

REPORT BY CRUDE ACCOUNTABILITY

FLAMES OF TOXICITY: ENVIRONMENTAL AND SOCIAL IMPACTS OF AZERBAIJAN'S OIL AND GAS DEVELOPMENT.



CRUDE ACCOUNTABILITY

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Near Sangachal Terminal © Crude Accountability

Crude Accountability

Crude Accountability is an environmental and human rights non-profit organization that works with communities in the Caspian and Black Sea regions, which struggle against threats to local natural resources and negative health impacts. Crude Accountability works on the local, national, regional, and international levels in partnership with communities and organizations committed to a just and environmentally sustainable world. Based in Northern Virginia, Crude Accountability also collaborates with other environmental organizations in the United States.

Key Findings

Control of the oil and gas sector in Azerbaijan concentrates money and decision-making influence in a few hands. Oligarchs are the main beneficiaries of Azerbaijan's natural resources, while many citizens suffer in poverty. This report looks at five areas in Azerbaijan dominated by fossil fuel production and their impacts on the environment and the local population. Our research and ground-truthing gives voice to communities devastated by the impact of oil and gas companies and reveals how destructive these projects can be.

There is very little transparency in Azerbaijan's fossil fuel industry—public information is limited and assessments of development projects are only summarized. Therefore, it is difficult for civil society and other stakeholders to ensure that companies and the government are held to adequate human rights and environmental standards.

- ▶ Azerbaijan is a deeply authoritarian state; power is concentrated in the hands of President Ilham Aliyev. In 2017, a massive money laundering scheme was uncovered, implicating several elites close to Aliyev. The release of the Pandora Papers in 2021 revealed that the Aliyev family owns close to \$700 million in London property.
- ▶ Azerbaijan's economy is driven by fossil fuels, accounting for over 90% of its exports and 33% to 50% of its GDP. Azerbaijan's largest foreign investor is the United Kingdom: BP is one of the government's key partners in oil production.
- ▶ Several major international financial institutions are heavily invested in Azerbaijan's fossil fuel projects, including the European Bank for Reconstruction and Development, the Asian Development Bank, and the International Finance Corporation. Their investments legitimize Azerbaijan's corrupt political regime and decrease motivation for its government to clean up practices destructive to its citizens and the environment.
- ▶ The COVID-19 pandemic led to crackdowns on journalists and civic activists in Azerbaijan, in addition to lower oil and gas revenues. While the oil industry has seen increased revenue in 2021 and seems to be recovering, the opposite is true of Azerbaijan's human rights situation.

- ▶ Sangachal Terminal, one of the world's largest terminals, is a key part of Azerbaijan's oil and gas infrastructure. In 2020, 49 million standard cubic meters of Shah Deniz natural gas were exported daily. The Terminal was relatively unaffected by pandemic-related supply changes, exporting more oil and gas in 2020 than in 2019. Gas flaring was continuous at the Terminal between 2012-2020.
- ▶ Very little official environmental testing has been done in villages near the Sangachal Terminal, and BP reported no major negative effects on air quality. However, villagers report significant flaring and smoke and breathing problems and illnesses in their children and animals. They also report negative impacts on subsistence farming, on which they rely for food.
- ▶ Low-level gas flares were observed near AzMeCo Chemical Plant and the Heydar Aliyev Baku Oil Refinery, contributing to the country's overall flaring and methane levels. Public data on environmental monitoring of these projects is completely lacking.
- ▶ Shah Deniz is one of the world's largest gas condensate fields. It has an annual capacity to produce 10 billion cubic meters of natural gas and over 50 million standard cubic meters of gas daily. Shah Deniz is connected to several explosions, including a July 2021 fire on the Caspian Sea.
- ▶ Azeri-Chirag-Guneshli Oil Field is operated by 11 oil companies from six countries. Gas flaring at the field was found to be relatively consistent from 2012 to 2020. It has also been the site of major accidents resulting in worker deaths.
- ▶ Under the Paris Accords, Azerbaijan is committed to reducing its greenhouse gas emissions by 35%. Although the government markets eco-friendly appliances to its citizens, it avoids replacing its oil and gas operations with renewable energy.
- ▶ The Green Climate Fund has approved three projects in Azerbaijan totaling \$3.8 million for climate migration and adaptation strategies. While Azerbaijan seeks funding for climate projects, it maintains its environmentally destructive oil and gas operations.

INTRODUCTION



Introduction

Azerbaijan is a rentier state, highly dependent on oil and gas revenues as the basis of its economy. In this report, Crude Accountability focuses on environmental and human rights impacts in those areas of Azerbaijan where oil and gas development is the main industry. These areas include the Sangachal Terminal, the AzMeCo Refinery, and the Bay of Baku, as well as the offshore fields in the Caspian Sea, Azeri-Chirag-Guneshli, and Shah Deniz, which supply the Sangachal Terminal with oil and gas for transport to points west. Sangachal also transports oil from Kazakhstan and Turkmenistan.

Flames of Toxicity focuses on oil and gas flaring both on- and offshore. We compare satellite imagery with data from communities near the monitored facilities, documenting community health and environmental impacts. Trusted methodologies include citizen science, interviews, and observation.

The report is divided into seven sections: 1) the background context for the report's findings; 2) COVID-19 impact on civil society and our ability to conduct research in Azerbaijan; 3) COVID-19 impact on the oil and gas sector in Azerbaijan; 4) a brief overview of the impact of oil spills and gas flaring; 5) comparison of on-the-ground observations with Omanos Analytic's satellite imagery analysis; 6) a wider view of Azerbaijan's commitment to environmentally sound practices and climate change, and 7) a conclusion and future observations.

Crude Accountability has been monitoring the impact of oil and gas development in the Caspian region since 2003. We have documented the negative environmental and social impacts of this industry throughout the region, relying on key community data over time. We have monitored such impacts in communities in Azerbaijan and Kazakhstan, and documented oil spills on- and off-shore throughout the region, including in Turkmenistan.¹

In 2020, we partnered with Omanos Analytics, a UK-based organization that delivers "space data knowledge to support the narratives of communities across the globe, presenting data in tailored, accessible formats in order to reveal impact on local environments and communities."² With locations suggested by Crude Accountability, Omanos Analytics conducted remote environmental monitoring using satellite imagery analysis. Crude Accountability collected on-the-ground data to verify and support Omanos' findings.

¹ For access to Crude Accountability's numerous reports on these environmental impacts, see here: <https://crudeaccountability.org/reports/>, accessed November 2, 2021.

² <https://www.omanosanalytics.org/what-we-do>, accessed June 16, 2021.

BACKGROUND



Background

Azerbaijan is a country of some 10 million people³ in the southern Caucasus region with the Caspian Sea to the east, Iran to the south, Armenia to the west, and Georgia and Russia to the north. The country is authoritarian, with most power in the hands of President Ilham Aliyev who has ruled the country since his father, the previous president Heydar Aliyev, died in October 2003.⁴ The administration is rife with corruption, ranking 129 out of 180 countries in the Corruption Perceptions Index, Transparency International’s global indicator of public sector corruption.⁵ Although official statistics put the percentage of the population living below the poverty line at around 5%,⁶ unofficial data posits a much higher number.⁷ As one person told Crude Accountability, “We are the richest country. We are the poorest people.”⁸ Azerbaijan is designated as “not free” in Freedom House’s 2021 Freedom in the World Report, scoring ten of 100 possible points. On political rights, the country earns two out of 40 points, and for civil liberties, eight of 60.⁹



Graphic by Crude Accountability. Photo courtesy of iStock.

³ <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=AZ>, accessed October 6, 2021.

⁴ https://en.wikipedia.org/wiki/Ilham_Aliyev, accessed September 20, 2021.

⁵ <https://www.transparency.org/en/countries/azerbaijan>, accessed September 20, 2021.

⁶ <https://www.adb.org/countries/azerbaijan/poverty>, accessed August 10, 2021.

⁷ “Poverty, repression in Shadow of Azerbaijan’s Shiny New Skyline,” AFP, August 4, 2019, <https://www.france24.com/en/20190408-poverty-repression-shadow-azerbajians-shiny-new-skyline>, accessed August 10, 2021.

⁸ Crude Accountability interview, August 2021.

⁹ <https://freedomhouse.org/country/azerbaijan/freedom-world/2021>, accessed September 20, 2021.

In 2017, a massive Azerbaijani money laundering scheme, which implicated a kleptocratic elite close to President Aliyev, was discovered and reported by the Organized Crime and Corruption Reporting Project (OCCRP). It revealed that almost \$3 billion was laundered through slush funds in shell companies registered in the UK.¹⁰ In October 2021, Pandora Papers reports revealed that the Aliyev family and associates own prime real estate in London worth nearly \$700 million.¹¹

While the first family and associates continue to amass and spend vast amounts of money, the regime have cracked down on civil society by harassing, detaining and arresting activists, journalists and others the regime intends to silence.

According to Human Rights Watch:

The space for independent activism, critical journalism, and opposition political activity has been virtually extinguished as so many activists, human rights defenders, and journalists have been arrested and jailed, and laws and regulations restricting the activities of independent groups and their ability to secure funding adopted. Other persistent human rights problems include torture, interference in the work and independence of lawyers, and restrictions on media freedoms.¹²

Under these circumstances, there is little space for independent environmental monitoring, and such work is extremely dangerous for those who attempt it.

Azerbaijan's Economy

Azerbaijan's economy is largely dependent on fossil fuel. Petroleum products account for over 90% of Azerbaijan's exports, and depending on the price of oil, for 33% to 50% of the country's GDP.¹³ Although Azerbaijan claims that its economic goals include diversification of its economy and strengthening the non-oil sector, the Organization for Economic Cooperation and Development (OECD) notes, "many of its investments support the continued dominance of oil and gas in the energy sector and economy more widely."¹⁴ The entrenched nature of the fossil fuel industry in the economy is also evident in foreign direct investment (FDI) in Azerbaijan: the United Kingdom is the single largest foreign direct investor in the country contributing 27% of overall FDI. BP plays a large role, and the UK's interest in Azerbaijan focuses on the oil and gas sector.¹⁵

¹⁰ <https://www.occrp.org/en/azerbaijanilaundromat/>, accessed September 20, 2021.

¹¹ <https://www.occrp.org/en/the-pandora-papers/azerbaijans-ruling-aliyev-family-and-their-associates-acquired-dozens-of-prime-london-properties-worth-nearly-700-million>, accessed October 6, 2021.

¹² <https://www.hrw.org/europe/central-asia/azerbaijan>, accessed September 20, 2021.

¹³ [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/EAP\(2019\)6&doclanguage=en#:~:text=Azerbaijan%20is%20an%20upper%2Dmiddle,GDP%20depending%20on%20oil%20prices](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/EPOC/EAP(2019)6&doclanguage=en#:~:text=Azerbaijan%20is%20an%20upper%2Dmiddle,GDP%20depending%20on%20oil%20prices). Accessed October 6, 2021.

¹⁴ *Ibid.*, p. 2, accessed October 6, 2021.

¹⁵ <https://www.oecd-ilibrary.org/sites/c25577ff-en/index.html?itemId=/content/component/c25577ff-en#:~:text=The%20United%20Kingdom%20is%20the,in%20which%20BP%20actively%20participates>. Accessed October 6, 2021.

In addition to major corporate investments, the facilities described in this report receive significant state investments and inputs from international and private financial institutions.

Key Players

International Financial Institutions

The European Bank for Reconstruction and Development (EBRD) is a multilateral development investment bank with a mission to transition towards open and democratic market economies. It is the only international financial institution (IFI) with a political mandate in its Article 1 requiring that it invest only in countries with multi-party democracy, pluralism, and market economics.¹⁶

The EBRD has provided financing to 177 projects in Azerbaijan and invested 3.172 million euro in the country, including 1.132 million euro in current projects.¹⁷

The institution's investments include US \$500 million in the Southern Gas Corridor.¹⁸ The EBRD has also provided three loans to the Shah Deniz Stage 2 gas field (\$200 million, \$250 million, and \$100 million).¹⁹

The Asian Development Bank invested \$1 billion in the Shah Deniz gas field and contributed an additional \$250 million in joint Shah Deniz investment with the EBRD.²⁰

The International Finance Corporation, the World Bank's private investment arm, lent \$250 million to the Baku-Tbilisi-Ceyhan pipeline²¹ and has been involved in Azerbaijan since 1995.

International financial institutions not only lend money to Azerbaijan and the fossil fuel projects described in this report, but they also lend political and economic legitimacy to a regime that commits serious human rights violations and is rife with corruption. When international financial institutions are willing to commit public money to these projects, it allows the projects to move forward even when other investors are unwilling to take the risk. Such loans can make the investment seem less risky, catalyzing the involvement of private investors.²² Their involvement in these projects is critical to the political and economic development of Azerbaijan's oil and gas sector and to its political and economic clout.

¹⁶ <https://www.ebrd.com/downloads/about/aspects.pdf>, accessed October 6, 2021.

¹⁷ <https://www.ebrd.com/azerbaijan-data.html>, accessed September 23, 2021.

¹⁸ <https://www.ebrd.com/work-with-us/projects/psd/azerbaijan-southern-gas-corridor.html>, accessed September 23, 2021.

¹⁹ <https://bankwatch.org/project/southern-gas-corridor-euro-caspian-mega-pipeline>, accessed September 23, 2021.

²⁰ Ibid.

²¹ <https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=26302>, accessed September 23, 2021.

²² https://www.lavan.com.au/advice/banking_finance/the_importance_of_international_financial_institutions_in_emerging_market_p, accessed September 23, 2021.

International financial institutions are among the country's most significant investors in the oil and gas sector; state and international oil companies also are heavily involved.

Corporations

BP has operated in Azerbaijan for over twenty-five years. On September 20, 1994, it signed the “contract of the century,” a production sharing agreement to jointly develop the Azeri-Chirag-Guneshli (ACG) oil field in the Caspian Sea. The company's total capital expenditure in Azerbaijan since 1995 is \$78.5 billion, including ACG, Shah Deniz, BTC, and the South Caucasus Pipeline.²³

BP is not only a major player in Azerbaijan's oil and gas industry but also has considerable political and economic weight. As a key business partner for Azerbaijan's government and the State Oil Company of the Azerbaijan Republic, BP's involvement in the country has been critical to this small nation. In 2017, BP and the government of Azerbaijan extended the “contract of the century” to 2050, ensuring that oil will likely be the economic centerpiece for at least the next thirty years.²⁴

The State Oil Company of the Azerbaijan Republic (SOCAR), established in 1992, is a state-owned company, and 100% of its shares are owned by the Republic of Azerbaijan. It is also Azerbaijan's largest company and taxpayer.

SOCAR engages in exploration, development, processing, transportation, and retail activities, mainly onshore and in the Azerbaijan Caspian Sea sector. In addition to selling its product domestically, it has retail operations in Georgia, Romania, Switzerland, and Ukraine.

For years, the Azerbaijani government has provided financial and strategic support to SOCAR, with major financial flows²⁵ between the company and the government. The state invests, allocates subsidies, provides loans, tax breaks, and other financial support to the company to increase its capital. SOCAR, in turn, pays taxes, and invests. However, SOCAR has been criticized for receiving more from the state budget than it has contributed.^{26,27} In 2019, the company paid 1.409 billion AZN²⁸ in state taxes and 173.6 million AZN to the State Social Protection Fund. SOCAR accounted for 76.4% of taxes and other mandatory payments from state-owned taxpayers.²⁹

²³ https://www.bp.com/en_az/azerbaijan/home/who-we-are/bp-in-azerbaijan.html, accessed July 27, 2021.

²⁴ BP-led group extends Azeri oil 'contract of the century', <https://www.reuters.com/article/us-bp-azerbaijan-agreement-idUSKCN1BP110>, accessed July 29, 2021.

²⁵ http://eurasiahub.khazar.org/uploads/SOCAR_FinTrans.pdf.

²⁶ <https://bakuresearchinstitute.org/az/do-they-give-the-state-budget-more-than-they-get/>, accessed June 17, 2021.

²⁷ <https://www.forbes.com/sites/arielcohen/2020/08/24/azerbaijans-president-calls-for--privatization-of-state-oil-company-socar-a-hope-for-petrostates/?sh=6e46f07d3874>, accessed June 17, 2021.

²⁸ One Azeri manat is worth .58 USD or .50 Euro according to xe.com (<https://www.xe.com/currencyconverter/convert/?Amount=1&From=AZN&To=EUR>), accessed November 2, 2021.

²⁹ <https://bakuresearchinstitute.org/en/socar-big-problems-at-the-largest-company-in-azerbaijan/>.

In 2019, 61% percent of the company's revenues were generated from crude oil; 26.5% from petroleum products, 4.7% from petrochemical products, and 4.9% from natural gas.³⁰

SOCAR is the technical operator of the South Caucasus Pipeline Company, which exports natural gas from Azerbaijan through Georgia and Turkey to Europe.³¹

SOCAR operates the Heydar Aliyev Baku Refinery, one of the facilities analyzed in the Omanos Report.

The State Oil Fund of Azerbaijan (SOFAZ) was created in 1999, to support the country's socio-economic development and collecting oil revenues for future generations to ensure cross-generational equality.³²

Data indicates that SOFAZ management has not been efficient and fails to benefit the people of Azerbaijan. This failure to provide for the Azerbaijani people was documented in Economic Research Center's and Crude Accountability's joint 2020 report, *The Empty Bucket of the State Oil Fund of Azerbaijan: Profits and Profiteering*.³³

³⁰ <https://bakuresearchinstitute.org/en/socar-big-problems-at-the-largest-company-in-azerbaijan/>, accessed June 17, 2021.

³¹ https://azertag.az/en/xeber/Transition_of_SCPC_technical_operatorship_from_bp_to_SOCAR_finalized-1843875, accessed August 2, 2021.

³² Gubad Ibadoghlu and Crude Accountability, "The Empty Bucket of the State Oil Fund of Azerbaijan—Profits and Profiteering," 2020, p. 4.

³³ https://crudeaccountability.org/wp-content/uploads/The_Empty_Bucket_report_web.pdf, accessed August 6, 2021.

Azerbaijan's Relevant International Commitments

In addition to *receiving* funding from international financial institutions, Azerbaijan *is a member* of the European Bank for Reconstruction and Development, the World Bank Group, and the Asian Development Bank. Therefore, it is eligible to receive loans and to host projects that receive lending from these IFIs. It is also subject to the environmental and social standards established by these institutions. Because these institutions are public and rely on taxpayer money, these standards are included in the accountability mechanisms to ensure compliance.

Azerbaijan has also signed some relevant international conventions, including the Aarhus Convention, which establishes certain key rights: the right to public access to environmentally significant data, to participate in environmental decision-making, and access to justice when those rights are denied.³⁴ Azerbaijan is a Council of Europe (CoE) member and is responsible to uphold the CoE human rights, social, and environmental standards.³⁵ Azerbaijan is a member of the Organization for Security and Cooperation in Europe (OSCE), and a member of the OECD. Finally, Azerbaijan is a signatory of the Paris Accords, which are discussed later in this report. These obligations not only allow Azerbaijan to reap the benefits of international participation, but also require it to abide by the rules and responsibilities of these commitments.

³⁴ <https://ec.europa.eu/environment/aarhus/>, accessed October 6, 2021.

³⁵ <https://www.coe.int/en/web/portal/azerbaijan#:~:text=Azerbaijan%20became%20the%2043rd,Europe%20on%2025%20January%202001>. Accessed October 6, 2021.

IMPACT OF COVID-19 ON CIVIL SOCIETY AND OUR RESEARCH



Impact of COVID-19 on Civil Society and Our Research

Since March 2020, the COVID-19 pandemic has created new challenges in accessing environmental information in Azerbaijan. International travel came to a halt, and internal movement in Azerbaijan was sharply limited by the authorities in response to the pandemic.³⁶ Inter-regional travel was also restricted, and for a while even travel outside of one's residence was limited. Although many restrictions were lifted in late January 2021, many controls continue. Our international team is still unable to travel to Azerbaijan, and with new variants of the coronavirus spreading, it is unclear when this situation will change.

Azerbaijan's authorities have used the pandemic as an excuse for a further crackdown on activists, journalists, and the perceived opposition. After a civil society crackdown in the early days of the pandemic, the Parliamentary Assembly of the Council of Europe issued a statement condemning Aliyev's use of the pandemic to justify further repression.³⁷ Unfortunately, this statement did not change regime behavior.³⁸

In response to pandemic limitations, Crude Accountability modified our initial research plan to conduct extensive on-the-ground environmental monitoring. Instead, we partnered with Omanos Analytics, who used satellite imagery to observe gas flaring and oil spills in locations suggested by Crude Accountability. Their detailed report, focused on images from three onshore areas (the Qaradagh region, the Bay of Baku, and the Sangachal Terminal) and two offshore areas (the Azeri-Chirag-Guneshli and Shah Deniz fields) where pollution appeared to be present.

Omanos Analytics findings are described in their report and outlined here with our on-the-ground reporting conducted before the pandemic, plus on-the-ground verification in the summer of 2021.

Additional research, beyond that reported here, is needed to fully understand the impact of oil and gas development on the environment and human health; this report is a key beginning to this task.

³⁶ At the start of the pandemic, Azerbaijani citizens were required to obtain permission by text message to travel outside of their homes. <https://www.osac.gov/Content/Report/b0e12729-9c5e-4320-b37f-18c91d481c68>, accessed September 23, 2021.

³⁷ <https://pace.coe.int/en/news/7829/rapporteurs-outraged-by-the-azerbaijani-government-s-reliance-on-the-coronavirus-pandemic-to-justify-political-repression>, accessed September 20, 2021.

³⁸ <https://www.icnl.org/covid19tracker/>, accessed September 20, 2021.

COVID-19 IMPACT ON AZERBAIJAN'S OIL INDUSTRY



COVID-19 Impact on Azerbaijan's Oil Industry

In 2020, oil revenues in Azerbaijan fell to their lowest levels since 2007. This was due to the COVID-19 pandemic, which caused lower crude oil prices on world markets because of the decline in demand for energy resources. This reduced demand had a significant impact on sales and revenues of oil-exporting countries like Azerbaijan. The COVID-19 pandemic is having a dual impact on the country's oil revenues: declines in demand for energy have led to lower oil prices, and the decline in income from the management of investment assets has reduced Azerbaijan's oil revenues.

Azerbaijan is not alone. The US Energy Information Administration estimates that global consumption of liquid petroleum dropped 9% in 2020.³⁹ Apparently, this reduction was temporary, and as our research shows, negative impacts on the ground from oil and gas production do not seem to have diminished. In fact, in the second quarter of 2021, BP reported a profit, recovering from its losses in 2020.⁴⁰

Similarly, SOFAZ reported⁴¹ a loss in 2020, when its budget revenues were two times less than the year before due, in part, to the opening of the Southern Gas Corridor in December 2020. Nevertheless, Azerbaijan still reported increased oil and gas revenues in 2021. Between January and June 2021, Azerbaijan exported 10.4 billion cubic meters of natural gas—57.3% more than in the same period in 2020 and 25.8% more than during the first six months of 2020.⁴² Yet, this recovery may be short-lived. Given the overall climate crisis and the push for renewable energy in many destination countries for Azerbaijan's hydrocarbons, the COVID-19 pandemic may be hastening the inevitable sunset on the country's fossil fuel industry.

³⁹ U.S. Energy Information Administration (EIA) Report, <https://www.eia.gov/todayinenergy/detail.php?id=46596>.

⁴⁰ "BP Swings to Profit in Q2," <https://www.nasdaq.com/articles/bp-swings-to-profit-in-q2-2021-08-03>, accessed August 10, 2021.

⁴¹ <https://oilfund.az/en/fund/press-room/news-archive/1477>.

⁴² "Azerbaijan's revenues from oil and gas exports rise in first half of 2021," The Tribune, July 22, 2021, <https://www.thetribune.com/azerbajjans-revenues-from-oil-and-gas-export-rise-in-first-half-of-2021/>, accessed August 9, 2021.

OIL SPILLS AND GAS FLARING



Oil Spills and Gas Flaring

In its research, Omanos Analytics paid particular attention to oil spills and gas flaring, both of which can cause major damage to the environment and human health.

Oil spills cause lasting environmental damage. When water-borne, they harm all kinds of organisms by damaging the water through many layers of the water column.⁴³ Extensive research into the long-term impact of oil spills has been conducted in various marine environments, including the Gulf of Mexico,⁴⁴ off the coast of Alaska,⁴⁵ and the Niger Delta,⁴⁶ to mention only a few examples. Long-term impacts on the environment and on human health are well documented. In a closed body of water, such as the Caspian Sea, oil spills are particularly concerning as there is no natural outlet for pollution. There are real risks to people, plus Caspian seals, sturgeon, and other fish and organisms living in the sea.⁴⁷ The Caspian Sea has suffered numerous major oil spills, including in its Turkmenistan sector⁴⁸ and repeatedly in Azerbaijan's waters.⁴⁹ As is known from studies of these and other spills, remediation is a long-term effort, and many organisms simply do not recover.⁵⁰

Gas flaring is a by-product of oil and gas condensate refining. In addition to contributing to the greenhouse effect, it can have major negative human health impacts. As described by the Climate and Clean Air Coalition:

Flaring occurs when crude oil is extracted from underground and natural gas is brought to the surface. Particularly in areas with limited infrastructure, the gas is burned off either at the top of a large stack or from a pit in the ground, often with devastating impacts on local communities. In addition to the noise and light, flaring emits black carbon, methane, and volatile organic compounds. Black carbon and methane are both powerful climate forcers and black carbon and VOCs (*volatile organic compounds - authors*) are dangerous air pollutants.⁵¹

⁴³ https://wwz.ifremer.fr/gm_eng/Understanding/Our-research-issues/Hydrothermal-systems/The-water-column, accessed November 3, 2021.

⁴⁴ <https://www.nationalgeographic.com/animals/article/how-is-wildlife-doing-now--ten-years-after-the-deepwater-horizon>, accessed September 24, 2021.

⁴⁵ <https://oceanconservancy.org/blog/2018/03/22/exxon-valdez-29-years-later/>, accessed September 24, 2021.

⁴⁶ <https://www.amnesty.org/en/latest/news/2018/03/niger-delta-oil-spills-decoders/>, accessed September 24, 2021.

⁴⁷ <https://phys.org/news/2019-04-caviar-oil-caspian-sea-pollution.html>, accessed September 24, 2021.

⁴⁸ <https://crudeaccountability.org/wp-content/uploads/2013/05/20130506-HiddenInPlainSight.pdf>, accessed October 6, 2021.

⁴⁹ <https://www.grida.no/resources/6123>, accessed October 6, 2021.

⁵⁰ <https://www.hakaimagazine.com/news/wounded-wilderness-the-exxon-valdez-oil-spill-30-years-later/>, accessed October 6, 2021.

⁵¹ <https://www.ccacoalition.org/en/news/gas-flaring-has-dangerous-side-effects-these-mitigation-opportunities-could-be-win-everyone>, accessed September 24, 2021.

Natural gas is flared not only at extraction sites, but also at refineries and terminals, such as the AzMeCo Chemical Plant and the Sangachal Terminal, both areas identified in our research. Because of the proximity of communities to sources of flaring in Azerbaijan, our report included this as a key environmental problem for investigation.

In Azerbaijan, various laws limit associate gas flaring, including the Law on Environmental Protection, the Law on the Use of Energy Resources, the Law on Ecological Safety, and the Law on Air Protection. However, according to a 2012 EBRD report:

This legal basis is not supported by secondary legislation, such as specific requirements, allowances or penalties for pollutants applicable to gas flaring and venting. As a result, these laws have limited impacts on venting and flaring practices. For example, although the legislation stipulates the application of penalties, it does not provide any mechanisms for its implementation in the case of gas flaring or venting.⁵⁴

According to Natural Gas World, Azerbaijan made good progress in reducing its methane emissions until 2017 when flaring and its intensity began to increase.⁵⁵ Not only does flaring emit methane, but methane emissions outside of flaring have been increasing as well. Natural Gas World reports, “Overall, fugitive and vented methane emissions in Azerbaijan are estimated at 24mn CO₂-equivalent tonnes of emissions if 20-year global warming potential is considered (over two decades, methane is 84 times more potent than CO₂).”⁵⁶

Azerbaijan needs to reduce its flaring to better align with climate change goals (see Chapter 7).

Crude Accountability has learned from monitoring and campaigning in other communities, where extensive independent monitoring was possible, that impacts from flaring can significantly hurt local communities. For example, in western Kazakhstan, in partnership with local community activists, we conducted ambient air monitoring over the course of a year. We identified over 25 toxic emissions flared into the air in the village of Berezovka, located next to the massive Karachaganak oil and gas condensate field. Villagers reported health problems and environmental degradation, and the company and local authorities were monitoring for only a few of the toxins that the independent monitoring found. Gas flares at the field routinely emitted hydrogen sulfide and other related toxins into the air.⁵² While the government of Kazakhstan has established maximum permissible concentrations, these were routinely exceeded with the company simply paying a fine as penalty.⁵³

⁵² <https://crudeaccountability.org/campaigns/karachaganak/the-campaign-2003-today/>, accessed October 18, 2021.

⁵³ <https://www.reuters.com/article/kazakhstan-karachaganak/kazakh-court-fines-gas-field-over-flaring-idUKL2010489220080320?edition-redirect=uk>, accessed October 6, 2021.

⁵⁴ <https://www.ebrd.com/downloads/sector/sei/ap-gas-flaring-study-final-report.pdf>.

⁵⁵ <https://www.naturalgasworld.com/azerbaijans-potential-and-challenges-in-flaring-and-methane-emissions-ggp-86571>, accessed August 2, 2021.

⁵⁶ Ibid.

SITES AND FINDINGS



Sites and Findings

Sangachal Terminal and Surrounding Area

For over five years, Crude Accountability has monitored impacts from activities at the Sangachal Terminal on local communities and the environment and reviewed its compliance with the environmental and social standards of the IFIs that finance it.

Sangachal Terminal, one of the world’s largest terminals, and a key part of Azerbaijan’s oil and gas infrastructure, is located 55 kilometers south of Baku (Azerbaijan’s capital), covering an area of 550 hectares. It receives oil and natural gas from offshore sites in Azerbaijan (operated by BP), as well as from Kazakhstan and Turkmenistan. The Terminal includes oil and gas processing facilities, the first pump station for the Baku-Tbilisi-Ceyhan (BTC) oil pipeline, the South Caucasus gas pipeline compressor, and other facilities.⁵⁷

Oil and gas from offshore fields (ACG and Shah Deniz) are transported to the Terminal via subsea pipelines. Eight different pipelines enter the Terminal from offshore sites, and eight depart it.⁵⁸ The Terminal houses crude oil storage tanks that process, store, and export over 6 million tons of crude oil.⁵⁹ Sangachal hosts the control room that monitors the BTC pipeline and can isolate pipeline sections or shut the plant down if there is an emergency.⁶⁰

“Sangachal Terminal...located 55 kilometers south of Baku (Azerbaijan’s capital), covering an area of 550 hectares...is one of the world’s largest terminals.”

Satellite Imagery Findings

The Omanos report found significant gas flaring at the Sangachal Terminal.

The Omanos research found that a number of flares have burned simultaneously at Sangachal from 2012 through 2020—the research period. The report states, “inspection of the sites in Sentinel 2 imagery shows that gas flares at Sangachal Terminal consistently appear much brighter than at the other onshore sites, indicating that the gas flare intensities are indeed higher.”⁶¹ Technical limitations, described in the report, preclude knowing the exact number of flares due to their proximity to each other.

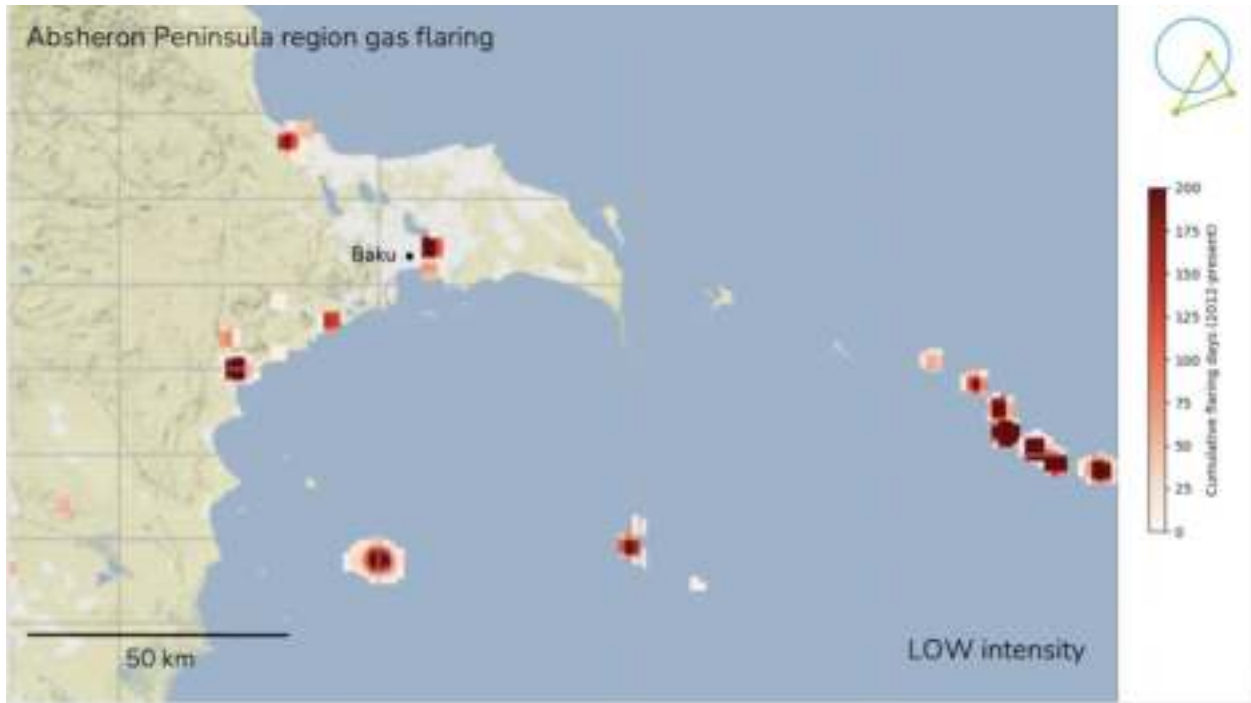
⁵⁷ https://www.bp.com/en_az/azerbaijan/home/who-we-are/operationsprojects/terminals/sangachal_terminal.html#accordion_1.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Omanos Analytics, “Sustainable Environmental Monitoring in the COVID-19 Era with Crude Accountability: EO survey of the Azerbaijan coast,” December 2020, p. 12.

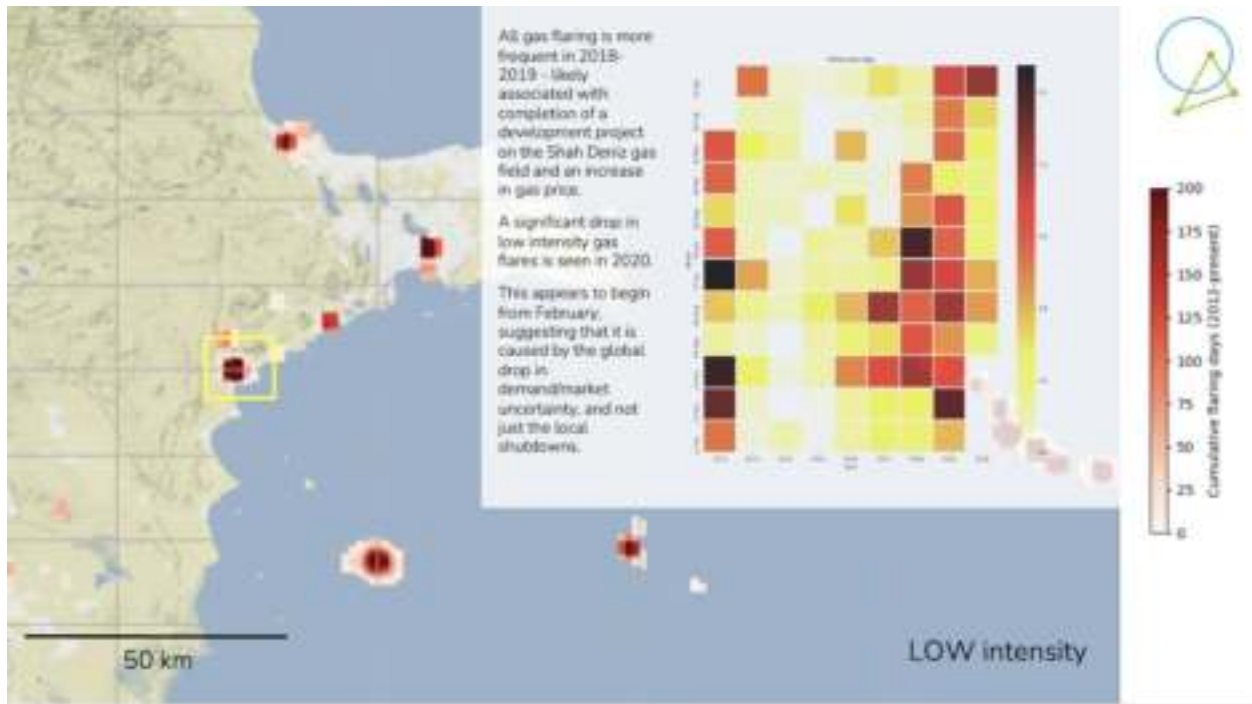


A map of the Absheron Peninsula region, overlaid with night-time combustion source detections from the VIIRS Nightfire Service, showing hotspots of gas flaring from on and off-shore facilities in the region. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.



A map of the Absheron Peninsula region overlaid gas flare hotspots from the VIIRS Nightfire Service. Sangachal Terminal is marked with a yellow box. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.

In 2018-2019, there was a major increase in flaring at the Terminal, when expansion of the Sangachal Terminal was completed to include more input from the Shah Deniz field.⁶²



The variation in frequency of gas flares from the hotspot associated with Sangachal Terminal (marked by a yellow box) is visualized for each month from 2012 to 2020. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.

The Omanos analysis indicates that flaring at Sangachal decreased during 2020. Figure 4 in its report shows that almost all flares at this time were low intensity and from April to June they dropped to fewer than 10 per month. The Omanos report posits, the “almost complete reduction in gas flares of medium and high intensities could be due to the fact that there have been no unresolved gas flare detections or that all operations that caused higher intensity gas flaring have ceased during the pandemic.”⁶³

⁶² Ibid, page 10.

⁶³ Ibid, page 12.



Village near Sangachal Terminal
© Crude Accountability

According to BP, in the first quarter of 2020, over 51 million standard cubic meters of Shah Deniz gas was exported from the Sangachal Terminal every day.



Village near Sangachal Terminal
© Crude Accountability

2020 Export Figures from Sangachal

According to BP, in the first quarter of 2020, over 51 million standard cubic meters of Shah Deniz natural gas was daily exported from the Sangachal Terminal.⁶⁴ Overall in 2020, Sangachal daily exported an average 49 million standard cubic meters of Shah Deniz natural gas,⁶⁵ a drop from the first quarter average. Capacity was 85 million standard cubic meters a day, indicating that exports were below capacity. According to BP Azerbaijan, 239 million barrels of oil and condensate were exported from the Sangachal Terminal in 2020. Approximately 208 million barrels went through BTC and over 31 million barrels via the Western Route Export Pipeline.⁶⁶

The first quarter of 2020 reports indicated that 66 million barrels of oil and condensate were exported from Sangachal.⁶⁷ During the year, average quarterly exports decreased.

Nevertheless, exports of oil and natural gas through Sangachal Terminal increased in 2020 compared to 2019.⁶⁸ This probably means that the pandemic had little to no impact on export via the Terminal and production at the offshore fields.

Our investigation did not reveal why flaring was reduced during this same period, requiring more research and investigation.

Ground-truthing: Sangachal

Four villages are near Sangachal: Ezimkend, Massiv III, Sangachal, and Umid. These small communities are mainly inhabited by internally displaced people from Nagorno-Karabakh.

⁶⁴ https://www.bp.com/en_az/azerbaijan/home/who-we-are/operationsprojects/terminals/sangachal_terminal.html

⁶⁵ <https://bit.ly/3qFPMZF>

⁶⁶ Ibid.

⁶⁷ https://azertag.az/en/xeber/Sangachal_terminal_exports_66_million_barrels_of_oil_and_condensate_in_Q1_of_2020-1485553.

⁶⁸ [http://abc.az/en/news/40766#:~:text=According%20to%20the%20BP's%20report,Route%20Export%20Pipeline%20\(WREP\).](http://abc.az/en/news/40766#:~:text=According%20to%20the%20BP's%20report,Route%20Export%20Pipeline%20(WREP).)

Many of them have lived there since the 1990s, when they found refuge after being forced out of their homes at the end of the first Nagorno-Karabakh war.

For years since the Terminal was expanded these residents have reported concerns about deteriorating environmental conditions and continuing health problems.

Only limited soil, water, or air testing has been officially conducted in any of these four villages to check for hazardous emissions and contamination.

Air Monitoring Findings

BP, operator of the Sangachal Terminal, is responsible for monitoring its ambient air quality. In 2021, the company published a report on its environmental findings, on and offshore, from 1995 to 2017. According to the report, “A regular long-term ambient air quality monitoring programme was initiated in 2003, to assess wind-dispersion patterns for the main pollutants emitted by the stacks and other sources at Sangachal Terminal, and to assess their impacts on the local area. Passive samplers were situated at 12 stations within and around the Sangachal Terminal,”⁶⁹ five more samplers were added in 2008 and 2009. Since then, the monitoring situation has been stable around the Terminal. Long-term monitoring is set up for NO, NO₂, SO₂, volatile organic compounds, and benzene. Real-time monitoring was set up for PM₁₀, SO₂, NO_x, NO, and NO₂. The samplers also monitor air temperature as well as wind speed and direction.⁷⁰

In 2019 meetings with BP, Crude Accountability voiced concern that the company is monitoring only for PM 10 (particulate matter) not the more dangerous PM_{2.5}. PM₁₀ aggravates the lungs and can cause asthma, reduced lung development, strokes, and other problems. Because the PM_{2.5} particles are so much smaller, PM_{2.5} not only penetrates the lungs, but can also permeate the bloodstream and other body parts such as the brain and the heart.⁷¹ Crude Accountability did not receive a satisfactory response on why the company fails to monitor for PM_{2.5}.

BP has conducted air monitoring around the Terminal but has only included the relevant communities in a limited way. Of its 17 monitoring stations, only three are located in settlements: two in Sangachal village and one in Umid. There is only one real-time monitoring station, located on the edge of Sangachal village. Since this station is also close to a nearby electric station, it is difficult to determine the pollution source registered by this monitoring station, as BP also reports.⁷²

⁶⁹ https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/environmental-monitoring-reports/bp-azerbaijan_overview_of-environmental_monitoring_studies_1995-2017.pdf, page 97. Accessed October 6, 2021.

⁷⁰ *Ibid.*, p. 98. Accessed October 6, 2021.

⁷¹ <https://learn.kaiterra.com/en/air-academy/particulate-matter-pm>, accessed October 6, 2021.

⁷² https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/environmental-monitoring-reports/bp-azerbaijan_overview_of-environmental_monitoring_studies_1995-2017.pdf, p.100, accessed October 6, 2021.

BP concluded in its report:

There was no evidence to indicate that operations at the terminal were having a negative effect on the surrounding air quality. While some exceedances of the relevant air quality standards have been recorded at stations adjacent to the terminal, these have been transient and localised. Although the recorded concentrations were low and within the national and EU standards, generally higher concentrations of nitrogen oxides were recorded at AAQ12, and relatively higher concentrations of TVOC [total volatile organic compounds] were recorded at AAQ12 and AAQ20, located on the terminal boundary, which may be associated with onsite activities.⁷³

Despite BP's conclusions that the Terminal has little to no impact on the surrounding area, in several Crude Accountability conversations with villagers, they noted air pollution was a major concern, along with emissions, especially at night. They also noted strong smells from the Terminal, typically associated with sulfur emissions; some also noted noise pollution as a major problem. Crude Accountability has refrained from using names of those interviewed in order to protect their confidentiality. All responses have been translated from Azeri.

“The sky becomes red. It looks like smoke, and when it calms down, the flame turns the sky red.”

Villagers complained of increased flaring since 2018, coinciding with the Omanos findings. As one villager described it:

It started sometime in 2018. I have lived here since childhood and there was no such thing then. ... The first flame comes loudly, it sounds like a flash. ... As the flames rise, so the windows shake. When you go to the yard at night, you can smell it. It smells a little like gas, actually you can't guess what it smells like. It smells different. The sky becomes red. It looks like smoke, and when it calms down, the flame turns the sky red. There is suffocation in the air. You can't breathe when you go out.⁷⁴

Another account described it thus:

The flaring started in 1997. Since 2018 it became stronger and they started to do it often, mostly flaring during nighttime toward the morning. This is the time when people sleep. During the nighttime when they flare, if you are outside it feels like it is daytime. ... Sometimes they flare five times during a week, sometimes twice. ... When

⁷³ https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/environmental-monitoring-reports/bp-azerbaijan_overview_of-environmental_monitoring_studies_1995-2017.pdf, p. 181. Accessed October 6, 2021.

⁷⁴ Interview with Crude Accountability, August 2021.

there is flaring, it is roaring. Its sound is strong. Sometimes it smells like an old egg. When it is roaring, we know that they are flaring.⁷⁵

Villagers complain of smells, heat, and loud noises, as well as pollution in the community:

Early in the morning, when flaring has occurred, it feels like you smoked the most bitter cigarette. When the pressure [at the Terminal] is high, they release during the day. But they mostly release at night. When it rains, it is as if dust and mud are falling from the sky.⁷⁶

Another villager states, “the flame from the Sangachal Terminal first burns, and after the explosion, the gas content gradually decreases, and then the smoke rises into the air as if it was polluted. Normally, the fog is white, but this is not. Then the sky turns red.”⁷⁷

“When flaring starts and khazri⁷⁸ hits, it becomes poison, poison,” reported a villager. “Yellow spots can be seen on our clothes. It happens especially when it rains and when the khazri wind blows.”⁷⁹

The Omanos report raised the issue about the intensity of flaring versus the number of flares, but this variable was difficult to define due to the type of images analyzed in the report. One Crude Accountability interviewee clarified in this way:

There has been a change since 2018. Now they burn less...however, the intensity of the flare has increased....It sounds like an explosion the first time it burns. There is no need to look when you see the light. You think there was an explosion here. When you go out and look at the yard, when you see that it is light, you know that it is the sound of flaring. We are accustomed to that sound, but inevitably we are afraid, and when that sound comes, you think there is an explosion.⁸⁰

Independent air monitoring near of the Terminal showed elevated levels of sulfur dioxide, which is associated with oil production. With prolonged exposure, sulfur dioxide causes breathing problems and is especially harmful to children.⁸¹

“Early in the morning, when flaring has occurred, it feels like you smoked the most bitter cigarette.”

“When flaring starts and khazri hits, it becomes poison, poison.”

⁷⁵ Interview with Crude Accountability, August 2021.

⁷⁶ Ibid.

⁷⁷ Crude Accountability interview, August 2021.

⁷⁸ Khazri is a cold north Caspian sea wind that blows across the Absheron peninsula.

⁷⁹ Crude Accountability interview, August 2021.

⁸⁰ Ibid.

⁸¹ <https://www.atsdr.cdc.gov/toxfaqs/tfacts116.pdf>.



View of Sangachal Terminal (in the distance) © Crude Accountability.

One villager told us: “Our child has allergies. As an adult, my husband has a lung problem. The doctor says there is a cold, shortness of breath.”⁸² Several others complained of rashes, achy joints, and anemia in their children and among adults. “Everyone in the family suffers from leg pain.... I can’t walk for an hour when I get up in the morning. My bones hurt.”⁸³ There are also reports of dizziness, memory loss, serious dental problems, fevers, and vomiting.

Crude Accountability also heard stories of unexplained illness in children. Mothers were concerned that their children born in the village are generally in poorer health than those born elsewhere. One mother explained, “One of my daughters was born in [a different community]. She has no health problems. I was here when my son and my sick daughter were born, and they were both born sickly.”⁸⁴ Sadly, this was not the only tragedy involving her children. In 2015 she gave birth prematurely, at eight months, to a baby who lived only three days. One doctor stated that the baby was unable to breathe, while another doctor said that the child was disabled and had no chance of survival.

⁸² Crude Accountability interview, August 2021.

⁸³ Ibid.

⁸⁴ Crude Accountability interview, August 2021. The name of the village in which the first child was born has been removed to protect the interviewee.

The flaring also takes a psychological toll on villagers close to the terminal. As one community member told us:

Our fear is that when the sound starts, we say, oh my God, let's run away from here. What if the house falls on the children? Many times everyone ran out into the street because of the roar. The sound was like an explosion. The house trembled like there was a powerful earthquake.

[The flaring] increased after 2018. It sounds day and night. It is a nightmare if you wake up at night. You will not be able to go back to sleep. Everyone's nerves are damaged. You are looking for a quiet place to lie down. In general, this is not good for me and for the children.⁸⁵

As we know from years of experience in Kazakhstan's oil-and-gas-affected communities, flaring can cause long-term health impacts for people who live near facilities such as the Sangachal terminal.

One villager we interviewed told us that her husband, who was healthy, has developed heart problems since the flaring increased. He has had two surgeries in 12 months. Her five-year-old son is underweight; doctors say he is not growing. She asked, "How can children grow surrounded by such poison?"⁸⁶

On May 14, 2021, Crude Accountability acquired video footage showing significant flaring at the Sangachal Terminal. See [here](#) for video.⁸⁷ The size of the flare is in line with the observations by Omanos Analytics in its 2020 reporting and raises major health and environmental concerns about compliance both at the Terminal as well as impact of such activity on the local population.

We also heard testimony about a December 27, 2016 pipeline explosion, which occurred near the Sangachal Terminal. Official news reported an explosion and a fire, stressing that no one was injured in the blast.⁸⁸ SOCAR press reports were minimal, simply stated that local community had faced no risks and that work was underway to extinguish the fire.⁸⁹ Yet, the testimony recorded by Crude Accountability (and reported to the EBRD) indicated that during the blast homes were damaged causing cracks that were never repaired.⁹⁰

⁸⁵ Crude Accountability interview, August 2021.

⁸⁶ Ibid.

⁸⁷ <https://youtu.be/CZMGGXLOQ38>.

⁸⁸ <https://thepeninsulaqatar.com/article/27/12/2016/Large-fire-erupts-after-gas-pipeline-explosion-in-Azerbaijan>.

⁸⁹ <https://caspiannews.com/news-detail/explosion-at-sangachal-terminal-shuts-gas-pipeline-1493373294786/>.

⁹⁰ Crude Accountability testimonials from four villages near Sangachal terminal, 2017: <https://crudeaccountability.org/wp-content/uploads/Shah-Deniz-II-Community-Assessment-Analysis.pdf>, accessed November 3, 2021.

Soil Monitoring

BP reported on its soil monitoring efforts near the Sangachal Terminal: “The ecosystem condition over the survey area has largely remained unchanged throughout the monitoring period. Shrub cover has increased, while grass and bare patch cover has remained stable and forb cover has largely been lost. The observed changes in shrub and forb cover⁹¹ are unrelated to operational activities at the terminal.”⁹²

In sharp contrast, villagers around the Terminal reported to Crude Accountability that soil pollution was a central concern. Lack of productivity in subsistence gardens is impacting residents’ ability to grow fruits and vegetables for family use and people are concerned about soil pollutants impacting their health. This issue is of particular concern in communities where preserving food for the winter is traditional. The costs of feeding one’s family increase a lot when the quality of produce grown in family gardens is not good enough to preserve.

Crude Accountability was told:

It was September 2020. The company’s workers (BP) came here, they were asking questions. ... The people all told them about the situation here. That there is noise, there is trembling here. Also, when we get up in the morning our throats burn. The trees are drying up. Since the construction of this terminal, trees have been damaged. If you plant tomatoes and greens, they never grow. Look, I planted three years in a row. There was no harvest. I used to plant a forest in my yard. I bought and planted expensive trees ... but now there are only 3-4 trees left in the yard. ... Until 2012, my yard was like a forest. Then the trees withered. ... This is the situation in the whole village.⁹³

Impact on Flora and Fauna

BP’s report also documented the monitoring of flora and fauna in the areas around the Terminal and concluded, “[t]here is no evidence from the monitoring survey data that Sangachal Terminal operations are having a negative impact on the distribution of mammals or herpetofauna within the area surrounding the Terminal. With the exception of a general reduction in marsh frog presence between 2012 and 2015, which reversed in 2016, no overall trends have been identified in species presence and/or distribution.”⁹⁴

In contrast, many residents noted complications with flora and fauna. Residents have reported difficulties since at least 2017. Testimony obtained by Crude Accountability stated, “My family breeds cattle and during the last years, the animals have been giving birth to physically defective

⁹¹ Forbs are broad leaf plants, often referred to as wildflowers or weeds. See more here: <https://content.ces.ncsu.edu/herbaceous-plants-for-wildlife#:~:text=Forbs%20are%20broad%20leaf%20plants,Northern%20bobwhite%20quail>, accessed October 18, 2021.

⁹² https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/environmental-monitoring-reports/bp-azerbaijan_overview_of-environmental_monitoring_studies_1995-2017.pdf, p. 181. Accessed October 6, 2021.

⁹³ Crude Accountability interview, August 2021.

⁹⁴ *Ibid.*, accessed October 6, 2021.

babies. They say the Terminal causes that. For example, this year around 20 baby sheep were born with physical defects, then they either died, or we feed them and then slaughter them in order not to lose the meat.”⁹⁵ There were also numerous reports of chickens dying from unknown causes.



Livestock feeding in the village of Umid, near Sangachal Terminal © Crude Accountability

In a community where subsistence farming is critical for families’ economic health, especially during winter, problems growing fruits and vegetables can be catastrophic. Crude Accountability was told, “When I first came here, there were big oranges in our neighbor’s yard. We were picking and eating them. Now those orange trees are still standing there but the oranges are so small and bitter.”⁹⁶ Further we heard, “We had quinces, peaches, apple trees, rotten. After the terminal, after 1998-2000, all our trees withered from year to year.”⁹⁷

Declining fish stocks were also noted:

Before there were a lot of fish in the sea. You went and caught 3-4-5 kilos of fish with an amateur hook. Now you go for a week, and you may catch one fish. We caught the most

⁹⁵ <https://crudeaccountability.org/wp-content/uploads/Shah-Deniz-II-Community-Assessment-Analysis.pdf>, accessed October 6, 2021.

⁹⁶ Crude Accountability interview, August 2021.

⁹⁷ Ibid.

catfish, mullet, carp, and Caspian roach. Now I do not go as before, because there are no fish. Oil and gas pipes from the sea make a noise from increased pressure in the water. ... If there was only one pipe before, now there are 10 pipes. The fish swim away from the pipe due to the pressure. The water is also polluted with oil, grease, and condensate.⁹⁸

Further study is required, as is further disclosure by BP and the EBRD, to understand the environmental health risks community members may be exposed to from the Sangachal Terminal and from oil and gas being transported via the pipelines originating from the Terminal. But it is clear from villagers' testimony that they have major and justifiable concerns about the Terminal's impact on their health and on their lives.

Compliance and Accountability

Crude Accountability has engaged repeatedly with the EBRD, BP, and other relevant bodies regarding environmental and social concerns related to Sangachal.

While the EBRD claimed that its financing of Sangachal complied with its standards, Crude Accountability's findings on this issue raised major questions about the EBRD's claim.

In 2017, Crude Accountability filed a complaint⁹⁹ with the EBRD regarding failings in public engagement, information disclosure, and adequate protection of local communities. The complaint, based on field interviews, claimed a lack of sufficient consultation with local communities; lack of compensation for property damage due to the 2016 gas pipeline explosion; lack of environmental monitoring (soil, air, and water); and soil contamination that impeded local inhabitants' capacity to grow healthy fruits and vegetables in the villages near the Sangachal Terminal.¹⁰⁰

The complaint was accepted by the EBRD's public engagement office, which undertook a compliance review. **The review found seven instances of non-compliance and seven instances of partial compliance with EBRD 2008 environmental and social standards for project implementation.** According to the EBRD:

The Compliance Review found that Bank Management did not meet its obligations around meaningful dialogue and informed consultation; the public disclosure of key environmental and social information; the verification of Project-level grievance mechanism effectiveness; or the differentiated assessment of, and engagement with, vulnerable peoples affected by the Project (PR10.17, PR 10.8, PR 10.9, PR 10.11, 10.25). It also determined that the Bank did not adequately monitor impacts on vulnerable groups, or the implementation of client commitments in the Stakeholder Engagement Plan and Environmental and Social Management Plans (PR 1.14 and 1.17).¹⁰¹

⁹⁸ Ibid.

⁹⁹ <https://crudeaccountability.org/civil-society-filed-complaint-ebrd-regarding-banks-loans-development-expansion-shah-deniz-gas-field-azerbaijan/>, accessed August 6, 2021.

¹⁰⁰ <https://www.ebrd.com/work-with-us/projects/ipam/2017/07.html>.

¹⁰¹ <https://www.ebrd.com/work-with-us/projects/ipam/2017/07.html>.

Our findings showed that villagers around the Terminal had little to no knowledge about its workings, the required disclosures to the community, or the related development at the Shah Deniz offshore field.

With regard to the Bank’s full and partial failures, the “independent PCM Expert responsible for the Compliance Review made 19 recommendations to Bank Management, including nine procedural/systemic (i.e., general) recommendations and ten Project-specific recommendations, outlined in their Compliance Review Report.”¹⁰²

The EBRD’s monitoring system was created to ensure that required steps were taken to correct inadequacies found in the complaint. This process is accompanied by periodic progress monitoring reports. In March 2021, of the seven project-specific recommendations, three had not been implemented by the Bank. This was in part due to COVID-19 restrictions on movement, but the real impacts of the project continue to harm the community: lack of access to project-related environmental and social information, lack of expert recommendations specifically related to vulnerable community populations, and exclusion of the community from decision-making processes.

In July 2021, the EBRD published its most recent monitoring report on this complaint. The three recommendations not implemented in March 2021 still have not been addressed. The EBRD anticipates they will be resolved by late 2021.¹⁰³ We continue to monitor this situation.

Our findings showed that villagers around the Terminal had little to no knowledge about its operations, that disclosures to the community were required, or the related operation at the Shah Deniz offshore field. They had little to no interaction with EBRD employees or with BP representatives. This remains the situation today, as confirmed by the March and July 2021 EBRD monitoring reports, which state that no progress has been made on the project’s shortcomings in regard to community engagement.¹⁰⁴

¹⁰² Ibid.

¹⁰³ <https://www.ebrd.com/work-with-us/projects/psd/lukoil-shah-deniz-stage-ii.html>, accessed August 2, 2021.

¹⁰⁴ As of the July 2021 report, a consultant has been engaged to work with the communities, but no contact has yet been made.

Crude Accountability also wrote a letter of concern to BP about the community environmental and human health concerns. BP's response, which took no responsibility, is available on the Business and Human Rights Centre website.¹⁰⁵

Crude Accountability submitted the community's concerns at the United Nations 2018 Universal Periodic Review.¹⁰⁶

The community situation continues to be extremely concerning. As one community member told us, **"I do not see the future of my children in this village. ... The eyes of the world are on this Sangachal oil, but there are no conditions for [living near] Sangachal."**¹⁰⁷ Many families see no future for their children in their community. There is one school to serve the communities around Sangachal, but there is no school bus to get children from neighboring villages there. Families must either allow their children to walk, which they consider dangerous, especially for their daughters, or pay a taxi service, which is much too expensive. Some families have stopped sending their children—especially daughters—to school.

A combination of environmental concerns, harm to the health of villagers and livestock, and negative impacts on air and soil make life extremely difficult. As one villager stated, "In short, I don't think it is healthy to live here."¹⁰⁸

AzMeCo Chemical Plant (Qaradagh region)

The Omanos Analytics report also analyzed the AzMeCo Chemical Plant in the Qaradagh region, on the Absheron Peninsula.

According to its website, the Azerbaijan methanol plant at Qaradagh was registered in 2007, and began operations in 2013, processing methanol from natural gas.¹⁰⁹ It was purchased from Azerbaijan Methanol Company, LLC by SOCAR at the end of 2016 and has an annual production capacity of 650-700 thousand tons.¹¹⁰ Although the AzMeCo plant website claims that environmental monitoring is a SOCAR priority, the website lacks actual environmental monitoring data and also does not give any information about its availability.¹¹¹

According to the Omanos report, gas flares near the AzMeCo plant were of low intensity but in 2019 increased from about four flares per month to 10-20 flares per month in late 2019 and early 2020. Later in 2020, the number of flares drops again, but it is not clear if this decrease is due to COVID-19 impact or other causes. It is not clear why there was a sharp increase in early 2020.¹¹²

¹⁰⁵ <https://www.business-humanrights.org/en/latest-news/azerbaijan-communities-located-near-gas-oil-fields-suffer-from-air-water-pollution-other-human-rights-abuses-says-ngo-report-includes-company-comments/>.

¹⁰⁶ <https://crudeaccountability.org/statement-pre-session-azerbaijan-upr/>, accessed August 10, 2021.

¹⁰⁷ Crude Accountability interview, August 2021.

¹⁰⁸ Ibid.

¹⁰⁹ <http://www.azmeco.com/?mid=11>, accessed August 2, 2021.

¹¹⁰ <https://socar.az/socar/en/company/organization/socar-methanol-plant>, accessed August 2, 2021.

¹¹¹ <https://socar.az/socar/en/environment-and-safety/menu/environmental-monitoring>, accessed August 2, 2021.

¹¹² Omanos Analytics, "Sustainable Environmental Monitoring in the COVID-19 Era with Crude Accountability: EO survey of the Azerbaijan coast," December 2020, p. 15.

Heydar Aliyev Baku Oil Refinery (Bay of Baku)

Omanos Analytics identified another area of onshore flaring at the Heydar Aliyev Baku Oil Refinery. Their report showed mostly low-level and low-intensity flares, a few medium level, and only one high level flare during the research period.¹¹³

This refinery processes 21 grades of crude oil and 15 other petroleum products.¹¹⁴ The refinery was initially built in 1953; and modernization began in 2015 with financing from SOCAR, which owns the refinery. The modernization cost is estimated at \$1 billion, and in 2015 SOCAR received the first tranche of a loan from the International Bank of Azerbaijan;¹¹⁵ 45% of the refinery product is exported.¹¹⁶



Actual color Sentinel 2 imagery of the Azerbaijan coast. The green square shows the coast of Baku City, enlarged in the cut-out images - Top: false color Sentinel 2 data imaged to show oil on the surface of the water of Baku Bay - Bottom: high resolution image from Google Earth showing oil on the surface of the water of Baku Bay. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.

¹¹³ Omanos Analytics, "Sustainable Environmental Monitoring in the COVID-19 Era with Crude Accountability: EO survey of the Azerbaijan coast," December 2020, p. 12-13.

¹¹⁴ <https://www.hydrocarbons-technology.com/projects/heydar-aliyev-oil-refinery-baku/>, accessed August 2, 2021.

¹¹⁵ <https://www.hydrocarbons-technology.com/projects/heydar-aliyev-oil-refinery-baku/>, accessed August 2, 2021.

¹¹⁶ <https://socar.az/socar/en/activities/refining/heydar-aliyev-baku-oil-refinery>, accessed August 2, 2021.

This area, although it merits further future analysis, does not appear to be an area of the greatest concern for the environment perspective. While the country’s overall methane and flaring levels *are* a concern, for the purposes of this report, the AzMeCo Plant and Aliyev Refinery are of less concern.

Shah Deniz Oil Field

The Omanos Analytics Report analyzed **the Shah Deniz field, one of the world’s largest gas condensate fields, which was discovered in 1999**. It is located on the deep-water shelf of the Caspian Sea, 70 km south-east of Baku, in water depths ranging from 50 to 500 meters.

The Agreement on the Exploration, Development, and Production Sharing for the Shah Deniz Prospective Area in the Azerbaijan Sector of the Caspian Sea was signed in 1996. Shah Deniz Stage 1 began operations in 2006; it has the capacity to produce around 10 billion cubic meters of gas annually (bcma) and about 50,000 barrels of condensate on a daily basis.

BP operates of the Shah Deniz Project Sharing Agreement (PSA) on behalf of its partners. Currently, the Shah Deniz PSA project participants have the following shares: BP 28.8%, TPAO 19%, Petronas 15.5%, SOCAR 10%, Total 10%, NIKO 10%, LUKAcip 10%, SCO 6.7%.

Shah Deniz Percentage Share by Company

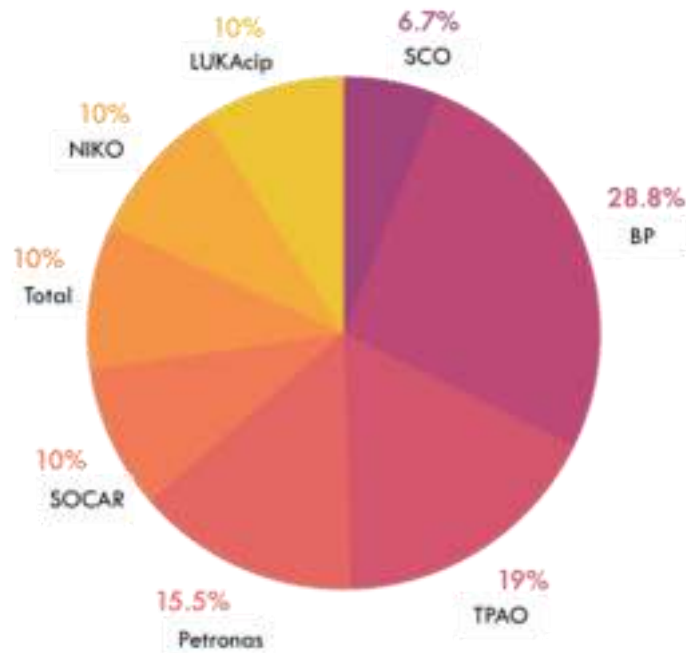


Chart by Crude Accountability

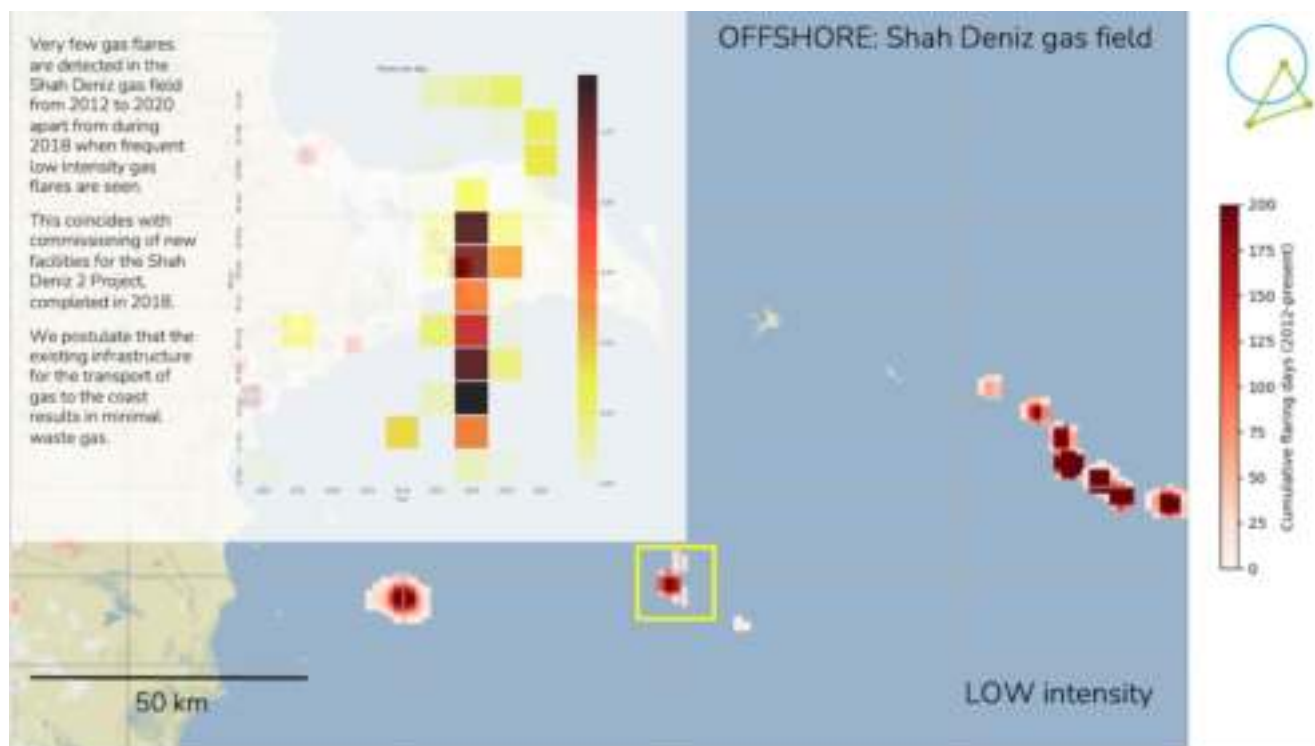
Shah Deniz has provided a steady supply of condensate. With the Shah Deniz 2 project, the field has also become a significant producer of natural gas.

In the first three months of 2020, Shah Deniz in total produced around 4.7 billion standard cubic meters (bcm) of gas and 1 million tons (7.7 million barrels) of condensate.¹¹⁷ Daily production is approximately 56 million standard cubic meters of gas.

In December 2020, the Shah Deniz consortium began delivering natural gas to Europe through the Southern Gas Corridor's 3,500 kilometers of pipeline from Azerbaijan.¹¹⁸ The Southern Gas Corridor cost \$33 billion and seven years to construct. The pipeline will send 10 billion cubic meters of gas to Europe annually for the next 25 years.¹¹⁹

Satellite Imagery of the Shah Deniz field

According to the Omanos Report, gas flaring from the Shah Deniz field seems to have decreased in 2020, yet the report observes that it is difficult to know if this decrease is due to COVID-19 restrictions or other factors. After Shah Deniz 2 came online, there was increased flaring in 2018-2019, but this is expected as production ramped up.¹²⁰



The variation in frequency of gas flares from the hotspot associated with the Shah Deniz gas field (marked by a yellow box) is visualized for each month from 2012 to 2020. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.

¹¹⁷ https://www.bp.com/en_az/azerbaijan/home/who-we-are/operationsprojects/shaheniz.html, accessed April 2, 2021.

¹¹⁸ <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/news-and-insights/press-releases/shah-deniz-begins-gas-deliveries-to-europe.pdf>, accessed April 2, 2021.

¹¹⁹ <https://www.worldoil.com/news/2020/12/31/bp-s-caspian-sea-project-emerges-as-russia-s-rival-for-european-gas-market>, accessed April 2, 2021.

¹²⁰ Omanos Analytics, "Sustainable Environmental Monitoring in the COVID-19 Era with Crude Accountability: EO survey of the Azerbaijan coast," December 2020, page 19.

Shah Deniz: Fire in the Field

As documented above, communities near the Sangachal Terminal, which accepts Shah Deniz gas and condensate, have complained of significant negative environmental and health issues.

In May 2019, an explosion occurred on a Saipem vessel, which was laying pipe as part of the Shah Deniz 2 project. Fourteen people were injured—a number were seriously burned—as a result of the explosion.¹²¹



On July 5, 2021, residents of Baku reported a fire in the Caspian Sea, near the Umid Field, which is operated by SOCAR. Officials claimed that the fire was caused by a mud volcano and that there had been no accidents on any of the numerous offshore platforms.¹²²

Ground-truthing at Shah Deniz is virtually impossible, and news published about activities near the field is confusing at best. Official information about the Azerbaijan sector of the Caspian Sea is unreliable in general.

This is another instance that needs more research and analysis as well as a broader scope of work than circumstances have allowed—to fully understand the level of flaring from the Shah Deniz field, and its impact on workers, the environment, and surrounding areas.

Explosion on the Caspian Sea, July 2021. Photo credit: FA Weather.¹²³

¹²¹ <https://www.worldoil.com/news/2019/5/9/saipem-reports-accident-on-a-vessel-operating-in-the-caspian-sea>, accessed April 2, 2021.

¹²² <https://www.dw.com/en/azerbaijan-large-fire-erupts-at-caspian-sea/a-58157629>, accessed July 30, 2021.

¹²³ <https://www.youtube.com/watch?v=DezxZxT701s&t=3s>

Azeri-Chirag-Guneshli Oil Field

The production sharing agreement for the exploration and development of a block of fields at the Azeri-Chirag-Guneshli (ACG) oilfield was signed in 1994 and was the largest PSA signed in Azerbaijan, covering an area of some 432.4 square kilometers in waters that are 160-420 meters deep, 110-130 km east of Baku.¹²⁴ The agreement has 30 year-term, and the Azerbaijan International Operating Company (AIOC) was made the operator of the agreement. As of its September 20, 1994 signing date, 11 oil companies from six countries have participated in the Agreement. Chevron (US) 11%, Amerada Hess (US) 3%, Azerbaijan Limited (AZ) 12%, BP (UK) 36%, Statoil (Norway) 8%, INPEX (Japan) 11%, Turkish Petrol (Turkey) 7%, Exxon Mobil (US) 8%, and Itochu Oil (AZ) 4% were involved in the original project.¹²⁵

On September 14, 2017, the PSA was extended for an additional 25 years (through 2049), and the agreement was ratified by Azerbaijan’s parliament in October of that year.¹²⁶ The new agreement stipulated that the consortium’s international members would pay a bonus of \$3.6 billion to the State Oil Fund of Azerbaijan; SOCAR’s equity share in the PSA would increase from 11.65% to 25%, and the shares of the other holders would decrease. After this extension, the shares of ACG project participants looked like this:

Percentage Share of Original ACG PSA-2

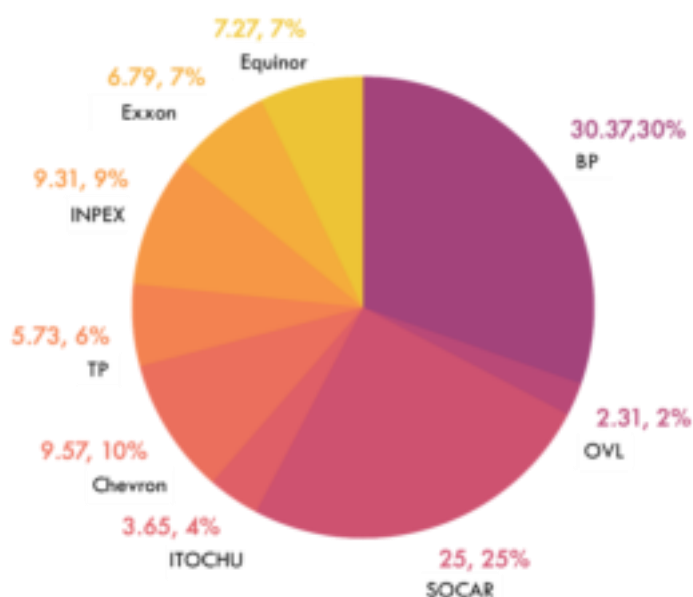


Chart by Crude Accountability

¹²⁴ Number of Azerbaijani PSA oil contracts totals 25 + 1 non-ratified, <https://en.trend.az/azerbaijan/politics/1183650.html>.

¹²⁵ Azeri-Chirag-Guneshli (ACG) oil field, <http://socar.az/socar/en/activities/production/azeri-chirag-deep-water-gunashli>.

¹²⁶ Extension of PSA for Azeri-Chirag-Gunashli Oil Field, <https://gratanet.com/news/extension-of-psa-for-azeri-chirag-gunashli-oil-field>.

In 2020, ACG, Azerbaijan’s main oil field, received less revenue than it has since 2007. The current situation, which summarizes the last 5 years, can be seen in Table 1.

Revenues received by the government of Azerbaijan from the ACG field in 2016-2020

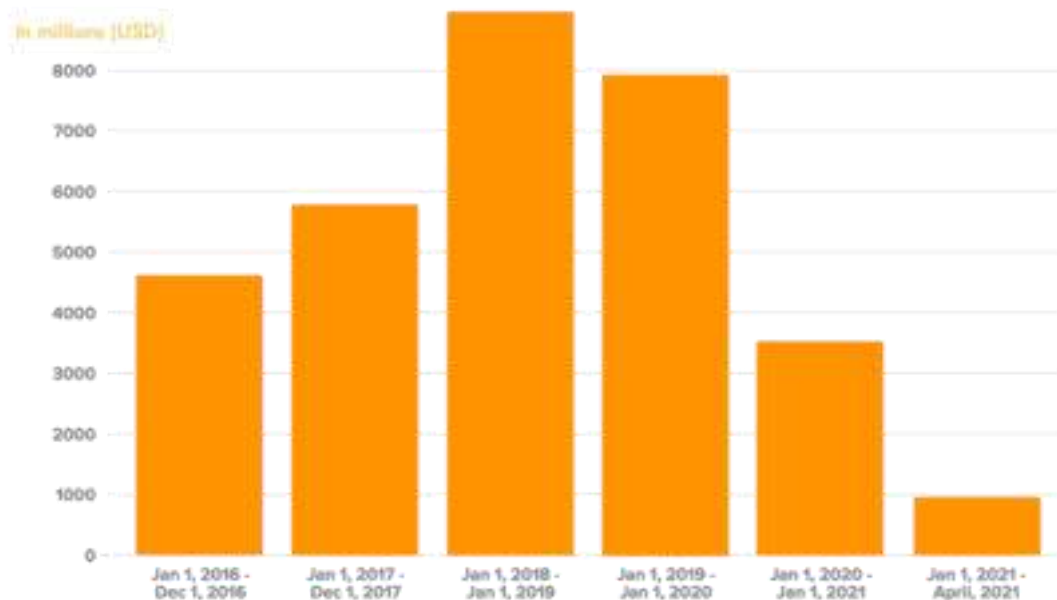


Table by Crude Accountability

As can be seen from the data, in 2020 the share of crude oil exports from the ACG field was one third of what it was during the same period in 2018 and half compared to the same period in 2019. In January-March of 2021, the Fund received \$953.498 million from the sale of crude oil from the ACG block, 43% less than revenue figures for the same period in 2020 (\$1.671 billion).

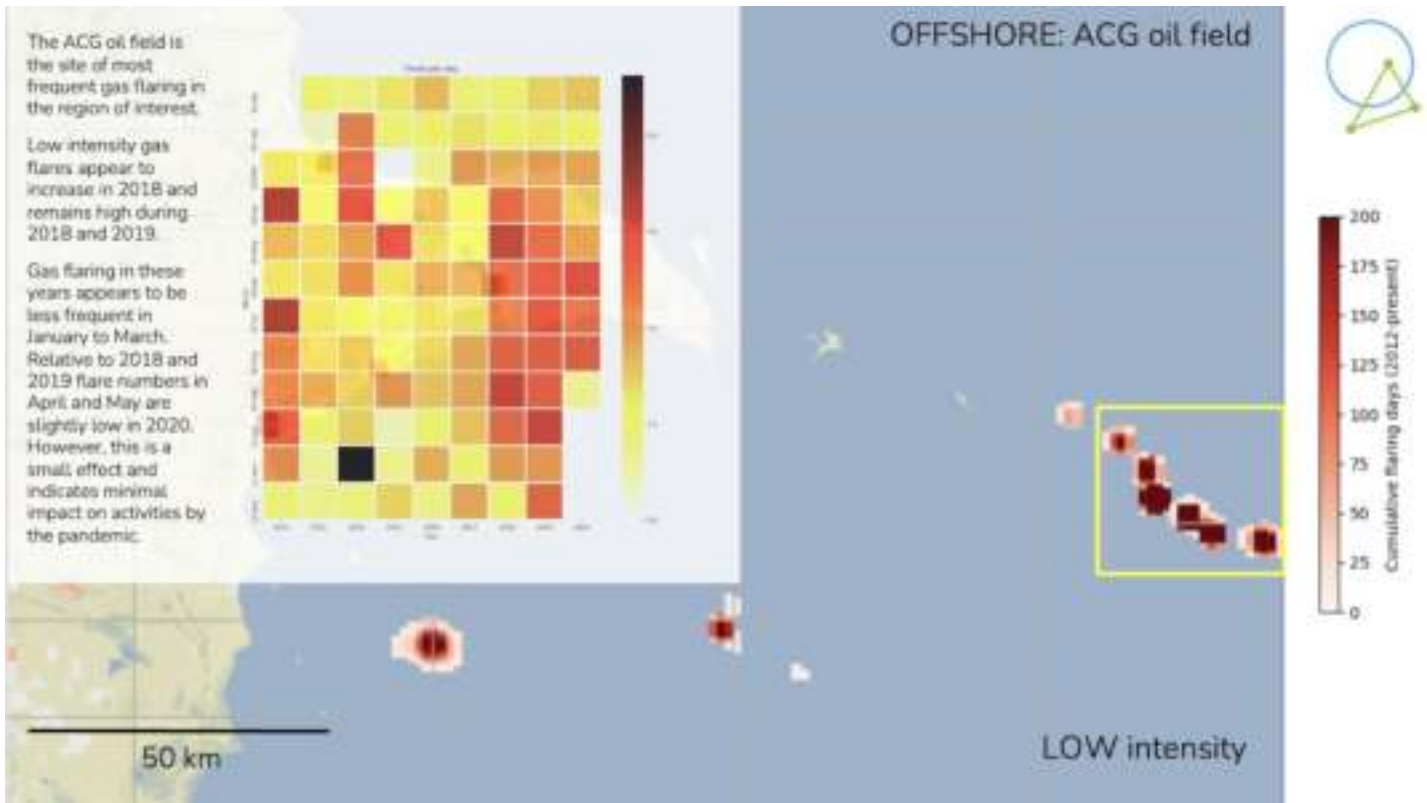
Satellite Imagery of the ACG field

The Omanos report data indicates that, despite the revenue loss, gas flaring at the ACG field remained consistent during 2020. Flaring was at its most intense in 2018-2019 after the PSA extension, and flaring was consistent, averaging around four daily low intensity flares from 2018 through 2020.¹²⁷

¹²⁷ Omanos Analytics, “Sustainable Environmental Monitoring in the COVID-19 Era with Crude Accountability: EO survey of the Azerbaijan coast,” December 2020, page 17.

Gas Flaring Frequency: ACG Field

ACG has been the site of numerous accidents over the years, some involving fires. There was an accident in 2011, and a serious incident in 2015, which resulted in the death of 30 workers.¹²⁸



The variation in gas flare frequency from hotspots in the ACG oil field (marked by a yellow box) is shown for each month from 2012 to 2020. Data credit: VIIRS Nightfire. Analysis credit: Omanos Analytics.

Especially during the pandemic, ground-truthing what is happening at the ACG Field, is virtually impossible. Limitations on travel, restrictions inside the country, and the general secrecy surrounding the oil and gas industry mean that this is an issue that requires more research and data gathering.

Despite reduced output at ACG, according to the Azerbaijan government, gas flaring at the field has remained steady during the pandemic.

¹²⁸ <https://www.business-humanrights.org/en/latest-news/azerbaijan-one-killed-30-workers-missing-following-fire-at-offshore-oil-field/>, accessed April 2, 2021.



**AZERBAIJAN IN A
WIDER ENVIRONMENTAL
AND CLIMATE CONTEXT
(OR WHY THESE ISSUES
MATTER)**

Azerbaijan in a Wider Environmental and Climate Context

(Or Why These Issues Matter)

Among Azerbaijan’s international commitments, the April 2016 Paris Agreement on Climate Change, signed by 195 countries, represents an important step towards addressing the world’s climate crisis. The Agreement was the first legally binding global climate package. Among other goals, it aims to limit global warming to 1.5°C above pre-industrial levels. In signing on to the agreement, governments agreed to limit their own greenhouse gas emissions, fund climate projects in developing countries that are adversely affected by climate change, and routinely update their greenhouse gas reduction goals.

Azerbaijan and the Paris Agreement

“On the instructions of President Ilham Aliyev,” the Republic of Azerbaijan signed the Paris Climate Agreement on April 23, 2016.¹²⁹ By committing to this legally binding agreement, Azerbaijan agreed to prepare its National Determined Contributions (NDC) document, outlining the sustainable climate objectives the country intends to pursue. Most significant in Azerbaijan’s NDC is its commitment to a 35% reduction of greenhouse gas emissions (GHG) compared to 1990 levels. By 2030, Azerbaijan is committed to reduce such emissions to about 25 Gigagrams¹³⁰ of CO₂ equivalent.

While Azerbaijan’s total GHG emissions are rather small compared to the rest of the world, the energy sector accounts for 63% of the country’s total GHG emissions (compared to 12% for households).¹³¹ Furthermore, the energy sector comprises about 35% of its GDP and net export income.¹³² Therefore, it is also essential that Azerbaijan commits to reducing GHG emission levels so as to ultimately diversify its economy and also to preserve the environment.

By 2030, Azerbaijan intends to reduce emissions to about 25 Gigagrams of CO₂ equivalent.

To achieve such a major reduction in GHG emissions, Azerbaijan is now committed to modernizing its energy sector with up-to-date, efficient technologies and to further updating oil

¹²⁹ <https://www.azernews.az/nation/95645.html>.

¹³⁰ One gigagram equals a million kilograms.

¹³¹ https://sustainabledevelopment.un.org/content/documents/23411AZERBAIJAN_VNR_Report.pdf.

¹³² https://sustainabledevelopment.un.org/content/documents/23411AZERBAIJAN_VNR_Report.pdf.

and gas processing technologies to bring them to conform with EURO 5 standards from the early 2010s.¹³³ At COP26, Azerbaijan pledged to increase the share of renewable energy sources in electricity production to 30% by 2020 and to reduce GHG emission levels by 40% by 2050.¹³⁴

Azerbaijan also is pledged to limit gas emissions from oil and gas production facilities and to prevent gas leakages at drilling sites. While these commitments are encouraging, Azerbaijan's NDC does little to promote alternative and renewable energy sources in its energy and natural resources sector. Instead, the NDC promotes the development and application of legal documents on the use of renewable energy sources for systems related to the country's people, such as heating systems and small hydroelectric power plants on small rivers. While these renewable sources would be used in all sectors of the economy, the NDC does not explicitly state that the country is committed to replacing oil and gas production facilities with renewable energy sources. Methane gas, a major polluting substance from energy sector facilities (including the AzMeCo facility described above), is only mentioned in the agricultural NDC in reference to manure. Without major modernization and reduction of oil and gas production, GHG emissions will remain. Reducing emissions from non-energy sources is not enough.

Is Azerbaijan Meeting Its Paris Standards?

To measure the effectiveness of Azerbaijan's current climate commitments, a recent research analysis used the Long Range Energy Alternatives Planning (LEAP) forecasting system to predict future energy demand and the environmental impact of continued energy production. LEAP is an energy policy analysis tool developed by the Stockholm Environment Institute to track consumption, production, and resource extraction. The research analysis applied LEAP to three energy scenarios in Azerbaijan. The first scenario – *business as usual* – found that unless it meets its current policy objectives by 2030, Azerbaijan would increase its GHG emissions by 67%. The second scenario, – *with existing measures* – found that if Azerbaijan meets its present policy objectives, it will only reduce GHG emissions by 29.7% compared to 1990. According to LEAP, Azerbaijan could only meet its Paris Climate Agreement GHG reduction goals by following the *European Union (EU) Policy Scenario*: significantly limiting its oil and gas production and increasing its renewable energy goals to meet EU standards. When meeting EU standards, including a target of 32% share of energy sector renewables, Azerbaijan could reduce GHG emissions by 37.2% compared to 1990.

LEAP analysis proves that Azerbaijan could lower its GHG emissions to meet Paris Agreement standards if Baku were to adopt EU standard environmental policy recommendations. Pricing GHG emissions at their social cost or introducing a carbon tax could help in this effort.¹³⁵ Economic diversification would also help limit the economic impact of a decline in oil prices that

¹³³ EURO emissions standards were established in the 1990s to determine acceptable levels of GHG emissions from passenger cars and commercial vehicles. Euro 5 was implemented for all new registrations in 2011. The final standard, EURO 7, is expected to be implemented in 2025.

¹³⁴ https://unfccc.int/sites/default/files/resource/AZERBAIJAN_cop26cmp16cma3_HLS_EN.pdf.

¹³⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7452500/pdf/main.pdf>.

greatly affects oil and gas rentier states such as Azerbaijan. Diversification would not only help the energy sector but also would facilitate the country's overall economic growth.¹³⁶

How Does Azerbaijan Compare to Other Countries?

To contextualize Azerbaijan's Paris Agreement commitments, it is useful to compare the country to other oil-rich nations. Analyzing the successes and failures of other countries will help identify the best practices for Azerbaijan, SOCAR, and BP if they will take climate change and its devastating effects seriously.

The Climate Action Tracker (CAT) compares climate action steps by various governments and measures them against the Paris Agreement standards of "holding warming well below 2°C and efforts to limit warming to 1.5°C."¹³⁷ The CAT provides an accurate measurement of the effectiveness of countries' Paris commitments and ranks countries on a scale from "critically insufficient" to "role model." Analyzing Azerbaijan's potential commitments via policy adaptations will help understand the growth that Azerbaijani climate policy can achieve. Comparing climate policies of other countries ranked higher or lower on the CAT, as in this report's later sections on Kazakhstan and the United Kingdom, will also put Azerbaijan's commitments and feasibility into perspective.

Although no country has adequately fulfilled its Paris Agreement targets, Kazakhstan and the United Kingdom (UK) provide examples of countries with a high dependence on the energy industry. Comparing these countries' commitments under the Paris Agreement will help shed light on Azerbaijan's ability to do more to meet its targets.



¹³⁶ Ibid.

¹³⁷ <https://climateactiontracker.org/about/>.

Kazakhstan

Similar to Azerbaijan, Kazakhstan's economy is heavily dependent on fossil fuel revenues. For example, 21% of the country's GDP comes from the direct and indirect effect of oil and gas sectors.¹³⁸ The country ranks 12th in proven oil reserves worldwide and has by far the largest proven reserves in the Caspian Sea region.¹³⁹ Kazakhstan also has over 37.5 billion short tons of coal reserves, more than any other Central Asian country.¹⁴⁰ Coal, in the context of fossil fuels, emits more carbon dioxide than any other.¹⁴¹ As a major polluter, Kazakhstan's adherence and commitment to its Paris Climate Agreement NDC is important. Kazakhstan's activities were ranked as 'insufficient' by the CAT in meeting its Paris targets.

Similar to other lower-income countries, Kazakhstan submitted both unconditional and conditional targets under its Paris Agreement NDC. Unconditional targets are lower and are expected to be implemented without any explicit external support. Conditional targets are more ambitious and often require external support for their fulfillment.¹⁴² Kazakhstan has set an unconditional target of 15% reduction in its GHG emissions by 2030 compared to its 1990 levels and a conditional target of 25%.

While Kazakhstan plans to modernize its existing coal plants and replace some coal with natural gas, this policy is short-sighted and will not result in the needed reductions in GHG emissions required to keep the planet under 2°C. According to the Climate Action Tracker, Kazakhstan's current policies by 2030 will result in a 6-9% increase in GHG emissions compared to 1990 levels. In addition, Kazakhstan still relies on oil and gas production, producing 85.7 metric tons of oil and gas condensate in 2020.¹⁴³

Similar to Azerbaijan, Kazakhstan's rentier government and strong, centralized authority predispose it to further corruption in the natural resources sector, leading to inefficient policies and opaque public procurement. Azerbaijan and Kazakhstan are authoritarian states heavily dependent on fossil fuels. In both countries, diversification of the economy and decreased reliance on fossil fuels, including coal, oil and natural gas, is essential to achieve progress in climate conscious policies.

United Kingdom

Although vastly different in history, economic makeup, and government structure, the United Kingdom is a key example of a European country that has proactively worked to lower its GHG emissions and its energy sector's dependence on heavily emitting fossil fuels. Since the

¹³⁸ https://www2.deloitte.com/content/dam/Deloitte/ru/Documents/research-center/Business_Outlook_Kazakhstan_2019_en.pdf.

¹³⁹ <https://www.trade.gov/energy-resource-guide-oil-and-gas-kazakhstan>.

¹⁴⁰ <https://aboutkazakhstan.com/about-kazakhstan-economy/coal>.

¹⁴¹ https://www.eia.gov/coal/production/quarterly/co2_article/co2.html.

¹⁴² https://www.cree.uio.no/publications/CREE_working_papers/pdf_2017/strand_carbon_pricing_cree_wp09_2017.pdf.

¹⁴³ "Kazakhstan Produced 85.7 MG of Oil and Condensate in 2020," January 14, 2021, <https://www.enerdata.net/publications/daily-energy-news/kazakhstan-produced-857-mt-oil-and-condensate-2020.html>, accessed August 10, 2021.

Industrial Revolution, coal has been synonymous with the UK's energy industry. Coal production peaked in Britain in 1913 at 287m tons. By 1921, the coal mining industry employed 1.25 million people. In 1971, coal accounted for 88% of electricity supplied to the UK market.¹⁴⁴

Coal as a share of electricity supplied to the UK market remained steady through the 1980s. By 2000, however, Britain's domestic offshore oil and gas industry in the North Sea became a more prevalent supplier of energy. And by 2018, natural gas accounted for almost 40% of power generation in the UK, while coal had decreased to just 5%.¹⁴⁵ The UK has cut more carbon content from its electricity grid at a faster rate than any other country, even a climate powerhouse such as Denmark.

In the first quarter of 2020, renewables accounted for 44.6% of total energy generation in the UK.¹⁴⁶ Increased renewable generation in the UK is becoming the norm, in stark contrast to its coal-dependent past. For a country such as Azerbaijan, the UK provides an important lesson in how to reduce greenhouse gas emissions were there enough political will and government commitment to make the transition to renewables.

Azerbaijan's Solicitation of Climate Funding

While Azerbaijan fails to meet its Paris Agreement commitments or achieve a steady reduction of GHG emissions in its energy sector, it receives funding from the United Nations Framework Convention on Climate Change's Green Climate Fund (GCF). The Green Climate Fund was established in 2010 and today plays a crucial role in supporting the Paris Agreement's goal of limiting global temperature rise to below 2 degrees Celsius. The fund provides funding to developing countries to support climate finance and invest in low-emission and climate resilient development.¹⁴⁷ To date, the Green Climate Fund has invested in over 150 projects and has committed over \$7 billion to limiting the rise of global temperature.

In Azerbaijan, the GCF has approved three projects totaling \$3.8 million dollars;¹⁴⁸ \$1.1 million has already been dispersed. The first GCF project was proposed in 2017 and asked for \$300,000 to enhance the capacity of the Ministry of Ecology and Natural Resources of Azerbaijan (MENR) to implement mitigation and adaptation actions outlined in the NDC. The second proposal asked for almost \$500,000 to leverage the private sector to implement the country's NDC. Finally, the third proposal from Azerbaijan asked the Green Climate Fund to fund as much as \$3,000,000 to improve data availability and enhance institutional capacity for climate mitigation activities throughout the country, among other efforts. While these projects are expensive, they are not unusual. Armenia, Azerbaijan's next-door neighbor, had over \$4,000,000 approved for projects, while Georgia, Azerbaijan's other Caucasus neighbor, was

¹⁴⁴ <https://www.ft.com/content/a05d1dd4-dddd-11e9-9743-db5a370481bc>.

¹⁴⁵ Ibid.

¹⁴⁶ <https://electrek.co/2020/04/13/egeb-green-energy-uk-main-power-source-india-electric-solar-produce-van/>.

¹⁴⁷ <https://www.greenclimate.fund/about>.

¹⁴⁸ <https://www.greenclimate.fund/countries/azerbaijan>.

approved for just over \$300,000. **Azerbaijan’s GCF proposals continue to fail to address its main environmental issue: oil and gas production.**

Azerbaijan’s highly ambiguous approach to sustainable policies and simultaneous oil and gas production is clearly shown in its 2019 concept document to the GCF, “Enhancing Climate Information and Multi-hazard Early Warning for Resilience in Azerbaijan.” The document, submitted to “allow the project proponent a chance to seek feedback from the GCF Secretariat about whether their proposal matches the Fund’s objectives and mandate,” concedes Azerbaijan’s vulnerable climate position. The Project Rationale describes a country “increasingly vulnerable to climate risks and climate-related hazards.” The document also states that “without timely, accurate and actionable climate information and an upscaled early warning system, Azerbaijan is unable to effectively respond and adapt to climate risks.”¹⁴⁹

Azerbaijan is not unique in its vulnerability to climate change. Yet, its willingness to solicit funds for sustainable climate projects while also contributing to the climate crisis through GHG emissions represents a clear double standard.

If Azerbaijan were serious about combating climate change, it would limit emission of greenhouse gasses from its oil and gas production facilities; Azerbaijan would also refrain from soliciting public funds while also engaging in climate destructive projects.

Crude Accountability’s 2018 report on community engagement before implementation of the Shah Deniz 2 project documents BP’s disregard for people who live in the vicinity of the Shah Deniz 2 project.¹⁵⁰ In the 2018 report, none of the local villagers interviewed had seen environmental management plans for Shah Deniz 2. No one was aware of any mechanism for filing complaints about the project. While the report referenced above was specific to the Shah Deniz 2 project, it is typical of BP and Azerbaijan’s lack of involvement with communities both around Baku and near the Sangachal Terminal. Azerbaijan’s proposal for a “multi-hazard early warning system” will do little to mitigate the current environmental emergency in the areas around Sangachal. Neither BP nor the government of Azerbaijan appear to be able or willing to protect or engage with communities impacted by Sangachal and other fossil fuel projects. This situation raises questions about the government’s capacity to effectively implement ‘climate conscious’ projects elsewhere in Azerbaijan. It also raises questions about the country’s ability to use the UN’s Green Climate Fund safely and efficiently to benefit Azerbaijani citizens.

¹⁴⁹ <https://www.greenclimate.fund/sites/default/files/document/21370-enhancing-climate-information-and-multi-hazard-early-warning-resilience-azerbaijan.pdf>.

¹⁵⁰ <http://crudeaccountability.org/wp-content/uploads/Shah-Deniz-II-Community-Assessment-Analysis.pdf>.

If Azerbaijan were serious about combating climate change, it would limit emission of greenhouse gasses from its oil and gas production facilities; Azerbaijan would also refrain from soliciting public funds while also engaging in climate-destructive projects.

Given Azerbaijan's lack of transparency and its reputation for corruption, one cannot be certain that the funds are being used in the projects described in its proposals.

BP, the Oil Industry, and Climate Change

Since the energy sector plays the main role in Azerbaijan's economy – plus contributes to its GHG emissions – it is important to analyze how BP, the country's primary operator of oil and gas production facilities, responds to the Paris Agreement and whether BP is implementing climate-conscious policies.

Since production began in November 1997 till the end of June 2019, ACG produced about 488 million tons (over 3.6 billion barrels) of oil. Shah Deniz, the main gas facility, has produced 100 billion cubic meters of gas since it started operations.

Since it began operations in Azerbaijan in 1992, BP has partnered with the Azerbaijani government to build the Azeri-Chirag-Gunashli (ACG), Shah Deniz, Baku-Tbilisi-Ceyhan (BTC), South Caucasus Pipeline (SCP) and Shafag Asiman¹⁵¹ projects, as detailed above.¹⁵² BP has spent over \$75 billion from 1995 to 2019¹⁵³ on these projects. Since production began in November 1997 till the end of June 2019, ACG produced about 488 million tons (over 3.6 billion barrels) of oil. Shah Deniz, the main gas facility, has produced 100 billion cubic meters of gas since it started operation.¹⁵⁴ Certainly, these projects as well as their jobs and infrastructure have contributed to Azerbaijani government income.

Despite BP's short-term success in the country, the company's response to the Paris Agreement and implementation of climate-focused policies are critical for the long-term prosperity of Azerbaijan's economy beyond an oil- and gas-based economic future.

To provide context, one should examine climate change policy within BP. Using the Transition Pathway Initiative's metrics of management quality and carbon performance, one can better understand the oil and gas industry's commitments to limiting greenhouse gas emissions.¹⁵⁵ While BP management seems to understand the climate threat, BP's carbon performance does not meet Paris Agreement

¹⁵¹ <https://www.nsenergybusiness.com/news/bp-socar-shafag-asiman/>.

¹⁵² https://www.bp.com/en_az/azerbaijan/home/who-we-are/bp-in-azerbaijan.html.

¹⁵³ <https://neftegazru.com/news/worldwide/552366-bp-s-total-investments-in-azerbaijan-hit-75-billion/>.

¹⁵⁴ https://www.bp.com/en_az/azerbaijan/home/news/press-releases/acg-celebrates-25th-year-of-its-journey-to-success.html and https://www.bp.com/en_az/azerbaijan/home/who-we-are/operationsprojects/shaheniz.html.

¹⁵⁵ <https://www.transitionpathwayinitiative.org/sectors/oil-gas>.

standards. In fact, the same can be said of the oil and gas industry as a whole. Therefore, in analyzing BP's operations in Azerbaijan—despite the company's words and commitments—its actual carbon performance is poor.

Even though BP company documents and statements stress its commitment to combating climate change, the company's actions—including its 5 “Net Zero Aims”—tell another story. In its 2019 report, the Carbon Tracker Initiative (CTI) “Breaking the Habit: Why none of the large oil companies are “Paris-aligned,” and what they need to do to get there,” outlined current and planned oil production projects. This report also analyzed their abilities to meet various levels of limited global temperature rise. BP and other large oil companies were compared to the International Energy Agency's Sustainable Development Scenario (SDS). The SDS recognizes that the world is not on track to meet energy-related sustainable development goals and sets out a vision of how the energy sector can attain them. SDS is fully aligned with the Paris Agreement and holds global temperature rise at 1.5 degrees Celsius with a 66% probability, without reliance on global net-negative CO₂ emissions.¹⁵⁶ When BP is analyzed through this SDS lens, between 30 and 40% of the company's capital expenditure is outside of the SDS environmental limits.¹⁵⁷

While BP has publicly announced its commitments to Paris Agreement guidelines, it privately bet against the Paris Agreement by approving the Azeri Central East Project with a budget over \$4.3 billion.

The Carbon Tracker Initiative's report identifies the recently approved deep water ACG Azeri Central East project, operated by BP, as not in agreement with a “Paris friendly” climate proposal. A few months before the Azeri Central East Project was approved, BP said in February 2019 that “in accordance with the proposed resolution BP will describe how its strategy is consistent with the Paris goals, as well as setting out a range of additional related reports.”¹⁵⁸ While BP announced its commitments to Paris Agreement guidelines, it privately bet against the Paris Agreement by approving the Azeri Central East Project with a budget over \$4.3 billion.

The ACG Azeri Central East (ACE) Project is particularly significant because it is so recent. In a post-Paris world, energy companies should comply with future climate regulations. Not only is Azeri Central East not in compliance with these regulations, but BP has also claimed in its Environmental and Social Management plan, that documents emissions from ACE's operations phase, will have only a minor impact on the atmosphere.¹⁵⁹

¹⁵⁶ <https://www.iea.org/reports/world-energy-model/sustainable-development-scenario>.

¹⁵⁷ <https://carbontracker.org/reports/breaking-the-habit/>, accessed January 15, 2022.

¹⁵⁸ Ibid, p. 26 of report.

¹⁵⁹ https://www.bp.com/content/dam/bp/country-sites/en_az/azerbaijan/home/pdfs/esias/acg/nts_standalone_final_jan_eng2019.pdf.

Yet, over five years of the Azeri-Chirag-Guneshli project accounts for over half the gross flaring from BP operations in Azerbaijan. Furthermore, BP announced in February 2020 that it expected to maintain the stability of Azeri ACG oil output in 2020 despite the COVID pandemic. As the Omanos report confirms, ACG continued flaring during the period.

According to UN data, unprecedented and urgent climate action is needed to ensure global temperature rise is limited to 1.5 degrees Celsius. Data reveals that by 2030 human-caused carbon dioxide emissions would need to fall by some 45% from 2010 levels to reach 'net zero' by 2050.¹⁶⁰ The ACE project and BP's general disregard for climate change policy is an inadequate response considering the devastating impact climate change will have on the global ecosystem.

¹⁶⁰ <https://www.un.org/en/climatechange/science/key-findings>.

CONCLUSION

Conclusion

This report has clearly shown that further study is needed to understand the full impact on the environment and the health of local communities near the five oil and gas sites discussed. Further data collection, including environmental monitoring, is needed to quantify the regional impact of gas flaring and other fossil fuel pollution.

To assist in this effort, Azerbaijan's government should release relevant environmental and social information and the international community must press it to do so. The companies involved, including BP and SOCAR, should take responsibility for the impact of their activity, especially on those living closest to their facilities. The vast disparity between BP's environmental reporting and testimony from villagers living near the Sangachal Terminal calls into question the veracity of BP's environmental report. Likewise, the EBRD and other international financial institutions must be more transparent and commit to meaningful engagement with civil society, both inside and outside of Azerbaijan.

Dismantling the authoritarian and corrupt system is key to this lack of transparency. This could enable a more equitable disbursement of resources to allow Azerbaijan's citizens to benefit from an economy that is now monopolized by the government.

Further research is *not* needed to understand the contributions of the oil and gas sector, including in Azerbaijan to the current global climate crisis. Volumes of research are available on the impact of climate change.

The Intergovernmental Panel on Climate Change (IPCC) August 2021 clearly warned about the imminent danger of climate change: "Scientists are observing changes in the Earth's climate in every region and across the whole climate system."¹⁶¹ The IPCC also found, "Many of the changes observed in the climate are unprecedented in thousands, if not hundreds of thousands of years, and some of the changes already set in motion—such as continued sea level rise—are irreversible over hundreds to thousands of years."¹⁶² Yet, the report also noted that "strong and sustained reductions in emissions of carbon dioxide (CO₂) and other greenhouse gases would limit climate change."¹⁶³

The key question is whether we collectively, and especially in oil producing countries such as Azerbaijan, can muster the political will to do what is necessary. This report provides a basis for holding Azerbaijan accountable—both to the vulnerable communities around its massive oil and gas facilities, and to its population more broadly. One can only hope that Azerbaijan in its transition from a fossil-fuel based economy to one more in alignment with its Paris commitments will make the changes essential to address climate change.

¹⁶¹ <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>, accessed August 10, 2021.

¹⁶² Ibid.

¹⁶³ Ibid.

Certainly, Azerbaijan is not alone in its urgent need to change. The post-industrial world has a collective responsibility to shift from fossil fuels to a sustainable energy economy. Banks should stop financing the petroleum industry, corporations should invest in circular production processes that eliminate waste altogether, and consumers should require that decision-makers create products and energy alternatives, which protect the climate and humanity. The time for this shift is long overdue. While the world struggles to address climate change, the communities highlighted in this report—and all too many others around the globe that are also directly impacted by the fossil fuel development that surrounds their homes—still pay an unacceptably heavy price for the world’s addiction to oil and gas.