

## Oil and Gas Pipelines in Central Asia

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### Introduction

Central Asia and the Caspian Sea are attracting increasing attention from Western oil and gas companies eager to identify new sources of hydrocarbons. The region may have the capacity to become a major source of oil and gas at the beginning of the 21st century, building on the existing infrastructure and long history of successful hydrocarbon exploration. It is considered by many companies as having enormous commercial potential. Of particular importance are the oil and gas fields in Kazakhstan and Azerbaijan. Technically speaking, Azerbaijan is not part of Central Asia. However, largely due to cultural ties and geographic proximity, it is often grouped with the Central Asian Republics and for the purposes of this article will be referred to as such.

Both of these newly independent states are keen to encourage growth in their energy sectors, and have been involved in detailed negotiations with large Western companies over the past two years. A major obstacle to further development is the problem of transporting oil and gas from these "landlocked" production areas to prospective markets in the West and the Far East. Present methods, using railway tankers and the existing former Soviet oil pipeline network, are inadequate to support predicted future growth in oil and gas production. The most efficient way of transporting oil and gas would be through new pipelines to a terminal either on the Black Sea or the Mediterranean - or both.

However, political and economic instability in Central Asia and the Caucasus, and competition between various states to gain influence in these regions, have led to delays in a resolution to this problem. Potential investors are concerned about the risks involved in a major infrastructure investment which would extend across large, remote and politically volatile areas. The ethnic disputes in Georgia and Chechnia, and the long standing war over Nagorno-Karabakh between Azerbaijan and Armenia, together with the apparent fragility of central governments in the region, make long term planning and investment very difficult.

### International Agreements

States in the region have attempted to encourage investment in pipeline projects by various means. Bilateral agreements have been signed by some states. For example, Azerbaijan has signed bilateral treaties with Georgia (3 February 1993) and Russia (12 October 1992), in which the signatories guarantee the transport of goods through pipelines. States have also become parties to multilateral agreements. Armenia, Azerbaijan, Kazakhstan, Russia, Turkey and the Ukraine have all signed the 1991 European Energy Charter which includes a declaration on cooperation over the international transportation of oil and gas. All these states have also ratified the 1985 Multilateral Investment Guarantee Agency (MIGA) Convention which could encourage inward investment (though Armenia and Ukraine have yet to pay full subscriptions to MIGA). However it is still very unclear what the value of such measures is to the development of transnational pipelines in the region.

Two major new pipeline projects have been suggested. The Caspian Pipeline Consortium (CPC) has proposed a pipeline to take oil from western Kazakhstan to the Russian Black Sea port of Novorossiysk, for onward shipment by tanker across the Black Sea and through the Bosphorous and Dardanelles to Western markets. A second pipeline project, strongly backed by Turkey, involves the construction of a line from Baku in Azerbaijan to the Turkish Mediterranean coast at Ceyhan, where the existing Iraq - Turkey oil pipeline terminates. An eastern extension across the Caspian Sea to Krasnovodsk would allow oil from western Kazakhstan to be transported by this route.

## Kazakhstan

### Caspian Pipeline Consortium

The CPC was established in June 1992 by the Governments of Kazakhstan and Oman acting through the Oman Oil Company Ltd (OOC). The CPC established a project plan involving the development of a pipeline system to export crude from western Kazakhstan. Having agreed a plan to construct a pipeline, Russia was invited to join the consortium. According to the plan, Russia would provide the CPC with access to its territory and to the existing Russian built Tengiz - Grozny pipeline, and oil loading facilities at the port of Novorossiysk. The aim of the project is to transport up to 75 million tons per year (mta) (1.5 million barrels per day - mbd) of crude oil. Initial cost estimates have been in excess of US \$1 billion. The pipeline would be 1,300 miles (2,093km) in length. The 800 mile (1,287km), 40" diameter pipeline between Tengiz and Grozny is almost complete, and a further 500 miles (805km) of new pipeline linking Grozny to Novorossiysk will have to be built.

On 23 October 1992 Russia signed an intergovernmental agreement with Kazakhstan and Oman to join the CPC, and Azerbaijan followed as the fourth member of the consortium. The CPC was established by an inter-governmental agreement, however this still required ratification by the Russian Supreme Soviet and the President of Azerbaijan.

As well as the problem of gaining full acceptance by the Russian and Azerbaijan parties, there has also been considerable discussion over the ownership structure of a pipeline built by the consortium. Chevron, which is developing the Tengiz oilfield with the Kazakh Government and would supply much of the oil for the pipeline, is particularly concerned. The company has been asked to invest in the project, but has not been offered an equity stake. Chevron would like a share in the ownership of the pipeline, as well as responsibility for raising capital for the project. However the CPC was established by an inter-governmental agreement, and does not provide ownership rights to private sector firms using the pipeline. As yet Chevron has not committed itself fully to the CPC project. Chevron has argued that such a large pipeline project must adhere to a series of principles including the following:

- risks and rewards should be shared in proportion to resources contributed;
- shippers should have non-discriminatory access and tariffs;
- tariffs should provide a reasonable rate of return;
- there should be protection against political risk.

Until the issue of ownership is resolved, it seems unlikely that either Chevron or other Western companies or financial supporters, will invest heavily in the project.

The CPC also faces two other problems. First, the pipeline would go through Grozny, the capital of the volatile Chechen region, the location of considerable inter-ethnic fighting. Secondly, the plan involves transporting oil from Novorossiysk by tanker through the Bosphorous and the Dardanelles. Turkey has announced that a major increase in oil tanker traffic through these straits could not be managed safely. Though the CPC has argued that the 1936 Montreux Convention guarantees access through the straits for merchant vessels, inevitably there would be serious problems of congestion if the CPC project were realized.

In May 1993 the Russian High Economic Council produced a resolution that found several points of contention with the CPC project. Russian officials may have wondered whether it would be more advantageous for Russia to build a separate pipeline, without Omani and Kazakh involvement, and charge all interested parties for transportation services, thereby earning hard currency. However, Russia would have problems locating US \$1 bn to build the pipeline, and obtaining firm guarantees from Kazakhstan that oil would be transported along the pipeline. Kazakhstan would reject any wholly Russian pipeline, and has pointed out that the proposed CPC project satisfies the interests of all the states involved. Though Russia finally ratified the CPC in August 1993, Azerbaijan has yet to fully endorse the idea.

### Azerbaijan

Three routes have been suggested for a pipeline from the oilfields of eastern Azerbaijan, around Baku, to the Black Sea or the Mediterranean:

- Baku to Novorossiysk in Russia; effectively an extension of the CPC project;
- Baku to Poti on the Black Sea coast of Georgia;
- Baku to Ceyhan.

The Baku to Novorossiysk route is 1,300 km (808 miles) long and runs north from Baku along the shore of the Caspian Sea to a pumping station near Grozny, and then on to Novorossiysk. This would be an extension of the CPC project south from Grozny. It has the advantage of relatively easy terrain, and it only crosses two host countries, Azerbaijan and Russia. However, there are a number of disadvantages. It is the longest route, it passes through a politically sensitive area around Grozny, and it involves the movement of oil by tanker through the Bosphorous and Dardanelles straits.

The Baku to Poti (Azerbaijan - Georgia) route is 800 km (497 miles) long. It has the advantage of being the shortest proposed route, and only passes through two host countries, Azerbaijan and Georgia. However, this project would involve the transport of oil through the Bosphorous-Dardanelles straits. The current political turmoil in Georgia is also considered a major disadvantage to this route.

The Baku to Ceyhan pipeline route is over 1000 km (621 miles) long, and would link the oilfields in eastern Azerbaijan and the Caspian Sea to a terminal on the Mediterranean coast. It has the advantage that oil terminal infrastructure is already in place at Ceyhan. However, this route is over 200km (124 miles) longer than the Baku - Poti route, the pipeline would pass through a number of host countries, and through politically sensitive areas.

### The Caspian Mediterranean Pipeline System

The Turkish state owned pipeline company *Botas* has been lobbying strongly for the route through Turkey to Ceyhan. It has been discussing the route with the State Oil Company of Azerbaijan (SOCAR) and the principle companies involved in developing Azerbaijan offshore resources in the Caspian; British Petroleum, Statoil, Pennzoil and Amoco. A major problem is how to bridge the area between Azerbaijan and Turkey. A route along the Araks (Arax) River Valley is the most logical, since the Araks rises in Turkey and then flows into Azerbaijan. Three possible alternatives have been proposed along the Araks Valley from Azerbaijan to Turkey.

- The pipeline could pass across the southern bank of the Araks river into Iran for a distance of 65km (40 miles) between Azerbaijan and its physically separate autonomous province of Nakhichevan. From Nakhichevan there is a

direct border with Turkey. This route would have the advantage of avoiding Armenia.

- The pipeline could pass along the northern bank of the Araks, through Armenia for 40km (25 miles) before passing through Nakhichevan and then on to Turkey.
- The route could extend north of the Araks valley, through Georgia, before turning south into Turkey. This route is over 100km (62 miles) longer than either of the other two options.

Each route involves considerable political risk. The conflict between Azerbaijan and Armenia over the enclave of Nagorno-Karabakh continues, and the political situation in Georgia has deteriorated significantly during 1993. There is considerable scepticism about a route through Iran.

The plan to build a pipeline between Baku and Ceyhan appeared to get significant support on 9 March 1993 when Turkish and Azeri officials provisionally agreed to construct a pipeline which would transport up to 40 mta (800,000 b/d) of oil. This would be equivalent to just over half the capacity of the proposed CPC pipeline. The pipeline would join the existing Iraq - Turkey oil pipeline near Midyat. Azerbaijan's export capacity has been estimated to be about 500,000 b/d. A pipeline extension across the Caspian Sea to Kazakhstan could enable 300,000 b/d of oil to be transported from Kazakhstan, however this might be construed as short-circuiting the CPC pipeline scheme, and therefore antagonize Russia. Using the existing Turkey - Iraq pipeline would also present problems, and this scheme would require the construction of a parallel pipeline between Midyat and Ceyhan.

Political turmoil in Azerbaijan in June and July 1993 delayed progress in all the possible pipeline projects, as well as negotiations between Western oil companies and the Azerbaijan government over the development of three large acreage's in the Caspian (Guneshli, Azeri and Chirag). Though Western companies pledged money towards the development of Azerbaijan's oil sector in June, little progress has been made on the pipeline plans. On 24 October 1993 eight Western companies signed a deal with Azerbaijan to develop the Azeri and Chirag fields. However no firm plan for an export pipeline has been agreed, and this remains a major obstacle to the development of oil fields in both Azerbaijan and Kazakhstan.

One compromise that has been suggested is to build a pipeline across Turkey between the Black Sea and

the Mediterranean. Oil could be transported to Novorossiysk by pipeline, and then by tanker across the Black Sea, before being moved by pipeline to the Mediterranean, bypassing the Bosphorous and Dardanelles. This could benefit both Russia and Turkey, and would avoid the problems of transporting oil through dangerous areas in the Caucasus, and through the Bosphorous and Dardanelles. A route west of the Bosphorous would be shorter than one to the east. However, such a scheme would require the construction of two terminals, and navigation by tankers through the Aegean Sea. A pipeline to the east of the Bosphorous could link up with the existing terminal at Ceyhan, however this would be longer, and would still require the building of a terminal on the Black Sea coast. *Botas* and the Turkish authorities are still lobbying for a Baku - Ceyhan pipeline, which would give Turkey more income than a pipeline from the Black Sea.

### **Room for Collaboration**

The lack of a pipeline link from the Caspian littoral to the west is a clear restraint on the development of the region. Kazakhstan has delayed announcing winners of the first acreage bidding round in the western part of the country until December 1993, and Chevron can transport only about 30,000 b/d of oil from western Kazakhstan to the Black Sea using the Russian domestic pipeline system, on very unfavourable terms. Chevron and SOCAR recently announced a joint study of the hydrocarbon potential of parts of the southern Caspian Sea, encouraging speculation that this might lead to cooperation between Kazakhstan and Azerbaijan over an export pipeline, possibly through Turkey. However, SOCAR has also been negotiating with Russian interests over developing oil fields in the Caspian, and sources in Kazakhstan suggest that the CPC pipeline plan through Russia to the Black Sea remains a clear option. As well as the political problems involved in building a pipeline scheme, there is also the major difficulty of developing an ownership and management structure for any transnational pipeline through the region. Some of these problems have been highlighted by Chevron with reference to the CPC scheme. As yet no project has emerged as a clear favourite.

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