerous discoveries have been made on the shelf of Ukraine (including the Sea of Azov), Romania, and Bulgaria. Until recently, however,

exploration beyond the shelf on the continental slope and in the deep sea has been sporadic and inconclusive. Among the reasons for the general lack of interest are the fact that the littoral countries have traditionally been well supplied with reasonably priced oil and gas by major producers – Turkey from the Middle East and Russia. Romania has been a net oil exporter for more than 130 years. Also, the lack of technology in the littoral countries has limited the scope of exploration for oil and gas in the Black Sea. Yet another limitation has been - and in Ukraine, still is – the poor terms and conditions offered to private investors in the upstream petroleum industry.

But all this is passé: prices are up and domestic output is down in all littoral countries. Russia excluded, imports of oil and gas are rapidly rising in volume and value, to the extent that they cause considerable foreign trade deficits in some countries, for example Bulgaria. Previously inaccessible technology is now increasingly available. And – except for the Ukraine – all of the countries have improved the terms of access for investors in the petroleum industry in general, in offshore exploration, and in production business in particular.

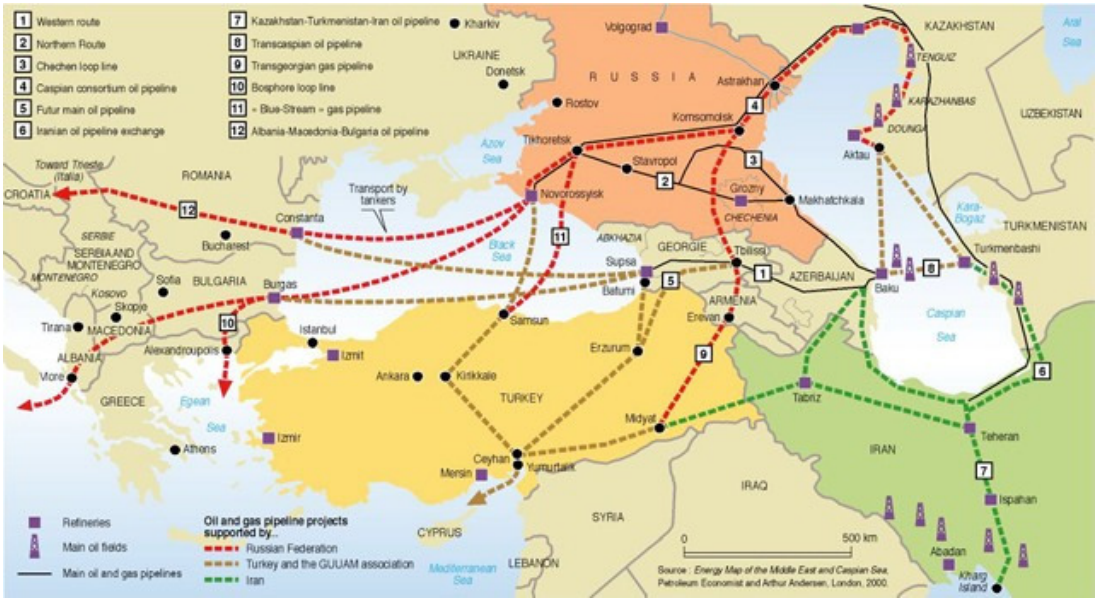
On the new frontier of petroleum in the Black Sea, Turkey is leading by example. In April 2009, Turkey's state-owned petroleum company, TPAO, and Brazil's Petrobras signed an agreement for the exploration of oil in the Black Sea. A deep-water platform, the Leiv Eiriksson, traveled from Norway via the Bosporus and reached the site of the first well off Sinop in January. The platform will stay in the region for five years. A second drillship, the Deepwater Champion, is currently under construction at the Hyundai Heavy Industries shipyard in Ulsan, South Korea, and should be ready to drill its first well in the Turkish Black Sea in the first half of 2011. ExxonMobil Exploration and Production Turkey will use the new drillship for its deepwater exploration program in the Turkish sector of the Black Sea. TPAO estimates the oil reserves that could be discovered by the exploration program at 10 billion barrels or more, which may be sufficient to support all of Turkey's oil demand.

Similar opportunities may exist offshore of Georgia, Ukraine, and Bulgaria. Similar to the North Sea of 50 years ago, the Black Sea may be on the verge of becoming a major oil and gas producing province.

Its exploitation has been starting to boom in the coastal areas but so has the pollution. The figures are dramatic. Pollution levels have been raising as one of the world most unique ecosystems is being ruined. Vast energy resources of the region, including the Caspian basin, second only to the Gulf area in the world, are not only a major, strategic asset but also an unavoidable subject in bilateral and multilateral economic cooperation. Other than that the vast resources that lie in the region of Transcaucasia as well as the Caspian Sea basin have promoted a complex system of pipelines that either cross the bottom of the Black Sea or reach its coasts. These expensive projects run usually by multinational consortia have brought an upheaval in the energy sector. The destruction of the underwater life has been massive.

Azerbaijan and Russia as well as Turkey have been on the run for the direction of the pipelines trying always to be competitive in the western market, mainly the European one

which is the biggest consumer and importer of natural gas. It is clear that the littoral states in the Black Sea region serve either as producer and exploiters or as transit spots for imported oil and natural gas.



(source: UNEP-United Nations Environmental Program)

Today the Black Sea has become a key area within the context of energy relations between Europe and Eurasia, something that came with a price. But despite the development of important energy projects, the region's considerable energy potential identified in earlier studies remains largely unfulfilled. If the Black Sea is to emerge as a major energy region, attention will need to be given to understanding clearly the energy opportunities and the challenges, environment among them, that currently confront the littoral states.

The figures are devastating as environmental pollution has doubled in the last decade. The Black Sea harbours vast quantities of hydrogen sulfide, the toxic gas. The waters of the Black Sea contain very little oxygen. As such, the rare forms of life that live in the depths of the inland sea, so-called extremophile bacteria, survive by metabolising sulfate in the water. The sulfate fulfils a similar biochemical role to oxygen in respiration for these microbes allowing them to release the energy they need to live and grow from the nutrients they absorb from the water.

With organic matter and waste pouring into the Black Sea from waterways running off 17 countries, the Black Sea has a serious environmental contamination problelm.

The Black Sea has a layer some 50 metres thick that lies between the anaerobic and aerobic water at a depth of about 200 metres along its axis. As such it represents a vast untapped fuel reserve. The total hydrogen sulfide production in the sediments of the sea is estimated at about 10,000 tonnes per day and this figure is continually rising. That equates to potentially well over 500 tonnes of daily hydrogen gas production.

The researchers explain that what is now required is the development of a safe, and energy-efficient method for collecting the hydrogen sulfide from the Black Sea. In addition,

there is a need to find effective catalysts and to build solar energy plants that could be used to quickly dissociated the hydrogen from the sulfide, leaving just a residual sulfur, that has industrial applications in the rubber and pharmaceutical industries.

Sustainable Development

In 1987, the United Nations released the Brundtland Report, which included what is now one of the most widely recognised definitions:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

Environmental sustainability is the process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine as naturally possible based on ideal-seeking behavior. An "unsustainable situation" occurs when natural capital (the sum total of nature's resources) is used up faster than it can be replenished. Sustainability requires that human activity only uses nature's resources at a rate at which they can be replenished naturally. Inherently the concept of sustainable development is intertwined with the concept of carrying capacity. Theoretically, the long-term result of environmental degradation is the inability to sustain human life. Such degradation on a global scale could imply extinction for humanity.

Environmental Sustainability has been a new object in the agenda of numerous organizations and governments as alarm from the high pollution rates.

Various programs and projects has been developed within the framework of the European Union as the Commission has been intensifying its 2020 energy policy to achieve Resource efficiency of the European area and a common energy market. Resource efficiency means using the Earth's limited resources in a sustainable manner. We depend on resources like metals, minerals, fuels, water, timber, fertile soil and clean air for our survival, and they all constitute vital inputs that keep our economy functioning. Within the Black Sea economic Cooperation this new item in the agenda has brought attention to this issue with the many aspects.

Actions taken by the BSEC

One of the latest actions the Joint Declaration Adopted at the ministers in charge of environmental protection of the BSEC member states (Bucharest, 31/05/2011) acknowledges the global challenges in the 21st century, particularly the impacts of climate change which require regional concerted actions in the field of environmental protection and

environmental risk management. It recognizes essential role of environmental protection for a sustainable development of the region and the necessity for a careful planning, including a proper environmental impact assessment where applicable. Raises the awareness of additional difficulties brought about by the economic crisis for the proper development of the environmental infrastructure and its sustainability and further stresses the need to further improve the existing framework of cooperation in the field of environmental protection. It is a concrete action plan that aims at the diminishing of the pollution as well as the sustainable development as a counter measure of the economic crisis. Bearing always in mind the character of the regional organization(BSEC) and its competence certain action must be taken. It is a fact of the past that the states have shown the political will needed to introduce a new series of measures concerning the topic at hand. Using resources more efficiently has clear economic benefits for companies: it improves productivity, reduces costs and enhances competitiveness, creating employment opportunities. The less firms and consumers are dependent on the availability of certain resources, the less vulnerable they are to supply constraints and volatile market prices. There are also many growth and employment opportunities in the provision of green technologies and services, in renewable energy provision, eco-industries and recycling, for example. Resource efficiency will profit other policies as well: wiser use of resources reduces greenhouse gas emissions and many other environmental and health problems. Extracting what the Black Sea can provide and no more and investing in green technologies and infrastructure is an aspect of the solution.

Under this scope The Working Group on Cooperation in Environmental Protection was established and in compliance with articles 4 and 12 of the BSEC Charter as a BSEC Subsidiary Organ in charge of the cooperation among the BSEC Member States in the area of environmental protection with the following mandate:

- Sustain the development of regional environmental cooperation in intersectoral and thematic areas such as biodiversity, waste management, urban management, integrated coastal zone management, marine environment and water protection.
- Promote the integration of environmental protection into the economic and social policies of the BSEC Member States, as well as the development of innovative, environmentally friendly and resource saving technologies;
- Strengthen cooperation with UNEP and UNEP/MAP, the International Maritime Organization and with other related international organizations, with the Environment General Directorate of the European Commission and other General Directorates of the Commission and with the similar type of regional institutions and organizations to discuss common concerns and to share experiences, good practice and knowledge;
- Contribute for the harmonization of the environmental legislation in the BSEC Member States, based on the best practices and experience existing in the Pan-European region, taking into account the legislative framework of the European Union;

- Improve the coordination with regional organizations, institutions and initiatives, in particular with the Commission on the Protection of the Black Sea against Pollution;
- Promote the use of economic incentives and tools in the field of the environmental protection in order to ensure funding for projects of mutual interest.

In the same interest the Romanian chairmanship has promoted work program/plan of action for the period of 2009-2011 with the contribution of the working group aforementioned having a principle to improve the functioning of the institutional network of BSEC and the coordination with regional organizations, institutions and initiatives in order to achieve a more integrated proposal bringing it into realization.

Future Proposals

The Promotion of the gradual harmonization of the relevant national legislations of the BSEC Member States toward the establishment of an integrated BSEC energy market is a point of great significance in order to ensure that the action is implemented and integrated within the domestic legislation of the littoral states and the states involved. Actions to be undertaken: Following studies of best practices and experiences of the BSEC Member States, experts will consider issues pertaining to the improvement of the relevant national regulations and come up with proposals on possible streamlining of appropriate actions to bring national regulations in the field of energy into conformity with the appropriate international and European norms and regulations. In view of ensuring effective action against climate change to strengthen environmental protection through the application of best practices and environmental standards during designing and implementation of national and regional projects in energy. Review regional energy strategy with reflection in it the balancing objectives of environmental protection, competitiveness and security supply. Develop effective alternative and renewable energy sources, as well as promote climate-friendly diversification of energy supplies. Actions to be undertaken: Engage in close cooperation with major investors operating in the region, international organizations and specialized agencies. The development of an exchange information system on best experiences and practices will enhance the cooperation and the awareness among states.

Another aim should be the adoption of mechanisms laid down in Kyoto protocol and carrying out joint bilateral and multilateral initiatives to fight against the rise of emissions and in order to adopt other types of extraction of natural resources. Organize exchange or practice and realize joint programs toward elaboration of corresponding methodology. Enhance cooperation between the Working Group on Environmental Protection and the domestic governments.

Conclusion

If we look at the energy dossier, we cannot ignore its complexity, both at the national and international level, for both the developed and developing countries. Such a complexity brings forth a number of challenges to the nations of the world that need to be approached with full responsibility, sense of solidarity and concern for the future of both planet and mankind.

As we are headed in the core of the economic recession things are getting sidetracked by the economic agendas that are prioritized in order to boost the already suffering economies. It is thought of great importance to understand that sustainable development is for the greater interest of a countries economy. This is what the quorum needs to do. Sense the need of the countries as separate particles but as one unity as well that has to find alternative and perspectives for future development and survival. The proven reserves are to be used wisely and for the greater good whilst we make sure that the environmental protection is prioritized to our list and to our consciousness.

Further Information

http://paneuropa.ro/doc/Geopolitics%20of%20Energy%20in%20the%20context%20of%20the%20Black%20Sea.pdf

http://www.bsec-organization.org/aoc/environprotect/Pages/declarations.aspx

http://www.bsec-organization.org/aoc/environprotect/Pages/aPlan.aspx

http://www.bsec-organization.org/aoc/environprotect/Pages/Annex%20IV%20Action%20Plan%20EnvironmProtection%202009-2011.pdf

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http://ec.europa.eu/environment/index_en.htm

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http://www.encharter.org/index.php?id=482

http://www.unep.org/