

# OIL AND NATURAL GAS PIPELINES TO EUROPE

ALI EMAMI MEIBODI (PH.D.)<sup>1</sup> - SYED SHABBER ALI<sup>2</sup>

## Abstract

Europe's growing and seemingly insatiable need for a steady supply of fuel to maintain its industrialized status including the so-called European standard of living' requires a flow of oil/gas from diversified sources without putting all eggs in one basket in order not to jeopardize its economic independence. At the same time, member states of the European Union need reasonable prices so as not to incur a heavy and unfeasible cost on their development projects.

The following paper is an attempt to pinpoint the various oil/gas pipelines flowing into Europe from Russia, Turkey and the Caucasus/Caspian Region, North Africa, and the potential of Iran, which has the world's 2nd largest natural gas reserves. The study also focuses on problems in this regard including geopolitical issues.

JEL Codes: Q480 Keywords: Europe, oil, gas, energy security, pipeline routes, geopolitical issues.

## 1 Introduction

Europe, one of the world's seven continents, comprising the westernmost part of the huge landmass called Eurasia, is generally divided from Asia to its east by the Ural Mountains, the Ural River, the Caspian Sea, the Caucasus Mountains and the Black Sea. To the west it is bordered by the Atlantic Ocean, while to its south the Mediterranean Sea separates it from Africa. On the north is the Arctic Ocean and North Sea with its depleting oil deposits. However, in modern political terminology, especially as far as our article is concerned, Europe generally refers to the 27 member states of the European Union (EU), although non-member Russia is the largest European country in terms of geographical definition.

Since this paper revolves around energy security, or to be more precise, the hydrocarbon needs of the EU's population of approximately half-a-billion, I think it will not be out of context to briefly explain the industrialization of Europe, as its thirst for oil and gas grows to meet the rising needs of its people.

Until the start of the 18th century, European Empires had no superiority in most fields, including military and economic might, over the great powers of the east, such as the Ottoman (Turkish), Safavid (Persian), Mughal (Indian), and Qing (Chinese) Empires, although colonialism had started a century-and-a-half earlier with the discovery of the New World by the Spanish and Portuguese, and the quest for maritime trade by the British, the French, and the Dutch.

The Renaissance, which owed its occurrence to wide scale translation into Latin of Islamic scientific works may have ended the long age of darkness, but what transformed Europe was the

Industrial Revolution and the age of mechanization, starting with the textile industry in Britain and the birth of steam power with coal providing the energy impetus for ships, railways, factories, and last but not the least foundries for manufacturing lethal firearms that established European supremacy over the rest of the world.

Soon the march towards modern science and technology was facilitated by the discovery of huge oil reserves in the Middle East which European firms monopolized fully to ensure a steady supply of cheap fuel for the burgeoning automobile and aircraft industries, as well as for factories and for heating of homes to meet the new and high standards of living. Since its own hydrocarbon deposits were not much, Europe became heavily dependent on the Persian Gulf, and later the Russian oil/gas reserves, as cheap sources of fuel.

This article seeks to provide an overview of the situation, including the energy security problems which the EU is likely to face in view of rising oil/gas prices and the need to maintain a steady supply of fuel from various sources instead of depending heavily on any single country or region.

## 2 European Energy Security

Europe's growing dependence on imported fossil fuels has emerged as an increasingly important political issue. Meanwhile, Europe's growing consumption of natural gas is being met principally by Russian exports.

The EU is one of the largest consumers of hydrocarbons in the world. The main supplier of the EU is Russia (gas 36% and oil 33%) and 80% of these are transmitted through the Ukraine. The series of Russo-Ukraine crises which started from March 2005 shows that 80% of EU consumption is in great danger. According to the EU, the gas crisis caused irreparable and irreversible damage to customers' confidence in Russia and Ukraine, which means Russia and Ukraine can no longer be regarded as reliable partners.<sup>3</sup>

There are concerns in Western Europe that Russia may try to use its energy exports as a political lever by threatening to —turn off the taps. Also the EU thinks that Russia might use it as a weapon to control the NATO's eastward expansion. The fact is that Russia and Europe are both dependent on each other. Russia needs European market and Europe needs Russian hydrocarbons.

However, energy security is often about perceptions - if Russia perceives the EU to be wary of and therefore diversifying away from it, Russia too will have to diversify its markets for its own economic security. This will create an energy security dilemma in which both sides may seek to diversify away from each other seemingly to enhance their own security.<sup>4</sup>

After the Russo-Ukraine crises, the energy thirsty EU came to the conclusion that unless its member states diversify their energy supply routes, their future energy security supplies will be at risk. Caspian hydrocarbons are widely seen as a supplementary energy

<sup>1</sup> Assistant Professor of Economics, Allameh Tabatabaie University, Iran, e-mail: emami@atu.ac.ir <sup>2</sup> Ph.D. student (International Relations – Allameh Tabatabaie University, Iran), e-mail: shabber\_110@yahoo.com <sup>3</sup> "EU warns of legal action over gas". BBC News. 2009-01-14. <http://news.bbc.co.uk/2/hi/europe/7827829.stm> <sup>4</sup> Monaghan, Andrew, "Russian Oil and EU Energy Security", Conflict Studies Research Centre, November 2005.

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source for Europe's diversification policy. In order to avoid Russia, the EU sees the South Caucasus region and Turkey as the main supply route, but we should not forget that the South Caucasus is regarded as a "Near Abroad" for Russia, and Russia is not going to sit idle.

So far, the Baku-Tbilisi-Ceyhan (BTC) oil pipeline and the South Caucasus (or Baku-Tbilisi-Erzurum) gas pipeline (SCP) constitute the only infrastructure for bringing Caspian energy to the European market, which is not under Russian control. A major problem in consolidating independent transit routes to Europe, envisioned as an East-West Energy Corridor through Turkey and the South Caucasus, lies in securing sufficient energy supplies from Kazakhstan and Turkmenistan on the eastern shores of the Caspian Sea. In this regard, oil constitutes less of a problem than gas, since oil can be shipped across the sea from Kazakhstan to Azerbaijan, adding to the already considerable Azerbaijani oil supplies fueling the BTC pipeline and reaching Europe.<sup>5</sup>

Security in this region has proved something else; the blast which occurred on August 5, 2008 in Turkey on BTC pipeline, prompted declaration a state emergency in Azerbaijan. Turkey's separatist Kurds claimed responsibility for the bombing. According to BP, it would have taken two weeks to have the BTC pipeline back in service. Thereby, the company shut down the procedure recovering 400 thousands barrels a day in the Azeri-Chirag-Guneshli oil field.<sup>6</sup>

Even the Russian-Georgian armed conflict was a major setback for the European diversification policy of energy supply. Also, the EU's inability to unite around a common energy strategy is allowing Russia and Gazprom to secure European energy demand through buying majority of shares in European energy companies, and striking bilateral deals with individual EU states. The realization of the existing Burgas-Alexandroupolis pipeline, as well as the proposed Blue Stream II and South Stream pipelines, requires the consent only of the states directly involved in these projects.

### 3 European-Russian Relations in terms of Energy Security

European and Russian relations in the case of energy dealings have become one of the hottest issues. The series of Russo-Ukraine crises upon the transit of natural gas has increased the sensitivity in the case of Russian and European relations. As mentioned above, the EU is importing about 36% of its gas from Russia and this 36% is a 'lions share'. The fact is that the

EU needs Russia for its energy and Russia needs EU's market for its foreign income. In this case both of them are interdependent upon each other.

### (Map 1) Pipelines to Europe

For Russia, a producer state, energy security has different meaning, which emphasizes security of demand, emphasizing greater access to markets and consumers.<sup>7</sup> The new energy strategy of the EU is to diversify the supply routes, but as mentioned above, this diversification will lead to security dilemma in which both sides may seek to diversify away from each other seemingly to enhance their own security. The EU is coming up with new routes and most important of them are BTC (Baku-Tbilisi-Ceyhan) and BTE (Baku-Tbilisi-Erzurum) which deliver Azerbaijan's oil and gas to European market through Turkey. This was the case for EU, but what about Russia? Surely, Russia will not be able to tolerate any power which tries to interfere in its 'near-abroad'. The EU to make these routes secure has joined hands with the US. NATO's eastward expansion (especially in the former USSR republics) and the so-called US anti-terrorist operations in Afghanistan have seemingly created a secure zone for energy transmission, but obviously this is not the case.

Washington's attempt to diminish Russian influence has been part of a policy aimed at wresting control of Central Asia and the Caucasus from its sphere of influence by any means, including oil and gas pipeline construction, pressure by NATO allies, financial incentives for docile local leaders, and alignment of US media with others who oppose Russian alliances.<sup>8</sup>

<sup>5</sup> Cornell, Svante E & Nilsson, Niklas, "Europe's Energy Security: Gazprom's Dominance and Caspian Supply Alternatives", Central Asia-Caucasus Institute, Silk Road Studies Program, 2008. <sup>6</sup> Alizadeh, Behrouz Beik, "Caucasus Crises and Reconsideration of Oil Routes", Energy Economics, Iranian Association for Energy Economics (IRAEE) October 2008, No/107

<sup>7</sup> Yergin, Daniel, —Ensuring Energy Security. International Foreign Affairs, Vol.85, No.2, March/April, 2006, p.77 <sup>8</sup> Yazdani, Enayatollah, "Competition over the Caspian oil routes: Oilers and Gamers Perspective", Alternatives: Turkish Journal of International Relations, Vol. 5, No.1&2, Spring & Summer 2006



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The Russian-Georgian conflict has clearly shown that Russia is not going to tolerate any interference in its interest areas. The conflict between Georgia and Russia in 2008 over the autonomous region of South Ossetia is likely to have a serious impact on export routes for the Caspian and Central Asian hydrocarbons and as a result on the existing European plans of diversification of oil and gas supplies. The new energy game in the region is likely to be dominated by Russia, China and the energy producing nations of Kazakhstan and Turkmenistan, and could potentially include Iran.<sup>9</sup>

The other step for diversification of energy supply is the construction of the Nabucco natural gas pipeline which will deliver 30 bcm per year to Europe and the transition route goes parallel to BTE. The fact is that Nabucco should also pass from the same route in Caucasus which the other two-BTE and BTC-pipelines pass. On the other hand, Azerbaijan doesn't have enough resources in order to maintain the gas supply, and that's why, EU is trying to involve Turkmenistan and Kazakhstan in this project and the main aim of this project is to ignore the regional energy giants, which are Iran and Russia.

We have said that the diversification of supply routes will create an energy security dilemma. To oppose the Nabucco and similar projects in oil and gas which diversify the Russian route, Russia has also projected major future projects for oil and gas supply to European countries, which if

these are accomplished along with the Iranian projects, then Nabucco and its sister projects will be totally failure.

The most prominent project undertaken during the last few years is the Baku-Tbilisi-Ceyhan oil pipeline (BTC), aimed at channeling Caspian oil via Georgia to Turkey's south coast. Driven by Western interest and actors, most notably British BP, but with strong support from Washington, it has come to be the most important oil pipeline in the region, not only for Georgia whose reliance on Russian oil has diminished, but also for Europe. The BTC has the advantage that it can be used for Central Asian oil, shipped over the Caspian Sea, and thereby dodging the Russian pipelines and providing the Central Asian oil producers with an export alternative to Russia and China.<sup>10</sup>

The Russian competitor to the BTC is the planned Burgas-Alexandroupolis oil pipeline via Bulgaria to Greece. This project is controlled by the Russian state and aims to bring Kazakh oil from the Caspian Consortium Pipeline that ends at the Russian port of Novorossiysk at the Black Sea. Bulgaria is, naturally, embracing this idea. Through this pipeline, Russia would also be able to undermine any Ukrainian ambition to promote its role as a transit state for oil.<sup>11</sup>

The other Russian projects which oppose the European ones are listed below. Russian Supported Oil and Gas Pipelines to Europe: <sup>12</sup> Druzhba-Adria-Integration Project (Oil Pipeline): The projected aim of reversing the flows of the Adria pipeline and tying it to

the southern Druzhba route, which would allow oil exports from the Caspian to run via Russia's pipeline system (crossing Ukraine and Hungary), and terminate at the Croatian Adriatic port of Omisalj.<sup>13</sup>

Baltic Pipeline System Expansion (BPS-2, Oil Pipeline): On May 21, 2007 the Russian government approved a plan to extend the BPS to the ports of Murmansk and Indig. This plan would further divert oil from the Druzhba pipeline.<sup>14</sup>

Pre-Caspian Gas Pipeline (Turkmen and Kazakh gas along the eastern Caspian Sea coast into Russia): This pipeline will transport Turkmen and Kazakh oil along the eastern Caspian Sea coast into Russia for local distribution channels, in order to meet local Russian demand, with the rest supplementing the supplies towards the European markets.<sup>15</sup>

Burgas-Alexandroupolis (Gas Pipeline): Burgas-Alexandroupolis is a 279 km gas pipeline that will run from Bulgaria's Black Sea port of Burgas to Alexandroupolis in northern Greece, thus bypassing the Bosphorus.<sup>16</sup>

South Stream (Gas Pipeline): A natural gas pipeline that, by crossing the Black Sea, would connect Russia directly to Bulgaria. It could deliver 30Bcm/year of natural gas via Bulgaria to Austria, Slovenia and Italy. Announced by Gazprom in June 2007, this project could replace previous plans to extend the Blue Stream pipeline.<sup>17</sup>

Yamal – Europe II (Gas Pipeline): An extension project of the existing Yamal-Europe pipeline,

currently under discussion. If realized, the combined annual capacity of the two pipelines would reach nearly 70 bcm per year, with costs amounting to \$10 billion.<sup>18</sup>

Nord Stream (North European Gas Pipeline): would extend over 1,200 km from Vybord, Russia, on the Gulf of Finland, via the Baltic Sea to Greifswald in northeast Germany. With predicted annual capacity of 26.5 bcm of gas, the pipeline, would cost around \$5.7 billion, and should be completed by 2010.

Blue Stream Expansion and Interconnection (Gas Pipeline): is a planned two-branch extension of the Black Sea pipeline line towards Bulgaria, Serbia, Croatia and western Hungary one way, and towards Israel and Lebanon through the other. Even though the existing Blue Stream pipeline is underused, currently transporting only about 4.7 bcm per year out of the 16 bcm full capacities, the extension could raise the pipelines transportation capacity to around 30 bcm of natural gas per year.

<sup>9</sup> Shamil, Yenikeeff, "The Georgia-Russia standoff and the Future of Caspian and Central Asian Energy Supplies", August 2008, Oxford Institute of Energy Studies <sup>10</sup> Cornell, Svante E & Nilsson, Niklas, 2008 <sup>11</sup> Vladimir, Socor, "Bulgaria's Ambitions for Caspian Oil Transit", Eurasia Daily Monitor, Vol. 4, No. 169, 2007.

<sup>12</sup> Borisocheva, Ksenia, "Analysis of the Oil-and Gas-Pipeline-Links between EU and Russia", Centre for Russia and Eurasia, Athens, Greece, November 2007. <sup>13</sup> EIA, Russia Oil Exports page, <http://www.eia.doe.gov/emeu/cabs/Russia/OilExports.html> <sup>14</sup> Ibrahimov R., The Journal of the Turkish Weekly Opinion Website, 25.2.2007, at: <http://www.turkishweekly.net/comments.php?id=2498>

<sup>15</sup> Vershinin, Alexander, —Russia strikes natural gas pipeline deal, Associated Press, April 15, 2007 [http://www.usatoday.com/money/economy/2007-05-12-2585352601\\_x.htm](http://www.usatoday.com/money/economy/2007-05-12-2585352601_x.htm) <sup>16</sup> Ibid <sup>17</sup> EIA, "Russia – Country Analysis Brief", May 2008

<sup>18</sup> EIA, Russia Natural Gas, <http://www.eia.doe.gov/emeu/cabs/Russia/NaturalGas.html>

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## 4 The Arab Gas Pipeline

Egypt, with its proven natural gas reserves of 1,656,000,000,000 tcm is eyeing a possible extension of its Arab Gas Pipeline to Europe. The 1,200 km projected pipeline, estimated to cost \$1.2 billion, is primarily part of the US scheme to ensure a steady, uninterrupted supply of cheap fuel to Israel, which except for the pro-western governments of Egypt and Jordan, does not have any friends to rely in the region, because of the questionable legitimacy of its very foundation.

The Egyptian pipeline runs from al-Arish to Aqaba in Jordan (proven reserves 6,031,000,000 bcm), and to ar-Rehab near the Syrian border, from where it stretches to the Deir Ali power

station. From there the pipeline runs to the ar-Rayan gas compressor near Homs. The Syrian section was completed in February 2008 and it was built by the Syrian Petroleum Company and Stroytransgaz, a subsidiary of Russia's Gazprom.<sup>19</sup>

As said earlier, the main purpose of the so-called Arab Gas Pipeline is to grease the wheels of the Israeli economy. In view of this, Egypt has provided a direct 100 km submarine connection from al-Arish to Ashkelon in Israel, built and operated by the East Mediterranean Gas Company, a joint company of Egyptian General Petroleum Corporation (EGPC - 68.4%), the Israeli company Merhav (25%) as well as Ampal-American Israel Corp. (6.6%). The pipeline became operational in February 2008. Egypt has agreed to supply Israel with 1.7 bcm natural gas per annum through this pipeline.<sup>20</sup>

## 5 The Trans-Saharan Natural Gas Pipeline

The Trans-Saharan gas pipeline (also known as NIGAL pipeline and Trans-African gas pipeline) is a planned from Nigeria (proven reserves 5,210,000,000,000 tcm) via Niger to Algeria (4,502,000,000,000 tcm). It is part of the plan to diversify the European Union's gas supplies.

On 14 January 2002, the Nigerian National Petroleum Corporation (NNPC) and Algerian National Oil and Gas Company Sonatrach signed the Memorandum of Understanding for preparations of the project. On 20 February 2009, NNPC and Sonatrach agreed to proceed with the draft Memorandum of Understanding between three governments and the joint venture agreement.<sup>21</sup> The intergovernmental agreement on the pipeline was signed by energy ministers of Nigeria, Niger and Algeria on 3 July 2009 in Abuja.<sup>22</sup>

The pipeline will start in the Warri region in Nigeria and run north through Niger to Hassi R'Mel in Algeria. In Hassi R'Mel the pipeline will connect to the existing Trans-Mediterranean, Maghreb–Europe, Medgaz and Galsi pipelines.<sup>23</sup> These supply Europe from the gas transmission hubs at El Kala and Beni Saf on Algeria's Mediterranean coast. The length of the pipeline would be 4,128 km.

The annual capacity of the pipeline would be up to 30 billion cubic meters of natural gas. It would have a diameter of 48 to 56 inches (1,220 to 1,420 mm). The pipeline is expected to be operational by 2015. The investment for the pipeline will be around \$10 billion and for gas gathering centres around \$3 billion.<sup>24</sup>

Russian gas company Gazprom has negotiated with Nigeria about its possible participation in the project. Also Indian company GAIL, France's Total, Italy's ENI SpA and Royal Dutch Shell have expressed interest in participating in the project.<sup>25</sup>

## 6 Opposition to the pipeline

The pipeline is opposed by the Nigerian group 'Movement for the Emancipation of the Niger Delta'. A spokesman for the group warned that



until issues regarding the exploitation of the Niger Delta and its people have been resolved, "any money put into the project will go down the drain."<sup>26</sup>

## 7 The Trans-Mediterranean Pipeline

The Trans-Mediterranean Pipeline (also Enrico Mattei gas pipeline) begins from Algeria via Tunisia (proven reserves 65,130,000,000 bcm) to Sicily and thence to Italy. An extension of this pipeline delivers Algerian gas to the Republic of Slovenia.

The pipeline begins from the Hassi R'mel field in Algeria and runs 550 km to the Tunisian border. In Tunisia, it runs for 370 km to El Haouaria, in the Cap Bon region, from where a 155-km submarine connection takes it across the Mediterranean Sea to island of Sicily.<sup>27</sup> From Sicily the pipeline, a 15-km undersea route continues it to mainland Italy, where it travels north towards the Alps for 1,055 km, before branching out to the Republic of Slovenia.<sup>28</sup>

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<sup>20</sup> Shirkhani, Nassir, "Egyptian Gas Flows to Israel", Upstream Online, March 10, 2008, <http://www.upstreamonline.com/live/article150348.ece>

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"Syria Completes First Stage of Arab Gas Pipeline", Downstream Today, February 18, 2008, [http://www.downstreamtoday.com/news/article.aspx?a\\_id=8761](http://www.downstreamtoday.com/news/article.aspx?a_id=8761)

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"Nigerian, Algerian Officials Discuss Saharan Gas Pipeline". Downstream Today, 2009-02-20, [http://downstreamtoday.com/news/article.aspx?a\\_id=15259](http://downstreamtoday.com/news/article.aspx?a_id=15259)

<sup>22</sup> "Sahara gas pipeline gets go-ahead". BBC, 2009-07-03, <http://news.bbc.co.uk/2/hi/business/8132823.stm>

<sup>23</sup> Nigerian, Algerian Officials Discuss Saharan Gas Pipeline,

<sup>24</sup> "Trans-Saharan gas pipeline to reach Europe in 2015", Business Intelligence Middle East, 2009-02-22, [\[me.com/main.php?id=31951&t=1&c=33&cg=4&mset=\]\(http://www.bi-me.com/main.php?id=31951&t=1&c=33&cg=4&mset=\)](http://www.bi-</a></p></div><div data-bbox=)

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Randy, Fabi, "Total, Gazprom eye Sahara gas pipeline venture", Reuters, 2009-02-25, <http://uk.reuters.com/article/oilRpt/idUKLP44351420090225?sp=true> <sup>26</sup> Watkins, Eric, "Nigerian militants threaten proposed Trans-Saharan gas line". Oil & Gas Journal (PennWell Corporation) 107, <http://www.ogj.com/index/article-display/3118642441/s-articles/s-oil-gas-journal/s-transportation/s-pipelines/s-articles/s-nigerian-militants.html> <sup>27</sup> Hayes, Mark H, "Algerian Gas to Europe: The Transmed

Pipeline and Early Spanish Gas Import Projects", James A. Baker III, Institute for Public Policy Energy Forum, Working Paper No. 27, May 2004. <sup>28</sup> Ibid.

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The current capacity of the pipeline is 30.2 billion cubic meter (bcm) of natural gas per year. There are plans to expand the capacity up to 33.5 bcm by 2012.<sup>29</sup>

Libya, with its proven natural gas reserves of 1,419,000,000,000 tcm, has its own project to Sicily across the Mediterranean to join the main pipeline to Italy for meeting the needs of the European Union.

## 8 The Maghreb-Europe Gas Pipeline

The Maghreb-Europe Gas Pipeline (MEG; also known as the Pedro Duran Farrell pipeline) is a natural gas pipeline, which links the Hassi R'mel field in Algeria through Morocco (proven reserves 1,557,000,000 bcm) with Cordoba in Andalusia, Spain, where it is connected with the Spanish and Portuguese gas grids. It supplies mainly Spain and Portugal, as well as Morocco with natural gas.

The Maghreb-Europe Gas Pipeline was proposed by French companies. This proposal foresaw prolongation of the pipeline to Strasbourg in France. However, because of the Western Sahara dispute, any route from Algeria through Morocco to Spain was prevented. Also natural gas consumption in Spain was too low to justify the pipeline construction.<sup>30</sup>

The pipeline came on stream on 1 November 1996. The Spanish section was inaugurated in Cordoba on 9 December 1996. The Portuguese section was inaugurated on 27 February 1997. In 2000, the pipeline was named after Pedro Duran Farrell.

The pipeline is 1,620 km long and it cost \$2.3 billion. The initial capacity of the pipeline was 8.6 billion cubic meters (bcm) of natural gas per year, which was later expanded to 12 bcm.

## 9 Central Asia and the Caucasus

South Caucasus is regarded as one of the most geo-strategic areas for the Europe in the term of gas supply. Europe along with the US, is trying to build-up new transit routes in the southern Caucasus, a place which was once under the direct rule of the former USSR.

Russia is regarded as a successor state to the USSR and considers this area to be a part of its interest. The northern Caucasus is still under the Russian rule, and any interference in the southern part is regarded a threat to Russian security. On the other hand, after the collapse of the USSR in 1991, this area was filled with a vacuum; golden chance was given to the regional powers and especially to the US and Europe to bring this region under their influence. New markets were opened for European industrialists and waves of foreign investments that reached

Central Asia and the Caucasus. The US also had its presence by supporting Turkey and the EU, but after the events of September 11/2001, the US, in the name of fighting terrorism had a direct presence.

With regards to Central Asia, getting direct access to Caspian oil and gas is vital for European energy security in order to provide an alternative for reducing the dependence on Russian resources, due to the region's extensive resources and its geographically proximity to Europe. For example, Turkmenistan, being a major gas producer, holding 2,850 bcm of proven natural gas reserves, and Azerbaijan, with 1,370 bcm of proven natural gas (Azerbaijan's resources alone are not enough to be supplied to Europe). However, to a great extent the countries of this region are dependent on the existing Russian controlled infrastructure, both legally, as a remnant possession of the Soviet era, and geographically, since they traverse the territory of the Russian Federation, which makes direct cooperation with the EU difficult to say the least.

In order to bypass Russia, the EU has proposed construction of a new pipeline from Central Asia and the Caspian region to Europe.

## 10 Projected Oil and Gas Pipeline Routes:

Odessa-Brody-Plozk-Gdansk (extension project, Oil Pipeline): On October 10, 2007 Azerbaijan, Georgia, Ukraine, Poland and Lithuania have agreed on building a 490-kilometer extension of an existing pipeline from Brody in western Ukraine northward to the Polish port of Gdansk on the Baltic Sea, with Azerbaijan providing for the necessary supplies of 280,000 barrels per day (14 million tons annually). The first leg of the pipeline, from Odessa to Brody, was already completed in 2004 with the aim of delivering Caspian oil to central Europe. However, since then the project has languished, with Russia using it to export oil via the Black Sea.<sup>31</sup> The estimated €500 million pipeline would provide Lithuania and Latvia with direct crude, after Russia stopped its deliveries to Mazeikiu Nafta, the only refinery in the Baltics, since July 2006, citing a pipeline accident. However, the main problem with the project is the state of supplies, since it is unclear whether Azerbaijan could commit enough crude as to make the project economically viable.<sup>32</sup>

Trans-Caspian Gas Pipeline (Turkmenbashi-Baku): This is an undersea Caspian gas pipeline, with initial carrying capacity of 6.25 bcm, expandable to 30.6 Bcm. It aims at connecting Kazakhstan to the already present BTC pipeline in Azerbaijan (thus adding additional volumes and justifying BTC economically). Further plans include onward flow of Caspian gas along the planned Nabucco pipeline.<sup>33</sup>

Nabucco (Gas Pipeline): is a planned 3,300 km natural gas pipeline project through which it is intended to bring up to 31 bcm annually of Central Asian gas from the eastern end of Turkey, across Romania, Bulgaria, and Hungary into Austria by 2020 Construction is expected to be finished in 2011-13.<sup>34</sup> In the next section of this chapter, I will shed more light on this project.

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"Eni to invest 330 mln eur to hike Transmed gas pipeline capacity", Forbes, 2005-05-24, <http://www.forbes.com/feeds/afx/2005/05/24/afx2051617.html> 30 Hayes, Mark H, 2004. <sup>31</sup> Global Research, —East European Nations Sign Black Sea-Baltic Sea Oil Pipeline Deal, October 14, 2007, at: <http://www.globalresearch.ca/index.php?context=va&aid=7068> <sup>32</sup> Borisocheva, Ksenia, November 2007 <sup>33</sup> Ibid. <sup>34</sup> Norling, Nicklas, "Gazprom's Monopoly and Nabucco's Potentials: Strategic Decision for Europe", Central Asia-Caucasus Institute, Silk Road Studies, November 2007.

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BTC (Oil Pipeline): is a 1,768 kilometres (1,099 mi) long crude oil pipeline from the Azeri-Chirag-Guneshli oil field in the Caspian Sea to the Mediterranean Sea. It connects Baku, the capital of Azerbaijan; Tbilisi, the capital of Georgia; and Ceyhan, a port on the south-eastern Mediterranean coast of Turkey, hence its name. It is the second longest oil pipeline in the world after the Druzhba pipeline. The first oil that was pumped from the Baku end of the pipeline on 10 May 2005 reached Ceyhan on 28 May 2006.<sup>35</sup>

BTE (South Caucasus Gas Pipeline): is a natural gas pipeline to transport natural gas from the Shah Deniz gas field in the Azerbaijan sector of the Caspian Sea to Turkey. It runs parallel to the Baku–Tbilisi–Ceyhan pipeline.<sup>36</sup>

## 11 Nabucco

Nabucco is the dream project of the European analysts and politicians for diversifying the energy supply to Europe, and its main aim is to neglect the Russian option. If this project is successful, then European countries will plan other new projects to satisfy the energy thirst of Europe.

The Nabucco pipeline is a planned natural gas pipeline from Erzurum in Turkey to 'Baumgarten-an-der-March' in Austria diversifying the current natural gas suppliers and delivery routes for Europe (map 6.4). The project is backed by several European Union states and the United States.<sup>37</sup>

It is a planned 3,300km natural gas pipeline project through which it is intended to bring up to 30 Bcm annually of Central Asian gas from the eastern end of Turkey, across Romania, Bulgaria, and Hungary into Austria by 2020 Construction is expected to begin in 2008 and finished in 2011-13. It aims at bypassing Russia and would transport BTC gas to Central Europe. For these reasons this pipeline has a substantial geopolitical significance, and is strongly supported by the EU.

Azerbaijan is where Nabucco will start its long distant journey which will pass through the high mountains of Georgia and then will enter Turkey on its way to Europe. Due to the lack of insufficient natural gas resources in Azerbaijan, Nabucco's gas injection will be from Turkmenistan and Kazakhstan. A new pipeline project named 'Trans-Caspian' undersea pipeline

will connect the Turkmen and Kazakh resources to Azerbaijan. More about this project and its shortcomings are explained in the next chapter.

(Map 2) Nabucco's Proposed Route

## 12 Shortcomings of Nabucco

The EU's Nabucco pipeline project, which aims to bring gas to Europe from countries other than Russia and Iran, notably via Georgian territory, appears to be up in the air due to the crisis currently pitting Moscow against Tbilisi. Iran and Russia are planning to develop their own pipelines which if they are able to do so, then Nabucco will be a "pipeline in the air". The next sections of this chapter will focus on the shortcomings and other options given by Iran and Russia.

A major problem on the EU's part is thus its lack of cohesion and differing national priorities among its members, resulting in an inability for providing Nabucco with the political and financial support required for the project to be perceived as realistic.<sup>38</sup>

## 13 Political and Military Threat

The eastward expansion policy of NATO has become one of the main concerns of the Russian administration. Central Asia and Caucasus region was once the part of the USSR, and after its collapse, this region is regarded as the 'near abroad' for Russia. Any kind of influencing activities in this region by the West are regarded as a security threat to Russia's national interest.

<sup>35</sup> Ibid. <sup>36</sup> Ibid. <sup>37</sup> European Bank for Reconstruction and Development (EBRD) Annual Meeting, "Nabucco: A Short-Sighted Answer to the Energy Security Challenge", London, May 2009 <sup>38</sup> Cornell, Svante E & Nilsson, Niklas, 2008



Therefore, the Russo-Georgian conflict can be a good example for this issue. The Russian and Georgian relations became gloomy after the 'Rose Revolution' in 2003, which resulted in the collapse of Eduard Shevardnadze's government. The 'Rose Revolution' was mainly backed and financed by the West and after the fall of Shevardnadze's government, a pro-Western government came to power with Mikheil Saakashvili as its head.

With coming up of the new western backed government in Georgia, and its desires for joining the NATO, tensions were increased in Russian-Georgian relations. The military assault of Georgia on the South Ossetian region, and later Russian support for South Ossetia, resulted in a full scale war. The armed conflict in this region was a clear message to the US and Europe to limit their influence in the southern Caucasus. During the war, a rocket landed about 100 meters from of the BTC pipeline, and this area is still under the range of Russian artillery.

Other than the above mentioned, the unsolved dispute between Armenia and Azerbaijan known as the Nagorno-Karabakh dispute, has resulted in the insecurity of this region.

## 14 Environmental and Social Risks

The construction of the BTC pipeline has proved that Turkey has difficulties abiding by environmental standards as well as respecting voluntary resettlement procedure and fair land compensation. The potential construction of a Trans-Caspian pipeline from Turkmenistan to Azerbaijan also poses a threat also to the unique ecosystem of the Caspian Sea, the largest lake in the world. There is a major risk that in order to attract EU funding, the environmental and social impact assessments will have to be conducted in a haste and will overlook the impacts on the Caspian Sea as happened during the BTC pipeline construction. Nabucco also passes parallel to BTC, and the construction of a new pipeline on this route that way, will be one of the worst options.

## 15 Other Alternatives

Russia and Iran are trying to demonstrate their power to oppose Nabucco, and this is being done through the bilateral meetings and negotiations, often with European countries. There are three available options which can nullify the Nabucco project and these are; the two Russian proposed pipelines and one Iranian pipeline.

The first two are the 'Nord Stream' (North European Gas Pipeline) and the 'South Stream' projects, which will transfer Russian natural gas to the European markets. The next project is the Pars Pipeline, which Iran is planning to build at a cost of \$4 billion for supply of 37 billion cubic meters (bcm) of natural gas per annum.

## 16 Iranian Supply to Europe

The recent energy crisis between Russia and Ukraine which threatened European energy supply, proved this reality that the EU should diversify its energy resources. In this regard, as some European politicians have announced, the role of Iran is getting more important in energy supply to Europe.

Europe will most probably face a declining domestic oil production in the future, necessitating increasing imports. Conventional views predict over the next 30 years a stronger market share. Europe, like any consumer dependent on the import of a product sensitive to its economy needs both a long term security of supply and reasonable prices.

Momentarily, at the moment, Iran does not play an important role as a supplier of oil and gas to the EU, but it could become an important supplier in the future. Iran as mentioned in the previous sections, an estimated 136.2 billion barrels of proven oil reserves, or roughly 10 percent of the world's total proven petroleum. Iran has 40 producing fields, 27 onshore and 13 offshore, and is the second largest oil producer in OPEC and has the 4th largest oil reserves in the world. Iran's 2009 estimated proven natural gas reserves stand at 991 trillion cubic feet (tcf), second only to Russia.<sup>39</sup>

A viable alternative to Russian energy can only be achieved if Europe and the West roll-back their hostile foreign policy attitude towards key energy actors, namely Iran. Europe cannot continue to pursue a semi-idealistic foreign policy, turning a blind eye to a country that accounts for the fourth largest proven oil reserves as well as huge gas reserves.<sup>40</sup>

The EU under the pressure of US has bypassed Iran in the proposed Nabucco project. The previous projects of BTE and BTC which supply Azerbaijan's oil and gas to the European market were planned through a risky mountainous area. This was meant to ignore the most secure and cheapest route through Iranian soil. For the future, if the EU wants long-term security for its energy supply, in any case, it should cooperate with Iran. Iran is undoubtedly supporting the development of new energy routes with its neighbors. Europe should consider this as an opportunity to develop new energy arrangements with Iran. There are positive signs; Iran has supported the Turkmenistan-Iran-Turkey-Europe gas pipeline which, covering a distance of 3,900km, will supply up to 30bn cubic meters of gas. Given the fact that US sanctions have prevented Iran from access to technology to liquefy gas and export it via tankers as liquefied natural gas (LNG), Iran is also considering the development of the Pars Pipeline that will pump 37 million cubic meters of gas to Europe annually. This is about 20% more than either the EU-backed Nabucco link or Gazprom's South Stream project.<sup>41</sup>

## 17 Conclusion

The best option for Europe, if it is to import more natural gas, is the Caspian region, which holds huge potential. Doing so would require Europe both to act with greater enthusiasm and to respect the geopolitical environment, since competition from Russia, China and sometimes Iran

is difficult to handle.

<sup>39</sup> EIA, "Iran – Country Analysis Briefs", February 2009 <sup>40</sup> Molavi, Reza and Shareef, Mohammed, "Iran's Energy Mix and Europe's Energy Strategy", Durham University, Centre for Iranian Studies-Policy Brief, No.6, 2008, p1 <sup>41</sup> Ibid, p.7

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If Europe wants to avoid the transport routes which have been dominated by Russian influence and to ensure that energy flows toward Europe instead of China and India, there is only one feasible and swift option – namely Iran. Iran is undoubtedly supporting the development of new energy routes with its neighbours. Europe should consider this as an opportunity to develop new energy arrangements with Iran. There are positive signs; Iran has supported the Turkmenistan-Iran-Turkey-Europe gas pipeline. If Europe positively considers the Iranian involvement in the Nabucco project and other future projects, then the EU in the long-run can fulfill its demand without any concern. But the main obstacle in a healthy relationship between Iran and the EU is the hostile US policy towards Iran.

Turkey is a potential transit hub, which could also be used for channeling Russian, Iranian, and Iraqi energy toward Europe. Thus, in view of the above mentioned facts the worst inlet of gas to Europe from the Black Sea would be the suggested Nabucco Pipeline (minus Iran), while the best would be its competitors, the South Stream and Iran's Pars Pipeline.

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