

POWER GENERATION AND ENERGY SOURCES

ENERGY CONSERVATION

**GREENHOUSE GASES
EMISSION REDUCTION**

OIL AND GAS

- **Fields**
- **Plants and Terminals**
- **Transportation**
- **Retail**

HEAT AND POWER PLANTS

RENEWABLE ENERGY

- **Wind Farms**
- **Solar Plants**
- **Bio Fuel**

About EcoSocioAnalysts

Established in 2014 EcoSocio Analysts LLC (ESA) is a successor of CaspiEcology Environmental Services formed in 2001. We provide full spectrum of health, safety, environmental and socioeconomic services including HSE due diligence, impact assessment, management systems and monitoring; stakeholder engagement, information disclosure, resettlement and livelihood restoration, contamination assessment, cleanup, revegetation and waste management. We communicate and produce reports in the required language be so the English, Russian or Kazakh.

Our blend of western education with local experience has allowed us to provide commendable work for the international lending organizations like the HSBC, EBRD and IFC and the companies that apply for their loans or for listing on the London Stock Exchange. When we lack specific experience for a project we join with our long-term partners from UK, Germany, Italy, Spain and other countries as well as contract international free-lance experts. This allows us to accumulate experience in practically all industrial sectors present in the Central Asia despite specialisation on the international investors.

See www.EcoSocioAnalysts.kz for **Statement of Qualifications**.

ESA is licensed to conduct audits and present and defend its finding in a Kazakhstan court of law.

ENERGY SECTOR EXPERIENCE





Satellite view of 3D seismic survey in the Aktoty and Kairan license area

What Records Concerning Past And Present Activities Do I Need?

What Data Do I Need For Investors?

- Local
- Western
- AIM: London Stock Exchange
- Lending Institutions: EBRD, EU

Can My Company Be Fined?

Are Permits Required For?

- Seismic Investigations
- Well re-entering and testing
- Well Drilling
- Field Operation



Well 20 was drilled in January 2010. Concrete slabs are set for a drilling rig. Gas separator with a flare and three 75m³ crude oil tanks with an export tap are placed north-west of the well. Two 25m³ crude oil tanks and export tap (right on the above picture) belongs to the well 8. No oil contamination or debris was detected around the well. Soil and vegetation are disturbed on 8.99 hectares due to drilling of well 8 and presence of the camp. Vegetation is absent in 90% of the disturbed area.



Ravninnoye Oil Field: compliance audit & 3D seismic, re-entering, and testing. Data submitted to AIM, London Stock Exchange



Arman Oil Field: Audit with USA Walsh Environmental for Kerr-McGee Oil & Gas Corporation

Is There Contamination On Site?

How Much and How Bad?

How Do We Avoid Fines?

How Do We Clean It?

How Much Will It Cost?

How Long Will it Take?

Are Documents in Kazakh, Russian and English Available?

Are there problems?

- With people living on or near the site
- Radiation
- Archeology
- Insurance
- Endangered species



Waste oil utilisation at the oil preparation plant

Investor Liability Concerns

It is hard to prove in the court that contamination or hazardous waste burial is responsibility of the early owner or neighbor. The new owner has to cleanup and pay a fine that equals to the cleanup cost that is either calculated by the environmental authorities using a simplified indirect method or derived from a cleanup plan produced by a certified consultant and approved by the authorities. These authorities can also stop part of the whole operation until the identified contamination is eliminated. Environmental non-compliance can be used by the government as a tool to enforce its objectives.

How to Minimise Risks?

To make a decision on a loan or listing the company on e.g .the London AIM, the international lending institutions require a reputable environmental company to conduct the following work:

Environmental and social impact assessment (ESIA) is conducted for the EBRD Category A projects. In Kazakhstan the assessment includes a Declaration of Intent, a Preliminary EIA at feasibility study stage, and an EIA for detailed design. These data provide solutions for the prevention of adverse impacts on the environment and people.



This farmer livelihood depends solely on a water well in the middle of North Karabandybas oil field.



Oil terminal and associated traffic added to overgrazing to accelerate decertification reflected in appearance of dunes that migrated into the nearby settlement.



Gas flaring eases orientation in the featureless environment but often also creates significant impact on the landscape and aesthetics of the step.

Results of modeling of visual impact from 86m tall wind turbines were sent via WhatsApp to the residents of the houses from which the panoramas were taken for mockup. Rotation speed was shown via giving a link to the Internet example.



How to Minimise Risks?

Environmental and social impact assessment (cont.) At the ESIA stage the gaps in the previous studies are identified and a plan is developed to fill them.

Health, safety, social and environmental due diligence and assessment is conducted for the EBRD Category B projects and involve audit of the loan affected part of the existing operation and the planned activity impact evaluation. At this stage the local EIA is also analysed for gaps but the gaps are filled only for significant aspects of impact.

Environmental Management System is developed in Kazakhstan at the EIA stage in the form of an operational ecological control plan to obtain the Emission Permit that allows to start construction. To ensure international financing, an Environmental and Social Action Plan (ESAP). Once the construction begins, monitoring takes place to validate predicted by the ESIA impacts significance and effectiveness of suggested by the ESAP measures. The Category A projects ESAP implementation is to be checked once or twice a year by an independent bank approved consultant.

Stakeholder Engagement is an obligatory process that should start at an early stage and continues in a systematic manner for the duration of the project or the loan. In contrast with the Kazakhstan requirements, when only the stakeholders that are directly negatively affected by the development must be informed, the EBRD and IFC standards include persons or groups that are also indirectly affected (positively or negatively) by the project and generated by it activities or have interests in the project or the developer or have the potential to influence project outcomes or the developer operations or contribute to the work due to their expert knowledge of and/or experience in the region. These standards also require engagement rather than just informing the identified stakeholders and paying specific attention to the groups who, by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage or social status may be more adversely affected by the project than others and who may be limited in their ability to claim or take advantage of the related to development benefits.

In 2015 Kazakstan has increased the public access to information by obliging the state agencies and other providers of public information



like national holdings, public-private partnerships, monopolies etc. to disclose not only environmental information but all the information that is not the state, medical or commercial secret.
Kyzylorda Power Distribution Company legacy with old transformers



EIA for Ravninnoye oil field faced increasing number of livestock herds attracted by fresh water from a leaking well.



This family is not aware of risks associated with living next to Ganyushkino oil terminal and do not want to relocate.



North Caspian oil field well leakage with ecological and financial implications



Shardara Hydropower Plant: resolving crop fields inundation and fish migration issues

Our Experience

The first solar power plant in Kazakhstan BURNOYE took a pasture on which the local oralman community relied. Livelihood restoration involved finding and purchasing alternative pastures suitable for them. Hey from the plant area was planned to be handled to the residents as an additional compensation.



AES Sogrinsk CHPP ESDD reviewed the company performance from the initial EBRD assessment in 2012 and updated the ESAP



ATYRAUNEFTEMASH CHPP was a successful example of a reliable and effective energy source that can use associated gas at the remote from the grid oil fields which development has been hindered by high grid connection cost. The ESDD paid specific attention to heat utilization, NOx emissions adherence to the proposed EU Directive for Medium Scale Plants and impact on the local power distributors and consumers.



Ambient noise measurement for ESIA of Balkhash CHPP

ARMAN WIND FARM ES ASSESSMENT considered impact and risks of oversize and heavy parts transportation along the roads



ENVIRONMENTAL ANALYSIS OF BALKHASH THERMAL POWER PLANT FOR SAMSUNG Together with WS Atkins compliance of the plant with the Equator Principles was assured to obtain funding from international banks.

The pre-EIA prepared for the first in Kazakhstan **EREYMENTAU WIND FARM** was nominated for **2011 American Chamber of Commerce Environmental/Health and Safety Award**

ZHUZUMDIK WIND FARM ES ASSESSMENT eliminated risk of the Iron Age burial mounds damage by recommendations for HVL route and installation practices alteration

The Caspian Group Senior Project Manager comment: "In regard to the recent work on the Coal Bed Methane environmental and social review, as always, your work was thorough and well presented."



Drilling for coal gas in the coal mining area created several challenges like absence of a hazardous waste landfill in vicinity



European Bank
for Reconstruction and Development

EBRD (Senior environmental advisor)

- 1) What a heroic effort turning this around so quickly, thanks!!
- 2) "...As a result of our meeting, the references you sent about the experts and my review of the Atash Marine Base EIA. I can say there will not be a need for a Gap Analysis by an external party."
- 3) "I am very pleased to hear that you will be monitoring the project implementation. As I have always said I had been very pleased with the quality of your work and your cooperation during the EDD. I hope our close relation will continue during the implementation stage."
- 4) "I reviewed the Resettlement Action Plan... you have done a very good job on it!".!
- 5) The overall quality of the work done is very good. Nicely written in a concise manner, but without omitting important details



Ministry of Environmental Protection Office, Kyzyl Orda (Head of the State Environmental Expertise)

"We would like to note the high professionalism and quality of the project and analytical data of the prepared **cleanup and recultivation plan**. The

cleanup methods screening, accounting for all positive and negative aspects and the cost-benefit analysis for each screened method particularly impressed me. I hope that the **diligence and professionalism of your specialists will serve for the welfare of our Republic** and the health of the people of Kazakhstan. Thank you."

Regional Center in Central Asia (CAREC) (Director)



"...thanks for your cooperation and support of sub-regional seminar on **"Strengthening of the Central Asia countries potential in the Assessment of Environmental Impact in transboundary context"**. Your contribution has made the seminar useful in a practical manner.



Price-WaterhouseCoopers (Project Manager)
"... very pleased with **Assessment of Risk from Environmental Regulations** you did..." The work was used for technical assistance to three major Kazakhstan banks that were reviewed by EBRD as financial intermediary.



Datoba Construction LLP (Director)

"We appreciate the special effort you put into its work, its ability to communicate and respond to the particularly demanding issues associated with construction work. Datoba is **happy to include you in all our related work** from extensive **high-level international projects for companies like McDermott and Halliburton** to projects associated with local construction firms and related laws and regulation of Kazakhstan."



ILF GmbH (Senior Consultant)

"Thank you for the fine preEIA for the **Crude Oil Pipeline Kenkiyak-Atyrau** (which) is very impressive with special regards to the data collected, the evaluation of the results... and the professional interpretation and handling of the environmental issues addresses. To **accomplish** such work in the



The World Bank (Lead Economist and Lead Energy Specialist)

"...We appreciate the significant progress that has been made in a **pilot cleanup and oil recovery** (under the Uzen oil field rehabilitation project loan supported by the government of Kazakhstan) and note that it is in keeping with the Bank's policy of sustainable development and promotion of social development."



OKIOC(Agip KCO) (HSE Manager Greg Cresswell)

"... prepared for the **MENR the Review of the North Caspian Sea Exploration Project EIA** is a very constructive tool for implementing exploration drilling. Because of the **exceptional quality** and usefulness of this product, OKIOC accepts and commits to implement all your comments to improve the Project."



UzenMunayGas (Environmental Project Coordinator)

"Together with Ecology & Environment, Inc (USA) your team did a superior job in completing an **environmental audit** on a portion of the Uzenmunaigas oil field that was significantly complex in nature and contaminated from variety of sources. I understand the regional environmental authorities proclaimed it to be **'...the best environmental study they have ever seen'**. Professional work of this nature deserves to be complemented and I am happy to do so".



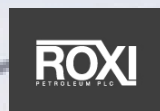
Environ, UK (Senior Consultant)

"I am very happy indeed with you helping in audit of **2 oil terminals, 2 oil fields and a chemical plant** and will always contact you when we get future projects in Kazakhstan... **EBRD sounds delighted** with our tenacity."



Atkins (Associate Water and Environment)

"I would like to thank you for all your efforts in undertaking the **audit and generating the report, which was received very well by EBRD**. It was an **achievement to meet the very tight timescales** on this one."



Roxi Petroleum (COO)

"**Great job!** The **due diligence** reports you compiled on each of seven of our oil fields **met all requirements of the Alternate Investment Market (AIM) as well as our investors**. The **ESIA** was equally appreciated by our team as is your oil field **microbiological remediation** efforts. We hope we can continue to work with you into the future."



Balykshi, a subsidiary of Caspian Services (Director).

"Thank you for providing continuous and **very reliable services** to our development company for the past two years. Your ability to solve problems, work with local people and organizations like the European Bank of Reconstruction and Development (EBRD) is commendable. We hope we will be able to work together for many years to come."

**WHAT NEXT?
Call us for help with your
Questions**

See www.EcoSocioAnalysts.kz for Statement of Qualifications and other brochures:

- Socioeconomic Assessment and Stakeholder Engagement
- Contamination Assessment & Remediation
- Monitoring, Surveys and Investigations
- Civil and Industrial Construction
- Environmental Management

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