

Energy Security: The European Union

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On 29 November 2000 the European Commission adopted the Green Paper: Towards a European Strategy for the Security of Energy Supply (GP). The main goal of this important document was to initiate a debate on possible solutions to the energy question and to reach a consensus on the necessary strategies to ensure Europe's energy security. The thrust of the problem is that Europe's indigenous energy production is declining while its demand is rising. This growing gap has been increasingly filled by foreign supplies. As a result, the EU's dependence imported energy is projected to rise from 50 percent in 2000 to 68 percent by 2030.¹

Europe's energy mix is heavily dominated by fossil fuels. In 2000, oil constituted approximately 41 percent of the EU's energy consumption, natural gas 22 percent, coal 16 percent, nuclear power 15 percent and renewables 6 percent.² This heavy European dependence on fossil fuels is part of a global trend. According to the International Energy Agency (IEA), fossil fuels will continue to dominate global energy use. Oil will remain the single largest fuel in the primary energy mix, even though its percentage share will fall marginally. Meanwhile, demand for natural gas will grow most rapidly, mainly due to strong demand for power generation.³ By 2030, the EU is projected to be 90 percent dependent on imported oil and 80 percent dependent on imported natural gas.⁴ Most of that oil comes from the Middle East while most of the gas originates in Russia.

The underlying reason for this large and growing dependence on foreign supplies is Europe's limited indigenous energy production capacity. The EU members possess only approximately 0.6 percent of the world's proven oil reserves and 2.0 percent of its proven natural gas reserves.⁵ These limited reserves are largely concentrated in the North Sea.

North Sea oil and natural gas were first discovered in the 1960s. The North Sea, however, did not emerge immediately as a key oil-producing region

until the 1980s, when major discoveries began coming online. The main hurdles facing the development of the North Sea's hydrocarbon resources include the inhospitable climate and the great depths that require highly sophisticated offshore technology at high production costs. On the other hand, the region enjoys political and financial stability and proximity to large European consuming markets. These advantages have added to the significance of the North Sea as a major oil and gas-producing region. The North Sea's crude oil production peaked in the late 1990s and since then has fallen. This decline, however, has been slowed down mainly for two reasons. High oil prices and skyrocketing global demand since the early 2000s have justified continuous investment in high-cost production in the North Sea. At the same time the impressive advances in recovery technologies have prolonged the life of some existing fields. Still, despite these incentives, oil production from the North Sea is projected to significantly decline in the foreseeable future. Unlike oil, natural gas production from the North Sea producers remains high and growing. Norway, the Netherlands and the United Kingdom hold the bulk of Europe's proven natural gas reserves.

Restrained by this combination of limited indigenous hydrocarbon resources and rising demand, most European policymakers have reached the conclusion that energy self-sufficiency is not a realistic option. Instead, strategists have focused on a twofold policy – containing demand and diversifying sources of energy. Energy efficiency is one of the key methods to slow the rising demand. Energy intensity gives an indication of the effectiveness with which ener-

¹ European Commission, European Energy and Transport Trends to 2030, p.15, January 2003 on line at http://Europa.eu.int/comm/energy/index_en.html

² European Commission, Green Paper: Towards a European Strategy for the Security of Energy Supply, p.4, November 2000, on line at http://Europa.eu.int/comm/energy/index_en.html

³ International Energy Agency, World Energy Outlook, Paris, 2004, p.31

⁴ Commission of the European Communities, Green Paper on Energy Efficiency or Doing More with Less, p.5, June 2005, on line at http://Europa.eu.int/comm/energy/index_en.html

⁵ Energy Information Administration, Regional Indicators: European Union, January 2005, on line at <http://www.eia.doe.gov/>

gy is being used to produce added value. It is defined as the ratio of gross consumption of energy to gross domestic product (GDP). The volatility of oil markets and prices in the mid-1970s led members of the EU to re-think their energy consumption patterns. As a result, measures were adopted to improve energy efficiency and break the links between growth in GDP and in energy demand. This was reflected in a structural shift in most European economies towards services and less energy intensive industrial production. The stable oil prices at low levels in most of the 1990s had weakened the commitment to improve energy intensity. This trend has been altered since the early 2000s. High oil prices in recent years have renewed interest in restraining demand and improving energy efficiency.

To sum up, the EU's energy mix is dominated by fossil fuels and Europe is increasingly dependent on foreign supplies to meet its growing demand. These characteristics of Europe's energy sector have not changed since the European Commission issued the Green Paper in 2000. The following section briefly discusses the concept of "energy security". This will be followed by an examination of Europe's energy mix (oil, natural gas, coal, nuclear power, renewables). The third section analyzes European efforts to establish and strengthen energy partnerships with Russia, the Caspian Sea, and the Middle East. In other words, the essay seeks to examine Europe's efforts to diversify its energy mix and energy sources. The main argument is that stability and predictability in energy markets are shared goals between producing regions and major consumers such as the EU.

Energy Security

Modern society has grown more dependent on energy in almost all human activities. Different forms of energy are essential in residential, industrial, and transportation sectors. Energy is also crucial in carrying out military operations. Indeed, the attempt to control oil resources was a major reason for the Second World War. In short, our increasing reliance

on energy has heightened the importance of energy security. The first oil-shock in the aftermath of the 1973 Arab-Israeli war put energy security, and more specifically security of supply, at the heart of the energy policy agenda of most industrialized nations.⁶ Since then policy-makers and analysts have sought to define the concept "energy security" and its implications.

The European Commission defines energy security as "the ability to ensure that future essential energy needs can be met, both by means of adequate domestic resources worked under economically acceptable conditions or maintained as strategic reserves, and by calling upon accessible and stable external sources supplemented where appropriate by strategic stocks."⁷ Barton, Redgwell, Ronne and Zillman define it as "a condition in which a nation and all, or most, of its citizens and businesses have access to sufficient energy resources at reasonable prices for the foreseeable future free from serious risk of major disruption of service."⁸ In short, energy security refers to sustainable and reliable supplies at reasonable prices. In this essay the concept of energy security includes the following parameters:

! Any definition of energy security should distinguish between geological and geo-political threats. Most energy analysts agree that there are enough physical reserves to meet global demand for energy. The exploration, development and transportation of these resources pose significant financial and political challenges that need to be adequately addressed.

! The definition of "security" embodies the element of "price" or achieving a state where the risk of rapid and intense fluctuation of prices is reduced or eliminated. Oil prices vary from country to country depending on several factors including the quality of crude, destination, taxes, exchange rates, and refining capacity, among others. It is important to emphasize that sustained high prices hurt both consuming and producing countries in the long term. True, in the short term, oil producers increase their profits, but high oil prices tend to slow down global economic prosperity, encourage conservation and switch to other fuels. In other words, from producers' perspectives, supporting high prices would be like killing the goose that lays the golden eggs. Thus, consumers and producers share common interest in the stability of supplies at "reasonable" prices.

⁶ Chantalé LaCasse and Andre Plourde, "On the Renewal of Concern for the Security of Oil Supply," *Energy Journal*, Vol.16, No.2, April 1995, pp.1-23, p.1

⁷ Cited in Robert Skinner and Robert Arnott, *EUROGULF: An EU-GCC Dialogue for Energy Stability and Sustainability*, on line at http://Europa.eu.int/comm/energy/index_en.html/, June 4, 2005.

⁸ Barry Barton, Catherine Redgwell, Anita Ronne, and Donald N. Zillman, *Energy Security: Managing Risk in a Dynamic Legal and Regulatory Environment*, London: Oxford University Press, 2004, p.5

- ! Prices have a strong impact on the availability of funds to invest in exploration and development of oil resources. Energy security depends on sufficient levels of investment in resource development, generation capacity, and infrastructure to meet demand as it grows. The flow of private and foreign investments depends, to a great extent, on political stability in the producing country.
- ! Spare capacity has traditionally played a significant role in temporary severe interruptions of oil supplies. Few OPEC producers, particularly Saudi Arabia, have purposefully maintained spare capacity to ensure stability in global markets. Global economic growth, particularly in Pacific Asia, has subjected the oil market to an unexpected demand shock that has practically eliminated spare capacity. Accordingly, the international oil industry has entered a period of fundamental change. In the mid-2000s, spare capacity is at one of its lowest recorded levels.
- ! Security of supplies can be enhanced by an overall diversification of supply. Put differently, the development of several producing regions leads to more stability in international oil markets. Thus, increasing supplies from Russia, the Caspian Sea, West Africa, and other regions would reduce the vulnerability of over-dependence on one single region.
- ! From the producers' perspective, demand security also merits attention. Major resource holders have voiced their concern regarding long-term security of demand for their oil.⁹ This concern is based on two grounds. A) The cyclical growth patterns and policies that dampen the demand for oil and favor other sources of energy. B) OPEC producers have failed to diversify their economies and continue to be heavily dependent on oil revenues. Thus they are concerned about securing markets for their major source of income. Therefore, it is more instructive to talk about mutual dependence and to recognize that the degree of interdependence between energy producers and consumers will further increase in the future.

To sum up, the globalization of the oil market suggests that rhetoric regarding the goal of self-sufficiency in energy is obsolete. Energy security is an international issue that requires growing interdependence between major producers and consumers. No country or region can achieve a state of energy security alone. Diversification of both energy mix and energy sources is the thrust of energy security. Major industrialized countries

should seek to enhance the reliability of those producing nations on whom dependence is inevitable for many years to come.

Diversification of Energy Mix

In 2000, Europe's energy landscape was dominated by oil (41 percent), natural gas (22 percent), coal (16 percent), nuclear power (15 percent), and renewables (6 percent).¹⁰ In 2005, the energy picture has not changed. In the foreseeable future, Europe is projected to continue its heavy dependence on fossil fuels.

In response to the volatility of oil prices in the mid-1970s, the Europeans, like the Americans, were able to replace oil with other sources of energy in several sectors. However, despite substantial investments and technological advances, oil is still by far the dominant fuel in the transportation sector. The EU's heavy dependence on oil to meet its member states' energy needs is costly. In 2004, oil imports accounted for 4 percent of the Union's GDP.¹¹ Europe imports most of its oil from the Middle East.

Natural gas is not only the second most abundant fuel (after oil), but also the fastest growing one. Natural gas is remarkably cleaner and more environment-friendly than oil and coal. It is consumed in industrial and residential sectors and increasingly in electricity generation. Europe filled most of its natural gas needs via pipelines from mainly two sources – Russia and Algeria. In addition, Libya, Egypt, Qatar, Iran, and Azerbaijan are at different stages in negotiating natural gas export deals to the EU. Contrary to oil and natural gas, coal supplies are plentiful and can be found across the globe, including substantial deposits in Europe. Furthermore, for a long time, coal prices have been stable at low levels, when compared with other sources of energy. These are the main advantages of coal. A broad consumption of coal, however, has been restrained by its high contribution to pollution. Simply stated, coal is a dirty

fuel, when burned it releases considerably more CO₂ than its competitors. Accordingly, the EU's coal production and consumption has fallen in the last few decades.

⁹ Adrian Lajous, "Production Management, Security of Demand and Market Stability," Middle East Economic Survey, Vol.47, No.39, September 27, 2004, on line at www.mees.com

¹⁰ European Commission, Green Paper: Towards a European Strategy for the Security of Energy Supply, p.45, November 2000, on line at http://Europa.eu.int/comm/energy/index_en.html

¹¹ European Commission, Report on the Green Paper on Energy, p.15, December 15, 2004, on line at http://Europa.eu.int/comm/energy/index_en.html

Early in the second half of the twentieth century, high expectations to use nuclear power for civilian purposes were generated. Half a century later, it is clear that these expectations have not materialized. Health hazards and managing nuclear waste have substantially restrained a wide use of nuclear power. The Three Mile Island accident in the United States (1979) and particularly the Chernobyl accident in the Soviet Union (1986) have pushed the European public opinion away from nuclear energy. Meanwhile, the European Commission had a neutral view of nuclear power. The choice to use nuclear power is governed by the energy policy of the individual member states. Nevertheless, the Commission must ensure that existing installations have a very high level of security and that both radioactive waste and the fuels used are managed safely and without damage to the environment. In the 1990s, several EU members including Spain, the Netherlands, Germany, Sweden and Belgium opted to force the early closure of existing nuclear plants. Others, such as France are still dependent on nuclear power to meet their energy needs, particularly for generating electricity.

Finally, renewable sources (such as biomass, wind, solar power, and geothermal) provide the EU members with significant potential to diversify their energy mix and reduce their dependence on foreign supplies. In the last several decades Sweden, Austria, Finland, and Portugal have taken the lead in utilizing these renewable energy resources.

To sum up, this broad picture of Europe's energy mix suggests that no single source can meet the EU's growing demand for energy. Changes in this energy mix will depend on several factors including energy efficiency, volatility of prices, environmental concerns, and managing nuclear waste. One inescapable fact will continue to shape Europe's energy policy. The EU members lack sufficient indigenous energy deposits to meet their growing demand and maintain their high standard of living. Put differently, Europe will continue to be heavily dependent on foreign supplies to meet its energy needs. Given this geological reality, the EU has

sought to establish and consolidate energy partnerships with major producing regions – Russia, the Caspian Sea, and the Middle East.

Energy Dialogue with Russia

Given the growing gap between Europe's domestic energy production and its large and growing demand, it is quite natural that the EU would seek cooperation with its large neighbor – Russia, the world's largest exporter of natural gas and second largest exporter (after Saudi Arabia) of oil. This cooperation was documented and institutionalized in the Energy Charter. The roots of the Energy Charter date back to a political initiative launched in Europe in the early 1990s, at a time when the end of the Cold War offered an unprecedented opportunity to overcome the previous ideological, political, and economic divisions. The two sides of the Cold War share mutual interests in promoting cooperation in energy sector. Russia and many of its neighbors are rich in energy resources but needed major investments to explore and develop these hydrocarbon deposits. Meanwhile, Western European governments and private companies have the financial resources and economic and strategic needs to diversify their energy supplies. Based on these mutual interests, the Energy Charter Treaty and the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects were signed in December, 1994 and entered into legal force in April, 1998.

The Treaty's provisions focus on five broad areas: the protection and promotion of foreign energy investments; free trade in energy materials based on the World Trade Organization (WTO) rules; freedom of energy transit through pipelines and grids; reducing the negative environmental impact of the energy cycle through improving energy efficiency; and mechanisms for the resolution of state-to-state or investor-to-state disputes.¹² The EU-Russia energy dialogue has already produced some significant results including the setting up of a center for energy technology in Moscow in 2004, negotiations to improve safety levels for transportation of oil by sea and negotiations to build a Northern European gas pipeline.

In short, the EU-Russia dialogue is based on a simple bargain – Europe's investment in return for Russia's oil and gas. According to a recent study by the International Energy Agency from 2001 to 2030 Russia's oil industry requires total investment of \$328 billion, or \$11 billion per year while the gas sector needs \$330 billion, or \$11 billion per year.¹³ Since the mid-1990s, major European oil companies have invested substantial financial resources in Russia's energy sector.¹⁴

¹² Energy Charter Secretariat, *What Is The Energy Charter? An Introductory Guide*, p.2, September 2002, on line at www.encharter.org

¹³ International Energy Agency, *World Energy Investment Outlook*, Paris, 2003, p.25

¹⁴ In the early 2000s, Britain is the single largest foreign investor in Russia.

On the other hand, Russia has proposed and negotiated several pipeline schemes to export its oil and natural gas to Europe.

The export of Russia's crude oil via pipeline falls under the exclusive jurisdiction of Russia's state-owned pipeline monopoly Transneft. In recent years, Russia's pipeline export-capacity has not kept path with the country's fast-growing production. Furthermore, during the Soviet era, most of the Soviet pipelines were aimed to provide oil to former Soviet republics and allies in Eastern Europe. Since the collapse of the Soviet Union there has been a growing interest to re-direct Russia's oil exports towards Western Europe. The Druzhba (Friendship) Pipeline, the Baltic Pipeline System (BPS) and the Adria Pipeline underscore this new orientation.

The Druzhba pipeline is the largest of Russia's export pipelines to Europe. It is split into two sections: one running through Belarus, Poland and Germany; and the other section running through Belarus, Ukraine, Slovakia, the Czech Republic, and Hungary.¹⁵ Until the Soviet Union fell apart, the terminal at Ventspils, on the Latvian coast, was the main northern outlet for Russian oil exports. However, relations between Moscow and Riga became strained in the 1990s. In response, Russia built its own northern oil port at Primorsk. Phase one of the BPS came on stream in December 2001.¹⁶ The BPS gives Russia a direct outlet to northern European markets, allowing the country to reduce its dependence on transit routes through Estonia, Latvia, and Lithuania. Reversal of the Adria pipeline, which extends between Croatia's port of Omisalj on the Adriatic Sea and Hungary has been under consideration since the 1990s. The pipeline was originally designed to load Middle Eastern oil at Omisalj, then pipe it northward to Yugoslavia and on to Hungary. However, given both the Adria pipeline's existing interconnection with the Russian system and Russia's booming production, the pipeline's operators and transit states have since considered reversing the pipeline's flow, thus giving Russia a new export outlet on the Adriatic Sea.¹⁷

Europe's dependence on natural gas supplies from Russia is deeper than on oil supplies. Gazprom, Russia's state-run natural gas monopoly, holds nearly one-third of the world's natural gas reserves, produces nearly 90 percent of Russia's natural gas, and operates the country's natural gas pipeline grid. Like oil, most of Russia's natural gas used to be exported to East European

nations during the Soviet era. In recent years increasing supplies have been shipped to EU members, Turkey, Japan, and other Asian consumers. All of Russia's gas is exported via pipelines. The Yamal-Europe carries natural gas from Russia to Poland and Germany via Belarus. The Blue Stream connects the Russian system to Turkey through pipelines that extend underneath the Black Sea. Finally, Russia and several European countries have negotiated and signed several agreements regarding the construction of a Northern European gas pipeline. The line would run under the Baltic Sea from St. Petersburg to northern Germany, then across the Netherlands and the English Channel to the United Kingdom.¹⁸ A possible spur connection to Sweden has also been considered.

Several developments are likely to shape the future of the EU-Russia energy dialogue. These include, first, Russia's ability to maintain its high level of oil production and to expand its export capacity (i.e., the construction of new pipelines) for both oil and natural gas. Second, the future of economic reform in Russia: developments in recent years have raised doubts about the reconstruction of the country's energy sector. Russia's vast gas industry remains substantially unreformed. The EU demands an end to Gazprom's export monopoly. Third, the EU members are aware of the challenge of being too dependent on Russia to meet their growing hydrocarbon demands. They have been actively seeking cooperation with other producing regions.

Energy Cooperation with the Caspian Sea

The Energy Information Administration, the statistical arm of the United States Department of Energy, and the British Petroleum estimate that the Caspian region holds between 16.9 to 32.2 billion barrels of oil and approximately 167 trillion cubic feet of natural gas.¹⁹ The close cooperation between Western governments and oil companies on one side and Azerbaijan, Kazakhstan, and Turkmenistan, which were part of the Soviet Union until 1991, on the other side has contributed to the growing interest in the region.

¹⁵ Energy Information Administration, Major Russian Oil and Natural Gas Pipeline Projects, March 2005, on line at www.eia.doe.gov

¹⁶ Isabel Gorst, "Crude Export Set to Grow," *Petroleum Economist*, Vol.70, No.8, August 2003, p.25

¹⁷ Energy Information Administration, Country Profile: Russia, May 2004, on line at www.eia.doe.gov

¹⁸ John Roberts, "What Role Can Eurasian Gas Play in Europe?" *Energy Economist*, No.266, December 2003, pp.7-11, p.7

¹⁹ Energy Information Administration, Caspian Sea Region: Key Oil and Gas Statistics, August 2003, on line at www.eia.doe.gov. And British Petroleum, BP Statistical Review of World Energy, London, June 2005, p. 4 & 20

Europe's interest in energy cooperation with the Caspian and central Asian states has been institutionalized since 1995 in what is known as Interstate Oil and Gas Transport to Europe (INOGATE). This program is, to a great extent, similar to the EU-Russia Energy Dialogue. It aims at promoting European investment in Caspian Sea/Central Asia states in return for their energy cooperation with the EU member states. Another important step in the same direction was taken in February 2001 when the INOGATE Umbrella Agreement officially came into force. The Agreement sets out an institutional and legal system designed to rationalize and facilitate the development of interstate oil and gas transportation systems and to attract the investments necessary for their construction and operation. This European enthusiasm to strengthen energy cooperation with the Caspian Sea region faces many hurdles, particularly the lack of consensus on how to divide the Caspian and the disagreements over the most cost-effective pipeline routes.

The legal status of the Caspian Sea: In the nineteenth century, ships of the Russian and Persian empires sailed the Caspian Sea unchallenged, but their captains were interested primarily in establishing trade routes and exploiting the sea as a source of food – not for the wealth of minerals beneath it. In the twentieth century, the two sides negotiated and signed several agreements to govern their relationship with respect to the Caspian, most notably the Friendship Treaty of 1921 and the Treaty of Commerce and Navigation of 1940. Moscow and Tehran agreed that the Caspian was only open to their own vessels and was closed to the rest of the world. They also reserved a twelve-mile zone along their respective coasts for exclusive fishing rights. However, no attempt was made to delimit any official sea boundary between them and the treaties said nothing about the development of mineral deposits under the seabed. Thus, many analysts and policymakers have questioned the applicability of these two documents to the new, post-Soviet situation in the Caspian. Indeed, Russia, Iran, and the three former Soviet Republics have intensely disagreed on how to define the Caspian as a body of water.

A fundamental question in this debate on the legal status of the Caspian is whether it is a “sea” or a “lake.” According to the United Nations Convention on the Law of the Sea, nations bordering a sea may claim twelve miles from shore as their territorial waters and beyond that a two-hundred-mile Exclusive Economic Zone (EEZ). If the Law

of the Sea convention were applied to the Caspian, full maritime boundaries of the five littoral states bordering it would be established based upon an equidistant division of the sea and undersea resources into national sectors. If the Law were not applied, the Caspian and its resources would be developed jointly – a division referred to as the condominium approach. After more than a decade since the breakup of the Soviet Union, the five littoral states have not agreed on whether to characterize the Caspian as a sea or a lake. The main point of contention centers around the uneven distribution of potential oil and natural gas riches in the basin.

To sum up, the five littoral states have yet to agree on the legal status of the Caspian Sea. Despite this lack of consensus, a de-facto regime is emerging. Several international oil and gas companies have decided not to wait for an agreement and begun developing the Caspian offshore fields. These ambitious and very expensive deals between international companies and littoral governments, however, face another serious obstacle – the lack of adequate pipeline systems to ship the region's oil and gas to global markets.

Pipeline diplomacy: Given that Azerbaijan, Kazakhstan, and Turkmenistan are landlocked, they have to ship their oil and natural gas by pipelines, which cross multiple international boundaries. The issue of potential routes through neighboring countries has become a priority for both regional and international powers, as well as for oil companies. The construction of a pipeline would provide the transit states with several financial and political benefits, including access to oil or natural gas for their domestic needs; foreign investment and jobs; substantial transit fees; and political leverage over the flow of oil and gas.

Thus, the process of choosing and constructing pipeline routes is complicated and requires delicate negotiations with many parties. Until recently, the existing pipelines in the Caspian region were designed to link the former Soviet Union internally and were routed through Russia. Most of the Caspian's oil and gas shipments terminated in the Russian Black Sea port of Novorosiisk. Upon independence, there are political and security concerns as to whether these Caspian states should remain so dependent on Russia as their sole export outlet. Furthermore, the Russian network is aimed at the Mediterranean market; it does not target the vast Asian states.

For several years a number of proposed routes have been under consideration. These include a pipeline to the north to Novorosiisk (completed in 2000); a second one to the east, from Kazakhstan to China; a third one to the southwest, through Afghanistan to Pakistan; a fourth one to the south, across Iran; and finally, a pipeline to the west, from Baku in Azerbaijan to the Georgian port of Supsa on the Black Sea (it became operational in April, 1999), or the Turkish port of Ceyhan on the Mediterranean (completed in 2005). For several years, international companies and the concerned governments have been engaged in serious negotiations to determine the priority of each pipeline. Both strategic considerations and financial interests have shaped the outcome of these negotiations.

Since the late 1990s, the United States has promoted the pipeline from Baku to Tbilisi to Turkey's eastern Mediterranean oil terminal at Ceyhan (BTC) as the main export pipeline (MEP). The project, when fully operational, is expected to transport about one million barrels a day. Most of this will come from the Azeri-Chirag and Gunashli field complex in the Azeri sector of the Caspian Sea, but Kazakhstan intends to export some of its oil through this scheme. The BTC pipeline is expected to be coupled later with a natural gas pipeline linking Baku and Tbilisi to Erzurum in Turkey's eastern Anatolia region. In addition, in February 2003 Greece and Turkey agreed to construct a pipeline linking natural gas producers from the Caspian Sea region with the European market. This network of pipelines seeks to achieve a twofold goal. On one hand, Caspian nations, including Iran, have been expanding their efforts to ship their oil and gas to the lucrative European market. On the other hand, Turkey is trying to become a transit route for energy resources that could be shipped from its eastern neighbors to Western Europe.

Three conclusions can be drawn from this discussion of pipeline diplomacy in the Caspian Sea. First, given the domestic, regional, and international rivalries surrounding oil and gas fields in the Caspian, there is no doubt that multiple export routes would increase the energy security for consumers, producers, and the global energy markets by making deliveries less vulnerable to technical or political disruptions on any individual route. Still, energy security will have to be balanced by economic feasibility, since a larger number of pipelines would mean smaller economies of scale. Second, in many cases, particularly U.S.

efforts to deny Iran a role in transporting Caspian oil and gas, the decision to choose the most appropriate route reflects a competition between strategic concerns and economic interests. Most pipelines are built by companies, not by governments. Ultimately, projects must stand on their own commercial merit and the economics of a project will dictate its success. In the long term, pipelines that make economic sense are more likely to be built than those that do not. Third, pipelines' capacity and availability will, to a large extent, influence the timing of oil and gas development in the Caspian region.

The Caspian region is an important source of incremental production. It will contribute to the diversification of oil and natural gas supplies and therefore to Europe's energy security. The Caspian region, however, does not have the resources or production capability of the Middle East.

Energy Partnership: The Middle East

The Middle East is the major energy-producing region in the world. The region holds the largest proven oil and natural gas reserves in the world. It is well connected to the major consuming markets in Europe, the United States and Pacific Asia. Finally, cost-production of hydrocarbon resources is the cheapest in the world. In addition to these geological advantages, the EU enjoys special relationship with most Middle Eastern countries. Geographical proximity and long historical ties have shaped the relations between the two regions. Not surprisingly, the EU is the main trade partner for several Middle Eastern states. Oil, and increasingly natural gas, represent a large and growing proportion of the trade volume between the EU and Middle Eastern states. In recent years, the EU has sought to institutionalize its relations with its neighbors to the south and east, specifically, on the Mediterranean coast, in the Persian Gulf, and more recently with members of the Organization of Petroleum Exporting Countries (OPEC).

The Euro-Mediterranean Energy Partnership between the EU members and the Mediterranean countries of North Africa and Eastern Mediterranean²⁰ is an action plan to develop a free trade area by 2010 paying particular attention to the energy market. The partnership was launched in Barcelona in November 1995.

The Barcelona Declaration

²⁰ These Mediterranean countries are: Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Libya, Malta, Morocco, the Palestinian Authority, Syria, Tunisia, and Turkey.

defined the three main objectives of the Euro-Mediterranean Partnership based on the pattern of the Helsinki Declaration of 1975. The first objective is the creation of a common area of peace and stability. The second objective calls for the construction of a zone of shared prosperity through an economic and financial partnership. The third objective envisions the development of human resources, the promotion of understanding and the exchange of peoples.²¹ The process is based on the mutual interests that both parties have. The EU members expect to create a stable climate for energy investment and security of supply. The Mediterranean countries see the partnership as a privileged channel for investment and technical assistance. Algeria, Libya, and, to a lesser degree, Egypt embody this energy cooperation between the two sides.

Several dynamics shape the energy ties between Europe and the Gulf Cooperation Council²² (GCC) states, or the EU-GCC Dialogue. A) The GCC members and Iran combined hold the world's largest proven oil and natural gas reserves. B) The world's spare oil capacity since the early 2000s is almost exclusively concentrated in Saudi Arabia. Spare capacity can be used, and indeed has been used, to assure global markets against temporary interruptions, and accordingly, helps to stabilize prices. C) The EU is the preferred destination for oil from Russia, the Caspian Sea and North Africa, primarily for logistical considerations, while Gulf oil is mostly directed to the East or to the United States.²³

Despite the fact that most Gulf oil and gas is not exported to Europe, the EU has special interests in the GCC producers. Their massive production

and exports shape global markets regardless of the destination of these supplies. For the last several years the two sides have negotiated economic and trade agreements with broad energy implications. In addition, European companies play a leading role in developing oil

and gas deposits in the Gulf, including in Saudi Arabia and Iran (under U.S. sanctions since the 1979 Islamic Revolution).

In parallel with the dialogue with the GCC, the EU initiated talks with OPEC in June, 2005, when delegations from the two sides met in Brussels. This important new initiative is seen by the EU as part of a broader approach to strengthen energy dialogues with the main oil and gas suppliers, and by OPEC as a significant step in its continued efforts to encourage cooperation among oil producers and consumers.

Conclusion and Policy Implications

The analysis of Europe's efforts to ensure its energy security by diversifying both energy mix and energy sources suggests four conclusions. First, the potential for energy self-sufficiency within the EU is limited. Simply stated Europe does not have the necessary energy resources to sustain its well-developed economies and high standard of living. In the foreseeable future, Europe will continue to be dependent on foreign supplies. Second, despite efforts by the EU and individual members to liberalize the energy sector, governments still have an important role to play. Europe's active policy in Russia, the Caspian Sea, Iran, and the rest of the Middle East open the door for European oil companies to do business in these countries. European governments and the EU initiated dialogues with producing regions. Third, diversification of sources has certainly enhanced Europe's energy security. Strong and growing relations with Russia and the Caspian Sea are important but these two regions will not replace the Middle East. Given its geological advantages, the Middle East will always be a critical player in energy policy. Fourth, oil and to a less extent natural gas markets are global and well integrated. The source of one barrel of oil matters less than its availability. No country or region can alone protect itself from oil price swings or from the consequences of interruptions in oil production wherever they occur.²⁴ Greater predictability in energy markets is increasingly seen as a shared goal between producers and consumers. It can facilitate global economic prosperity and political stability. It is a win-win opportunity. □

²¹ Suzan Benedicte, *The Barcelona Process and the European Approach to Fighting Terrorism*, Washington, D.C.: Brookings Institute, 2003, p.2

²² The GCC was created in 1981 comprising six states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

²³ Giacomo Luciani, *EUROGULF: An EU-GCC Dialogue for Energy Stability and Sustainability*, p.5, 2005, on line at http://europa.eu.int/comm/energy/index_en.html

²⁴ John Gault, "Energy As A Security Challenge for the EU," *Middle East Economic Survey*, Vol.47, No.46, November 15, 2004, on line at www.mees.com