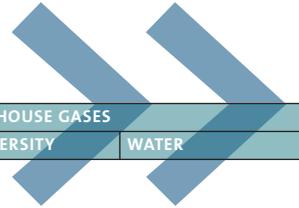


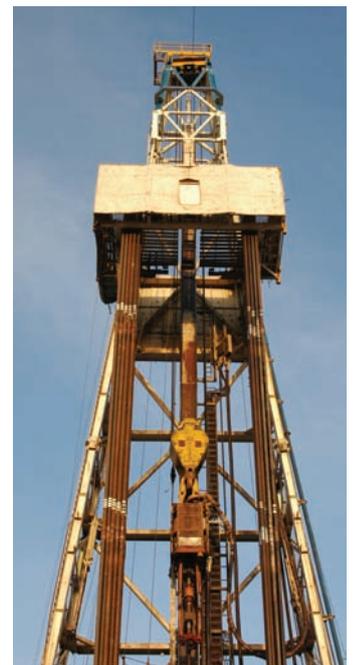
# Kashagan oil field development

Kazakhstan



SEVERE ENVIRONMENTAL IMPACTS	EXTRACTION	HEALTH SOCIAL ISSUES	GREENHOUSE GASES BIODIVERSITY	WATER
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extractive industries:  
blessing or **curse?**



# Kashagan oil field development

## Kazakhstan

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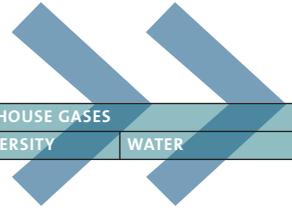
**authors:** Darek Urbaniak (FOE Europe), Elena Gerebizza (CRBM Italy), Gwenael Wasse (FOE France), Manana Kochladze (CEE Bankwatch)  
**with contributions from:** Galina Chernova from Centre “Globus” (Kazakhstan), Noriko Shimizu from Friends of the Earth Japan, Greg Muttit and Mika Minio Paluello from Platform (UK) and Nick Hilyard from The Corner House (UK).  
**with thanks to:** Bradford Rohmer, Paul de Clerck, Christine Pohl and Sophie Manson



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# introduction



EXTRACTION	HEALTH	GREENHOUSE GASES	
SEVERE ENVIRONMENTAL IMPACTS	SOCIAL ISSUES	BIODIVERSITY	WATER

**This Report was prepared by several international and local NGOs as a part of the Friends of the Earth Europe-coordinated “Extractive industries: blessing or curse?” project funded by European Commission DG Development.**

**The local people and communities in Kazakhstan affected by the impacts of this oil field development encouraged Friends of the Earth Europe, Campaign to Reform the World Bank, Friends of the Earth France and CEE Bankwatch Network to write this report.**



Bautino Village.  
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Based on direct information from local NGOs, research, results from a fact finding mission and spurred on by the lack of monitoring activities carried out on behalf or by any relevant international institutions, governments or financial institutions, this Report aims to increase awareness about possible negative impacts of the Kashagan oil field development among the public in European countries and to provide support to local NGOs in Kazakhstan.

The “Extractive industries: blessing or curse?” project aims to ensure that the performance of the Extractive Industries in developing countries is substantially improved, in order to ensure that it has a positive impact on poverty reduction and that it does not contribute to social and environmental problems.

Furthermore, the project’s long-term goals are to:

- Increase awareness among the public in European countries of the social, environmental and poverty issues related to the Extractive Industry in developing countries, on the interdependence between these issues and the EU and on strategies and policies that can contribute to a reduction of the negative impacts of the Extractive Industries in developing countries;
- Establish support from the public, national and EU policy makers, corporations and investors to ensure that: (1) Policies of national governments and the EU on development issues, environment and trade agreements and other relevant issues prioritise poverty reduction and sustainability in developing countries; (2) Policies of national governments and the EU on Corporate Social Responsibility stimulate corporations and investors to act responsibly; (3) Companies do not engage in projects that do not respect the rights of local communities and have severe negative social, environmental and poverty impacts; (4) Public and private financial institutions guarantee that their investments only contribute to projects that respect the rights of local communities and do not have severe negative social, environmental and poverty impacts;
- Encourage citizens to urge government, companies and investors to take measures that improve the performance of the Extractive Industries;
- Contribute to the development of an active civil society in developing countries that is able to ensure that investments in the Extractive Industry benefit the poor and do not result in severe environmental and social problems that threaten local livelihoods.

This Report drew on the expertise and support of Centre “Globus” (Kazakhstan), Friends of the Earth Japan, Crude Accountability (USA), Platform (UK) and Corner House (UK).



# Executive summary

**Originally discovered in 2000, the Kashagan oil field is planned to produce up to 1.5 million barrels per day in 2020. Such production would make it one the biggest fields in the world, and Kazakhstan one of the world's top oil-producing countries. However, due to the specific chemical composition of Kashagan crude (very high levels of sulphur and other toxic pollutants such as mercaptans) and onerous exploration conditions (including very high oil pressure, a harsh climate and an offshore location), it is likely to result in catastrophic impacts on the fragile ecosystems of the Caspian Sea as well as on the people living in the region. For these reasons, the Kashagan oil field development has been closely monitored by several international and local NGOs.**

Based on our research and field investigations of the Kashagan oil field development and relevant infrastructure in the Atyrau and Mangistau regions of Kazakhstan (cities and vicinities of Aktau, Atash, Atyrau, Bautino, Bolashak, Karabatan and Koshanai) evidence has been collected that raises serious concerns about environmental, social and health effects of this oil field development – such as sulphur emissions and storage which may pose serious threats for the communities close to the Kashagan oil facilities and for the Caspian Sea environment.

Furthermore, since becoming the single Operator of the North Caspian Sea Production Sharing Agreement (PSA), the Agip Kazakhstan North Caspian Operating Company N.V. (Agip KCO)<sup>1</sup> has failed to release all information available on the environmental, health and social impacts of its operations in the Kashagan oil field. As requested by the local communities and required by Constitution of Kazakhstan Republic and Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters ratified by Kazakhstan in 2001, such information must be made available.

There is also a growing concern among the civil society that the European Commission through its officials is publicly expressing support to European oil companies' members of the Agip KCO<sup>2</sup> despite their failure to fulfil basic environmental regulations. This continued support contradicts the European Union's fundamental values and frequent statements related to Human Rights and Sustainable Development.

Thousands of people have already been relocated in the region because of sulphur emissions and other highly poisonous chemicals such as mercaptans, which are present at very high levels in Northern Caspian oil. Unprotected storage of large quantities of sulphur is also recognised as a major cause of acid rain on a global level.

This Report implores Agip KCO to release all available and required information on the environmental, health and social impacts of its operations in the Kashagan oil field to the public and calls for a full and independent assessment of the impacts of this project.

We believe that the public has the right to be informed of all effects of this investment, including contamination, spills, dumping, poisonous substance emissions, toxic wastes, death of seals, sturgeon and birds – all of which have significant impacts on peoples' lives.

<sup>1</sup> Agip KCO is a company fully owned by Eni S.p.A. via Agip Caspian Sea B.V.

<sup>2</sup> JSC NC KazMunayGaz (KMG Kashagan B.V.); ExxonMobil Kazakhstan Inc.; Shell Kazakhstan Development B.V.; Total E&P Kazakhstan; ConocoPhillips (Phillips Petroleum Kazakhstan Ltd.); INPEX North Caspian Sea, Ltd.

# Political and economic context

# 2



Though the writing of this Report had been planned in advance, it coincidentally took place within a tense political context. Following the Italian oil company and project-operator Agip KCO's official announcement in July 2007 that the production of Kashagan would not start before 2010 (instead of 2008 and after a previous delay from 2005), the Kazakh government announced a temporary (three month) moratorium of the project in August 2007. The official justifications for such a decision were environmental violations as well as the Kazakh government's interest in renegotiating the multi-year PSA with the Agip KCO consortium (also comprised of US-based ExxonMobil and ConocoPhillips, UK-Netherlands based Shell, France-based Total, Japan-based Inpex and Kazakh national company KazMunayGaz), due to massive increases in estimates of the project's cost, from 57 to 136 billion USD - according to current projections.

The fact that the Kazakh government used environmental damage claims in its official position towards Agip KCO consortium led some local officials to meet the members of NGO Fact Finding Mission in September this year, speak openly and provide additional information about the field's development and possible impacts. Agip KCO representatives in the company's head office in Atyrau, however, refused to meet the Mission. According to the company's Public Relations Manager Mr. Robert Dunkley, "now is not the correct time." At the time of writing, the Kazakh government is negotiating a new PSA with Eni S.p.A and several high level meetings have already been concluded, though no official public statements have been released regarding their outcomes. In the course of these negotiations Eni S.p.A has received political support from Italian Prime Minister Romano Prodi and from the European Commissioner for Energy Andris Piebalgs, despite the fact that Agip KCO has failed to disclose all available information on the environmental, health and social impacts of its operations in the Kashagan oil field since becoming the field's main operator.

Such disclosure is required by Constitution of the Kazakhstan Republic and the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters ratified by Kazakhstan in 2001.

Further to these developments, the Kazakh Ecology Minister Nurlan Isakov announced on November 6 that it will demand a complete stop to work at the Kashagan oil field if operator Agip KCO does not rectify environmental violations by November 22. "That means the company will be fully suspended," Isakov said, adding that his ministry's order for the suspension of works at Kashagan will expire on November 22 and that Italy's Eni S.p.A-led Kashagan operator Agip KCO can continue working until the deadline by paying fines.

The Kashagan consortium is currently holding talks with the Kazakh government over the second delay to the start of production at Kashagan and rising costs. The talks are to last until November 30.

Existing Oil platform in the Caspian Sea.  
© dreamstime

# Kashagan oil field

3



Existing Oil platform in the Caspian Sea.  
© dreamstime



Agip KCO.  
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## Field description

Kashagan is a giant oil field in the northern, Kazakh part of the Caspian Sea, 80 km south-east of Atyrau. Kashagan extends over a surface of approximately 75 km by 45 km. It is named after a 19th century Kazakh poet from Aktau. Kashagan was discovered only in July 2000. It is currently estimated that the field holds up to 38 billion barrels of oil-in-place of which 13 billion are potentially recoverable with the use of gas re-injection. The gas contains huge volumes of associated gas.

According to some industry resources, Kashagan’s reserves could well exceed 50 billion barrels. This would make it into the second largest oil field in the world, after the Ghawar field in Saudi Arabia.

Kashagan is the most important field in the 11 blocks falling under the North Caspian Sea Production Sharing Agreement (PSA), covering a total of 5,600 km<sup>2</sup> in the Kazakhstan part of the Caspian Sea. Other fields falling under the same PSA are Kashagan South West, Aktote, Kairan and Kalamkas. This PSA was concluded between the government of Kazakhstan and the Offshore Kazakhstan International Operating Company (OKIOC) in November 1997. At the time the consortium committed to invest seven billion USD in the project, to start oil production in 2005, and to build a pipeline for oil export before 2013 which would have to accommodate the planned production volume of 30 million tonnes per year.

## Kashagan operating consortium

Since 1994 the Anglo-Dutch oil company Royal Dutch/Shell had been spearheading the project but could only make decisions after consulting its eight partners in monthly meetings. This process was inefficient and set back development. The consortium therefore in February 2001 decided to elect a single operator and the Italian oil company Eni won the mandate.

The OKIOC was renamed into Agip Kazakhstan North Caspian Operating Company - abbreviated as Agip KCO - at the end of 2001. This company is fully owned by Eni S.p.A. via Agip Caspian Sea B.V. Both Agip KCO and Agip Caspian Sea are registered officially in the Netherlands, probably for tax reasons.

Agip KCO is the single operator of the appraisal, development and future production operations under the North Caspian Sea PSA, on behalf of seven international oil companies. These are:

Companies	Participating Interest
Eni S.p.A. (Agip Caspian Sea B.V. - Operator)	18.52%
ExxonMobil Kazakhstan Inc.	18.52%
Shell Kazakhstan Development B.V.	18.52%
Total E&P Kazakhstan	18.52%
ConocoPhillips (Phillips Petroleum Kazakhstan Ltd.)	9.26%
JSC NC KazMunayGaz (KMG Kashagan B.V.)	8.33%
INPEX North Caspian Sea, Ltd.	8.33%



Break on a drilling rig.  
© dreamstime



Kazakh family in the Kuryk Village.  
© foe



Roadsign to the Koshanai Village site of the Koshanai Cuttings, Oily Water Treatment Facility.  
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### Technical and environmental challenges

The Kashagan project has a very high technical complexity due to natural circumstances. It is located in the northern part of the Caspian Sea, where the climate is extreme continental with cold winters, hot summers and drastic variations of temperature. Winters are harsh and temperatures can drop to  $-40^{\circ}\text{C}$ , while summer temperatures can reach  $+40^{\circ}\text{C}$ .

The waters in the northern part of the Caspian Sea are only 3-4 m deep near Kashagan and 1-2 m deep near Aktote and Kairan. The sea water is frozen for 4-5 months, from November to March, and the ice thickness averages about 0.6 to 0.7 m. The combination of ice, shallow water and sea level fluctuations represents a significant logistical challenge.

Other technological challenges are:

- Deep reservoir – 5,000 m;
- High reservoir pressure - 800 bar;
- High H<sub>2</sub>S (Hydrogen Sulphide) content (16-20%);
- Management of by-products, such as sulphur;
- Use of sour gas re-injection into the reservoir.

### Main facilities

Appraisal drilling was started in May 2001 at Kashagan East using the 6,000 tonnes ice-resistant Sunkar barge. The first appraisal well was completed in mid-2000 and was followed by another at Kashagan West, some 40 kilometres distant, which was completed early the following year. Both wells were successful with production estimated at up to 20,000 barrels per day (bpd) of 42-45 degree API oil, at a high pressure, high gas-oil ratio and a hydrogen sulphide level of between 18 and 20%.

However, because drilling the first well at Kashagan from the Sunkar floating rig led to delays in the project which pushed back production and the very shallow depths in this part of the Caspian, the OKIOC consortium decided to develop an offshore complex of artificial islands. It constructed a number of rock structures which became known as “artificial” or “drilling” islands. In total, four drilling islands, Island A and Island D for Kashagan and two separate islands for Aktote and Kairan, have been built. Those four islands, together with number of others planned for future, will be linked between themselves and onshore operations by pipelines. The islands will be also used to collect and store oil and ensure the initial separation of oil and gas.

Another of Kashagan’s major challenges is the presence of highly toxic and corrosive hydrogen sulphide (H<sub>2</sub>S) in the associated natural gas. With H<sub>2</sub>S concentrations of 18-20% by volume emanating from Kashagan’s wells, the field will produce ‘sour gas’ with one of the highest levels of H<sub>2</sub>S encountered in the offshore industry. According to AGIP, since production would reach 14 million tonnes per year, it would entail the largest amount of hydrogen sulphide gas to be re-injected into high pressure reservoirs offshore, in order to avoid massive sulphur production and gas flaring. To force the gas back into the reservoir, discharge pressures of up to 760 bar are required, the highest pressures demanded to date by a gas reinjection project in the industry. According to some Russian and Kazakh scientists, including Professor Diarov from the Scientific Centre of Regional Ecological Problems of the Atyrau Institute of Oil and Gas, the extraction of oil under the huge pressure from subsalt wells in addition to reinjection of gas amplify the potential threat for ecological catastrophe due to the increased potential for technogenic earthquakes.<sup>3</sup>

**Bolashak Oil processing factory** Agip KCO continues operations onshore, at Iskenye West, 35 km north-east of Atyrau where it occupies around 190km<sup>2</sup>. It includes a workers' camp, substations and different support infrastructures, as well as an onshore processing facility for the treatment of sulphur where oil and gas will be delivered from offshore via a system of undersea-pipelines. There is ongoing construction of the Bolashak ("future" in Kazakh) Onshore Processing Facility designed to process 300,000 barrels of oil per day (bpd) around 56-70 million tonnes of oil per year and 4.4 billion m<sup>3</sup> of gas per year, as well as fuel gas for use at the Agip KCO onshore and offshore facilities. It will also provide storage facilities for treated oil, comprising three 80,000 m<sup>3</sup> oil storage tanks, and sulphur. Initially, the plant capacity was slated to be around 15 million tonnes per year. However, the Agip later decided that annual oil extraction in Kashagan could reach 21 million tonnes by 2011, with possibilities for further expansion up to 70 million tonnes by 2015, with processing capacity also increased. It is expected that Bolashak factory will be operational in mid-2009.

The construction of the Bolashak oil refinery, 30 kilometres from Atyrau, raises serious concerns about toxic emissions in the air and impacts on the local population. Despite demands from local people to construct a processing plant near Karaton village, 300 km away from Atyrau,<sup>4</sup> Agip KCO insisted that construction take place in Karabatan.

In addition, the Kazakh government decided in 2006 to construct a four billion USD chemical complex in Karabatan, ten km from Bolashak Oil refinery. The complex planned capacity is 800 thousand tones of polyethylene and 400 thousand tones of polypropylene annually. As a raw material the factory will use treated natural gas from Tengiz and Kashagan. It is expected that the project will become operational in 2011. According to the Kazakh government, negotiations to invest in the project have already started with the EBRD.<sup>5</sup>

**Bautino Atash Marine and Support** The Bautino Atash Marine and Support base was constructed in 1997, when Agip KCO started the first drilling operations in the Caspian Sea. First it was intended to serve as a temporary facility to support the drilling operations. Nowadays, the Bautino Atash Base occupies more than 100 ha, in addition to 140 ha for different facilities for water waste and sludge storage. There are ongoing talks for its further expansion. The Bautino Atash Base is located in Bautino bay, 350 km from Kashagan oil field, where the Caspian Sea does not freeze in winter and could be operational for ships all year. The Base supports drilling operations, coordinates the work of marine ships, delivery and storage of materials, equipment and fuels. The stones needed for the construction of artificial islands are extracted in mines close to Bautino and transported on barges from a berth nearby Bautino. In addition, the Base ensures support for clean up of oil spills for all Agip marine operations.

Bautino also represents the centre of organisation of waste utilisation from marine operations, including drilling muds. For that purpose, the Base is equipped with facilities for treatment of drilling muds and oil-waste waters, which became operational only in late September 2006, with the capacity to utilise around 43.8 thousand tonnes of oil mud. The extracted oil products are used again, while water is disposed of in the sea and solid waste is taken for disposal in Koshanai polygon, 21 km far from Bautino, in the vicinity of the village of Fort Shevchenko. Another polygon in Koshanai for hazardous waste and oil-containing waste-waters, with an oil treatment facility, belongs to KazMunayGaz.

**Kuryk Port** Kuryk port is located in a bay around 76 km from Aktau. According to the 2005 state programme on exploration of the Kazakh Sector of Caspian Sea, to avoid restriction of export capacities, it was decided to develop the port Kuryk to ensure smooth oil operations. Development of the Kuryk port is carried out by KazMunayGaz, Saipem and Ersai.

The project's promoters anticipate that the Kuryk port, with 20 million tonnes of specialised oil will ensure participation of Kazakhstan in Baku-Tbilisi-Ceyhan project. In addition to other activities, this programme provides for the construction of an oil unloading terminal with offshore moorings for heavy tonnage vessels.

**Northern Caspian Environmental Response Base (NCERB)**

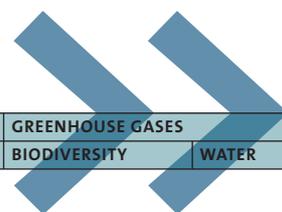
In October 2004, KazMunayGaz signed a memorandum of understanding with Agip KCO for basic principles of cooperation within the State Programme of Caspian Sea Development. According to the memorandum, "KazMunayGaz is committed to building a network of infrastructure objects: additional facilities to support the base for sea operations (close to Agip KCO base in Bautino), a sea vessel fuelling station, industrial waste utilisation polygon as well as the construction of Northern Caspian Environmental Response Base (NCERB) in Damba village, 22 km from Atyrau. The base should be equipped to liquidate the oil spills. The project would be implemented with funding from Agip KCO and developed by KazMunayGaz' sister company. The total cost is estimated at approximately 34 million USD. According to Project documentation the Base would be located in Ural River mouth, in the natural protected area.<sup>6</sup>



ERSAI Logistics & Fabrication Yard, Kuryk Village.  
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The companies with participating interest in the Kashagan oil field.  
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HEALTH

SOCIAL ISSUES

GREENHOUSE GASES

BIODIVERSITY

WATER

## Regional impact

Oil production in Kazakhstan is geographically concentrated in two oblasts, Mangistau and Atyrau on the shores of the Caspian Sea in the country's far west. After the start of extraction operations in Tengiz and afterwards in Kashagan, Atyrau became the country's main oil centre. Aktau plays the role of regional transportation and services hub, ensuring offshore operations in the sea and transportation of oil.

According to research, the oil-producing regions seem not to have experienced any sustained employment growth, and poverty and inequality remain worse in oil-producing regions than in non-oil regions. Moreover, even in the midst of an oil boom, location in the oil producing western region is not associated with higher living standards, and indeed the relative position of households in those regions is worse than in 1996. The oil industry needs a relatively small amount of workers, thus direct employment in the oil sector involves less than 1% of Kazakhstan's active population, around 50,000 people.<sup>7</sup> The expanded construction activities could provide only temporary jobs, mainly for non-qualified or semi-qualified work that significantly reduces the income perspective. In addition, oil companies often bring even non-qualified and semi-qualified staff from abroad,<sup>8</sup> causing additional problems.

Meanwhile, the geographical distribution of foreign investments in Kazakhstan's regions shows that highest investment is in the west Kazakhstan (Mangistau) and Atyrau regions, at 58% and 27.7%, respectively.<sup>9</sup> However, despite the high level of GDP in the Atyrau and Mangistau regions in comparison with elsewhere in Kazakhstan, according to the UNDP as well as ADB Institute, the highest urban poverty level has been attributed to Atyrau oblast, while the highest rural poverty is attributed to Mangistau. In addition, in Mangistau province, where 21% of the population is poor, mainly in rural areas, the wage gap between the highest level in the oil-extracting industry and the lowest in agriculture is 18 times, and the gap is nine times between the oil-extracting region Zhylyojyskiy and rural Mahambetskiy of Atyrau Province.

At the same time, according to 2006 data, the highest wages were in Mangistau Province – 624 USD (1.9 times the national average), and Atyrau Province – 600 USD (1.8 times the average), in the oil sector. Meanwhile the people working in state sector are receiving on average 100 USD a month as throughout the Kazakhstan, while pensions are 32 USD per month.

The problem of water poverty is a national one; Kazakhstan has the worst provisions of clean drinking water in the Commonwealth of Independent States. In rural areas, instances of hepatitis and other water-borne diseases are high. All around the country, almost half the pumps and public taps are turned off permanently because they are worn out or sub-standard. For Atyrau and Aktau those problems are crucial. Everywhere in rural areas people are forced to buy drinking water.

Both the Mangistau and Atyrau regions are heavily polluted by the nuclear waste. If in case of Mangistau there are two functioning uranium mines with dumping places, in Atyrau radioactive anomalies relate mostly to the oil fields e.g. at the range near the Azgir settlement, in 1970s to the 1980s, 17 underground nuclear explosions were carried out to create underground cavities for strategic stocks of fuel, including oil. No work has yet been done to eliminate the consequences of nuclear weapons testing at the Azgir site.

275 sites of radioactive pollution by natural radionuclides - including uranium, radium and thorium have been found, their concentrations exceeding the background radiation by ten to 100 times; this has been found in reservoir waters taken from the sites together with oil.<sup>10</sup>

**Atyrau Region** Atyrau province development since 1911 is closely connected with oil industry. Not counting the number of small oil fields, it is worth underlining that one of the largest oil fields - Tengiz - is located close to Atyrau, with six to nine billion barrels of estimated reserves.

Near the end of the Second World War, the Soviets built the Atyrau refinery on the banks of the Ural River, close to the Caspian Sea. This installation is one of the three major oil refineries in Kazakhstan. The modernisation of the refinery (2001) was carried out by Japan Bank for International Cooperation (JBIC) with a 450 million USD loan that financed procurement from Japanese exporters, Marubeni Corp. and JGC Corp. (Nikki), of equipment for the Atyrau Refinery Reconstruction Project, implemented by Kazakh Oil and Atyrau Refinery. Since 2004 Atyrau refinery has been processing around three million tones of crude oil annually. It works fully on domestic oil from Tengiz, Zhanazol, Karachaganak, Uzen, Martyshi and Zhetybay oil fields.<sup>11</sup>

The oil transportation infrastructure in and in the area of Atyrau includes Caspian Pipeline Consortium (CPC) system from Tengiz to Novorossiysk, the Atyrau –Samara pipeline and the Uzen-Atyrau pipeline. In 2003 the Kenyak-Atyrau pipeline<sup>12</sup> (part of Kazakhstan – China pipeline) started its operation connecting Kenyak, Zhanazol and Kumkol oil fields (Aktyubinsk Region) with CPC and the united pipeline system of the Russian Federation. It is expected that in the near future the pipeline will serve as one of the links in the pipeline system for oil transportation eastwards towards China.<sup>13</sup>

The oil capital of Kazakhstan is heavily polluted with emissions from oil exploration and processing, including solid particles, sulphur dioxide, carbon monoxide, nitrogen oxides, hydrocarbons and mercaptan vapours. According to the local people evidence, all oil facilities release emissions during the night between 3-4 am. However, local official structures have no capacity to monitor the air quality in the city due to the lack of the equipment and laboratories.<sup>14</sup>

**Aktau** Aktau is the administrative centre of the Mangistau and is starting to play a more and more prominent role in the development of Kashagan and is becoming the transportation and regional hub for the region. According to the State Development programme, Aktau, Kuryk and Bautino should become the most important transportation ports to facilitate oil export in different directions.

Aktau was established in the desert in 1960 during Soviet times. The major purpose of the city was to produce uranium and plutonium for the military. Until the fall of the Soviet Union it was a closed city. The only Kazakhstan Nuclear power station and four chemical factories associated with it have shut down since 1998. But a desalination plant supplying fresh water to the city of Aktau is still operating.

Heavy industry, including uranium mining and enrichment facilities, are still functioning. There are around 50 enterprises with 2,304 sources of ionising radiation.<sup>15</sup> In addition, a dust mixture of heavy metals is constantly carried out from the tailing zone “Koshkar-Ata” into the atmosphere and the Caspian Sea. The “Koshkar-Ata” is situated close to the city and contains 400 million tonnes of toxic and radioactive waste.

There are around 7,455 oil wells around the Mangistau region, most of them are characterised by high levels of oil pollution. One of the largest of them and among all of the Kazakh onshore oil fields is Uzen. Uzen capacity was estimated at 1.5 billion barrels of oil. The field is operated by KazMunayGaz, with an output of around 100,000 bpd.

The oil and uranium industry has severe impacts on the local fishing industry that as a result of their operations died a number of years ago.



KazMunayGaz facility for Toxic Waste Utilization from Oil Processing near Koshanai Village.  
© foee

- 3 <http://www.np.kz/2004/39/rissled3.html>
- 4 Around Tengiz Oil field in the radius of 70 km, number of villages including Karaton and Sarykamys where forced to resettle due to the heavy impacts on health from oil processing facilities.
- 5 [http://www.oil-gas.kz/ru/2006/news\\_items/oil\\_chemistry\\_complex](http://www.oil-gas.kz/ru/2006/news_items/oil_chemistry_complex)
- 6 <http://eng.gazeta.kz/art.asp?aid=95008>
- 7 Abdiev, K.S. (2003): Regiony Kazakhstana (Kazakhstan Republic Statistical Agency, Almaty).
- 8 Together with problems of discrimination due to nationality, this causes quite big problems for the Kazakh population: introduction of the thousands of semi-qualified repatriates who receive at least twice the salaries of local semi-qualified repatriates increase the prices on local services and cause increased local inflation. Often companies bring their own workforce by the thousands, like in case of TengizChevrOil and Karabatan, when Turkish companies introduced many nonqualified workers.
- 9 [http://www.adbi.org/discussionpaper/2007/03/26/2184\\_infrastructure.economic.dev/regional.development/](http://www.adbi.org/discussionpaper/2007/03/26/2184_infrastructure.economic.dev/regional.development/)
- 10 Dubinchin P.P. Radioecological examination of oil-bearing regions // Vestnik ONC RK. Radioecology. Environmental control. 2000. Issue 3.
- 11 <http://www.allbusiness.com/mining/oil-gas-extraction-crude-petroleum-natural/586981-1.html>
- 12 EBRD provides to Kenyak-Atyrau pipeline 81.26 million USD loan in 2004 to JV MunaiTas, joint venture of KazTransOil (KTO), a subsidiary of the Kazakhstan national oil & gas company KazMunayGaz, with 51% and the CNPC IK, a subsidiary of China National Petroleum Corporation with 49%. KTO is an operator of the Project.
- 13 The second phase of Kazakhstan - china pipeline, Atasu - Xinjiang section, with potential capacity to carry around 400,000 bpd, was completed in December 2005. Since May 2006 the Kenyak-Atyrau pipeline reverses oil shipment to China. The final stage of the pipeline will entail the completion of the Kenyak-Kumkol pipeline in central Kazakhstan. The Kazakhstan-China pipeline, when all three stages are complete, will span almost 3,000 km from its start in Atyrau to Alashankou in China. <http://www.chinapage.com/transportation/pipeline/pipeline-kazakhstan.html>
- 14 [http://azh.kz/2007/06/08/v\\_atyrau\\_chistyjji\\_vozdukh\\_tolko\\_kto\\_v\\_jeto\\_poverit.html](http://azh.kz/2007/06/08/v_atyrau_chistyjji_vozdukh_tolko_kto_v_jeto_poverit.html)
- 15 [http://www.caspianenvironment.org/autoindex/index.php?dir=NewSite/DOCCENTER/Contract%20Reports/SE/&file=S-E\\_Study-KZ\\_eng.doc](http://www.caspianenvironment.org/autoindex/index.php?dir=NewSite/DOCCENTER/Contract%20Reports/SE/&file=S-E_Study-KZ_eng.doc)

# Environmental impacts

# 4



Protected wetlands near the Damba Village: future site of the Northern Caspian Environmental Response Base.  
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Fishing in the Damba Village: future site of the Northern Caspian Environmental Response Base.  
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**Alarming impacts on biodiversity** The NGO Fact Finding Mission from September 2007 collected numerous reliable testimonies of a drastic decrease in Northern Caspian biodiversity over the last few years. This phenomenon was always directly linked to oil industry development in the region, and especially to the Kashagan project. According to local NGOs, the impact on the different species (especially fish, marine mammals and birds) has been more evident since the periodical testing of wells and new offshore explorations on Kashagan field.

**Fish stock sharp decline** Several villagers mentioned a massive drop in fish catches in the last decade, both in the Atyrau and Mangistau regions. This concerns not only the endangered Caspian sturgeon species, like the Beluga Sturgeon, enlisted in the IUCN Red Book, for which the northern part of the sea remains one of the last spawning grounds, but also many other commercially valuable species. Local NGOs registered a massive death of sturgeon and other species of fish in 2002, 2004 and 2005. In May 2006, on the Kazakh coast of the Northern Caspian Sea alone were found dead over 2,000 sturgeon plus other kinds of fishes and over 300 marine mammals. Fish skin diseases were also mentioned by fishermen in Demba Village (located along the Ural River, close to Atyrau), making the fish unmarketable; similar testimony was collected in Bautino. The general decrease in fish stock was also confirmed by officials from the Ministry of Environment Atyrau Regional Office, and by Prof. Diarov (see below). Obviously, decreasing fish populations have severe socio-economic impacts, given the reliance of local people on fishing (in Demba Village, for instance, the fishing cooperative employs up to 40% of the 2,500 population).

**Bird death** Several testimonies of bird death were taken in Bautino and Fort Shevchenko. According to the interlocutors, this fact was considered as directly linked to the operations of Cuttings, Oily Water Treatment Facility in Koshanai, located a few kilometres away from the two villages, and described as “previously unseen” by some villagers. The Northern Caspian Sea is also a major stop-over for millions of migrating birds every year.

Local NGOs gathered evidence of a massive bird death in October 2003, when hundreds of migrating birds were burned while flying over Agip KCO plant that was testing the chimneys. According to specialists of the Botanic Institute of the Kazakh Academy of Sciences, which investigated some of the carcasses to understand the reason behind the loss of natural orientation by these migrating birds (leading to their death at the chimneys), birds experienced extreme breathing difficulty because of high concentration of hydrogen sulphur present in the air and in this condition they arrived at the chimneys where they died.

**Marine mammals' massive death** Massive death of marine mammals began in 2000, some months after the first offshore exploration started at the Akiok well in 1999. According to a non-comprehensive investigation of local NGOs, over 2,000 animals were found dead on the Northern Caspian Sea shore in year 2000. Since then, every year some hundreds of animals were found dead on the Northern Caspian coast. Acknowledgements of massive death of seals, most severe during the last years (2006-2007) were collected from several other sources. This concerns the Caspian Seal, an endangered IUCN red-listed species for which the Northern Caspian Sea serves as a whelping ground. In Bautino, some witnesses mentioned several tens

of dead seals found on the shores. The Associated Press reported on April 8th, 2007 that “247 dead Caspian seals had washed up in one week on the shore of Northern Caspian Sea in the region of Mangistau,” where construction of the Atash Marine and Supply base are taking place near Bautino. Without fail testimonies of villagers in Bautino, officials from the Ministry of Environment Atyrau Regional Office and Prof. Diarov linked this phenomenon to the Kashagan project (see below). According to testimonies of local communities and NGOs monitoring the project, it is very likely that Caspian seals and other species are being daily poisoned by emissions of sulphates and other pollutants contained in Kashagan oil and constantly released in the Caspian Sea. Further independent investigation to assess this is crucial.

**Risk of biological death of the Caspian Sea** Based on general research and according to Prof. Diarov, there are strong possibilities that the oil industry development could result in a total biological death of the Caspian Sea in the next decades, mostly due to the high levels of toxic pollutants that are contained in Kashagan oil. To prevent this from happening, Prof. Diarov recommends a strong limitation of the production levels planned for Kashagan and a strong international political effort to give the Caspian UNESCO protection status.

**The sulphur issue: a major long-term local and global problem** From interviews with officials, villagers and a scientist, the sulphur issue appears to be the principal cause of environmental and health problems stemming from the Kashagan project.

Indeed, while Northern Caspian oil contains very high levels of reactive sulphur (18% in Kashagan field) which can become toxic under some climatic conditions such as those encountered in Kazakhstan (e.g. very high temperatures), there is still no sustainable treatment and long-term storage plan for the huge quantities of sulphur that would be extracted from the Kashagan oil in the next decades. According to the Northern Caspian Production Sharing Agreement, no storage of sulphur should take place in the Karabatan area. At the beginning of operation in Kashagan, the Kazakh government asked the Consortium to use sulphur or sell it, prohibiting any storage. Since Agip KCO became the operator, rumours around sulphur treatment in the area started to circulate. The company never accepted to meet international NGOs to expose clearly what would have been its policy on sulphur storage, while during the hearings held on the territory Agip KCO provided different answers in the last years, implying that there would have been storage of sulphur and treatment facility in Karabatan area.

According to Prof. Diarov, any improper treatment would lead to massive local and global environmental and health consequences, such as acid rain over Europe. Sulphur does not dissolve; on the contrary it accumulates in the air,

ground, and groundwater. According to the climatic conditions, in two days alone it can evolve from one chemical form to another. For example, in case of hot sun and wind blowing at ten meters per second, sulphur could cover at a distance of 2,000 km in two days only.

According to Prof. Diarov, the extraction of one tonne of oil from Kashagan would result in 110 kg of sulphur, which is not dangerous in crystallised form but can become extremely dangerous when left unprotected; it changes chemical structure – like in Tengiz facility – from atmospheric agents (rain, wind) and the extreme temperatures of the region.

**Other toxic or lethal pollutant emissions** Northern Caspian oil contains around 40 toxic pollutants that can have strong impacts on health and the environment. Mercaptans (methyl mercaptan and ethyl mercaptan) are among the most dangerous pollutants contained in Kashagan oil. The separation of mercaptans from crude oil after extraction is understandably the most crucial issue. According to professor Diarov, 0.001mg/m<sup>3</sup> of mercaptan could be lethal for a human being. The permitted air concentration according to the former Soviet legislation is 9x10<sup>-6</sup>/m<sup>3</sup>.

According to the information gathered, it looks that Agip KCO is planning to use the same technology at the moment used in Tengiz for the separation and treatment of mercaptans, at the facility being built at Bolashak. Processing of Kashagan oil will cause emissions that, without the proper technology, will impact directly the city of Atyrau and the villages in the vicinity of the Bolashak processing plant. In particular, the villagers and officials voiced strong concerns about very highly toxic mercaptans (or thiols). These components were frequently pointed out by villagers, officials from the Ministry of Environment Atyrau Regional Office and scientists as a cause for the massive death of fish and seals in the Northern Caspian in recent years.

In addition, due to the presence of these components, the gas flaring that is planned to take place in Kashagan would also have major local and global environmental impacts, in regard to both biodiversity and global warming. In response to concerns expressed by local authorities, Agip KCO promised to install some monitoring centres near the city of Atyrau and the Bolashak/Karabatan processing facilities. At the moment, the monitoring centres are working at half capacity, presenting partial data on the current emissions of the construction phase. According to Prof. Diarov, monitoring centres should bring results on the monitoring of nine components released in the air. At the moment Agip KCO is monitoring only two of these components and is not allowing any other governmental or research centre to carry on an independent monitoring.

# Socio-economic impacts

# 5

**Atyrau is experiencing the typical oil town boom. For the last ten years, since large oil companies established their regional headquarters in the city, the cost of living has grown exponentially in Atyrau. As a consequence, living conditions for the local population in the city and in the villages have plummeted. According to information gathered from local NGOs, the price of real estate grew ten fold, reaching almost European levels. Salaries did not increase proportionally, causing major pauperisation among the local population. The average salary level in Atyrau is around 100 USD per month. According to unofficial data, around 90% of the population in Atyrau lives under the poverty line, without access to basic services.**

Oil profits do not remain in Atyrau region that suffers the impact of extractive and processing activities. According to public officials we met, Atyrau is a donor region, channelling money that feeds the rest of the country. Oil profits flow to the capital, Astana, and to the national budget and national oil fund of Kazakhstan. This leaves the people of Atyrau, who endure the social, economic and environmental impacts of the project, no compensation.

Investment in basic infrastructure in the city and the whole region is very poor.

### Lack of electricity and fuel for heating:

- The majority of houses in Atyrau lack access to gas and sometimes electricity. People cook and warm their houses by burning coal during harsh winters, when temperatures often reach -50°C, according to locals.

### Lack of infrastructure:

- In the city, only a few central roads have good pavement.
- In the periphery are dirt roads, which become muddy in rainy season, making travel within the city very difficult.
- Outside the city, the only roads with good pavement are those connecting oil facilities, while the villages where local people live are left isolated.

### Lack of public transportation:

- In the village of Karabatan, children travel once a week to school by train where they remain during the week, coming back to their families on Saturday afternoons.
- There is no public transportation connecting the village with the city of Atyrau, about 20 km away.

### Lack of basic sanitation:

- In the city, most houses are not attached to the sewer system.
- Villages outside Atyrau lack a sewer system completely.

### Lack of a health care system:

- Karabatan Village, like most villages in the surrounding of Atyrau, lacks ambulance services for basic health care.
- According to the Regional Office for Health, doctors and nurses prefer to work inside oil facilities, where salaries are high, than serve in public hospitals and ambulances. This leaves public health structures without the needed personnel.



Fishing boats in the Damba Village - future site of the Northern Caspian Environmental Response Base.

Working in the oil sector represents a way out for local population. Salaries are higher: around 150 USD per month for men, employed mainly as unskilled workers; around 100 USD for women, employed mainly as cleaners in oil-workers camps. But this comes with high risks.

- Oil workers are the most exposed to emissions of sulphates from the extraction and processing of Northern Caspian Oil. According to local NGOs, Kazakh workers are more exposed than foreign workers, who are better equipped and protected from emissions at the field. Local NGOs mentioned that workers employed on Kashagan are already experiencing the same problems than workers in Tengiz field. Overall weakness and sleeplessness are the most common symptoms. NGOs mentioned of cases of workers that died in their sleep. Similar cases were registered among Tengiz workers, where about 100 people died in the last ten years. The Trade Union of Oil Workers in Atyrau could not help with more precise information since they have no access to the offshore plant.
- According to the Trade Union of Oil Workers in Atyrau, around 15,000 people work in the construction of the Bolashak processing facility, near the Villages of Karabatan and Iskenye, about 30 km from Atyrau.
- All together, about 10% of the region's population works in the oil sector.
- However, according to local NGOs, when the construction phase is closed and facilities operating, employment in the sector will drop drastically, leaving the local population without employment and suffering the impacts from the operating facilities located all around the city of Atyrau.
- There is no information available on emissions from the offshore plant where construction for the extraction of Kashagan oil is taking place. Trade unions have no access to it. Talking with one worker employed on the platform, we gathered that they all have to wear masks when on the platform.



Shepherd in the Kuryk Village.  
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# Health impacts

# 6

**Numerous testimonies have been gathered about serious health impacts by villagers in Fort Shevchenko, Bautino and their vicinities directly related to the development of the Bautino Atash Marine and Supply Base and the Koshanai Cuttings, Oily Water Treatment Facility, both located only a few kilometres from residential areas.**

## Summary of health problems

- In Fort Shevchenko: headaches, nose bleeds and child anaemia, associated with frequent bad odours at night from the Koshanai facility, according to some elderly female villagers.
- In and around Bautino: diarrhoea from fish consumption and child skin diseases, which worsened with sea-bathing. Villagers are now alarmed and do not swim anymore in the Bautino Bay waters (NB: since open-sea water on the other side of the village is much rougher, the villagers no longer have anyplace to bathe). We also heard testimony that the sick villagers were sent to Aktau to be cured, but that nobody wanted to take care of them there.
- According to local NGOs which we met in Atyrau, about 100 people have died and thousands have fallen ill in the last ten years in the vicinities of the Tengiz oil field and facilities. The cases concerned mainly men less than 40 years of age, occurring at night during sleeping hours. Other symptoms include drowsiness, which is likely related to intoxication by mercaptans.
- According to some top specialists whom we could meet at the Ministry for Health Atyrau Regional Office, the development of the oil industry in the Northern Caspian is extremely worrying. They pointed out the following points:
  - Sulphur in its crystalline form and if protected from atmospheric agents (wind, rain, extreme temperatures) is inoffensive. However, it is high toxic in gaseous form; yet huge quantities of sulphur would be extracted from the Kashagan field, and the Agip-KCO consortium still does not know how and where they will be stored. This was also confirmed by Pr. Diarov and some other local NGOs.
  - Mercaptan gases are extremely toxic and are also contained at high levels in the Northern Caspian oil; this was also confirmed by Pr. Diarov and some other local NGOs. It also seems that these gases can be responsible for genetic mutations, for which detailed data still need to be gathered and analysed.
- On average, the state of Atyrau Region citizens' health is very low. The pathologies most frequently encountered are: cardiovascular illnesses, respiratory illnesses (such as chronic bronchitis), anaemia, blood illnesses (leukaemia), high levels of premature births and stillborn babies. Another concerning point is that these pathologies are occurring in younger and younger people. This leads the region's official medical specialists to say that it is very likely that these pathologies and the region's very bad general health can be directly related to the oil industry's recent developments, and the enormous amount of toxic substance emissions that are associated with it. The huge Karachaganak gas condensate field, in the vicinity of which local populations were severely impacted; Karaton and Sarykamys Villages, 30 km away from the Tengiz oil field, whose population had to be relocated after 12 years; and the city of Kulsari, (60,000 inhabitants) located 75 km away from Tengiz, and now planning to be relocated, were all cited as examples.



Panorama of Bautino Bay location of Bautino Atash marine and support base © foee



Steppe wind - road to Aktau. © foee

- There is a high level of fear amongst the region's official top medical staff that, in case of an accident in the Kashagan field, tens of thousands of people living in Atyrau and its vicinity could be severely impacted or killed by accidental toxic gas emissions such as mercaptans. Risk of such a catastrophe would be increased by the proximity of the Kashagan platform (70km), the very windy climate of the Northern Caspian, and the fact that the oil-associated heavier-than-air gases would concentrate in the lower layers of the atmosphere. The whole area is in a valley, about 30 meters below the sea level, which facilitates such concentration. The possibility of relocating the whole population of Atyrau (220,000 hb) has also been floated.
- Generally speaking, according to the region's official medical staff, there is a very low awareness amongst the national authorities for the potentially-catastrophic impacts of oil development on the Northern Caspian. While the local population is mainly opposed to it, and while the environmental situation has been drastically worsening since the starting of the Tengiz field 20 years ago, the issue has never been made public at the level its possible impacts call for.

### Other concerns

- Mass poisoning of workers: according to a trade union representative in Atyrau a mass poisoning of 500 Turkish workers occurred at the Karabatan-Bolashak Facility. It is only thanks to trade union action that these workers received financial compensation.
- Shortage of medical staff: according to the same trade union representative in Atyrau, the development of the oil industry in Northern Caspian results in a shortage of skilled medical staff for the local population. Indeed, with wages much higher in the oil industry, many medical specialists prefer to work for private companies rather than for the public health administration. While it seems that a subsequent increase of public medical staff salaries has resulted in a slowing of this tendency in the last years, this point was partly confirmed by the Regional Health Administration officials during our meeting with them.



Kazakh children in the Kuryk Village.  
© foe

# Production Sharing Agreement

**Signed at a time of relatively low oil price, and when Kazakhstan (like other former Soviet states) was going through radical market reforms, there are questions on whether the terms strike the right balance between benefits to the consortium and to the Republic of Kazakhstan. Effectively, the contract serves to guarantee consortium profits from any economic, legal, political or other change – at the expense of communities living near the development, workers on the project and the citizens of Kazakhstan more generally. It ensures legal “stability” (for example, no new laws are permitted to make the project less profitable), combined with economic “flexibility” (very little revenue goes to the state until healthy profits have been achieved).**

For example, Article 40.2 provides that any new laws (except environmental, health or safety laws) or judicial rulings that affect the consortium’s profits will force an adjustment of the terms of the contract to restore the rate of profits. The exclusion of environmental, health and safety laws from this “stabilisation” is an improvement compared to PSAs signed in Russia and Azerbaijan, but still restricts the Republic’s exercise of sovereignty, and indeed compliance with international human rights norms, in other areas: these might include labour law, land expropriation law or third party compensation laws.

The contract is one of a new breed of economically “flexible” PSAs, largely developed during the 1990s and applied to former Soviet states. This new breed was introduced following arguments from oil companies, the World Bank and others that fiscal systems should be maximally responsive to company profits, and should avoid taxing the extraction of the resource per se (such as through royalties). One effect of this approach has been to allocate project risks to host states rather than to investors, and even in some cases to deprive the state of any meaningful income from the extraction of its non-renewable resources.

The effect of this could be to constrain the Republic’s ability to address the socio-economic concerns raised above, and to meet the needs of its citizens more generally.

The usual model (and indeed justification) for foreign direct investment is that the foreign investor carries the investment risks – in the case of an oilfield, these include risks that insufficient oil will be found, that costs will inflate, that the oil price will fall etc; in short, risks that the project will be unprofitable. While the investor takes these risks, in return, the investor receives profits in the event that the project is successful.

However, with Kashagan, these risks are instead effectively carried by the Republic, since almost no revenues will be received until the consortium has achieved its profits. In the event, precisely the risks that an investor would normally bear did materialise (including sitting difficulties, cost of materials and exchange rates). Normally, one would expect such events to reduce the consortium’s profits. Instead, in this case, those costs will be carried by the Republic.

So, as project start-up has been delayed (first to 2008, and then to 2010), and as project costs have ballooned to 136 billion USD, both circumstances have delayed the time at which the consortium will achieve its profits, and hence the time at which the state will receive meaningful revenues.



Sanitary protective zone of the Bolashak Onshore Processing Facility (Refinery).

© foee

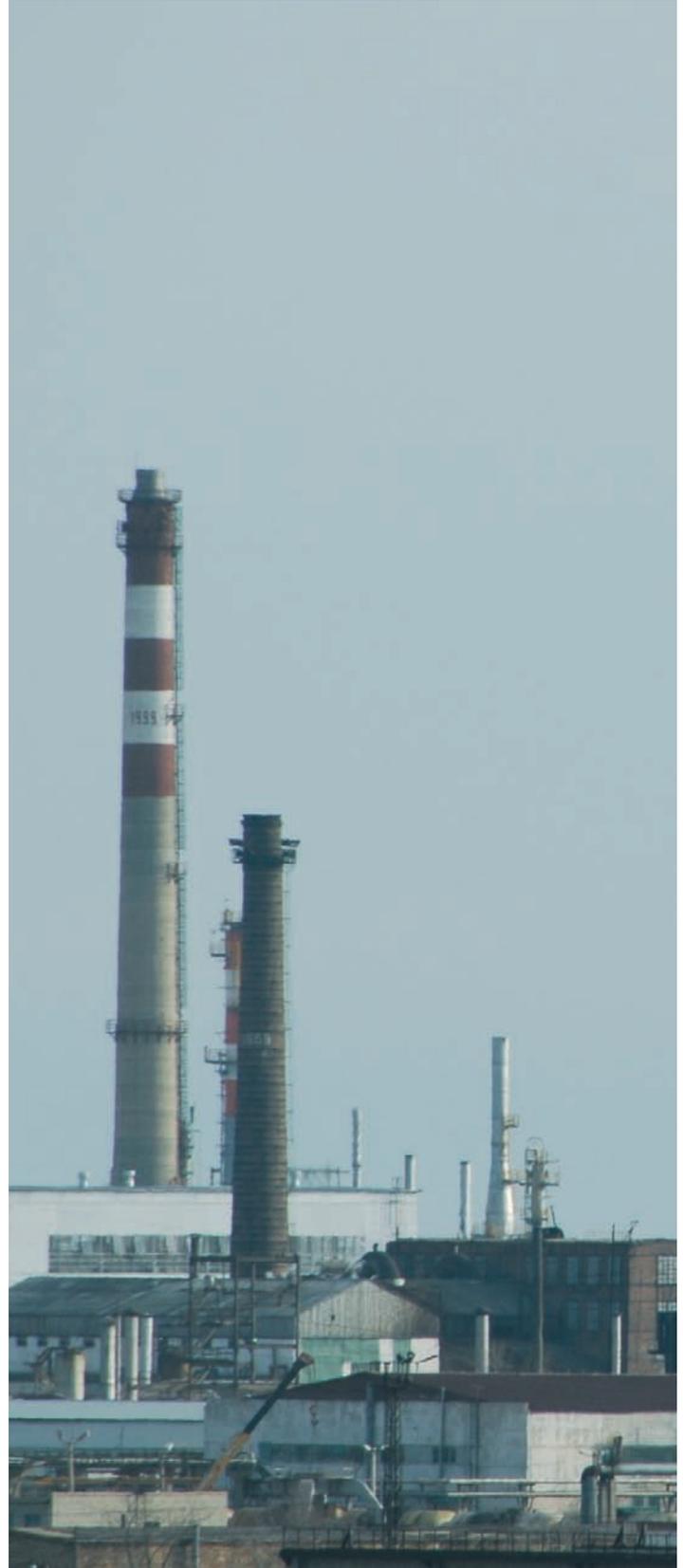
Traditionally, oil fiscal systems have set a minimum proportion of revenues that will be received by the state. This is usually done by charging a royalty (usually around 15%) or by setting a limit (commonly 40-60%) to how much of the extracted oil can be used to cover the investor's costs (any amount above this limit to be shared between state and investor, thus ensuring the state some income).

The Kashagan PSA does not include any royalty, and the cost recovery limit is set very high, at 80%. Combining these facts with a "sliding scale" of profit-sharing results in almost no revenue being received by the state until profits have been achieved. Indeed, 90% of all "profit oil" is allocated to the consortium until either (roughly speaking):

- 1 The consortium achieves an internal rate of return of 17.5% (a healthy rate of profits), or
- 2 The consortium's receipts exceed expenditures by a factor of 1.4: 1 (also likely to be a healthy rate of profits), or
- 3 Volume of oil produced exceeds three billion barrels (a large proportion of the field).

Whilst the project is still being developed, only 2% of revenues (a 10% share of the 20% remaining after cost recovery) will go to the state, 98% to the consortium. Only after one of these conditions is met, does the state's share increase.

Furthermore, the PSA (Article 14.5(d)) provides for a right of renegotiation in extraordinary circumstances resulting in "economic hardship" to the consortium. There is no corresponding right for the state – thus in the "hardship" arising from failures of project management and changed circumstances, there is no provision to adjust the terms to ensure adequate revenue to the state.



An industrial estate in Atyrau, Kazakhstan.  
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# Financing of the Kashagan project

# 8



Rig crew making connection during drilling operations in Kazakhstan.  
© dreamstime



Sanitary protective zone of the Bolashak Onshore Processing Facility (Refinery).  
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## European Bank for Reconstruction and Development

The European Bank for Reconstruction and Development (EBRD) has made significant financial contributions to the development of the Kashagan Offshore Oilfield, which is located in the north Caspian Sea off the coast of the Republic of Kazakhstan. While the EBRD has not directly financed the extraction of oil from the Kashagan Field, since 2003 it has been financing projects that support oil extraction and export in western Kazakhstan, and specifically at Kashagan.

In 2003, the EBRD provided a seven million USD loan to Caspian Offshore Construction Kazakhstan, to complete the construction of artificial islands in the Caspian Sea. The loan specifically goes toward the purchase of barges and tugs needed to complete construction. The artificial islands in the sea are the main base for extraction and are also the starting point for undersea pipeline transporting oil onshore, where it will be refined at the Bolashak Refinery, once construction of that facility is complete.

Also in 2003, the EBRD invested in the construction of a highway from Atyrau to Aktau, providing 119 million USD to the Republic of Kazakhstan to widen the road. According to the EBRD (in its project summary document), the project will provide “improved road access between [the]... main port of Aktau and the important regional centre of Atyrau. It will also support the existing oil production area at Tengiz.”

Aktau is close to the Bautino Port from which tanker traffic travels to Baku, Azerbaijan. It is also the point from which barges and other ships travel to the artificial islands at the Kashagan Field in the north Caspian. Bautino Port is being upgraded to manage the heavy traffic anticipated as Kashagan comes on line.

In 2006, the EBRD provided a loan of 26 million USD and four million USD in equity to Balykshi LLP, “a specially created project company that will own and operate the marine support base,” according to the EBRD’s website. The EBRD’s financing will support the construction of a marine support and supply base near the village of Atash. Balykshi LLP is wholly owned by Caspian Services, Inc., a US-based corporation (located in Utah) that provides on and offshore oilfield services. Caspian Services Inc., through various ventures, is involved in marine, geophysical and infrastructure development in the north Caspian region.

In summer 2007 EBRD agreed to increase its financial commitment to the Caspian Services, Inc. Bautino Atash Marine Base development project, from 24 to 32 million USD. The parties also entered into an Investment Agreement pursuant to which EBRD will make an equity investment in Balykshi of up to ten million USD. The loans and the equity investment are contingent upon Caspian providing 29.8 million USD in funding to Balykshi.

The Bank claimed that the Atash Bautino base represents “an independent, ‘merchant’ project” that has nothing to do with overall development of Kashagan project, rather it would support “support services to various offshore and onshore operators developing hydrocarbon projects in the Northern Caspian.”<sup>16</sup> While according to bank the “CSI is connected neither to Agip KCO nor to any of Agip KCO’s partners or projects”, according to the company the major client of CSI is Agip KCO.<sup>17</sup>

Despite the fact that categorising the project under the A category, the decision on the project impacts has not taken into account overall impact of Kashagan oil project development on the Caspian Sea, as well as cumulative impact of Caspian Oil development in the region that represents clear violation of EBRD environmental policy.<sup>18</sup>

It should be also underlined, despite the claims of EBRD that Bautino project met “EU environmental standards as well as Kazakh environmental and health and safety requirements” and the conclusion that from EIA “will be no negative impact of critical significance and only limited number of activities may create less significant impact on the marine environment in the Base area” it is far from reality. The health and environmental impacts in Bautino are quite high.

In addition to almost direct funding the EBRD provides support for the development of infrastructure that would be beneficial for oil industry. E.g. 119 million USD for rehabilitation of 900 km road between Atyrau and Aktau. EBRD funding is proposed to finance reconstruction of the existing pavement of some 300 km of badly deteriorated road and to pave a further 300 km of existing unpaved road. The project intends to improve road access between Kazakhstan’s main port of Aktau and the important regional centre of Atyrau. It will also support the existing oil production area at Tengiz. In addition the EBRD also financed 25 million USD for upgrade of Atyrau airport.

### Private banks

Private banks have provided a significant part of the external financing to the development of the Kashagan project and carry a large responsibility for the environmental and social impacts of the project.

In January 2006, BNP Paribas (France), Citigroup (United States) and Société Générale (France) arranged a banking syndicate to KMG Kashagan<sup>19</sup> providing an 800 million USD one-year bridge loan. The loan was guaranteed by the parent company, KazMunayGaz. In January 2007, the loan agreement with the banking consortium was extended for another six months until July 2007. In February 2007, following the Fact Finding Mission in the region of Atyrau realised by Crude Accountability and CRBM in September 2006, international

NGOs together with BankTrack wrote to private banks involved in Kashagan raising their concerns on the environmental and social impacts of the development of Kashagan.

BNP Paribas clearly stated in its response of March 6, 2007, that “As far as the Kashagan project is concerned, the structuring banks (Citigroup, BNP Paribas and Société Générale) are requiring that the financing to be put in place to include provisions for the project to be compliant with the Equator Principles.”<sup>20</sup>

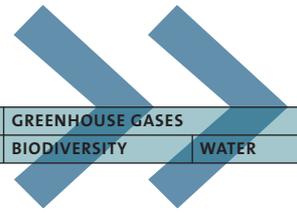
Citigroup response of March 20, 2007 explicitly said that “the project has been considered a category A project by Citigroup, which requires preparation and public disclosure of a full Environmental and Social Impact Assessment (ESIA) and associated Action Plans to comply with IFC Performance Standards and World Bank/IFC Pollution Prevention and Abatement standards. As a Category A transaction, we will also require that the Transaction’s environmental and social documentation be subject to independent review by a qualified firm acceptable to Citigroup.”<sup>21</sup>

In September 2007, the project was refinanced by a 1.05 billion USD 15-month loan from a banking syndicate arranged by BNP Paribas (France), Citi (United States) and Société Générale (France). The loan will mature in January 2008. The following banks participated in the banking syndicate:

Bank of Tokyo-Mitsubishi UFJ	Japan
BNP Paribas	France
Citi	United States
DZ Bank	Germany
HSH Nordbank	Germany
ING Bank	Netherlands
KfW	Germany
Mizuho Bank	Japan
Natixis	France
Société Générale	France
Sumitomo Mitsui Banking	Japan



Caspian Gull.  
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HEALTH

SOCIAL ISSUES

GREENHOUSE GASES

BIODIVERSITY

WATER

## Violations of the Equator Principles

The Equator Principles are a set of voluntary guidelines for project finance aiming to ensure that projects financed by adopting institutions are developed in a socially responsible manner while reflecting sound environmental management practices. Private banks that have adopted the principles have voluntarily committed themselves to apply them.

The preamble to the “Equator Principles” states that “we will not provide loans to projects where the borrower will not or is unable to comply with our respective social and environmental policies and procedures that implement the Equator Principles.”<sup>22</sup>

Considering the classification of Kashagan as a Category A project made by Citigroup, international NGOs could gather evidence of non compliance with the Equator principles by the operator in the development of the project, in particular with reference to:

- Addressing the relevant social and environmental impacts and risks of the proposed project, mitigation and management measures relevant and appropriate to the nature and scale of the proposed project (Principle 2).
- Referring to IFC Performance Standards, including:
  - **PS 1.6** the obligation to analyse risks and impacts for the key stages of the project cycle, including preconstruction, construction, operations, and decommissioning or closure, as well as transboundary effects such as pollution of air, or use or pollution of international waterways, as well as global impacts, such as the emission of greenhouse gasses.
  - **PS 1.9** Projects with potential significant adverse impacts that are diverse, irreversible, or unprecedented will have comprehensive social and environmental impact assessments. This assessment will include an examination of technically and financially feasible<sup>23</sup> alternatives to the source of such impacts, and documentation of the rationale for selecting the particular course of action proposed. In exceptional circumstances, a regional, sectoral or strategic assessment may be required.
  - **PS 19 and 20** community engagement, consultation and disclosure of source of such impacts, and documentation of the rationale for selecting the particular course of action proposed. In exceptional circumstances, a regional, sectoral or strategic assessment may be required.

- **PS 3.4** avoidance to release pollutants or, when avoidance is not feasible, minimization or control of the intensity or load of their release. This applies to the release of pollutants due to routine, non-routine or accidental circumstances with the potential for local, regional, and transboundary impacts and examination and incorporation in operations of resource conservation and energy efficiency measures, consistent with the principles of cleaner production.

- **PS 3.5** avoidance or minimization of the generation of hazardous and non-hazardous waste materials as far as practicable. Where waste generation cannot be avoided but has been minimized, recover and reuse of waste should be planned; where waste can not be recovered or reused, treatment destruction and disposal of it in an environmentally sound manner should be planned. If the generated waste is considered hazardous, commercially reasonable alternatives should be explored for its environmentally sound disposal considering the limitations applicable to its transboundary movement.

- **PS 3.11** quantification of direct GHG emissions expected or currently produced from the facilities owned or controlled within the physical project boundary and indirect emissions associated with the off-site production of power used by the project during the development or operation of projects.

- Consultation with project affected communities – “for projects with significant adverse impacts on affected communities, the process will ensure their free, prior and informed consultation and facilitate their informed participation as means to establish, to the satisfaction of the EPFI, whether a project has adequately incorporated affected communities’ concerns” (Principle 5).
- Realisation by an expert not directly associated with the borrower of an independent social or independent review of the assessment, the action plan and consultation process documentation (Principle 7).

Due to the lack of transparency on financing operations around Kashagan, it is difficult to determine the exact amount of overall direct and indirect private financing to Kashagan. Such an estimate must include managing of bonds issued by consortium members and facilitating other financial operations that individual companies used to finance their own stake in the expenditure of Kashagan development operations.



## Japan Bank for International Cooperation

In October 2005, Japan Bank for International Cooperation (JBIC), a Japanese ECA, signed a loan agreement amounting to 649 million USD with the INPEX North Caspian Sea, Ltd (INPEX) which has 8.33% stake in the Agip KCO. The loan was co-financed with mega Japanese private banks such as Mizuho Corporate Bank; Bank of Tokyo-Mitsubishi; and Sumitomo Mitsui Banking Corporation. Furthermore, on the same day, Japan Oil, Gas, and Metals National Cooperation (JOGMEC), a quasi-governmental organisation decided guarantee 600 million USD, 50% of the INPEX's borrowed capital.<sup>24</sup>

The above Japanese strong involvement in the Kashagan is no surprise, as it is actually one of the main projects for Japan's independent development of oil resources in the Energy White Paper in FY 2006. Hence, this is a national project for Japanese government.

While JBIC and Japanese government are working desperately hard for oil imports from Kashagan, their environmental and social considerations are weak. For instance, JBIC has its own environmental guidelines for JBIC and borrowers, which recognise the importance of transparent and accountable processes, as well as the participation in those processes of stakeholders in the project concerned, including local residents and local NGOs affected by the project.<sup>25</sup>

However, in reality, although in the early 2005 local NGOs sent a letter to JBIC regarding flaws in the EIA, environmental impacts of the pipelines, methods of sulphur storage and lack of consultation, the only response received from JBIC is that the letter was received. Six months later, JBIC made the loan agreement. Local NGOs were not informed of whether or how their concerns were taken into the JBIC's environmental review. In addition, in the Environmental Check Report which JBIC discloses a result of its own environmental review, does not respond to the local concerns. This leads one to question not only JBIC's accountability and transparency but also its level of environmental and social consideration.

## International Finance Corporation

In 2000, the International Finance Corporation (IFC) provided a loan to Caspi Ltd., a limited liability Kazakh company to expand and develop the Chagala Hotel and of the guesthouse in Bautino. The hotel and guesthouse offer rooms in 80-120 USD range and the target market is oil workers and associated staff involved with the oil exploration and development work in the Caspian. For this purpose the IFC allocated 2.5 million USD.

According to the Project Summary Document (PSD) "this will be IFC's first investment in this strategically important area of Kazakhstan, which is expected to be the prime driver of growth for the next twenty years.... The expansion of the Chagala Hotel and the Bautino guesthouse is a vital component of the business infrastructure in Western Kazakhstan as foreign businessmen require such accommodation to operate."

<sup>16</sup> Letter of Pieter Reindger.

<sup>17</sup> <http://www.caspianservicesinc.com/>, it should be also mentioned that AGIP KCO considered the Base as one of the most important part of overall development. Journalists visit the Base of Agip KCO. <http://www.oil.ru/news.11.html>

<sup>18</sup> The EBRD Environmental Procedures require that "the possibility for cumulative impacts should also be considered as well as requires implementation of ESPOO convention."

<sup>19</sup> In May 2005 KazMunaiGaz acquired 8.33% stake in the Northern Caspian Project Consortium for US\$ 913.1 million. This stake is held by its Dutch subsidiary, KMG Kashagan. This company is managed by Fortis Intertrust, a subsidiary of Fortis (Netherlands/Belgium), for an annual fee of USD 120,000. The Financing of the Kashagan project, first draft, November 8, 2007.

<sup>20</sup> [www.banktrack.org/dodgydeals/Kashagan](http://www.banktrack.org/dodgydeals/Kashagan)

<sup>21</sup> The Financing of the Kashagan project, first draft, November 8th 2007.

<sup>22</sup> [www.equator-principles.com](http://www.equator-principles.com)

<sup>23</sup> "Technical feasibility" is based on whether the proposed measures and actions can be implemented with commercially available skills, equipment and materials, taking into consideration prevailing local factors such as climate, geography, demography, infrastructure, security, governance, capacity and operational reliability. "Financial feasibility" is based on commercial considerations, including the relative magnitude of the incremental. IFC Performance Standards, April 30, 2006.

<sup>24</sup> In addition, JOGMEC has 50% of INPEX's equity.

<sup>25</sup> Japan Bank for International Cooperation (April 2002). Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations.

# Conclusions

# 9

## Vision of future impacts

Looking at how the project has been developed until now, future impacts may be severe for the whole Northern Caspian region. According to the testimonies gathered, there have been major environmental violations in the development of the first phase, but Agip KCO has been delaying sound and viable solutions to the environmental problems raised by the Kazakh local authorities. At the Institute for Oil and Gas, Prof. Diarov remembered that one of the requests of the Kazakh authorities was that part of the gas should have been re-injected. Up to now, the consortium did not proceed in preparing the infrastructure needed for gas reinjection.

**Technological challenges:** Kashagan field is quite unique in many respects, which makes its exploration more challenging. In other fields in the Northern Caspian region, oil is located at about 1,200-1,500 meters in depth. Kashagan Oil is located at 4,500-5,500 meters, in conditions that are different than in other fields. Oil comes out with extremely high pressure up to 1,000 atmospheres, at a temperature of 110-120 °C degrees, with gas concentration of sulphates up to 25%.

The major concern remains the treatment and storage of sulphur. At the moment, in other operating fields like Tengiz, sulphur is being treated and stored in an unsafe way that caused the contamination of large part of the territory around the fields, up to 70 km in the case of Tengiz. There is no up to date public information on how the consortium is planning to store sulphur both in Karabatan and in Koshanai. One of the options considered had been to construct cement pools where sulphur should be stored under a layer of polyethylene. The problem is that this material deteriorates with time, especially when exposed to extreme temperatures of Atyrau region, from -40 to +50 °C during the year. A new solution for safe storage of sulphur is needed to prevent an ecological catastrophe occurring in Atyrau and Mangistau regions.

**Best technology** Foreign companies declare that they are using the best technology available when operating in Kazakhstan but this is not always true. According to testimonies gathered, in particular of Professor Diarov at the Kazakh Oil and Gas Institute of Atyrau, there are several unfortunate examples of heavy environmental impacts caused by inappropriate technology, like in Tengiz and Astrakhan, the latter now operating at one forth of capacity. This raises a question of general public safety in the region where the Kashagan field will be operating. According to average data on emissions gathered by Prof. Diarov in the time period 1993-2005, the actual emissions of Tengiz field (operated by TengizChevrOil) are 4,882 kg per tonne, when permitted emissions from the Tengiz field are 1.2-1.3 kg per tonne. In other fields where KazMunayGaz is operating, emissions are up to 3,550-3,900 kg per tonne, when permitted emissions are 1.5 kg per tonne. Considering the evidence of impacts on the whole region of sulphate emissions and relocation of several villages and towns, companies' claims to be using the best technology sound inconsistent. According to Prof. Diarov, if proper technology for a sustainable management of emissions and safe storage of sulphur are not discovered and put in place in Kashagan, it is very likely that by 2020 operating fields in the region, starting with Kashagan, will have to be stopped because it will not be possible to live in the whole area any longer.



Karabatan Village vicinity of the Bolashak Processing Plant.

**Acid rain** Acid rain is one of the main concerns for when Kashagan field starts to operate. When oil is extracted at the pace expected not only by the Kazakh government but also by the consortium and other governments, European governments in particular, the emission of sulphates and concentration of solid sulphur in the area will increase dramatically. Sulphur being the main cause of acid rain, experts and NGOs in the region see this as a major threat to the sustainability of the Northern Caspian Region, with possible impact felt as far as in some parts of Europe due to wind patterns.

**Over sea transportation of Kashagan oil** The main transportation route for Kashagan oil will be the Baku-Tbilisi-Ceyhan pipeline, serving mainly the European and US markets. According to the information gathered, Kashagan oil should then travel undersea from the offshore platform to the Karabatan processing complex, and then via pipeline arrive to the port of Aktau. Transportation of Kashagan oil from Aktau to Baku should take place in a first phase via tankers, with future plans for the construction of an undersea pipeline that should link the Kazakh and the Azeri coast. Considering the pace of extraction expected from the operating field of Kashagan, the tanker traffic would increase dramatically, as would the risk of accidents in that part of the Caspian Sea, where winds are very strong and storms quite dangerous, not to mention the presence of ice during winter. The several wreckages that occurred in the Black sea on November 11th 2007 in bad weather conditions, which caused major environmental damage, should be taken as a warning, before putting at risk the Caspian basin as a whole. Besides, this issue of oil transportation seems to be still very controversial and/or confidential amongst the project partners, if not deliberately non-transparent. When inquired about this issue in September 2007, French oil major Total, which is coordinating this particular part of the project, replied that no solution had been confirmed yet; such a statement sounds suspicious especially when expressed in such a short time before apparent beginning of the production.

### Lessons from Tengiz

**Geographical and geological criteria** While not as big as Kashagan, Tengiz is another huge Kazakh oil field, also located in the Atyrau Oblast (administrative region), about 150 km to the south east of Atyrau city. Discovered in 1979, it “confirmed the high potential of the near Caspian Basin as a new petroleum production region of Kazakhstan, unique in its reserves.”<sup>26</sup>

With a current production of 450,000 – 500,000 bpd, Tengiz is one of the top oil fields in the world, and produced its 1 billionth barrel of oil in the end of 2006. It is also the biggest oil producing field in the national Kazakhstan plan, with roughly one third of the country’s 1.4 million bpd production in 2006.

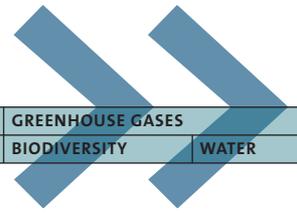
Its recoverable reserves are estimated at roughly 6-9 billion barrels (Kashagan reserves are estimated at 13 billion of recoverable barrels) from 24 billion barrels originally in place (to be compared with the 36 estimated total reserves of Kashagan). Comparing these figures show that if Tengiz final production is expected as roughly one third/one half of Kashagan’s, the difference is smaller in regard to long-term exploitable reserves, and that the two projects belong to the same mega-field category.

According to “KazakhstanKaspishelf” company specialists’ statements, the Kashagan structure is similar to Tengiz’s.<sup>27</sup> The geological stratification cross section is expected to be the same as that of Tengiz, while under salt oil layers are expected to be subject to abnormally high temperature and pressure.<sup>28</sup>

According to Aitaliev, Alimzhanov and others (1991), the abnormally high intrastratal pressure appears to be a source of man-made problems while operating these oil and gas deposits.<sup>29</sup> The spouting gusher at well n.37-Tengiz, which appeared in June 24th 1985, was one of the most tremendous in oil and gas production history but was not the only one that appeared in the area. With a flame column that sometimes reached a height of more than 200 meters and a diameter of up to 50 meters, it took 13 months before the operator could manage to extinguish the flame at well n.37, during which time combustion products including hydrogen sulphide, sulphur dioxide gas, carbon, un-burnt hydrocarbons etc contaminated air, soil and surface water in an area of 100-125 km around the well.<sup>30</sup>

While belonging to the same geological structure, Tengiz is located onshore in the extreme east of the Northern part of the Caspian Sea, while Kashagan is located offshore. Considering the similar geological structure and extremely dangerous spouting gusher already appeared at Tengiz and other fields, Kashagan’s offshore location is very problematic from a technical point of view as well as in terms of response and management plan in case of offshore accident, with expected spout pressure of hundreds atm (800-950) and spouting gushers’ temperature of 110-130 °C, with surface water that would start boiling quickly and add steam to the erupted fluid.<sup>31</sup>

Despite this difference of location, both fields lie extremely deep under the surface. Chevron describes Tengiz as the “world deepest operating super-giant oil field, with the top of the reservoir at about 12,000 feet deep (3,657m),”<sup>32</sup> compared with the 4,500-5,000 m depth of Kashagan. In both cases this has major consequences in regard to considerable oil pressure at the surface, which necessitates heavy investment and high-level technical expertise by the projects’ operators.



HEALTH

SOCIAL ISSUES

GREENHOUSE GASES

BIODIVERSITY

WATER

**Operational structure of the two projects** While Kashagan is operated by a big consortium of several international oil mega-companies, Tengiz field is operated by a smaller consortium of four companies and “only” three different nationalities: Chevron (50%, US), ExxonMobil (25%, US), KazMunayGaz (20%) and LukArco (5%, Russia). They are all grouped within the TengizChevrOil consortium, which also comprises the other neighbouring giant Korolev field.

The large share of Chevron makes the company the largest oil producing private foreign company in Kazakhstan, therefore very powerful in such an oil-dependant developing country (according to some bank sources, Tengiz has brought 19 billions USD in total revenue since 1993).<sup>33</sup> Nevertheless, as Tengiz also represents a major share of Chevron’s portfolio and production (i.e. roughly 2.6 Mbbl/d in 2006), one can consider this situation as a very strong interdependency between Chevron and Kazakhstan, both parties mutually benefiting to the other. This is reinforced by the fact that Chevron was the first company to be allowed to operate in Kazakhstan in 1993 after the country opened its economy to international investment, and before all the other oil majors that are involved in Kashagan today. Besides, the company also has a 20% share in the other huge Karachaganak oil and gas extractive project.

In terms of production, both fields can be described as almost equally important at the national and world level. Indeed, if Tengiz’ production has already boosted from 285,000 bbpd in 2002 to 450,000 bpd in 2006, following to major 3.5 billion USD investment by Chevron in 2003-2006 (in particular in order to install a gas reinjection system), it is still expected to reach 700,000 bpd by 2010. If such a production would be half the expected 1.5 mbpd production of Kashagan, it would still easily put the two fields in the same “world top highly-strategic giant oil fields” category.

**Transportation of the crude oil** As production of Kashagan field nears, the issue of transportation of Kashagan oil is still an unclear matter. Different members of the consortium have given conflicting declarations in the recent years on the routes that will be used for the transportation of Kashagan oil. This leaves a number of questions unanswered including technical, environmental and political.

First of all, according to international standards a complete Environmental Impact Assessment of Kashagan development should include the impact of transportation of oil from the field to the final export markets.<sup>34</sup> The Memorandum of Understanding signed on June 16, 2006 between Azerbaijan and Kazakhstan covering transport of oil from Aktau to Baku for export via BTC let us understand that Kashagan crude will be transported also through the Baku-Tbilisi-Ceyhan pipeline.

This raises the issue of how Kashagan crude will be transported across the Caspian Sea up to Baku, on the Azeri coast. There have been talks of building an undersea pipeline which would cross the Caspian Sea from Aktau port to Baku in Azerbaijan. No information has been provided to the public in terms of environmental impact assessment of the pipeline.

A second option ventilated by Agip KCO looks at transportation of Kashagan crude through tankers from the Kazakh port of Aktau to the Azeri port of Baku. ERSAI Contractor, owned by Eni subsidiary Caspian Services, is committed by Agip KCO to build barges that will be used for transportation of support materials and waste from Kashagan artificial islands to the Bautino Marine and Support Base. It is unclear if Ersai is in charge also of the construction of boats that will be used for the cross-Caspian transportation of oil. It is also unclear whether single-hulled or double-hulled tankers will be used for the transportation of Kashagan oil.

If any accident is likely to occur on any pipeline project such as the CPC, with major environmental consequences, one can presumably think that the latter would remain “low” compared to any accident occurring in the Caspian Sea and resulting in an immediate oil spill, with massive long-term consequences for the fragile Caspian ecosystem. Besides, any accident occurring on the marine part of the pipe that will carry the Kashagan-extracted crude oil to the Karabatan onshore processing complex could also have major ecological consequences, in an international nesting and breeding zone for numerous species of birds, fish and marine mammals. The major ecological damage resulting from shipwrecks occurring in stormy weather in November 2007 in the Kerch Strait of the Black Sea are particularly illustrative of these very realistic risks.

The Tengiz-extracted crude oil is exported along a single route from Kazakhstan to the Russian Black Sea Port of Novorossiysk via the 1,500 km CPC (Caspian Pipeline Consortium) pipeline, in which Chevron also is the main private partner.

Geopolitically speaking, exporting the Tengiz crude through the CPC also means crossing Russian territory (whether it be continental or maritime), thus giving the Kremlin great power on the oil provisions of the rest of the world, especially the European Union. This is also a major difference with the Kashagan project, whose operators and supporting countries (the E.U. in the first place) are strategically pushing for a different route for the transportation of Kashagan oil, trying to avoid dependency on both Russia in the North and Iran in the South, to export the extracted oil.

**Environmental issues associated to the Tengiz and Kashagan projects** Besides the environmental risks that are associated with the transportation of Kashagan crude oil across the Caspian Sea (see above), and which can be considered much higher than in the case of Tengiz, both projects present some other similar serious ecological risks.

This is mainly due to the similar chemical nature of the two projects' oil, which contains high levels of pollutants. In particular, Tengiz' oil contains roughly 19-20% of sulphurous components (under the form of hydrogen sulphide), which is similar to the levels contained in the Kashagan oil, and presumably in the whole geological basin's petroleum. It also contains high levels of highly toxic mercaptan gases (33 g/100m<sup>3</sup> on average<sup>35</sup>), roughly similarly to the Kashagan oil again.

In the case of Tengiz, heavy emissions of these toxic gases and resulting sanitary consequences (if not cases of deaths) have already led the authorities to displace several villages and thousands people to safer locations in the Atyrau region; human life has virtually become impossible within a perimeter of up to 70km from the field. In the case of Kashagan and according to the many testimonies that could be gathered during our mission, the risks associated with the operation of the field would be virtually the same if not higher, due to the closer proximity of the heavily-populated Atyrau urban centre (while Tengiz is located in a much less populated area).

In the case of Tengiz, the sulphur issue is also one of the other very illustrative example of the risks associated with Kashagan. Indeed, according to local authorities and scientists, the very deficient way in which the Tengiz sulphur storage and treatment issue has been taken into account for decades has led to major ecological consequence both at local and international scales today. This is mainly due to the very harsh local climatic conditions throughout the year, which, in the long-term, resulted in changes of the chemical form of the components and massive releases into the soil and the atmosphere. As this issue has still not been solved by the Agip KCO consortium in the case of Kashagan (a few years only before the start of its production), and as the quantities of sulphur that will be extracted from the field will be greater than in the case of Tengiz, it is therefore most likely that, with no strong and urgent political action in the next months, the operation of Kashagan will result in the same extremely concerning ecological and sanitary consequences on both local and international scales.

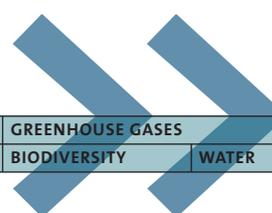
**Political issues associated to the Tengiz and Kashagan projects** Tengiz and Kashagan are both some of the biggest world oil fields, as well as at the top of the list of priorities for the Kazakhstan authorities to achieve their aim of becoming one of the top world oil exporters in the next decades. Being mainly operated by foreign companies, the two projects are therefore also both part of the political game between all the parties, each of them trying to increase their long-term benefits.

For example, as in the case of Kashagan and Agip KCO since August 2007, Chevron has been accused of environmental violations in the beginning of the same year, regarding the Tengiz sulphur storage and treatment issue, and has finally agreed to spend 866 million USD between 2007 and 2010 for (allegedly) environmental improvements. Even if in both cases environmental issues seem to be instrumentalised by the Kazakh authorities to push up the cursor of their benefits as high as possible, evidence collected by the regional office of both the Environment and Health Ministries shows that exploration of oil in Tengiz did bring severe environmental degradation of a large area around the field. On Kashagan, evidence gathered by the same Ministerial offices and NGOs shows the impact of the first exploration and construction phase, already quite severe in terms of degradation of the Northern Caspian ecosystem.

Putting the pressure on Chevron on issues related to the Tengiz field, on which Kazakhstan is already heavily reliant today, can also be perceived as a strategy to facilitate the much tougher and longer negotiations on a bigger project such as Kashagan, with larger and more powerful foreign companies, and greater financial and political stakes.

### Relevance of Baku-Tbilisi-Ceyhan pipeline

The Baku-Tbilisi-Ceyhan (BTC) pipeline is a dedicated crude oil pipeline system, 1,760 kilometres long, with a capacity of one million barrels per day. The pipeline extends from Baku in Azerbaijan through Georgia to a terminal at Ceyhan on the Mediterranean coast of Turkey. Operational since June 2006, the 4.2 billion USD pipeline was constructed by the BTC Consortium, consisting of BP, Eni, Inpex, Total, ConocoPhillips, SOCAR, Unocal, Statoil, Turkish Petroleum, Itochu and Delta Hess. The pipeline provides an export route for Caspian crude oil that bypasses Russia and Iran and leads to Europe rather than China. In the first instance, the pipeline will provide export capacity for the phased development of the Azeri-Chirag-Guneshli fields just off Baku. Beyond this, BTC is expected to be the primary export route for oil produced in Azerbaijan and elsewhere in the Caspian region.



HEALTH	GREENHOUSE GASES
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**Financing** BTC was financed with 2.6 billion USD in debt from IFIs, ECAs and private banks. In November 2003, funding was approved by the IFC and the EBRD. The EBRD and the IFC provided the BTC pipeline with total loans of 500 million USD, consisting of two 125 million USD A Loans from their own accounts and two 125 million USD B Loans (commercially syndicated loans). Credit and insurance guarantees were approved by national export credit agencies of the UK, USA, Germany, Japan, Italy and France, and 16 private banks acted as lead arrangers, including RBS, ABN AMRO and Citigroup.

**Kazakh oil planned into BTC** Documents released under the Freedom of Information Act show that in meetings with UK civil servants prior to obtaining public funding for the project, BP repeatedly stressed that BTC would not be commercially viable solely on the basis of Azeri reserves.

- “BP Amoco has argued that discovered reserves in the Caspian are not sufficient to make BTC commercially viable at present.” 12.10.99 FCO to 10 Downing Street
- “Everything depended on making up the missing volumes from eastern Caspian production. After a recent visit to Kazakhstan, Wolf (Special Advisor to US President for Caspian Region) was convinced that up to 400,000 bpd could be put together relatively easily from production there. But BPA CBP Amoco continued to take a more pessimistic view.”

Further documents show that a Memorandum of Understanding (MoU) on BTC was signed by Kazakhstan in early 2001. The MoU has never been released to the public. The doubts over BTC’s commercial viability without Kazakh oil were raised publicly by NGOs in March 2003, again prior to financing. The financial analysis “Building Tomorrow’s Crisis?” by financial analysts at Claros Consulting showed that “The BTC project is likely to require significant volumes of non-ACG oil to make the returns reasonable, particularly to equity investors. With Azerbaijani oil finds failing to live up to expectations, BP has had to look for Kazakhstan to identify sufficient volumes”. It also highlighted that “The Kazakhstan government is in negotiations with Azerbaijan, aiming for an intergovernmental agreement by late 2003 (committing to anything from 100,000 bpd to 400,000 bpd).”

BTC and the international financial institutions from which it was seeking public money attempted to dismiss the report – arguing, for example, that “it would be very odd for commercial lenders or the private sponsors to have any interest in investing large sums in a project with low returns and high risks” (IFC 20 June 2003). No attempt was made to rebut the detailed analysis that had been presented by Claros Consulting.

Given BTC Co’s statements prior to financing that it would need to source oil from Kazakhstan, the environmental impact assessments conducted for BTC should have covered the impacts of producing and transporting Kazakh oil. However the EIA does not even mention the Kazakh connection. The BTC project was therefore approved without its full impacts being taken into account – an omission that was enabled by BTC’s failure publicly to disclose the probable BTC-Kazakh connection.

### Responsibilities of BTC lenders

**EBRD** Given the above, the EBRD had and has a responsibility to assess the impacts of Kazakh oil sourced for BTC. This responsibility is further amplified through the EBRD’s financing of Bautino port expansion, a crucial infrastructure development for the transport of Kazakh oil to Baku.

Paragraph 15 of the EBRD’s Environmental Policy states that, “Screening is carried out to identify potential environmental issues associated with a proposed project and to specify the types of environmental information required in order to assess environmental risks, liabilities, regulatory compliance, any adverse environmental impacts and other concerns”.

Further, Paragraph 39 of the EBRD’s Environmental Policy and EC Directive 2001/42/EC set out assessment procedures for situations where a project is part of a larger development, as is the case with BTC and Kazakh oil. In this case, EBRD and EC procedures require the preparation of a Strategic Environmental Assessment (SEA) of the likely overall environmental consequences, prior to preparation of a project specific EIA is prepared. The EBRD was therefore obliged to undertake an SEA assessing the overall impact of oil developments in Kazakhstan that were linked into BTC plans since 2001.



Oil rig in the Caspian Sea.  
© dreamstime



Gas flaring at an oil refinery plant in Kazakhstan.  
© dreamstime

**IFC and Private Banks** The IFC and the Equator Principle banks involved also carry a responsibility to assess the impacts of Kazakh oil sourced for BTC. IFC Performance Standard 1.5 sets out that “Risks and impacts will be analysed in the context of the project’s area of influence. This area of influence encompasses, as appropriate:

(ii) associated facilities that are not funded as part of the project [...], and whose viability and existence depend exclusively on the project and whose goods or services are essential for the successful operation of the project; [...]

(iv) areas potentially affected by impacts from unplanned but predictable developments caused by the project that may occur later or at a different location.”

Both (ii) and (iv) apply in this case.

Export of Kashagan oil via Bautino depends on onward transport by BTC for its viability and provision of Kazakh oil is essential for the ongoing successful operation of BTC. Further, expansion of Bautino port and the shipping of Kazakh crude across the Caspian were unplanned but highly predictable developments that rely on BTC for their realisation.

According to IFC PS 1.6, the IFC and EP banks must continue to analyse risks and impacts during the operational stage of the project; they therefore hold a responsibility to examine and manage the risks and impacts of Kashagan and of transporting crude across the Caspian.

Note: IFC PS 1.6 also states that “The impacts associated with supply chains will be considered where the resource utilised by the project is ecologically sensitive.” The origins of crude oil for transport through a pipeline are not normally considered a “supply chain” issue.



A yurt on the Assy plateau, Tien Shan, Kazakhstan.

© dreamstime

## Responsibilities of Kashagan Lenders

On June 16, 2006 a Memorandum of Understanding was signed between Azerbaijan and Kazakhstan covering transport of oil from Aktau to Baku for export via BTC. The agreement stipulated that three million tonnes would be transported in the first year, to increase to 7.5 million tonnes by 2010. Beyond 2010, Kazakhstan pledged to export 25 million tonnes via BTC annually. To provide this level of volume, these exports must include crude sourced from Kashagan.

This has been clear since June 2006. Thus, public or private banks adhering to IFC or EBRD policies that have financed or are planning to finance Kashagan must assess and manage the impacts of both transporting crude across the Caspian and of BTC itself. The increased impact of tanker traffic and/or the construction of an undersea pipeline will drastically impact an already heavily polluted and sensitive Caspian Sea environment. BTC itself has been subject to increased concerns regarding corrosion, siphoning off of oil and human rights impacts.

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# NGO demands

# 10

**Based on the Report findings the NGOs demands that the European Union, European and Kazakh Governments and oil companies (Agip-KCO) take the following action:**



Kazakh child in the Kuryk Village.  
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## Environmental demands

**Sulphur:** considering its enormous potential impacts, there must not be any restart of the Kashagan project as long as the sulphur issue is not resolved. This means that a sustainable solution has to be found concerning the way huge quantities of Kashagan-oil sulphur will be extracted, treated and stored by the oil companies. In addition, the sulphur's environmental and health impacts must be scientifically and independently assessed.

**Biodiversity impacts:** considering the massive decline in the Northern Caspian Sea's fragile biodiversity and ecosystems in recent years, especially concerning fish and Caspian Seals, as well as severe socio-economic impacts for the Caspian Sea-dependent populations of five countries, the short and long-term environmental impacts of offshore oil-extraction must be scientifically and independently assessed before the Kashagan project restarts.

**Gas flaring:** considering this practice's well-known negative impacts on local and global health and the environment, as well as the Kazakh legal framework, gas flaring must be strictly forbidden from the Kashagan project.

**Climate impacts:** given the global and urgent short- and long-term fight against global warming on an international scale, as well as its ambitious position as a key-leader on this issue, the European Union should not support Europe-based highly-profitable private oil companies that choose to invest massive amounts of money in fossil fuel and environmentally unsustainable mega-projects, such as Kashagan, rather than to invest equivalent sums in renewable, clean and more employment-providing energy. This is particularly relevant in regard to Kazakhstan, which, like other developing countries in Central Asia, may be severely impacted by global warming in the medium and long term.

## Health impacts

Considering the massive presence of highly-toxic (or lethal) pollutants in the Northern Caspian oil, as well as the very concerning testimony that the NGOs gathered in the Atyrau and Aktau regions, the short- and long-term health impacts of offshore oil extraction for the hundreds of thousands of people living in the Northern Caspian region must be scientifically and independently assessed before the Kashagan project restarts.

## Socio-economic impacts

Considering the negative impacts that are already resulting from the last decade of development of the oil industry in the Northern Caspian region, especially in regard to already-occurring rapid inflation, and which may worsen drastically with the development of the Kashagan project, the short and long-term social impacts of oil industry development for the hundreds of thousands of people who live in the Northern Caspian region must be scientifically and independently assessed and compensated".

**Employment:** considering the negative testimony that the NGOs gathered, the Kashagan-involved oil companies must commit to employ local people and/or expatriate workers according to national and/or international labour legal standards and best practices. In particular, this refers to trade union rights, payment of social charges, safety standards, stable long-term contracts, free access to information and any other criteria that may guarantee that the project really is beneficial for the local populations.

### Development impacts

Considering the very negative examples of many other oil-producing countries in the last decades, and the potential of massive environmental, socio-economic, health and governance impacts that may result from the development of the Kashagan project, the long term direct and indirect development impacts of the Kashagan project must be scientifically and independently assessed before the Kashagan project restarts. In particular, any other safer, cleaner and more sustainable development option, (e.g. tourism or fishing), should be accurately studied before embarking on massive oil development projects such as Kashagan, and eventually be supported by international and/or EU public or private financial institutions and development agencies.

### Information

Given the evident lack of transparency that the local population, as well as local and international NGOs, regularly encounter when working on Kashagan-related issues, any information and assessment concerning the environmental, health and socio-economic impacts of the project should be immediately released and kept freely available in local languages and easily accessible by the both Kazakhstan's authorities and Kashagan-involved oil companies.

### Governance

**Population involvement:** given the negative testimony that the NGOs gathered and evidence witnessed themselves, all development steps of the Kashagan project must get free, prior and informed initial consent by the local populations.

### Production Sharing Agreement

The PSA must be made publicly available, in line with best practice in the international oil industry, and as recommended by the World Bank and others. A meaningful consultation should be carried out with civil society groups and with oil experts on whether the terms of the PSA provide for their interests.

The “stabilisation clause” (Article 40.2) should be restricted to purely fiscal changes, and in particular should affirm the Republic’s right and duty to comply with international human rights instruments.

### Financial

The EBRD, IFC and private banks that financed BTC should take steps to undertake a thorough and accurate assessment of the environmental and social impacts of the BTC pipeline in connection of Kazakh oil. This should include the impacts of the Kashagan development, the effects of additional tanker traffic on the Caspian Sea and the impacts of constructing a pipeline from Kazakhstan to connect to BTC.

### Other legal and international issues

**Legal status of the Caspian Sea:** considering its ambiguous status and its richness in natural resources, the five countries that benefit from access to the Caspian Sea, as well as the international community as a whole, should work together with the aim of giving rapidly a clear legal status to it.

**Protection of the Caspian Sea:** considering it as a world natural and/or cultural heritage site, the five countries that benefit from access to the Caspian Sea, as well as the international community as a whole, must work together with the aim of establishing rapidly a clear international protection status for the Caspian Sea, such as UNESCO protection.



Fishing boats in the Damba Village - future site of the Northern Caspian Environmental Response Base.

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# Appendix

## Appendix 1: List of places and sites visited during NGO Fact Finding Mission in September 2007

**Atyrau Region:** Atyrau City, Demba Village and a nearby area proposed for development of the National Oil Spill Response Centre, Karabatan Village, vicinities of the Bolashak Refinery, New Sarykamys.

**Mangistau Region:** Aktau City; Kuryk Village, vicinities of the ERSAL Logistic & Fabrication Yard, Fort Shevchenko, vicinities of the Agip-KCO Koshanai Cuttings, Oily Water Treatment Facility, vicinities of the KazMunayGaz Facility for Toxic Waste Utilization from Oil Processing, Bautino Village, Bautino Atash Marine and Supply Base.

## Appendix 2: List of officials and NGO members interviewed in Atyrau during NGO Fact Finding Mission in September 2007:

Prof. Muftakh DIAROV	Director, Scientific Centre of Regional Ecological Problems, Atyrau Institute of Oil and Gas
Mr. Tlekkabyl KABDULOV	Chairman, Oil and Gaz Industry Atyrau Region Trade Union
Mrs. Yelena MUSTAFINA	Deputy Chairman, Oil and Gaz Complex, Trade Union of the Kazakhstan Republic
Mr. Abdrakhmanov MARAT	Head, Atyrau Region Territorial Administration for Environmental Protection
Mr. Iliasov ELAMAN	Director, Atyrau Region Natural Resources and Nature Management Department
Ms. Sungaliyeva GULZINEP	Deputy Head, Atyrau Region Department of Public Health Service
Ms. Utepkaliev MUSSA	Head Surgeon, Atyrau Region Health Department
Ms. Kamenova DINA	Head Paediatrician, Atyrau Region Health Department
Mr. Kabdrakhminova ALMAGUL	Head Physician, Atyrau Region Health Department
Mr. Shaimanov AZBERGEN	Head Gynaecologist, Atyrau Region Health Department
Ms. Shinar IZTELEOVA	Director, NPO Social Fund
Mr. Makhambet KHAKIMOV	Representative, NPO Social Fund
Ms. Galina ZEMLIANIA	Representative, NPO Social Fund
Mr. Artur SHAKHNAZARIAN	North Caspian Press Club
Ms. Valentina CHJEN	Women Social Unite Tomirist
Mr. Malik ISABEKOV	Oil Income Transparency Coalition
Galina CHERNOVA	Director, Globus Centre
Umbetova NURSAULE	Volunteer, Globus Centre
Ms. Natalia CTOLNIKOVA	Volunteer, Globus Centre
Mr. Mikhail KARAPUN	Volunteer, Globus Centre
Saudabai RAKHIDJAN	Volunteer, Globus Centre
Ms. Kaisha ATAKHANOVA	Chairwoman, EcoForum of Kazakhstan, Receiver of Goldman Prize Award
Mr. Vadim NII	Director, LEEP, International Expert for the Aarhus Convention Compliance Committee

Due to the use of the Cyrillic alphabet in Kazakhstan, some name spellings may vary slightly.

Villagers were extensively interviewed in the villages and vicinities of Karabatan, Demba, New Sarykamys, Kuryk, Fort Shevchenko and Bautino.



mining



oil & gas



climate



gender



social



financing

This Report is part of the "Extractive Industries: Blessing or Curse?" project implemented by Friends of the Earth Europe, Friends of the Earth France, Friends of the Earth Netherlands and CEE Bankwatch. Please see various websites below for more Reports and Fact Sheets in this series.

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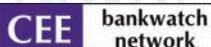
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**Friends of the Earth Europe**

**Friends of the Earth Europe**  
Rue Blanche 15  
1050 Brussels, Belgium  
tel: +32 2 542 0180  
fax: +32 2 537 5596  
email: info@foeeurope.org  
[www.foeeurope.org](http://www.foeeurope.org)



**CEE Bankwatch Network**  
Jicinska 8, Praha 3, 130 00  
Czech Republic  
tel: +32 2 542 01 88,  
fax: +32 2 537 55 96  
email: info@bankwatch.org  
[www.bankwatch.org](http://www.bankwatch.org)



**Center Globus**  
Avangard 3, 06009 Atyrau  
Kazakhstan  
tel/fax: +7 3122 214 720  
email: globus-caspi@nursat.kz



**Les Amis de la Terre**

**Friends of the Earth France  
Les Amis de la Terre**  
2B rue Jules Ferry  
93100 Montreuil, France  
tel: +33 1 48 51 32 22  
fax: +33 1 48 51 95 12  
email: france@amisdelaterre.org  
[www.amisdelaterre.org](http://www.amisdelaterre.org)



**Campagna per la riforma della Banca Mondiale**

**Campaign for the Reform of the World Bank  
Campagna per la Riforma della Banca Mondiale**  
Via Tommaso da Celano 15  
00179 Rome, Italy  
tel: +39 06 78 26 855  
fax: +39 06 78 58 100  
email: info@crbm.org  
[www.crbm.org](http://www.crbm.org)