Caspian Sea is No Middle East

*By Mamdouh G. Salameh**

Introduction

A lot has been written about the oil potential of the Caspian Sea. Some sources described it as the "great prize" while others talk of it as if it were a new Kuwait. Fanciful estimates have claimed that Caspian Sea oil reserves rival those of the Arab Gulf. Others have ascribed potential recoverable reserves of 200 billion barrels (bb) to the area.[1] The Caspian Basin has been over-promoted by some as a new Middle East, and as an alternative global supplier to the Arab Gulf. Others, by contrast, see it as an overstated high-risk oil province that will, to a large extent, remain isolated from world markets. The reality, as always, is somewhere in between.

Caspian Sea's proven reserves are at present estimated at less than 17 bb, or 1.5% of the world's total proven reserves.[2] However, there is now some confidence in the view that the proven oil reserves of the Caspian fall within the range of 18 bb-20 bb. The bulk of these reserves lie within the North Caspian Basin. Drilling failures in the South Caspian Basin and a comprehensive geological appraisal suggest that there is little further prospect of new oil, even in untested deepwater traps of the South Caspian, which are currently subject to territorial dispute. By 2010 the Caspian should be producing some 3 million barrels a day (mbd), two-thirds from the North and one-third from the South. However, this depends on a timely investment in new Caspian support infrastructure and the ability of western oil investors to access large-scale project financing.[3]

Apart from the limited size of the reserves, Caspian oil is very costly to find, develop, produce and transport to world markets. The Caspian Sea is practically a landlocked area, and the economic and geopolitical problems arising from transporting the oil by pipelines through other countries add to the risks of investments there.[4]

With these apparent disadvantages of the Caspian Sea oil in mind, a puzzling question arises: why the rush of so many American and international oil companies to invest in this region? Under normal market conditions, investors would naturally turn to the abundant, low-cost oil of the Arab Gulf, rather than to these high-cost, politically hazardous areas.

Why Invest in the Caspian Sea?

With the collapse of the former Soviet Union, the Caspian Basin presented western oil companies with a unique opportunity to acquire huge oil reserves at low technical risk. These companies also recognized that these reserves were located in a region where both political and business risks were unexpectedly high. The newly independent Caspian republics saw western oil investment as a safeguard for their newly-won independence from Russia.

Consequently what drove the original western energy investment in the Caspian was access to three proven but undeveloped ex-Soviet super giant oilfields: Tengiz and Karachaganak in Kazakhstan, and Azeri-Chirag-Guneshli in Azerbaijan. These three fields still dominate the Caspian energy scene today, with the addition of two new super giant oil and gas discoveries at Kashagan in Kazakhstan and Shah Deniz in Azerbaijan.

Apart from the economics of investing in Caspian Sea oil, political motivation has been an important factor. The declared U.S. policy has been to encourage investing in the Caspian, and to create United States interests in the geopolitically sensitive area situated near both Iran and Russia. It is also a declared policy of the United States to develop Caspian Sea oil in order to reduce dependence on oil from the Arab Gulf, which is still viewed as an unstable region where the outbreak of revolutions or wars could again interrupt oil supplies and cause price shocks.[5]

For the United States, the support of Caspian oil development began as an outgrowth of a national energy policy that calls for the expansion of oil production in areas outside the Arab Gulf.[6] The U.S. policy subsequently evolved over time to one which came to embrace three main policy goals in the region:

- Support for the sovereignty and independence of the Caspian newly-independent States (NIS).
- Enhancing commercial opportunities for the United States and U.S. companies.
- Building economic linkages (e.g., pipelines) between these states as a way of benefiting countries of the region and reducing regional conflicts.

In pursuing these objectives, the United States supports the establishment of an east-west energy transit corridor comprised of a network of multiple pipelines that will bring Caspian oil to world markets while bypassing the potential choke-point of Iran and also reducing dependence on Russian oil pipelines. This network includes a proposed Baku-Tbilisi-Ceyhan (BTC) pipeline for transporting oil from Azerbaijan to the Turkish Mediterranean port of Ceyhan, the Caspian Pipeline Consortium (CPC) that connects the giant Tengiz oilfield in western Kazakhstan to the Russian port of Novorossiysk on the Black Sea, the new early-oil pipelines from Baku to Supsa and Novorissiysk, and a trans-Caspian gas pipeline stretching from Turkmenistan to Turkey.[7]

However, political factors aside, the rush to Caspian Sea oil was spurred on by the oil market perceptions in the aftermath of the collapse of the former Soviet Union (FSU) and which lasted until 1998. These perceptions revolved around: the ability of OPEC to stabilize oil prices at artificially high levels and for a long period, the oil technology revolution that led to a spectacular reduction in the cost of finding and developing high-cost oil, the robust global oil demand between 1994 and 1997 and the fact that most OPEC countries were at that time persistent in shunning foreign investment in their national oil industries. All these favourable factors and market perceptions justified economically the rush to the Caspian Sea.

Caspian Sea Oil Reserves

The proven oil reserves of the Caspian region (Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan) amount to 17 bb. This makes the Caspian equivalent to a superior North Sea

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[1] See footnotes at end of text

and not to the Arab Gulf or even Kuwait.[8]

Estimates of 40 to 60 bb as the ultimate reserve base of the Caspian region are judged to be reasonable by most geologists familiar with the region. The latter figure requires drilling to take place. But drilling requires huge investments and huge rigs that have to be transported over excruciatingly difficult routes.

From this reserve base one can safely predict that by 2010 the Caspian should be producing between 2-3 mbd. Continued Caspian oil investment will still have to depend on three factors: first, a global oil price in excess of $20/b (in real terms); second, the absence of major political dislocations; and third, the need to address with some urgency the serious deficiencies of Caspian energy support infrastructure.

With a long-term production potential that would contribute roughly 3% to future global oil supply, the Caspian will never be a strategic alternative to the Arab Gulf. Still, the Caspian is destined to play a supporting role rather than a deciding one in supplying the world oil market in the future. By 2020, production could potentially reach 5 mbd. But this will only happen if there is a significant improvement in both the business and political risk environment in the region.

Production and Export Potential

In 2000, total Caspian oil production reached 1.37 mbd with net oil exports amounting to 665,000 barrels a day (b/d).[9] However, an IEA 1998 study on Caspian oil and gas presented two scenarios for oil production, domestic consumption and export potential of the Caspian region over the period 2000-2020.[10]

In the high case scenario, total Caspian production increases from 1.38 mbd in 2000 to 3.89 mbd in 2010 and 6.18 mbd by 2020. Net exports are projected to increase from 665,000 barrels a day (b/d) in 2000 to 2.34 mbd in 2010 and 3.57 mbd by 2020 (see Table 1). The high case scenario assumed implementation of present projects without delay, to be followed by additional development projects.

Table 1
Oil Production, Consumption & Net Exports
(High Case-mbd)

	2000	2005	2010	2020
Production	1.38	2.45	3.89	6.18
Consumption	0.52	1.26	1.55	2.61
Net exports	0.66	1.19	2.34	3.57

Sources: IEA's Caspian Oil & Gas/BP Statistical Review of World Energy, June 2001.

In the low case scenario production rises to 2.77 mbd in 2010 and 4.84 mbd in 2020. Exports also rise to 1.51 mbd in 2010 and 2.98 mbd in 2020 (see Table 2). Because of uncertainties in the timing of large projects yet to be implemented in Azerbaijan and Kazakhstan, the largest gap between the high and low scenarios for oil exports is in 2010.

Table 2
Oil Production, Domestic Consumption & Net Exports
(Low Case-mbd)

	2000	2005	2010	2020
Production	1.38	1.93	2.77	4.84
Consumption	0.52	1.06	1.26	1.86
Net exports	0.66	0.87	1.51	2.98

Sources: IEA's Caspian Oil & Gas/BP Statistical Review of World Energy.

How do these projected export figures for the Caspian Sea compare with exports of other OPEC and non-OPEC producers? In 2000 Caspian oil exports amounted to 665,000 b/d and non-OPEC producers exported 7 mbd. OPEC exports from the Arab Gulf, on the other hand, were 18.94 mbd (see Table 3).

Table 3
World Crude Oil Exports
(mbd)

Country/Region	2000		2020
North Sea	4.15		3.70
FSU	4.27		5.60
Other non-OPEC	7.00	3.80	
OPEC:	27.70		51.10
Arab Gulf	18.94		41.80
North Africa	2.73	2.70	
West Africa	3.29		2.30
South America	2.74	4.30	
Caspian Sea	0.66	3.60	

Sources: *BP Statistical Review*, June 2001 / IEA's Caspian Oil & Gas / Author's projections.

In 2020, Caspian oil exports are projected to reach 3.6 mbd (high case) or 2.98 mbd (low case) compared with 41.8 mbd from the Arab Gulf. In no case would Caspian exports in 2010 or in 2020 measure up to the very large exports from the Arab Gulf.

Caspian Oil Export Routes

The past five years have seen considerable success in the development of transportation options for oil in the Caspian region. Some 800,000 b/d (40 mt/y) of oil export capacity is already available, with an additional 600,000 b/d (28 mt/y) added with the commissioning of the CPC in October 2001 (see Table 4). Oil pipeline capacity is projected to rise to 2.4 mbd (120 mt/y) with the eventual completion of the BTC pipeline in 2005.

Table 4
Current & Projected Caspian Oil Pipeline Capacity
(000 b/d)

Pipelines	Current Capacity	Projected Capacity
CPC (Tengiz-Novorossiysk)	600	1,600
BTC (Baku-Tbilisi-Ceyhan)	-	1,000
Baku-Novorossiysk	600	600
Baku-Supsa	200	200
Baku-Tabriz (Iran)	Proposed	250
Tengiz-Uzen-Kharg (Iran)	Proposed	500
Total Capacity	**1,400**	**4,150**

Sources: Various.

However, the new CPC pipeline faces a number of difficulties. Turkey is uneasy about increased traffic through its already congested Strait of Bosphorous that connects the Black Sea with the Mediterranean and may apply restrictions to the number of vessels using this route. The other major consideration is that use of the CPC pipeline still leaves Kazakhstan dependent on Russia.

Another export route planned for Caspian crude oil is the 1,730-kilometer Baku-Tbilisi-Ceyhan (BTC) pipeline. Construction is expected to start in June 2002 and the pipeline is

projected to transport 1 mbd. The United States and Turkey have long been pushing the BTC route, and the Kazakhstan government seemed enthusiastic about it at the time. But with cheaper options emerging, the country's support for the BTC route seemed to waver. Kazakhstan has been leaning toward the Iran route as the most cost-effective for Kazakhstan crude.

A southern outlet for the Caspian Basin's oil through Iran is the route most favoured by the international oil companies. It is by far the least costly option as there already exists an oil pipeline infrastructure in Iran. The 240-km Nekha-Tehran oil pipeline with a capacity of 175,000 b/d, which is expected to come online by 2003, would allow for oil swap operations.

Significant volumes will eventually move south to Iran (up to 500,000 b/d), for oil swaps from the Gulf. Caspian crude is sold to refineries in northern Iran for internal domestic markets and paid for in volumes of Iranian crude delivered at an export terminal in the Gulf for onward sale by Caspian producers in international markets. Both parties thereby benefit from saved transportation costs across Iran. Iran will, however, always be a market for Caspian oil. But until the United States softens its stance on Iran and lifts the sanctions, an Iran route will not be in the cards.

Caspian Sea Oil & World Oil Prices

The future of the Caspian Sea and its impact on Gulf oil will depend crucially on oil prices and on the investment policies of the major producers of the Gulf region itself. If low price levels of $13-$14/b persist in the coming five to seven years, Caspian oil will have little chance of expanding. By contrast, if financial pressures in OPEC succeed in restoring an artificially high price of $18/b and above, Caspian Sea oil will have every chance of expanding to a similar extent as the North Sea.

Today a fully built-up cost for the Caspian barrel of oil is roughly $12-$15/b.[11] This compares well with the North Sea but is still some three to four times more than the equivalent barrel in the Arab Gulf. Nevertheless, future Caspian built-up costs should fall to within $10/b. Progress in Caspian oil development is still heavily dependent on a sustainable $20/b (real) oil price and above. It is from within this price that a minimum of $2/b profit margin for the oil companies can be secured, with the share of profits being 80% in favour of the host governments. What happens to the price of oil will be crucial in determining the size of Caspian oil and its contribution to world oil supplies.

Impact of Caspian Oil on OPEC and World Oil Market

It has been suggested that the huge oil potential of the Caspian Basin represents a major challenge to the supremacy of the Arab Gulf as a pivotal supplier of oil to world markets and calls into question the wisdom of Arab Gulf production cutbacks designed to boost oil prices. While higher oil prices will undoubtedly encourage investment in high-cost regions like the Caspian Basin, price is not the only major factor influencing the speedy development of Caspian oil resources. Rather, a host of complicated economic, logistical and geopolitical obstacles block the region's ability to become a major oil-producing province of the magnitude of the Arab Gulf or even the North Sea or Latin America.[12]

First, Caspian oil resources are located at a great distance from the world's major energy-consuming regions. The countries of that region are landlocked. The region's producers cannot simply ship oil by tanker from domestic ports to international sea-lanes as is done from the Arab Gulf. Instead, Caspian producers must rely on expensive pipelines built through neighbouring countries as the chief means of transport. However, most of the existing and proposed routes suffer from a variety of security issues related to regional political uncertainties and thorny ethnic feuding.

Secondly, the region is also far from major supply centres for exploratory equipment and faces a debilitating shortage of modern drilling platforms and other related supplies. The constraints on infrastructure, drilling equipment and rigs are more severe in the Caspian Basin than probably anywhere else in the world. This means that oil wells take considerably longer to complete, in some cases up to two years as compared to two to three months in other parts of the world.

Such logistical obstacles mean that while its oil resources may be geologically equivalent to the North Sea, the Caspian's output is unlikely to reach that potential. North Sea production has risen from roughly 2 mbd in 1980 to 6 mbd today, or 8% of current world demand. By contrast, after two decades of development and an investment of $13 bn, Caspian oil production may account for no more than 3% to 4% of world demand by 2010.[13]

Incremental production from the Caspian Basin can, at the margin, contribute to a weakening of oil price levels. It is estimated that without Caspian oil supplies, nominal oil prices in 2010 could be as much as $5/b higher than otherwise. But with Caspian oil, oil prices could be lower in 2010 by an estimated $2/b-$5/b.

This more conservative outlook for Caspian output suggests that Arab producers' market control may remain relatively unaffected by the existence of vast Caspian reserves in the short to medium term. Moreover, Arab Gulf producers can benefit from low oil prices to the extent that such price levels contribute to a rise in oil use, creating an opportunity for sustainable market share expansion and giving investors extra incentive to channel exploration capital into low-cost areas such as the Arab Gulf.

An exportable Caspian oil surplus of the order of 2.3 mbd by 2010 could end up flowing towards the European market. It is quite plausible that these barrels will replace some Arab Gulf barrels. This will occur just as Latin American production meets more and more of North America's growth in import demand. The result will be that Caspian and Latin American output will meet much of the growth in the Atlantic Basin's crude oil imports. This could redraw the crude trade patterns, pushing Gulf oil supplies increasingly away from the Atlantic Basin towards the Asia-Pacific region.

Implications for Energy Security

During the Cold War, the issue of energy security was clear-cut. Western nations did not want the Soviet Union to gain an advantage over the resources of the Arab Gulf. The primary threat to the flow of oil was Soviet control.

A lot has changed since then. The Cold War is over and the perception that the FSU could control oil flows from the Gulf is gone. The focus has instead shifted to the possibility of oil supply disruptions resulting from conflict in the Middle East.

Another development shaping the issue of energy secu-

rity has been the proliferation of oil-producing countries. Between 1978 and 1996, 22 new non-OPEC countries began producing oil, an increase of more than 40%. This is due, in part, to the break-up of the FSU, but it also includes new producing countries in Africa and Asia.

With these changes over the last 15 years, the issue of energy security has become less clear-cut. Even though net importing countries are and will remain dependent on oil from the Arab Gulf, the magnitude of the threat seems smaller.

However, concern over energy security will never go away, but each new supplier contributes to the perception of a diminishing threat. In this case, the Caspian does enhance energy security by providing a volume of oil that is not unimportant as an alternative source. But assuming that pipeline projects go forward, Caspian oil will add to non-OPEC oil supplies and will postpone the time when OPEC supply once again surpasses non-OPEC supply (projected to be around 2020).

The Great Game

At its simplest level, the Great Game is about who owns the Caspian oil reserves and who controls the pipelines that carry the oil to the global markets.

With billions of dollars and crucial strategic influence at stake, the struggle for control over the vast oil resources in the Caspian Basin is a tale of political intrigue, fierce commercial competition, geo-strategic rivalries, ethnic feuding and elusive independence. Some analysts have compared this situation to the "Great Game" – a nineteenth-century rivalry between Victorian England and Tsarist Russia for the control of the region.

It is too early to declare the game over. But after years of inconclusive wrangling, the 21st century Great Game is starting to yield clear national and corporate winners.

Among companies, British Petroleum, ENI of Italy and (above all) ChevronTexaco of the United States appear to hold claim to the bulk of regional reserves, as well as crucial pipeline routes. Among countries, the clear winner is Kazakhstan, which is now believed to hold up to 75% of all Caspian reserves.[14]

The United States can also celebrate a strategic victory: it is now close to achieving its goal of ending the old Russian monopoly on Caspian export pipelines.The centerpiece of U.S. policy has been to promote the Baku-Tbilisi-Ceyhan (BTC) pipeline. Despite lingering doubts about the safety of the war-torn route, financing and the size of Azerbaijan oil reserves, construction on the $3 bn project is set to begin in June this year. Oil is slated to flow by early 2005.

At the same time, President Putin of Russia appears to be plotting a Russian comeback. He has been travelling around the Caspian, laying the groundwork for a regional supply cartel, a kind of mini-OPEC led from Moscow. The potential is there: the key to a cartel is production capacity. Under plans now in the works, the Caspian region (including Russia) could be exporting 7 mbd by 2012, almost equivalent to the current exports of OPEC's giant Saudi Arabia. It is not inconceivable that Putin will one day convince Russia's former satellites that together they can move markets to their own advantage.[15]

In the final analysis, the actual winner of the Great Caspian Game is the one who is in the strongest negotiating position. The United States and western oil companies seem to be in that lucky situation.

Conclusions

With ultimate reserves of 40 to 60 bb, the Caspian Basin does not pose a major challenge to the supremacy of the Arab Gulf as a pivotal supplier of oil to world markets. Apart from the limited size of the reserves, Caspian oil is very costly to find, develop, produce and transport to world markets.

With a long-term production potential that would contribute roughly 3% to future global oil supply, the Caspian will never be a strategic alternative to the Arab Gulf. Still, the Caspian is destined to play a supporting role rather than a deciding one in supplying the world oil market in the future.

Today a fully built-up cost for the Caspian barrel of oil is roughly $12-$15/b. This compares well with the North Sea but it is still some three to four times more than the equivalent barrel in the Middle East. Progress in Caspian oil development is still heavily dependent on a sustainable $20/b (real) oil price and above. What happens to the price of oil will be crucial in determining the size of Caspian oil and its contribution to world oil supplies.

Incremental production from the Caspian can at the margin contribute to a weakening of oil price levels. However, at 3% of world oil supply by 2010, it will not be a significant threat to the market control and market share of the Arab Gulf.

Footnotes

[1] Fadhil J. Chalabi, Gulf Oil vs. the Oil of the Caspian Sea (a paper published by the Emirates Center for Strategic Studies & Research (ECSSR), Dhabi, UAE ,2000), p. 155.

[2] BP Statistical Review of World Energy, June 2001, p. 4.

[3] Terry Adams, Caspian Oil Realities (a briefing paper No 23 published by the Royal Institute of International Affairs, London, September 2001), p. 1.

[4] Fadil J. Chalabi, Gulf Oil vs. the Oil of the Caspian Sea, p. 155.

[5] Wifrid L. Khol, The Development of Caspian Sea Oil: Implications for OPEC (a paper published by ECSSR, 2000), p. 139.

[6] Robert Ebel, Caspian Energy Resources: Implications for the Arab Gulf (a paper published by ECSSR, 2000), p. 4.

[7] Wifrid L. Khol, The Development of Caspian Sea Oil, p. 140.

[8] Terry Adams, Caspian Oil Realities, pp. 1-2.

[9] BP Statistical Review of World Energy, June 2001, p. 7,9 & 18.

[10] IEA, Caspian Oil & Gas, 1998, p. 51.

[11] The cost of getting a barrel to market – including all the development, transportation and operating / overhead costs.

[12] Amy Myers Jaffe, Price vs. Market Share for the Arab Gulf Oil Producers: Do Caspian Oil Reserves Tilt the Balance? (a paper published by ECSSR, 2000), p. 144.

[13] Ibid., p. 152.

[14] Owen Matthews, The Next Move is Check, *Newsweek*, April 8/April 15, 2002, p. 44.

[15] Ibid., pp. 45-46.

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