

CASPIAN SEA INFRASTRUCTURE PROJECTS

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Senator Chuck Hagel (R-NE) and distinguished members of this Subcommittee, it is a pleasure to come before you today to address such a timely and critical issue for many companies in the oil and gas industry. My name is J. Robinson West, and I am the chairman of The Petroleum Finance Company (PFC). PFC is a strategic advisory firm based in Washington, DC. We work with most of the companies in the petroleum industry on some aspect of their international oil and gas investment strategies. Our client base includes many of the companies active in the Caspian region.

I come before you today not to argue the policy merits of infrastructure projects in the Caspian region. Even though I have held senior policy positions in the U.S. government in the past, over the last 16 years, I have worked in the private sector and have focused solely on the commercial aspects of the petroleum business. I help companies make business decisions based on sound commercial principles. Ultimately, petroleum companies, like any other business, are profit-driven entities, accountable to their shareholders. They

are in the business of making money and not in the business of setting policies or achieving a government's strategic political objectives.

That's not to say that this business isn't sensitive to political agendas. It most definitely is. After all, over 90 percent of the world's oil and gas reserves are owned by governments, which means that accessing these reserves requires that companies be extremely attuned to what these governments need and want in return for their participation. The petroleum industry today is in the business of partnering with many different types of governments around the world. Petroleum companies are becoming much smarter in handling what we like to call "above ground risks." Very often nowadays, the risk is not in finding the oil and gas, but in juggling the multitude of risks associated with operating in very difficult host-country environments.

In addition, many of the most prospective oil and gas producing countries are off limits to the industry because they are under some form of U.S. government or multilateral sanctions. U.S. companies understand well the impact the U.S. government can have on their business.

But because we are talking about a “globalized” economy, where the asset base of companies in the petroleum industry is often transnational, most international oil and gas companies of any significant size are impacted by U.S. government decisions. Clearly, the U.S. government and its policies play a sizeable role in the “above ground risks” for petroleum companies.

No other region brings together so many “above ground risks” and in such a complex package as the Caspian. When companies first entered this region in the early 1990s, they never anticipated the multitude of commercial challenges they would be faced with. These were in some measure the normal commercial challenges that could have been expected from launching into projects in difficult domestic political environments. After all, Azerbaijan, Kazakhstan and Turkmenistan were emerging from the shadows of the monolithic control of Moscow. These were new states being formed. No one thought it would be easy. But companies were willing to underwrite the commercial risks because of the huge size of the resources that could be accessed.

At the time, companies were attracted to the Caspian because of declining production in the last great oil provinces of the Alaskan North Slope and the North Sea. With the Middle East largely off limits, companies were searching for new international growth opportunities of a certain size and scale in non-sanctioned countries. The Caspian region held out the promise for

companies of such opportunities.

But since 1993, when the first contract was signed by Chevron in the Tengiz field in Kazakhstan, and 1994, when BP and Amoco, as members of the 11 company AIOC consortium, signed their contract in Azerbaijan, progress in these and other ventures has been limited. There have been a few small steps forward but also many disappointments.

Managing the domestic commercial and political risks of operating in these countries turned out to be just a small part of a much bigger package of risks. This bigger package of risks involves the geostrategic agendas of an array of

peripheral countries – namely Russia, Turkey and Iran – and a number of players outside the region, most important, the United States.

These geostrategic agendas became reflected in a series of pipeline plans, because pipelines were a way to cement relationships between countries. Rather than being seen as commercial outlets for oil and gas, pipelines came to symbolize political dominance over the countries of the Caspian region: Russian dominance vs. Turkish dominance vs. Iranian dominance. Since 1997, as the United States became increasingly wedded to East-West pipeline routes, Turkish dominance also became synonymous with U.S. dominance. A new cold war of sorts was born. With the United States determined to keep Iran off limits as an export outlet for Caspian crudes, this cold war has pitted the United States against Iran. At the same time,

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because Iran has been largely marginalized until now, the more serious and potentially dangerous repercussion of the U.S.-Turkish geostrategic agenda has been a pipeline cold war pitting the United States against Russia.

Companies operating in the Caspian have gotten caught up in this “cold war,” even as they are being forced to take sides in an all or nothing game – either do it the way the United States wants and potentially sacrifice your business imperative of making money or don’t get your resources to market. The countries of the Caspian region have eagerly embraced the U.S. geostrategic agenda because it has brought with it some explicit and implicit promised benefits from the U.S. government, both of an economic nature and military/security guarantees. In any case, the leaders of these countries feel that the United States through East-West pipeline routes will ensure their future independent power bases.

As the U.S. government continues to pursue this geostrategic agenda, commercial considerations have become secondary and companies are being asked to shoulder the financial burden of paying for it. The companies that operate in the Caspian are being asked to assume the role of nation-builders when, in fact, they are commercial entities accountable to their shareholders.

Let’s just see where this leaves us currently. First, the claim that the Caspian region is tremendously important to U.S. interests because it will be a large new source of oil and gas needs to be examined. Some experts put the likely volume of proven and probable oil *and* gas reserves in the Caspian at about 60 billion barrels of oil equivalent (BOE). That’s a far cry from the 674 billion barrels of oil

reserves in the Middle East. It is about equal to the proven and probable oil reserves (not including gas) of West Africa (57 billion barrels).

Second, since 1993-94, the only two major oil plays in this region remain Kazakhstan’s TengizChevroil (TCO) joint venture for the Tengiz field with estimated reserves of 6-9 billion barrels, which is a U.S.-led consortium (Chevron, ExxonMobil, Lukoil/ARCO and Kazakhoil), and the BP Amoco-led 11 member AIOC consortium for the Azeri, Chirag and shallow water Guneshli fields (also includes Unocal, ExxonMobil, Devon and Amerada Hess) with 4 billion barrels of reserves. A total of seven countries are represented in AIOC (United Kingdom, United States, Norway, Russia, Turkey, Saudi Arabia and Japan). TCO currently produces about 210,000 b/d and AIOC about half that, with 105,000 b/d.

In Kazakhstan, additional oil is available from some smaller onshore fields. The emphasis in Azerbaijan is offshore; in Kazakhstan, it is still onshore, although the drilling of the Kashagan structure offshore, if it proves up oil, will change that. Azerbaijan’s total oil production is 230,000 b/d; Kazakhstan’s is 600,000 b/d.

AZERBAIJAN: MORE GAS THAN OIL?

During the last four years, several prospects were drilled offshore in Azerbaijan which proved up no commercial volumes of oil or gas. This changed with the recent major discovery of a huge gas field offshore Azerbaijan in the BP Amoco-operated Shah Deniz prospect. Azerbaijan, in fact, looks increasingly like a gas play rather than an oil play. Other prospects in the queue for development, some by U.S.

companies, are already projected to yield additional reserves of gas.

The gas aspect of Azerbaijan's future export potential is important to emphasize. Given Azerbaijan's close proximity to Turkey, gas exports from Azerbaijan to the Turkish market appear to be the best way to ensure the U.S. vision of an East-West pipeline corridor. Since a gas pipeline looks to be more feasible in the near term than an oil pipeline, it would make sense for Azerbaijan, Georgia, Turkey and the United States to focus first and foremost on this gas export corridor. Existing pipelines along the Azerbaijan-Georgia route could be rehabilitated at low cost and shipments of 5 billion cubic meters per year (bcm/y) of gas from Azerbaijan to the Turkish market could begin by the winter of 2002-2003.

KAZAKHSTAN: CPC

The most important U.S. commercial interest is in Kazakhstan. Tengiz is among the largest oil fields in the world today. New drilling at the Tengiz concession area could prove up even more reserves. Chevron was the first company to embark on trying to build a pipeline in the Caspian region. When Chevron signed its contract for Tengiz in April 1993, it correctly identified the Russian route for oil exports as the most commercially expedient for this crude.

Seven years later, Chevron is finally close to realizing this goal as the construction of a 560,000 b/d, 1580 km (1,000 mile) pipeline to the Russian Black Sea port of Novorossiysk winds its way toward completion at 4 km/day, with an anticipated start-up date of June 2001. Referred to as the Caspian Pipeline Consortium (CPC) and joining a number of Western compa-

nies and Russian companies with the Russian, Kazakh and Omani governments (the government/company split is 50/50), this \$2.5 billion project appears to be seeing the proverbial light at the end of the tunnel.

As their 50-percent share of costs, the Russian and Kazakh governments agreed to contribute rights of way and existing Russian and Kazakh pipeline assets to the project. There are 740 km of existing pipes which will be used, or about half the length of the project. The companies (Chevron, Lukoil/ARCO, ExxonMobil, Rosneft/Shell, British Gas, Agip, Kerr McGee, KazakhOil/BP) are using equity financing to pay the \$2.5 billion cost of old pipe refurbishment, new pipe construction and for a new terminal in Novorossiysk. The new terminal will be comprised of a state-of-the-art offshore buoy system that will permit operation for much of the year, avoiding the shutdowns that Novorossiysk currently experiences because of bad weather. Essentially, this means that each company is financing two times its share in CPC to cover the 50-percent cost burden that governments aren't paying. Chevron (15 percent) and ExxonMobil (7.5 percent) are contributing over \$1 billion to the construction of the CPC. Add to this the costs of developing the Tengiz field (about \$2.00/bbl), and you can say that these two companies have about \$2 billion already invested in Tengiz. In step with expansions at the Tengiz concession, Chevron is committed to carry out further expansions on the CPC pipeline, which could eventually reach a capacity of 1.3 million barrels per day (mmb/d).

While putting together the financing and construction package for CPC, TCO has worked tirelessly and with great creativity over the last six years to forge a

multiplicity of interim exit routes for Tengiz crude, consisting of both rail and existing pipeline access through Russia. TCO is also barging crude to Baku and railing it to Batumi, Georgia.

When Chevron embarked on its pipeline quest through Russia (construction began in October 1998), the U.S. government still favored a close relationship between the Russian and U.S. governments, although the ties had begun to weaken. While the United States was and continues to be supportive of the CPC, it has simultaneously embarked on a "Silk Road Strategy," which favors the construction of East-West pipeline routes. Largely directed at the southern Caspian, namely Azerbaijan and Turkmenistan, the United States seeks to anchor these countries to Turkey with an oil and gas pipeline network that is envisaged as a transport corridor that will bring resources from the eastern side of the Caspian, under the sea, to Azerbaijan, Georgia and Turkey.

AZERBAIJAN AND GEORGIA: SUPSA

In November 1997, then-Energy Secretary Pena went to Baku to celebrate first oil production by AIOC. While there, he spoke out in favor of non-Russian and non-Iranian routes. At that point, the northern pipeline route from Azerbaijan, that traversed Dagestan and Chechnya into Russia, was already experiencing problems. Plans were underway to build a second 830 km pipeline (just over half the length of CPC) to the Georgian port of Supsa. Taking some lessons from the vision for CPC, Supsa was going to be built on the premise that existing pipes in Azerbaijan and Georgia could be refurbished at low cost. This turned out to be a

more difficult proposition for the oil pipelines in these countries, and the companies eventually found themselves having to build a new pipeline at a cost of \$560 million, almost double the original \$315 million that had been budgeted by AIOC for the Supsa connection. Supsa was completed in December 1998. Sorting out who pays for this cost overrun remains an issue between the AIOC member companies and the Azeri government. Supsa is currently transporting all of AIOC's 105,000 b/d of production and could carry up to 150,000 b/d. The transport tariff to Supsa is \$0.43/bbl (split as \$0.17/bbl for Georgia and \$0.26/bbl for Azerbaijan).

AZERBAIJAN: NORTHERN ROUTE THROUGH RUSSIA

In early April 2000, Russian pipeline company Transneft announced that it had completed a \$160 million, 312 km bypass pipeline around Chechnya, heading north out of Azerbaijan via Dagestan. The entire length of the northern pipeline is probably close to 1500km, comparable to CPC, and, according to a recent account, it can eventually carry up to 18 million tons/y or 360,000 b/d. The Azeri company Socar on April 7 said it would begin shipping some of its own oil through it. Socar has committed to ship 5 million tons/y (mmt/y) or 100,000 b/d through the northern route.

While the northern route option is less ideal because the oil received at the other end (in the Russian Black Sea port of Novorossiysk) is priced as Urals Blend crude vs. the higher quality Azeri Light, hence the value of the barrel is \$0.30-\$0.90/bbl less, the infrastructure is not costing the companies or the Azeri government anything to build. Thus, even the \$2.15/bbl transport fee (though higher than

on the Supsa route) is competitive. Moreover, having the northern route option available gives all investors in Azerbaijan a measure of comfort.

For the AIOC consortium, it makes business sense to ensure that the northern route is supplied. It also makes business sense to ensure that the western route to Supsa is supplied. These two routes provide AIOC export outlets for at least 200,000 b/d and up to 450,000 b/d with relatively inexpensive expansions. The total amount translates into 2.0-2.5 billion barrels of reserves or the amount that AIOC expects to produce starting in 2004.

AZERBAIJAN: AIOC

Today, AIOC could produce 115,000 b/d from the Chirag field, which is the only field producing oil in the ACG development scheme (Azeri, Chirag, deepwater Guneshli). In early April, AIOC began drilling in the Azeri field. By 2002, AIOC may be producing 150,000 b/d from the Azeri and Chirag fields. In order to move to the next level of development, however, which is referred to as Phase I and which would yield another 300,000 b/d by 2004, AIOC needs to have a pipeline solution available. The total production in 2004 is thus estimated at 450,000 b/d.

What are the options? Clearly, some of this oil, if not all of it, could be transported through the northern and western routes that are currently in place (and/or can be expanded).

AZERBAIJAN: BAKU-TBLISI-CEYHAN (BTC) PIPELINE

The other option being promoted by the U.S. government and now the favored option of the governments of Azerbaijan, Georgia and Turkey is the Baku-Tblisi-Ceyhan (BTC) pipeline (as opposed to a Baku-Supsa-Ceyhan or Baku-Batumi-Ceyhan pipeline). BTC would be 1,730 km in length of new pipe

construction (vs. the CPC with 1530 km and some existing pipes). BTC is estimated to cost \$2.4 billion (vs. \$2.5 billion for the CPC). BTC will traverse three countries (465 km in Azerbaijan, 255 km in Georgia and 1010 km in Turkey) and cross a mountain range in Turkey that is up to 2500 meters high.

BTC is not an easy pipeline to build. Its technical challenges are compounded by enormous political risks particularly on the territory of Georgia, where four Russian military bases and elements of Russian troops everywhere create an environment of insecurity and instability. A pipeline headed south from Tblisi will have to cross through or by the Armenian-populated enclave of Javekhetia, which hosts a Russian military base.

Because of the many risks involved in building BTC, any companies that participate would finance this pipeline and get multilateral institution investment guarantees. To the extent that financing is made available, the multilateral institutions will have the effect of providing some "political risk" insurance, but these institutions will insist on laying off most of this risk to the

Speculation about future exploration successes does not merit premature commitments to pipelines.

borrowers. This is why some companies typically do not use this type of financing. It is expensive and the risks are rarely really shifted to the financial institution.

Most troubling for the companies, however, is that there are insufficient reserves at present in Azerbaijan to commit to BTC. A 1-million-barrel-per-day (mmb/d) pipeline would need 6 billion barrels of reserves. The maximum reserves AIOC could bring to the pipeline are 4 billion barrels, but as we will show below, less than 4 billion barrels will actually be available.

Building pipelines based on speculative reserves is not something companies like to undertake. Speculation about future exploration successes does not merit premature commitments to pipelines. This is particularly important to understand in Azerbaijan, where you currently only have two semi-submersibles available to drill and where the wells are deep and tough to drill. Committed ship-or-pay barrels for the purpose of financing a pipeline are different than “maybe” barrels. Both investors in BTC and lenders will require commercial proven reserves to back up the project. Remember that, in this case, project finance and not equity finance is being used. Without commercial proven reserves as collateral, project financing will be difficult, if not impossible, to arrange. While investors and lenders will be making some forward-looking judgments as to risks because any pipeline that is built will have to be sustainable for some forty-plus years, the lack of commercial reserves today will be a strong negative risk factor.

BTC: RESERVES AVAILABLE

The reserves available to export pipelines out of Azerbaijan in 2004 from AIOC will be 2.0-2.5 billion barrels or

about 450,000 b/d of production. This production will be split among routes. Presuming that BTC does get built, it will not all be available for BTC. No matter what happens with BTC, it would be too risky for AIOC to put all these reserves behind a single project.

Full project development of the three ACG fields will cost between \$10-\$12 billion and is not expected to be realized until 2007-2008. At the full development stage, 35-40 percent of the 4 billion barrels of reserves will accrue to Azerbaijan’s state company, Socar. Socar’s commitment to ship-or-pay does not carry the same weight for financial institutions as the commitment of the private companies, which could complicate financing. In addition, as was pointed out earlier, Socar is contractually committed to ship some volumes north. Other AIOC members are also likely to seek route diversification, making less than their respective reserve volumes available to BTC. What’s more, Russian company Lukoil, which is also a member of AIOC (with 10 percent), is likely to commit its volumes to the northern route and the western Supsa route.

AIOC is not a monolithic entity, and the member companies (representing seven countries) are contractually free to decide which direction they want to send their oil. The only impediment that exists is for U.S. companies, which currently cannot pursue a southern option through Iran and are being asked to support BTC. U.S. companies (Unocal, ExxonMobil, Devon, Amerada Hess) carry a 24-percent share in AIOC. They are not the majority shareholders. These U.S. companies will have to commit to BTC and ask for U.S. Ex-Im and OPIC financing, if these institutions are to participate in the financing.

Investors also like to compare and contrast options. Azerbaijan's location provides a series of options, which could be studied: to the north, to the west and to the south. In this sense, AIOC is better positioned than TCO in Kazakhstan. While investors like to control the pace and timing of investments, in the case of Azerbaijan, investors are being asked to study only one option – BTC – and to complete that option within an unrealistic timeframe.

BTC TIMEFRAME

Other than the need to bring more reserves to BTC, what are the steps still outstanding before construction can begin on BTC? Each government has to sign certain key agreements, which will then need to be ratified by their individual parliaments. Turkey has completed its agreements. Georgia and Azerbaijan are in the process of wrapping these up. The agreements will then have to be approved by the respective parliaments of these countries so as to ensure that the force of law is applied to the agreements in every country. While BP Amoco is negotiating these agreements on behalf of the other companies in AIOC, the BTC pipeline is outside the purview of the Production Sharing Contract (PSC) that was signed by AIOC. The PSC required AIOC to undertake detailed route negotiations, but it is not a contract that covers route construction. Hence, a new set of investors or a new "sponsor group" must be arranged for a Main Export Pipeline Company (MEPCO). At the end of the day, however, the other companies in AIOC have the option but not the obligation to join MEPCO.

MEPCO must be formed prior to carrying out preliminary engineering studies

on BTC since MEPCO will fund all engineering studies. If lessons learned from CPC are any indication, the formation of MEPCO will in itself be a time-consuming process. Decisions on which company owns how many shares and on capacity rules and rights, as well as exit rules, cannot be made overnight. When it comes to members of AIOC, Lukoil, for example, may decide not to join MEPCO because it prefers to ship its volumes north through Russia or it prefers to ship its volumes west through Supsa, from where it can access its company-owned refineries in Black Sea markets. The process of forming MEPCO could get underway parallel to the ratification of the agreements by host country parliaments.

One problem already looming is Socar's insistence that it have a 50-percent share in MEPCO. While this parallels the strategies used by governments for the construction of CPC, this is a very different project with different risks. Hammering out a "sponsor group" agreement, where the private company participants in MEPCO will have to carry the Azeri government's 50-percent share, will raise serious obstacles. This lends an additional complexity to an already complex set of arrangements.

After the parliaments of Azerbaijan, Georgia and Turkey ratify their countries' respective agreements, the 6-month preliminary engineering phase can begin, which will consist of scoping out the BTC route. This will lead to a 13-month detailed engineering study by the members of MEPCO to define the actual cost of the pipeline. The cost could well exceed the \$2.4 billion current estimated cost by as much as \$1 billion or more.

If BTC is to be finished by 2004, there

is no time allotted for the orderly formation of MEPCO or for carrying out project finance negotiations. This is because the end of the detailed engineering phase immediately triggers the start-up of construction. Under this “politically motivated” scenario, it is presumed that construction can begin before any money is lined up. However, private companies do not operate this way. A time period must be built in for financing arrangements to be secured. Even if MEPCO participants agree to start negotiating a financing package while engineering studies get underway, this will still require extra time. This will delay the start-up of BTC until sometime closer to 2006 (at best).

Project finance negotiations will have to depend on the pipeline costs that are defined through detailed engineering. Project finance negotiations can be protracted, and it’s not unreasonable to expect that it could take at least a year to secure the money (or longer). Actual construction will take 32 months. If you exclude the window for raising the money, BTC will be finished in 51 months after parliamentary ratification of the agreements (that’s four years and three months). This is a very best case scenario for completing BTC in 2004. Again, this is without the key element of financing and it is impossible to build the BTC if the money is not secured. Without full knowledge of the full cost of the system or about the source of adequate reserves, it is impossible for private companies to address where the money will come from.

SOURCES OF MONEY: THE MULTILATERALS

With project-finance/private-sector lending being difficult and complex to arrange, what can the multilateral institu-

tions do? Economic intervention from the multilaterals or directly from the U.S. government may be required to offset the non-commerciality of BTC.

The International Finance Corporation (IFC) limits direct project lending to \$125 million but can arrange two to three times this amount (or up to \$375 million) in syndicated private-sector financing. U.S. Ex-Im Bank has no limit on financing but can provide loan guarantees only for the supply of U.S. goods and services at 85 percent of total cost at the request of U.S. companies. OPIC has individual project limits of \$200 mn each on political risk insurance and direct financing (for U.S. companies). U.S. companies must have at least 50 percent for insurance and 25-percent equity for the project to qualify for OPIC financing. For BTC, OPIC is prepared to go over \$200mn. The nationality of the investor at project registration can potentially play role here (i.e., U.S. Amoco’s registration of Baku Ceyhan with OPIC prior to the BP Amoco merger). If the U.S. government weighs in, OPIC may be prepared to take significant exposure.

Other organizations which could be involved are the World Bank and EBRD. But the mandate of the World Bank has shifted away from lending to oil and gas projects, and it may have difficulty in justifying lending for a pipeline project – except of course if strong poverty alleviation and or/environmental arguments can be made to justify BTC. Shareholders in each organization (World Bank and EBRD) could block financing if developmental (including environmental – Turkey/Bosporus) benefits to each country (Azerbaijan, Georgia and Turkey) are not detailed. French influence in EBRD could

block Baku Ceyhan. In the World Bank, France, Italy, Russia and Iran could try to block financing.

As was pointed out earlier, however, to the extent that financing is made available, the multilateral institutions will have the effect of providing some “political risk” insurance, but these institutions will insist on laying off most of this risk to the borrowers. This is why some companies typically do not use this type of financing. It is expensive and the risks are rarely really shifted to the financial institution.

STUDY OTHER ROUTE OPTIONS

In the long run, the most efficient pipeline will be the most successful. Also in the longer term, export commitments will align themselves with the lowest-cost alternative. If other systems are in place that are cheaper to build and can set their costs according to the market, BTC will not attract future barrels. At the end of the day, the markets will win. If a pipeline is less economical than other alternatives, future shippers will not use it.

This also means that the end-user markets that are the most attractive will be the markets that win. Currently, Mediterranean

(Med) markets are the markets of choice for Tengiz and Azeri crude sales. These crudes can command a premium in the Med, backing out Middle East crudes, because they are closer to the Med than these other crudes. However, if there is another major oil find in the Caspian, Asian markets will be preferred. The fastest rate

of growth in oil demand is in Asia, and the highest netbacks for these future barrels will be in Asia. The oil will flow to those markets where the demand is greatest and where it can command the largest premiums. Another end-user market option is the domestic market in Iran.

Some non-U.S. companies have studied the option of supplying oil to Iran’s northern oil refineries. Iran has four refineries in the north of the country: Tehran (230,000 b/d); Tabriz (120,000 b/d); Isfahan (290,000 b/d) and Arak (170,000 b/d). The total capacity is 810,000 b/d. These refineries are currently supplied with oil that is shipped from the south of the country. Iran would like to buy or swap Caspian crudes into these refineries and save the cost of shipping its oil north.

Iran has proposed to the Azeris that they sell 220,000 b/d under a long-term contract to its refineries. Iran would buy the oil outright from the Azeris for its Tabriz and Tehran refineries. Iran has said it would be ready to pay \$2/barrel more than the oil would earn at Ceyhan. The oil

would be delivered through a new oil pipeline Iran has looked at building from Baku to Tabriz.

While this would be an

outright purchase, Iran has also proposed oil swap arrangements to Caspian countries. Currently, minor amounts of oil from Turkmenistan are swapped through an existing pipeline from the northeastern Caspian port of Neka to the Tehran refinery. An equivalent volume of crude oil, with quality differentials accounted for,

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is then swapped out from Iran's southern export terminal at Kharg Island. Kharg Island currently handles between 2.0-2.5 million b/d of exports, but could accommodate up to 8 million b/d. Iran is about to embark on building a new 370,000 b/d oil pipeline from Neka to Tehran, with the purpose of providing an outlet for Caspian crudes.

Outright oil sales to Iran or swaps through Iran bring the oil to Iran's domestic market and/or closer to Asian markets, where the demand growth will occur. Kazakhstan and Turkmenistan, with their oil potential centered along the eastern shore of the Caspian, see the economics of a pipeline straight down to Iran as their most cost effective solution. For Azerbaijan, the choice is a Catch-22. The AIOC's production sharing contract takes transport costs into account, with the government's take directly linked to these costs – the lower the transport costs, the more revenues accruing to Baku.

What prevents the economics from prevailing in terms of the Iranian export option is U.S. sanctions on Iran. Since the issuance of two Executive Orders in 1995 by the Clinton Administration, which bar U.S. companies from trading with or investing in Iran, and the passage in August 1996 of the Iran-Libya Sanctions Act (ILSA), which bars foreign companies from investing more than \$20 million a year in oil and gas developments in Iran, the

United States has spent enormous financial and political capital on isolating Iran. The United States has translated this into excluding Iran at all costs from benefiting from infrastructure and pipeline projects for evacuating oil and gas from the Caspian Basin.

The U.S. rationale for sanctions is Iran's support for terrorism and its procurement of weapons of mass destruction, especially nuclear and long-range missile capabilities. Under Iran's moderate President Khatami, progress is being made to address these concerns.

A route through Turkey is definitely desirable, but private companies should be called upon to build it only if they determine that the economics warrant it. Multiple pipelines are the most politically desirable result for unlocking the resources of the Caspian – through Russia, Turkey, Georgia, Iran, China and even Afghanistan, once that option becomes available. Let the markets decide the order in which they are built. This would benefit the countries of the Caspian.

In the end, if private companies find themselves saddled with projects that are sub-optimal from a commercial standpoint, they have some choices. They can shut in production and take their capital elsewhere. This is an industry that has choices. If it's not the Caspian, there is Latin America, West Africa, Asia, and for non-U.S. companies, there is even Iran.