

3.0 CHALLENGES TO DEVELOPING CASPIAN OIL

Summary

There are some particular challenges and issues surrounding the transportation of oil from the Caspian Sea to bring it to markets. This Section outlines the challenges of developing a major infrastructure project in the region.

The landlocked nature of the Caspian, the varied and mountainous terrain, the areas of high seismic activity and the rich biodiversity of the region raise some significant environmental issues for route development and project design.

Community challenges stem from poor experiences of previous pipeline construction, poor existing infrastructure, and unrealistic expectations of the ability of the project to meet domestic energy needs.

Social challenges in the region include a history of conflict and tension, endemic corruption, and the problems that oil wealth can bring to emerging economies. There are also concerns about human rights issues in the region.

There is also growing concern about climate change and the role of fossil fuels in the world economy. Some critics argue that the world does not need more oil, but alternative energy sources are not yet sufficient to meet the global demand for energy. BP believes that oil developments need to continue in the interim, alongside development of alternative energy sources.

BTC Co has sought to understand these issues and use this understanding to inform the design of the project.

Box 3.1. Regional Review

BP and its partners in the BTC project have sought to develop a full understanding of the challenges to developing Caspian oil and gas, by sponsoring the preparation of a *National & Regional Review* of the economic, social and environmental issues in the region. This ground-breaking study is the result of 18 months of consultations, evaluations and analysis undertaken by a dedicated team of specialist consultants and BP staff based in Baku, Tbilisi and Ankara. The Review team made contact with approximately 100 organisations and experts within and outside the region to discuss the oil and gas projects, the countries and the region, and potential opportunities and risks.

The Review addresses a number of important issues of broader national and regional socio-economic development interest, which are potentially relevant to the development of the proposed oil and gas projects in the region. These include:

Economic issues, for example:

- oil and gas revenues and how these can be used to promote long-term socio-economic development in the region;
- employment, procurement and the development of the non-oil economy;
- the delivery of community and social investment by the projects; and
- the role of the projects in solving the current shortage of domestic energy in the countries involved.

Social issues, for example:

- the role of the projects in demonstrating that business can be conducted in an ethical and transparent manner;
- respect for human rights; and
- the need to understand past conflicts in the region and to ensure that the projects do not become a catalyst for further ethnic or other conflict.

Environmental issues, for example:

- the challenges of developing major oil and gas projects in an area that has high biodiversity value, but that has already suffered significant environmental decay;
- the potential impacts of oil spills; and
- the contribution of oil and gas development in the region to increased greenhouse gas emissions.

The Review attempts to identify and examine these broader issues and has been designed to stimulate dialogue with stakeholders and the flow of information about the projects. Many of the issues covered are complex and controversial, and in many respects outside the direct control of the project, being predominantly the domain of sovereign governments. Nonetheless, the project sponsors recognize that they can provide both a positive influence and example in contributing to the wellbeing of the people of Azerbaijan, Georgia and Turkey.

The findings of the Review complement and supplement the findings of the ESIA's and have been used to inform and improve the project's environmental and social management plans.

3.1 *Environmental*

3.1.1 **Geography and geohazards**

The Caspian Sea is a land-locked body of water, and so any transport of oil and gas must be over land. The topography of the region is varied, ranging from flat desert to high mountains. There is no obvious geographically easy route for oil exports away from the Caspian.

The region around the Caspian is seismically active, and there are active faults in Azerbaijan, Georgia and Turkey, the latter containing one of the most active seismic regions in the world. This means that there is a potential for earthquakes and landslides, which could potentially damage pipeline infrastructure.

The necessity of overland oil transport through a pipeline could result in harm to habitats, hydrology and property from construction of infrastructure, and from unplanned events such as oil spillages. However by understanding the environmental and social issues along the pipeline route, measures can be taken to minimise these impacts; pipelines are recognised as the safest method of transporting large volumes of crude oil.

3.1.2 **Biodiversity**

3.1.2.1 *Habitats at Risk*

The regions surrounding the Caspian are some of the ecologically richest in the world. Turkey and the Caucasus region are renowned for their biodiversity (Section 5). Georgia, for example, has the highest biodiversity index (a measure of species diversity and area) in Europe, while in Turkey over 30% of all known species of higher plants are endemic, (unique to the region). Together, Georgia and Turkey have 11 wetlands of international importance.

Transporting oil over, or close to, these sensitive habitats inevitably poses some risks to them. Impacts from constructing infrastructure include physical disturbance or even destruction of the habitats, and inadvertent opening of access to the habitats for exploitation by hunters, loggers or tourists.

3.1.2.2 *Legacy of Environmental Degradation*

Large areas of the region are environmentally degraded. Land degradation, and in particular soil erosion, is a major problem in Azerbaijan, Georgia and Turkey. In Azerbaijan it is estimated that 60% of the country is exposed to erosion processes of various intensity. Up to 80% of the mountainous and hilly areas to the west and 45% of all agricultural lands are eroded. Over 60% of agricultural land in Turkey is seriously eroded; 75% of the land traversed by the pipeline route has been assessed as moderately, severely or extremely eroded. This situation is partly due to the conversion of fragile rangeland to arable land, and partly to overgrazing on the remaining rangelands. In Georgia, erosion problems are particularly evident in mountainous watersheds.

The Caspian Sea area displays significant evidence of environmental decay, resulting from years of pollution from older-generation land-based sources, including oil extraction and refining. Dilapidated industrial and urban infrastructure results in ongoing acute and chronic pollution, inefficient transmission and delivery systems (e.g. water, irrigation, energy), and resource and product wastage (e.g. fresh water, energy). The combined impact of these and other environmental stress factors is illustrated by the collapse of the Caspian fishing industry, and in particular, the collapse of the sturgeon fishery. A higher incidence of water-borne diseases is leading to increased environmental health problems.

3.1.3 Global warming

There is a fundamental debate about whether the world needs more oil. The burning of fossil fuels is mankind's largest contribution to Climate Change. Some argue that the money that is going to be invested in extracting and transporting oil from the Caspian would be better spent on alternative, carbon-neutral energy sources.

Currently the world is dependent upon oil and gas for power, consuming more than five billion tonnes (crude oil equivalent) in 2001. This compares with just 600 million tonnes (crude oil equivalent) of hydro-power. Technology for carbon-neutral energy production cannot yet meet this demand. The next few decades will see a transitional period, while alternative energy sources, combined with energy saving initiatives, develop to be able to reduce the world's dependency upon oil. During this time oil will still be needed, and new fields, such as those in the Caspian, will need to be developed to ensure that the price of oil does not threaten global economies. It is not a question of either investing in oil, or in cleaner energy sources – both alternatives must be pursued.

3.1.4 Cultural Heritage at Risk

The region has a rich history, and contains some important archaeology dating back some 2 million years. Any method of transporting oil across the region poses a threat of disturbance to, or even destruction of this archaeology without appropriate safeguards in place (see Section 6.).

3.2 *Community*

3.2.1 Affected communities

Any method of exporting oil will inevitably produce some generally short term disturbance to communities along the export route. The impacts will range from increased noise and traffic during the construction period to physical destruction associated with the clearance of the construction corridor. Transporting oil brings a small risk of leaks or accidents, which could endanger local citizens, or impede their livelihood. Increased traffic raises the danger of road accidents. The inevitable influx of workers into localities along the export route can cause nuisance to local communities, and potentially bring disease.

3.2.1.1 Poor existing services

Public infrastructure is generally in a poor state in the region, and supplies of energy and water can be sporadic. Poor water supply and inadequate sanitation are major contributing factors to higher incidences of water-borne diseases such as typhoid, dysentery and hepatitis.

3.2.1.2 Managing expectations

Whilst the construction of any project is likely to provide local jobs or procurement contracts, experience elsewhere shows that expectations of the economic benefits of an infrastructure project can be much higher than the reality.

3.2.1.3 Previous experiences of pipeline construction

The region has already witnessed the construction of oil and gas pipelines, notably the Western Route Export Pipeline (WREP) in Georgia and the Natural Gas Line (NGL) in Turkey. The experiences of this will colour perception of the BTC project. Equally, previous experiences can be seen as a learning experience for this project. A number of comments have been received, particularly from community members, on previous poor experience associated with construction and operation of the NGL. These related primarily to degradation of roads; damage to irrigation channels and water pipes; and inability to continue cultivating land above the pipeline or in the exclusion zone.

3.2.1.4 Domestic energy

Access to energy is a major problem throughout the region, particularly in Azerbaijan and Georgia, with communities receiving an infrequent supply of electricity and gas, or none at all. The dissolution of the Soviet Union resulted in the fragmentation of an integrated energy network that provided cheap energy for its citizens. The downturn in economic activity following Azerbaijan's and Georgia's independence in the early 1990s left these countries without the financial capability to construct reliable national energy systems or upgrade and maintain equipment and energy infrastructure. The problem of access to energy is compounded by the fact that historically, energy prices have been substantially lower than the cost of supply, and energy companies seldom recovered full payment from their consumers. The accumulation of arrears, or payment in barter-goods have, in turn, resulted in difficulties maintaining energy systems and buying fuel. Georgia has had particular difficulties paying for imported oil and gas. The inefficient use of energy is prevalent throughout the region due to a combination of old generating equipment and inefficient fuel sources (such as mazut – heavy oil), losses throughout the distribution system, and lack of incentives for users to reduce waste.

3.3 *Social/economic*

3.3.1 **Regional Conflict**

The region has a history of conflict. Transportation of oil through the region could raise a number of issues. Firstly, disputes over the export route, and the economic benefits it brings, could heighten these tensions. Secondly, any conflict that becomes violent (whatever the reason) could damage the oil infrastructure and cause explosions or leaks of oil.

It is important that the projects understand past and possible future conflicts in the region to help identify any direct linkages with project activities and avoid the potential for any unintended consequences. The most significant unresolved conflict in the region is over Nagorno-Karabakh. Other areas have a history of conflict and the projects need to be implemented in ways that do not exacerbate these conflicts. Alternatively, the projects can be viewed as having potential to contribute to regional cooperation between the countries of Azerbaijan, Georgia and Turkey.

Stakeholders have raised concerns that any oil infrastructure could become a potential focus for terrorist groups.

The region has a varied ethnic and cultural make-up, and there already exist some tensions between different cultures. An influx of construction workers may exacerbate these tensions locally.

3.3.1.1 *Politics*

The politics in the region are complex, and in some places volatile. It is a region where East meets West, and the ideologies of capitalism, communism and Islam are all major influences. Many of the countries are transitional economies, rebuilding their structures of State following the break up of the Soviet Union.

In such a region, a major infrastructure project is bound to be affected by, and to have an effect upon, the politics. Selection of routes, distribution of funding and profits, governance arrangements, community investment, and dealing with environmental impact are all topics that politicians will be actively debating.

3.3.2 **Oil wealth**

A large increase in revenue flows can serve as a catalyst for further economic development. On the other hand, experience in some countries has shown that poor economic management of government energy and natural resource revenues can result in the lowering of long-term growth prospects. Contrary to being a benefit, in the long term, the oil and gas reserves could be what some call a 'resource curse'.

The principal issues identified at the root of the 'resource curse' are classified as follows:

1. Dutch disease: the risk that a successful resource sector may lead to macro-economic imbalances and exchange rate distortions that serve as a barrier to investment elsewhere in the economy;
2. Revenue volatility: the risk that, if revenues accruing from the sale of resources are included in the budgeting of governments, spending by the government may be substantially exposed to changes in that resource price;
3. Governance: the risk that, among other things, oil and gas revenue flows may distort the role and behaviour of government by removing incentives to encourage non-energy economic development or to implement appropriate fiscal regimes to support its spending plans; and
4. 'Crowding out' and 'dualism': the risk of having a thriving oil sector while the rest of the economy struggles.

Given the poor economic base that currently exists in Azerbaijan and Georgia, it will be particularly important to ensure prudent fiscal and financial management and effective investment of revenues to avoid these problems.

3.3.3 Corruption

Corruption is recognised as a critical issue in some of the countries of the region. Foreign investment, and subsequent profits from oil could be siphoned off by corruption, preventing it reaching the parts of the economy where it is needed - to develop health, education, transport and energy infrastructure, and build local industry and commerce.

With the perceived wealth that a project like this brings in to a region, there is a risk that extortion will threaten people working on the project, physically and emotionally.

3.3.4 Human Rights

Oil and gas development requires the creation of careful working relationships with governments, communities, and individuals over matters such as land acquisition and security. As in any country, sovereign governments will hold the responsibility for safeguarding their people and important infrastructure facilities.

The human rights of all people who are affected by the project must be upheld equally, regardless of background, economic status, race, religion or gender. The region has a varied ethnic makeup, and incidences of displaced people from conflicts or persecution, and inevitably some of these groups have been disadvantaged in the past.

3.3.4.1 Security

The project must inevitably be protected from theft or vandalism, and this will be done by the state security forces. Some stakeholders have raised concerns over incidences of human rights abuses by security forces in some of the countries in the region. Disputes over land rights and compensation could heighten the risk of abuse.

3.3.5 Legal framework

This project is unprecedented in its scale. This, and the fact that two of the countries are transitional economies, means that existing local legislation is not adequate to cover the project. For this reason, Host Government Agreements have been agreed between the project and each national government, under the umbrella of an Inter Government Agreement. These agreements set the legislative framework for the project.

These HGAs and the IGA could be seen as defending the project from future changes in legislation, and protecting the project from having to exceed minimum performance standards. Particular concerns have been raised over environmental and social performance, and to counter this, the HGAs include a commitment on BTC Co to uphold standards no less than those established by the EU. BTC Co is committed to applying international standards of performance that exceed the minimum requirements established in the HGAs and IGA.

Further information

Further information about the challenges to developing Caspian Oil can be found in:

- *National & Regional Review – economic, social and environmental overview of the Southern Caspian oil & gas projects*
- *Host Government Agreements – Azerbaijan, Georgia and Turkey*
- *Inter Government Agreement*