

Europe's energy security: challenges and opportunities

GAWDAT BAHGAT

Several geopolitical and economic developments in the first decade of the twenty-first century have heightened Europe's sense of vulnerability in respect of its energy supplies. On the supply side of the energy equation, the continuous fighting and rising ethnic and sectarian tension in Iraq, and the diplomatic confrontation over Iran's nuclear programme, have intensified concern over the stability of supplies from the Persian Gulf. On the demand side, China's and India's skyrocketing energy consumption and their efforts to secure supplies have intensified global competition over scarce hydrocarbon resources. These changes in the landscape of the global energy market, in conjunction with diminishing refinery capacity, shrinking spare capacity and a low level of investment, have driven oil and natural gas prices higher. Currently, the European Union's oil bill (for imported and domestically produced oil) stands at around €250 billion a year, or roughly 2.3 per cent of gross domestic product (GDP).¹ These soaring prices have exerted tremendous pressure on European economies and underscored the need for a common European energy policy.

The dispute between Russia and Ukraine over natural gas prices in January 2006 further highlighted the risks of dependence on a few energy suppliers. In early 2005 the Russian state monopoly, Gazprom, announced plans to start applying 'market rules' in its gas dealings with former Soviet republics. That meant that buyers would lose the heavily subsidized prices they had previously enjoyed and instead would have to pay similar prices to those charged to west European customers. It also meant that all bills would have to be settled in cash instead of through barter agreements. This new policy was largely seen as a punishment for the Ukrainian President Viktor Yushchenko, who had led the so-called Orange Revolution, defeated the Kremlin's favoured candidate in Ukraine's presidential election and pursued a pro-western foreign policy. In implementing it, Gazprom raised the price of gas sold to Ukraine from about \$50 per 1,000 cubic metres in 2005 to approximately \$230 per 1,000 cubic metres in 2006.

In response to Kiev's refusal to pay the new high price, Gazprom reduced gas supplies going through Ukraine and accused it of stealing Russian gas from the transit pipelines that deliver supplies to Europe through its territory. After intense

¹ Commission of the European Communities, 'Commission staff working document: annex to the Green Paper', http://europa.eu.int/comm/energy/index_en.html, accessed 8 March 2006.

negotiations in early January 2006, the two sides reached a compromise under which Ukraine would buy a mix of Russian and Central Asian gas for about \$95 per 1,000 cubic metres. Although there was no slowdown in the stream of Russian exports to Europe, the dispute raised doubts about Russia's reliability as a source of energy to Europe. Many European officials viewed the Russian action as an attempt to use gas as a political weapon to blackmail a neighbouring consumer state that depends heavily on Russian supplies of natural gas. Andris Piebalgs, the EU Energy Commissioner, summed up the European reaction: 'It is clear that Europe needs a clearer and more collective and cohesive policy on security and energy supply.'²

Background and structure

On 8 March 2006 the European Commission issued a new Green Paper entitled *A European strategy for sustainable, competitive and secure energy*. At the Green Paper's launch, José Manuel Barrosa, the President of the European Commission, highlighted the need for a common strategy for energy: 'We are in a new energy century. Demand is rising and Europe's reserves are declining. There is underinvestment and our climate is changing.'³ The Green Paper puts forward suggestions and options that could form the basis for the shape and direction of the EU's future energy policy. This important document was intensely debated by European heads of state and government in their spring summit in March and by various European institutions in the following months.

The Green Paper identifies six areas as priorities:

- completing the internal European electricity and gas markets;
- encouraging solidarity among member states;
- establishing a more sustainable, efficient and diverse energy mix;
- supporting an integrated approach to tackling climate change;
- encouraging a strategic energy technology plan;
- creating a coherent external energy policy.

Taking these proposed priority areas into consideration, it is important to identify the major characteristics of the EU's energy outlook and the projected changes.

Energy consumption in the EU has been growing more slowly than GDP. Energy intensity gives an indication of the effectiveness with which energy is being used to produce added value. It is defined as the ratio of gross consumption of energy to GDP. Thus a fall in energy intensity indicates an improvement in energy efficiency. The volatility of oil markets and prices in the mid-1970s led members of the then European Community to rethink their energy consumption patterns. As a result, measures were adopted to improve energy efficiency and

² Lyuba Pronina, 'Europeans threaten to revisit gas policy', *Moscow Times*, 10 Jan. 2006, www.themoscowtimes.com, accessed 10 Jan. 2006.

³ Anthony Browne, 'Fearful EU aims to take energy policy from governments', *The Times*, www.thetimes.co.uk, accessed 9 March 2006.

break the link between growth in GDP and growth in energy demand. This was reflected in a structural shift in most European economies towards services and less energy-intensive industrial production. This commitment to improving energy intensity weakened in the 1990s, when oil prices were stable and relatively low, but has gained renewed force with the rising prices of the new century.

Europe's energy mix is strongly dominated by fossil fuels. In 2005 oil constituted approximately 37 per cent of the EU's energy consumption, natural gas 24 per cent, solid fuels 18 per cent,⁴ nuclear power 15 per cent and renewables 6 per cent.⁵ This heavy European dependence on fossil fuels reflects the pattern of global usage, which is unlikely to alter substantially. 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 from power generation.⁶

About half of the energy consumed in the EU is produced domestically, while the other half is imported. 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 per cent of the world's proven oil reserves and 2.0 per cent of proven natural gas reserves,⁷ and these limited reserves are largely concentrated in the North Sea. Norway, the Netherlands and the United Kingdom hold the bulk of Europe's proven natural gas reserves.

Oil and natural gas were first discovered in the North Sea in the 1960s. However, the area did not become a key oil-producing region until the 1980s, when production from large discoveries began to come on line. Development of the North Sea's hydrocarbon resources faced considerable hurdles, including the inhospitable climate and the great drilling depths, requiring highly sophisticated offshore technology and imposing high production costs. On the other hand, the region enjoys political and financial stability and proximity to large European consuming markets—advantages that have added to its significance as an oil- and gas-producing region. The North Sea's crude oil production peaked in the late 1990s, after which it fell; however, more recently this decline has been slowed down, primarily for two reasons. First, high oil prices and rapidly expanding global demand since the early 2000s have justified continuous investment in high-cost production in the north North Sea; and second, 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 decline significantly in the foreseeable future. Natural gas production from the North Sea, on the other hand, remains high and growing.

⁴ Solid fuels include coal, lignite and peat.

⁵ Commission of the European Communities, 'Commission staff working document: annex to the Green Paper'.

⁶ International Energy Agency, *World Energy Outlook* (Paris: IEA, 2004), p. 31.

⁷ Energy Information Administration, *Regional indicators: European Union*, Jan. 2005, www.eia.doe.gov, accessed 26 Jan. 2005.

Under pressure from this combination of limited indigenous hydrocarbon resources and rising demand, the EU's dependence on foreign supplies is projected to grow from about 50 per cent in 2005 to approximately two-thirds in 2030, by which time the EU is expected to import 94 per cent of its oil needs, 84 per cent of natural gas consumption and 59 per cent of solid fuel used. These projections point to an undeniable fact: that EU energy security is fundamentally linked to the security of supply from the global fossil fuel markets.

Recognizing this inevitable and growing interdependence between the EU and major hydrocarbon-producing regions, the European Commission underscores specific measures that should be taken to improve the security of supply. These include:

- diversifying the EU's energy mix, with greater use of competitive indigenous and renewable energy, and diversifying sources and routes of supply of imported energy;
- creating the necessary framework to stimulate adequate investment to meet growing energy demand;
- better equipping the EU to cope with emergencies;
- improving the conditions for European companies seeking access to global resources;
- and ensuring that citizens and businesses have access to energy.⁸

To sum up, the EU's energy mix is dominated by fossil fuels and Europe is increasingly dependent on foreign supplies to meet growing demand. These characteristics of Europe's energy sector have not changed since the European Commission issued the Green Paper *Towards a European strategy for the security of energy supply* in November 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 analyses European efforts to establish and strengthen energy partnerships with Russia, the Caspian Sea states and the Middle East. Overall, the article 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 the 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

⁸ Commission of the European Communities, *Green Paper: a European strategy for sustainable, competitive and secure energy*, http://europa.eu.int/comm/energy/index_en.html, accessed 8 March 2006.

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.⁹ Since then, policy-makers and analysts have sought to define the concept of ‘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’.¹⁰ Barton et al. 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’.¹¹ In short, energy security refers to sustainable and reliable supplies at reasonable prices. In this article, the concept of energy security is further refined by the following factors:

- Any definition of energy security should distinguish between geological and geopolitical 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, however, pose significant financial and political challenges that need to be addressed.
- In respect of price, security involves achieving a state where the risk of rapid and severe fluctuation of prices is reduced or eliminated. Oil prices vary from country to country depending on several factors, including the quality of crude product, 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 higher prices mean higher profits for oil producers; but high oil prices tend to slow down global economic prosperity, encourage conservation and prompt switching to other fuels. In other words, from the producers’ perspective supporting high prices would be like killing the goose that lays the golden eggs. Thus, consumers and producers share a common interest in ensuring stable supplies at ‘reasonable’ prices.
- Energy security depends on sufficient levels of investment in resource development, generation capacity and infrastructure to meet demand as it grows. The availability of funds for such investment is strongly linked to prices, but the flow of private and foreign investment depends to a great extent on political stability in the producing country.

⁹ Chantale LaCasse and André Plourde, ‘On the renewal of concern for the security of oil supply’, *Energy Journal* 16: 2, April 1995, pp. 1–23 at p. 1.

¹⁰ Cited in Robert Skinner and Robert Arnott, *EUROGULF: an EU–GCC dialogue for energy stability and sustainability*, http://Europa.eu.int/comm/energy/index_en.html, accessed 4 June 2005.

¹¹ Barry Barton, Catherine Redgwell, Anita Ronne and Donald N. Zillman, *Energy security: managing risk in a dynamic legal and regulatory environment* (Oxford: Oxford University Press, 2004), p. 5.

- Spare capacity has traditionally played a significant role in temporary severe interruptions of oil supplies. A few OPEC producers, particularly Saudi Arabia, have deliberately 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, taking the international oil industry into 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. To put this point 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 associated with overdependence on any one single region. (The dispute between Russia and Ukraine in January 2006, referred to above, is a case in point.)
- 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.¹² This concern is based on two grounds: first, the cyclical growth patterns and policies that damp the demand for oil and favour other sources of energy; second, the failure of OPEC states to diversify their economies and their consequent continued heavy dependence on oil revenues. Thus they are anxious to secure markets for their major source of income. Rather than focusing solely on the dependence of consumers on producers, then, 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.¹³

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 necessarily entails growing interdependence between major producers and consumers. No country or region can alone achieve a state of energy security. Diversification of both energy mix and energy sources is the main route to energy security. Major industrialized countries should seek to enhance the reliability of those producing nations on which they are bound to depend for many years to come.

Diversification of energy mix

Europe's energy sector is currently dominated by oil, natural gas and coal, with lesser contributions from nuclear power and renewables. Europe's heavy dependence on fossil fuels is predicted to continue for the foreseeable future. By 2030 oil is projected to maintain its dominant share of total energy consumption at 33.8 per

¹² Adrian Lajous, 'Production management, security of demand and market stability', *Middle East Economic Survey* 47: 39, 27 Sept. 2004, www.mees.com, accessed 27 Sept. 2004.

¹³ For a thorough analysis of this mutual dependence of producers and consumers, see John Mitchell, 'Producer-consumer dialogue: what can energy ministers say to one another?', www.chathamhouse.org.uk, Nov. 2005, accessed 20 Jan. 2006.

cent, with natural gas at 27.3 per cent, solid fuels 15.5 per cent, and renewables and nuclear contributing 12.2 per cent and 11.1 per cent respectively.¹⁴

In responding 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 investment and technological advances, oil still is 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 per cent of the Union's GDP.¹⁵ Europe imports most of its oil from Russia, the Middle East, Norway and North Africa.

Use of natural gas, the second most prominent fuel in the mix, is growing most rapidly. Natural gas is very much cleaner and more environment-friendly than oil or coal. It is consumed in the industrial and residential sectors and increasingly in electricity generation. Europe receives most of its natural gas needs via pipelines from two main 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.

Deposits of coal, unlike those of oil and natural gas, are plentiful in Europe as well as elsewhere across the globe. Furthermore, for a long time coal prices have been stable at a low level compared with other sources of energy. These are the main advantages of coal. However, coal consumption has been restrained because of its high contribution to pollution. Simply stated, coal is a dirty fuel: when burned, it releases considerably more CO₂ than its competitors. Accordingly, both production and consumption of coal in the EU have fallen in recent decades.

Early in the second half of the twentieth century high expectations were generated that nuclear power would be widely used for civilian purposes. Half a century later, it is clear that these expectations have not been realized. Health hazards and the problem of managing nuclear waste have acted as severe constraints on large-scale expansion of nuclear power. The Three Mile Island accident in the United States (1979) and particularly the Chernobyl accident in the Soviet Union (1986) have turned European public opinion away from nuclear energy. The European Commission has taken a neutral view of nuclear power; the decision on whether or not 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. France, on the other hand, is still dependent on nuclear power to meet its energy needs, particularly in generating electricity. High oil prices in the early 2000s and substantially improved technology and safety measures have renewed interest in nuclear energy, and several European countries are currently re-evaluating their position on nuclear power.

¹⁴ Commission of the European Communities, 'Commission staff working document: annex to the Green Paper'.

¹⁵ European Commission, *Report on the Green Paper on energy*, 15 Dec. 2004, p. 15, http://Europa.eu.int/comm/energy/index_en.html, accessed 8 Jan. 2006.

Renewable sources of energy (such as biomass, wind, solar power and geothermal) provide the EU members with a 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 using these resources.

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 means of 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 and transit countries—Russia, the Caspian Sea and the Middle East. The goal is to make best possible use of the EU's economic and political leverage in tackling common problems with energy partners worldwide.

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 neighbour 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 of 1998. 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 ideological, political and economic divisions that had hitherto prevented eastern and western Europe from pursuing their mutual interests in promoting cooperation in the energy sector. Russia and several of its neighbours are rich in hydrocarbon deposits but needed substantial investment to explore and develop these energy resources. Meanwhile, west European governments and private companies had the financial resources to make such investment and economic and strategic motives to diversify their energy supplies. Forged on the basis of 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 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.¹⁶

The EU–Russia energy dialogue has already produced some significant results, including the setting up of a centre for energy technology in Moscow in 2004, negotiations to improve safety levels for transportation of oil by sea and, most notably, the construction of the north European 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 IEA, between 2001 and 2030 Russia's oil industry requires total investment of \$328 billion, or \$11 billion a year, while the gas sector needs \$330 billion, or \$11 billion a year.¹⁷ Since the mid-1990s major European oil companies have invested substantial financial resources in Russia's energy sector,¹⁸ while 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. During the Soviet era, most of the Soviet pipelines were designed to provide oil to Soviet republics and allies in eastern Europe. Since the collapse of the Soviet Union there has been a growing interest in redirecting Russia's oil exports towards western Europe. The Druzhba (Friendship) Pipeline, the Baltic Pipeline System (BPS) and the Adria pipeline underscore this new orientation. Nevertheless, in recent years Russia's pipeline export capacity has not kept pace with the country's fast-growing production.

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, the other through Belarus, Ukraine, Slovakia, the Czech Republic and Hungary.¹⁹ 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, and in consequence Russia built its own northern oil port at Primorsk. Phase one of the BPS came onstream in December 2001.²⁰ The BPS gives Russia a direct outlet to north European markets, allowing the country to reduce its dependence on transit routes through Estonia, Latvia and Lithuania. The Adria pipeline, which extends between Croatia's port of Omisalj on the Adriatic Sea and Hungary, was originally designed to take oil from the Middle East and pipe it northward to Yugoslavia and on to Hungary. However, given the pipeline's existing interconnection with the Russian system and Russia's booming production, since the 1990s the pipeline's operators and transit states have been considering reversing the pipeline's flow, thus giving Russia a new export outlet on the Adriatic Sea.²¹

¹⁶ Energy Charter Secretariat, *What is the Energy Charter? An introductory guide*, Sept. 2002, p. 2, www.encharter.org, accessed 8 Nov. 2002.

¹⁷ International Energy Agency, *World energy investment outlook* (Paris: IEA, 2003), p. 25.

¹⁸ Britain is the single largest foreign investor in Russia.

¹⁹ Energy Information Administration, 'Major Russian oil and natural gas pipeline projects', March 2005, www.eia.doe.gov, accessed 17 July 2005.

²⁰ Isabel Gorst, 'Crude export set to grow', *Petroleum Economist* 70: 8, Aug. 2003, p. 25.

²¹ Energy Information Administration, 'Country profile: Russia', May 2004, www.eia.doe.gov, accessed 10 June 2004.

Europe depends on natural gas supplies from Russia to a greater extent than it does on Russian oil. Gazprom, Russia's state-run natural gas monopoly, holds nearly one-third of the world's natural gas reserves, produces nearly 90 per cent of Russia's natural gas and operates the country's natural gas pipeline grid. Like its oil, most of Russia's natural gas was exported to east European states during the Soviet era. In recent years, increasing supplies have been shipped to EU members, Turkey, Japan and other Asian consumers. All Russia's gas is exported via pipelines. The Yamal–Europe pipeline 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; and plans are under way to construct a north European gas pipeline which would bypass Poland and the Baltic states, running under the Baltic Sea from St Petersburg to northern Germany, then across the Netherlands and the English Channel to the United Kingdom.²² A possible spur connection to Sweden has also been considered. Agreements to this end between Russia and several European countries have been negotiated and signed, and in December 2005 construction of the \$5 billion pipeline was inaugurated by the Russian Prime Minister, Mikhail Fradkov.

Russia currently supplies more than a quarter of Europe's energy needs, and President Putin identified energy security as the theme for Russia's chairmanship of the G8 industrialized nations in 2006. Nevertheless, several factors may constrain the EU–Russia energy dialogue. First, there is doubt about Russia's ability to maintain its high level of oil production and to expand its export capacity (i.e. construct new pipelines) for both oil and natural gas. Russia has a 12 per cent share of global oil production on the basis of only 6 per cent of global proven reserves, prompting serious concerns that the nation's oilfields are being rapidly depleted and that the present level of production cannot be sustained. Second, developments in recent years have raised doubts about the future of economic reform in Russia, including the reconstruction of the country's energy sector. Russia's vast gas industry remains substantially unreformed, and the EU has demanded an end to Gazprom's export monopoly; yet since the early 2000s the momentum of privatization in the country's energy sector has been slowed down or even reversed. Third, EU members are aware of the danger of being too dependent on Russia to meet their growing hydrocarbon demands, and in consequence have been actively seeking cooperation with other producing regions.

Energy cooperation with the Caspian states

The Energy Information Administration, the statistical arm of the United States Department of Energy, and British Petroleum estimate that the Caspian region holds between 16.9 billion and 32.2 billion barrels of oil and approximately 4.68 trillion cubic metres of natural gas.²³ Growing interest in the region's energy

²² John Roberts, 'What role can Eurasian gas play in Europe?', *Energy Economist*, no. 266, Dec. 2003, pp. 7–11 at p. 7.

²³ Energy Information Administration, 'Caspian Sea region: key oil and gas statistics', Aug. 2003, www.eia.doe.gov, accessed 30 Aug. 2003; British Petroleum, *BP statistical review of world energy* (London: BP, June 2005), pp. 4, 20.

resources has been reflected in close cooperation between western governments and oil companies on the one side and Azerbaijan, Kazakhstan and Turkmenistan, which were part of the Soviet Union until 1991, on the other.

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 programme is similar in many respects to the EU–Russia energy dialogue. It aims at promoting European investment in Caspian Sea/Central Asian states in return for their cooperation in supplying energy to the EU member states. An important step in this 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 investment necessary for their construction and operation. However, European enthusiasm for extending energy cooperation with these Central Asian states faces many hurdles, particularly the lack of consensus within the region on how to divide the Caspian Sea 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 open only to their own vessels and was closed to the rest of the world. They also reserved a 12-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. Accordingly, many analysts and policy-makers 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 disagreed strongly 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 (UNCLOS), nations bordering a sea may claim 12 miles from shore as their territorial waters and beyond that a 200-mile exclusive economic zone (EEZ). If the provisions of UNCLOS were applied to the Caspian, full maritime boundaries of the five littoral states would be established, based upon an equidistant division of the sea and undersea resources into national sectors. If they were not applied, the Caspian and its resources would be developed jointly according to what is known 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 centres on the uneven distribution of potential oil and natural gas resources in the basin.

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 have started 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

Azerbaijan, Kazakhstan and Turkmenistan are all landlocked states, and therefore have to transport their oil and natural gas by pipelines, which cross several international boundaries. The question of potential routes through neighbouring countries has become one of acute interest for both regional and international powers, as well as for oil companies. Any state through which such a pipeline ran would reap various financial and political benefits, including access to oil or natural gas for domestic needs; foreign investment and jobs; substantial transit fees; and political leverage over the flow of oil and gas.

The process of choosing routes and constructing pipeline is complicated, and requires delicate negotiations with many parties. Until recently, the existing pipelines in the Caspian region were designed to link the states and regions of the former Soviet Union internally and were routed through Russia, most of them terminating at the Russian Black Sea port of Novorosiisk. Since the breakup of the Soviet Union, political and security concerns have arisen 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 alternative routes have been under consideration, and some have proceeded to construction. 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 south-west, 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 (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 relative priorities of these different pipelines. 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 1 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 by this route as well. 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. The particular beneficiaries of this network of pipelines are the Caspian nations, including Iran, whose efforts to ship their oil and gas to the lucrative European market are thereby facilitated, and Turkey, in its attempt to establish itself as a transit route for energy resources on the way from its eastern neighbours 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 energy security for consumers, producers and the global energy markets by making deliveries less vulnerable to technical or political disruptions on any one route. Still, energy security will have to be balanced against economic feasibility, since a larger number of pipelines would mean smaller economies of scale. Second, in many cases the decision to choose the most appropriate route reflects a competition between strategic concerns and economic interests—particularly evident in US efforts to deny Iran a role in transporting Caspian oil and gas. Most pipelines, however, are built by companies, not by governments; their success or failure will be determined ultimately by economics, and projects must stand or fall on their own commercial merit. In the long term, pipelines that make economic sense are more likely to be built than those that do not. Third, the capacity and availability of these pipelines will, to a large extent, determine the pace 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 with the Middle East

The Middle East is the globe's most important energy-producing region. It holds the world's largest proven oil and natural gas reserves, is well connected to the major consuming markets in Europe, the United States and Pacific Asia, and enjoys the lowest production costs for hydrocarbon resources. In addition to these geological advantages, most Middle Eastern countries enjoy close relations with the member states of the EU, moulded by geographical proximity and long historical ties. Not surprisingly, the EU is the main trading partner for several Middle Eastern states, with oil and, increasingly, natural gas representing a large and growing proportion of this trade volume. In recent years the EU has sought to institutionalize its relations with its neighbours to the south and east, specifically on the Mediterranean coast, in the Persian Gulf and, more recently, among the

members of the Organization of Petroleum Exporting Countries (OPEC).

The Euro-Mediterranean Energy Partnership between the EU members and 13 countries of north Africa and the eastern Mediterranean is an action plan to develop a free trade area by 2010 with particular attention to the energy market.²⁴ The Barcelona Declaration, with which the partnership was launched in November 1995, set out three main objectives for the partnership, based on the pattern of the Helsinki Declaration of 1975. They are:

- the creation of a common area of peace and stability;
- the construction of a zone of shared prosperity through an economic and financial partnership; and
- the development of human resources, the promotion of understanding and the *rapprochement* and exchange of peoples.²⁵

The process is based on the interlocked interests of the parties. The EU members expect to create a stable climate for energy investment and security of supply, while the Mediterranean countries see the partnership as a privileged channel for investment and technical assistance. Algeria, Libya and, to a lesser degree are the main oil and gas producers and exporters in this energy partnership and Egypt embody this energy cooperation between the two sides.

Three factors in particular shape dialogue between Europe and the states of the Gulf Cooperation Council (GCC) in respect of energy.²⁶ First, the GCC members and Iran combined hold the world's largest proven oil and natural gas reserves. Second, the world's spare oil-producing capacity—which can be used, and indeed has been used, to protect global markets against temporary interruptions, and so helps to stabilize prices—is today almost exclusively concentrated in Saudi Arabia. Third, the EU is the preferred destination for oil from Russia, the Caspian Sea and North Africa, primarily for logistical considerations, while most Gulf oil is directed to the east or to the United States.²⁷

Despite the fact that most Gulf oil and gas is not exported to Europe, the EU has a special interest in the GCC producers, for the latter's massive production and exports shape global markets regardless of the destination of these supplies. Accordingly, 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 states, including Saudi Arabia and Iran (which has been subject to US sanctions since the 1979 Islamic Revolution).

²⁴ The Mediterranean countries involved are Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Libya, Malta, Morocco, the Palestinian Authority, Syria, Tunisia and Turkey.

²⁵ Suzan Benedicte, *The Barcelona process and the European approach to fighting terrorism* (Washington DC: Brookings Institution, 2003), p. 2.

²⁶ The GCC was created in 1981, comprising six states: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

²⁷ Giacomo Luciani, *EUROGULF: an EU–GCC dialogue for energy stability and sustainability*, 2005, p. 5, http://europa.eu.int/comm/energy/index_en.html, accessed 4 Sept. 2005.

Alongside its 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. For the foreseeable future Europe will continue to be dependent on foreign supplies.
- Second, despite efforts by the EU and individual member states to liberalize the energy sector, governments still have an important role to play. An active EU policy in Russia, the Caspian Sea, Iran and the rest of the Middle East opens the door for European oil companies to do business in these countries. European governments and various EU institutions have initiated dialogues with producing regions. These political initiatives have enhanced Europe's energy security.
- 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 geographical advantages, the Middle East will always be a critical player in energy policy.
- Fourth, oil and, to a lesser 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.²⁸ Greater predictability in energy markets is increasingly seen as a goal shared by producers and consumers alike. It can facilitate global economic prosperity and political stability. It is a win-win opportunity.

The EU represents 25 countries and 450 million energy consumers. An effective and coherent energy policy would enable the EU to maintain its prominent position on the international scene. This energy policy must be based on a recognition that interdependence is the cornerstone of the energy landscape of the twenty-first century. Diplomatic and economic dialogues, not military confrontations, are likely to strengthen partnerships with producing regions and enhance Europe's energy security.

²⁸ John Gault, 'Energy as a security challenge for the EU', *Middle East Economic Survey* 47: 46, 15 Nov. 2004, online at www.mees.com, accessed 15 Nov. 2004.