EUROPEAN ENERGY SECURITY: THE MEDITERRANEAN DIMENSION

Giorgia YIANGOU
University of Cyprus

1. Introduction

The European Union (EU) Member States are of the most heavily industrialized in the world. This entails that their energy needs are constantly rising. Since hydrocarbons – and preferably petrol – are still Europe's leading form of energy, imports are necessary in order to satisfy the increasing industrial and social demand of the Member States. Indeed, just like the United States, the EU is facing a huge energy dependency dilemma, a problem that cannot be solved in the short term. This situation can only get worse as the European energy demands can only go up in the future. It is a crucial matter which needs special attention and careful strategies.

This article is divided in two parts. The first (Section 2) deals with two major problems of the EU: the current European energy dependency dilemma and its vulnerability to oil shocks. It begins with the analysis of historical evidence concerning international energy shocks and their impact on energy supply and crude oil prices. The second part (Section 3) analyses the new strategic environment of European energy supply with special focus on the Mediterranean Sea. Some of the most significant oil and gas pipeline projects are being discussed and their impact on the European energy security and supply of hydrocarbons.

2. Europe's vulnerability to oil shocks

Since the end of 2002 the international oil markets can be characterized by two main features: uncertainty and turmoil. Incidents like the general strike in Venezuela and the US military intervention in the Persian Gulf caused nervous sentiments to the market participants regarding the availability of adequate oil supplies.

This crucial phenomenon has concerned the European experts even prior to these events. According to the European Commission calculations, a 10 US Dollar increase in price per barrel surcharges the EU external energy budget by about 40 billion euros a year[1]. Such an increase could have severe consequences to the European economy in general, as it could reduce the economic growth by half a percentage. The EU has created two mechanisms to respond to such unexpected changes: the International Energy Agency (IEA) framework and the system designed by the European Community. Designed in the late 1960s and early 1970s, these two systems have not changed significantly since the decision to raise IEA strategic stock levels in 1975. On September 11th 2002, the European Commission decided to invigorate and amend the EU's emergency system in order to deal with disruptions of the international oil flow and the consequent disturbances in the international oil markets.

Generally, there are two types of vulnerability concerning the international oil supplies:

1) physical supply vulnerability refers to the risk of a physical interruption of oil supply;
2) economic vulnerability is the risk of high oil prices and their corresponding influence on the European economy.

Usually, high oil prices occur with interrupted oil supplies. This is a reaction to scarcity. Of course, high oil prices are not always caused by interruption of oil supplies. Many experts support that vulnerability can be reduced by diversifying the sources of crude oil and oil products, so that a possible interruption of oil flow from a particular source of import would not have a major impact. There are two ways that can help counter the international oil supply:

- the first option is by holding spare production capacity of crude oil;
- the other is by creating crisis mechanisms like emergency stockpiling and demand restrain measures[2].

In the past, Europe and the world experienced two international oil crises. This occurred in the 1970s and proved that Europe was heavily depended on imported crude oil. At the end of the 1960s world oil demand rose rapidly and

[1]. CEC (2002*a*), *Explanatory Memorandum*, p. 3.
[2]. Crisis mechanisms for counteracting disruption of oil supply are not necessarily the same as for counteracting oil prices.

led to the increase of oil production, especially by the oil-producing States of the Middle East. Imports of crude oil from the area of Middle East rose accordingly in order to satisfy Western Europe's total energy consumption from 13.4% in 1956, to 36% in 1967 and to 45% in 1973[3]. The US were not facing a major problem with oil imports, as they were still self-sufficient regarding crude oil. However, increasing global demand for more oil and exhaustion of US oil fields resulted in scarcity and forced the US to increase oil imports.

During this period of time, the structure of the global oil market was transformed significantly. Until then, the multinational oil companies, known as the *Majors* or *Seven Sisters*[4] were the dominant players of the international oil market. This picture was altered as nationalization procedures in producing countries and growth of national Arab oil companies and independent oil companies of the West made the impact on the global oil market and reduced the influence of the Majors. In addition, OPEC increased its power due to the accession of 8 new Members by 1973. The new objective became the increase of OPEC's income from oil exports of the Member countries[5]. For years the oil producing countries of OPEC had felt disadvantaged as oil prices had not raised substantially while prices of the Western industrial products had[6]. Apart from that, the local governments of the OPEC's oil producing States demanded more participation in the exploitation of oil resources on their territory.

In the early 1970s a series of price increases occurred as the OPEC Member States attempted to increase their income. It was now obvious that the oil producing States had the intention to secure majority participation in oil producing operations and the right to determine levels of production and prices[7]. Additionally, the global oil market became politicized during the early

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[3]. Hellema *et al*. (1998), p. 43.

[4]. The Seven Sisters consisted of Exxon (previously known as Standard Oil of New Jersey or Esso); Mobil (Standard Oil of New York, later merged with Vacuum Oil); Chevron (Socal or Standard Oil of California); the Mellon's Gulf Oil; Shell; Texaco; and British Petroleum (Anglo-Iranian). These companies controlled 90% of crude oil exports to world markets by controlling every important pipeline in the world, such as the 753-mile Trans-Arabian Pipeline from Qaisuma in Saudi Arabia to the Mediterranean Sea, which was co-owned by Exxon, Chevron, Texaco and Mobil. Exxon owned the 100-mile Inter-provincial Pipeline in Canada and the 143-mile pipeline in Venezuela. BP and Exxon owned the 799-mile Alaskan pipeline.

[5]. Van der Linde (1991).

[6]. Hellema *et al*. (1998), p. 44.

[7]. In December 1970 the OPEC Member States proposed severe price and tax increases. After several meetings of major oil companies' parent countries (like the US and Britain) the demands of oil producing countries were satisfied in February 1971. In June 1973 a new increase of 12% in oil prices was agreed upon. Prior to a new round of negotiations between OPEC and the major oil companies during October 1973, the OPEC Member States demanded

1970s. As a result, the Arab Member States of OPEC created the Organization of Arab Petroleum Exporting Countries (OAPEC) in 1968. A few years later this organization has threatened many times to cut oil supplies to countries that supported Israel, using oil as a weapon. Further tension occurred when on 6 October 1973 military troops from Egypt and Syria crossed the embarkation lines with Israel in an attempt to attack the country and capture land that was lost during the 1967 war, an incident that led to the breaking of the ceasefire negotiations agreement.

After the beginning of the war, OAPEC organized a Conference on 16 October 1973 in Kuwait. The outcome was the increase of the barrel price of crude oil by 70% due to the actions of 6 Gulf States. The next day all OAPEC Member States agreed to reduce crude oil production by 5% for each month that Israel failed to compromise with the demands of the Palestinians[8]. As a response to the US support to Israel, OAPEC declared an oil embargo against the United States. Netherlands and Portugal quickly followed the US for their pro-Israel attitude. These facts resulted in the 1973 oil crisis that devastated the world.

The world faced a similar oil market panic in 1979, which was a reaction to the decrease in Iranian output. This situation was caused by an oil workers' strike and led to the Iranian Revolution. Even though the reduction of the total Persian Gulf oil supply was limited, the price of crude oil had increased considerably and continued to do so, regardless the fact that supply actually exceeded pre-crisis levels[9]. This was the second major oil crisis. The situation got worse in September 1980 when Iraq attacked Iran, leading to the decline in both countries' output and further increase in oil prices. Some improvements appeared when in 1981 Saudi Arabia decided to increase its output and oil inventories were drawn down. According to Noreng (2002), high prices during 1979-80 occurred for two reasons. The first was the uncertainty connected to the Iranian Revolution and the Iraq-Iran war which cased panic oil purchasing and oil shock build-up. The latter was that producing countries like Saudi Arabia by keeping their output at a low percentage while the prices were very high during the crisis, took the opportunity to bring world oil price levels to a sustained higher level than before the crisis[10].

The past oil crises and the constraints imposed by OPEC during the 1970s was a major shock to the European economic and political system. As a result,

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a 100% price increase. For more information see Yergin (1991), p. 601.

8. Hellema *et al*. (1998), pp. 55 ff.; Yergin (1991), pp. 607 ff.

9. Noreng (2002), pp. 21-22.

10. *Ibid*, p. 22.

the European Member States intensified their national approaches to energy security so that they can be better prepared for crises of this sort. Some of these countries turned to alternative sources of indigenous energy mainly for national use. Additionally, they sought greater degrees of security of supply through special arrangements with energy exporting nations[11]. France turned to nuclear power for electricity production and the Netherlands looked towards imported coal. Most of the European governments encouraged oil companies to search and explore politically safe regions for oil production. Thus, North Sea oil production was intensified and so was oil production in non-OPEC countries. Crude oil imports from former USSR States have been gradually increasing annually since 1995. Again, preference is given to 'safer' producers such as the North Sea and the UK.

Still, the problem remains: Europe is highly vulnerable to oil disruptions despite all the diversification efforts of the Member States. As the EU has the largest energy import of all regions of the world (approximately 16%) it is destined to depend highly on imports. Above all, oil remains Europe's primary source of energy. Oil demand is predicted to increase 0.4% per year from 2000 to 2030. The EU transport sector is the most heavily affected from this situation, as there is still no real substitute available. Thus, the transport sector is responsible for the increase of the oil demand.

The growing dependence on imported oil has concerned the European Commission, which published the *Green Paper* "Towards a European strategy for the security of energy supply" in November 2000[12]. This Report claims that the dependence of the EU on imported energy resources is most likely to rise from 50% to 70% by 2030. In addition to this, crude oil imports could reach 90% by 2020, unless effective action is taken to counter the problem, especially in the transport sector. The origin of oil would most likely be from politically unstable or sensitive regions such as Russia, the Caspian Sea and the Middle East. These regions are fostering ethnic disputes and political unrest and could erupt to more serious conflicts in the future and, consequently, causing disruption of the energy supply to the EU.

The former Soviet Union and Russia in particular will play a significant role in alleviating the European dependency dilemma. Russian crude oil production is expected to double in the next 15 years from 7.8 million to 14 million barrels a day[13]. The Caspian Sea energy resources are expected to play a major part in securing European energy supplies. Production costs are much

[11]. Odell (2002).
[12]. The *Green Papers* are communications published by the Commission on a specific policy area. In some cases they provide an impetus for subsequent legislation.
[13]. CEC (2001), p. 39. Russia's role is not just in crude oil production, but also in refining.

higher in this region compared to those of the OPEC Member States. Still, more than 70% of the world's proven oil reserves are located in the area of Middle East and in the hands of the OPEC Member States. About 41% of the European oil imports come from OPEC[14] but, according to the *Green Papers*, this figure is probably going to rise even more by 2020[15]. European domestic oil production is not expected to grow, as the oil reserves of the EU are relatively few and not able to satisfy its growing needs.

3. The new Mediterranean energy environment

A matter strongly connected to crude oil supply is safety of transits and checkpoints. Each day more than 35 million barrels pass through relatively narrow shipping lanes and pipeline routes. Shipping accidents can become a severe headache for oil transportation and possible actions of sabotage by hostile forces can disturb the oil flow. These incidents can have a significant impact on the world oil supply and therefore to the oil price. In case a trade route is blocked, oil has to be rerouted and this can cause major delivery delays. As a consequence, the Nations supplied through the specific trade routes can face severe energy shortages. Currently, the most significant trade route for European oil supply is the Turkish Bosporus Strait[16]. The Bosporus Strait connects the Black Sea with the Mediterranean Sea and is one of Europe's main crude oil supply vulnerabilities, especially for Southern Europe. This river-like strait has many narrow turns – some of them of less than 700 metres width – and is quite known for its congestion, as more than 50,000 vessels pass each year and around 5,500 oil tankers. A possible accident in this strait poses a threat to the environment and to the European energy supply. High congestion, the leading factor for major accidents, has forced Turkey to impose restrictions on oil tanker transit through the Straits. Some of these are the prohibition of transit to vessels longer than 200 metres during nighttimes, a requirement that ships with hazardous cargo (and therefore oil) request transit permission 48 hours in advance. These regulations are said to have slowed down tanker transit by about three to four days[17].

Since the beginning of the 1990s, commercial activity through the Black Sea and the Bosporus has been boosted. Until recently, the Bosporus Strait

[14]. IEA (2002), p. 187.
[15]. CEC (2001), p. 37.
[16]. Other important trade routes are the Suez Canal and the Sumed pipeline.
[17]. EIA (2002), p. 5.

has been the only available transit route between the Black Sea and the Mediterranean Sea for the Caspian oil. However, due to the new Caspian pipeline developments, tanker congestion through the Bosporus is likely to fall. The construction of the extravagant BTC pipeline project is almost completed and oil is currently being pumped from the Baku oil fields. This pipeline will provide the EU with a new alternative energy transit from the Caspian Sea, as the specific pipeline will terminate at the Turkish Mediterranean port of Ceyhan. Avoiding traffic congestion through the Bosporus Straits was a significant factor that determined the concept of the BTC pipeline.

Apart from Turkey, Greece is also becoming a hub for energy networks in South-Eastern Europe. A number of small pipelines are being built aiming to encourage economic development in the Balkans. The first is the Burgas-Alexandroupolis oil pipeline, a 280 km in length well-advanced project that will transfer crude oil from the Bulgarian port of Burgas to the Mediterranean port of Alexandroupolis in Greece. Russian and probably Caspian oil will travel to the Mediterranean Sea and from there to Western Europe and beyond. This project aims to reinforce the European energy security and supply, promote competition and avoid the environmental and other dangers associated with the Bosporus Straits. The project's feasibility is currently being examined and will be supported by the EU funds Interreg and Phare.

Another pipeline formation is the Thessalonica-Skopje-Belgrade pipeline. This Balkan pipeline will transfer crude oil from the Greek port of Thessalonica to Skopje and end at the Pancevo refinery of Belgrade. Croatia and Bosnia are most likely to join this operation in the future, bringing the total number of the countries involved to five. This oil-supply project reinforces the political and financial role of the EU in the volatile area of Western Balkans. Thus, the project has received enormous attention by the EU, which recognizes the need for the two Balkan pipelines (Burgas-Alexandroupolis and Thessalonica-Skopje-Belgrade). These two projects were among the top priority projects chosen as candidates for financing by the EU and other international financial organizations. The initial cost is estimated at 90 million Dollars.

Apart from crude oil pipelines, projects have been agreed for transferring natural gas to Europe from Central Asian gas fields. Some of these regional and interregional projects are the Iran to Europe pipeline, the Turkmenistan to Europe pipeline, the Kavala LNG export terminal and the Greece-Albania pipeline. In addition to these projects, the Turkmenistan-Iran-Turkey and Turkmenistan-Azerbaijan-Iran (or Armenia)-Turkey gas pipelines are currently under consideration. The Caspian region and Central Asia are

known for their rich natural gas reserves. Through the materialization of these projects, more energy options will be available for Europe in the future, therefore reinforcing the energy security and supply of the EU.

A recent development in European pipeline politics was the agreement to build a pipeline from Romania to Italy. According to the *Financial Times*, this multilateral agreement is expected to be finalized in Rome in January 2006 and will result in a 1,500 km pipeline[18]. Five States will participate in this project: Romania, Serbia, Croatia, Slovenia and Italy. After the BTC, another pipeline project seeks to explore the benefits of the Caspian oil reserves. In brief, the pipeline structure will begin from the Romanian Black Sea port of Constanta – which is expected to be rehabilitated – and end at the Italian port of Trieste. The Pan-European Pipeline project's cost is estimated to be at least 2 billion euros. Financial advisors have expressed that it will feed refineries in South-Eastern Europe, Italy, Austria and Bavaria. Tankers will transfer oil via an existing pipeline from Trieste to the port of Genoa. The main benefits from this pipeline would be the reduction of European dependence on Middle Eastern oil, since it would put aside Russia's control and help to alleviate some of the congestion in the Bosporus Straits[19]. Again, politics play an important role in the pipeline game. This project competes with a dozen of other pipeline proposals, such as the two pipelines that will originate from the Bulgarian port of Burgas.

Undoubtedly, recent discoveries of oil and natural gas in the area of the Caspian Sea have encouraged exploration activities and transportation pipeline constructions with the hope to diversify the oil flow from the dominant Middle Eastern oil fields. Europe is willing to provide financial aid to projects related to energy, so that the European energy security can be safeguarded and the consequences of possible international energy shocks can be minimized. The Mediterranean Sea offers a number of terminal ports for the transportation of energy to Western Europe and the world. Increasing investment activities in the pipeline sector gives positive signs for a secured European energy environment and further economic and social development.

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[18]. Carola Hoyos (2005), available online at http://news.ft.com/cms/s/ac9324fc-70fc-11da-89d3-0000779e2340.html

[19]. Undoubtedly, Turkey wants to reduce congestion from the dangerously busy Bosporus and Dardanelles Straits. Still, loosing control of the power and the income that derives from such an important trading gateway is not desirable.

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