



PRESS RELEASE

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The Kvanefjeld project does not meet Greenland's Mineral Resources Act's environmental and climate requirements

Green NGOs in Greenland and Denmark publish the EIA draft report for the Kvanefjeld mining project and an expert opinion on the draft.

At the beginning of October 2016, the *Danish Broadcasting Cooperation* gained access to the draft of the Kvanefjeld environmental impact assessment (EIA) report [1] under Greenland's Act on Transparency of Public Administration. Later, Greenland's biggest media outlet, *Sermitsiaq/AG* and *The URANI NAAMIK/NO TO URANIUM Society* in Narsaq also applied. However, the owner of the Kvanefjeld project, *Greenland Minerals and Energy Ltd. (GMEL)*, intervened and the Greenland Government suspended the access. On March 1st 2017, The Environmental Agency for Mineral Resource Activities decided not to give access [2]. The prolonged consideration of the case confirms once again the necessity of Greenland adopting the Aarhus Convention in order to give the public better access to environmental information [3]. The lack of transparency makes public participation very difficult, especially in regard to oil and mining projects. Considering the immense interest in the Kvanefjeld mining project, we have decided to make the EIA draft report available to the public.

The Kvanefjeld project has been criticised for years, but the EIA draft does not address the concerns of the local population, NGOs, politicians and international environmental and health experts. Ultimately, the environmental and climate impact of the project described in the draft does not meet the requirements of Greenland's Mineral Resources Act [3].

A paper, commenting on the EIA draft, by Jan Willem Storm van Leeuwen, an expert in technology assessment and life cycle analyses of energy systems at Ceedata Consultants in the Netherlands, draws among others the following conclusions. The paper has been commissioned by the above-mentioned NGOs:

From the EIA draft report follows that GMEL during a life span of 37 years of the mine intends to process a total of 111 million tonnes of ore, slightly more than one tenth of the recoverable amount of 1.01 billion tonnes reported to be present in the three deposits at the Ilimmaasaq complex and 16.5% of the Kvanefjeld deposit of 673 million tonnes. However, in the section of the white book that describes the social sustainability of the mining project, which was written at the

same time as the draft EIA report, GMEL mentions an operating lifespan of the mine of more than 100 years, which indicates a significantly bigger output.

Mining of the full resources would generate a tailings volume about ten times larger than in the current design. This is problematic, considering that a rough estimation of the capacity of the Taseq basin to store tailings point to the conclusion that the design presented in the EIA draft report may approach a maximum. Storage of additional tailings would require a completely different design. Because the ores also contain thorium in concentrations 3-10 times higher than uranium, the radioactivity of the tailings would be 3-10 times higher than might be expected based on the presence of uranium alone.

The storage of the tailings in the Taseq basin would generate health hazards due to unavoidable events, even if the dams would behave as planned. This risk would grow with time, the more so after the final closure phase when inspections and maintenance might come to an end. In the long term the dams will fail.

Unavoidably, a fraction of the elements present in the excavated rocks would be released into the human environment via dust, aerosols, gases, and liquid discharges. In addition to authorised discharges, also unintentional but unavoidable discharges might be expected caused by leaks, spills, seepages and accidents. In the course of years a vast area around the mine would become contaminated by radioactive and non-radioactive materials from the mine, many of which may be highly toxic.

People living in the contaminated area would be chronically exposed to radioactive and other toxic species via drinking water, food and air. Seafood would become contaminated as well, due to the substantial discharges of wastes into the coastal sea. Bioaccumulation of radionuclides and non-radioactive chemicals in the food chain may become a serious problem.

The quality of the uranium ores at the Kvanefjeld is very near the energy cliff, due to the low grade and the mineralogy of the ore. This means that a nuclear energy system using uranium from this ore, measured from cradle to grave, is an energy sink and does not deliver useful energy to the world.

“It should be emphasised how big the Kvanefjeld project really is”, says Mariane Paviasen, Chairwoman of The URANI NAAMIK/NO TO URANIUM Society in Narsaq. “If all its presently known uranium resources are mined, Kvanefjeld would produce more than double as much radioactive waste as the total mass of uranium mill tailings in Canada and the U.S. put together. Enormous risks will be inflicted on the inhabitants of Narsaq, situated only six kilometres away below the open mine pit. Risø National Laboratory has estimated that up to a thousand tons of radioactive dust might be released annually. Some of it will be carried by the heavy polar winds towards Narsaq and across the region, where it will affect among others sheepfold and food crops”. [5]

“The Kvanefjeld project does not meet the environmental requirements of Greenland’s Mineral Resources Act”, says Niels Henrik Hooge from NOAH Friends of the Earth Denmark’s Uranium Group. “The EIA draft report raises more questions than it answers. It does not ensure that environmental risks are assessed and reduced as much as is practically possible. Chapter 13 of this Act is very clear: GMEL must apply the best available techniques, which is not the case, when both the concentrator tailings and the chemical tailings from the refinery are disposed of in Lake Taseq high up in the Narsaq valley river system. From here, radioactive isotopes and toxic chemicals will enter the groundwater, rivers, fiords and the sea. Instead, the waste should be deposited in the empty mining pit, when mining operations stop.”

“Because of the low grade of the uranium ore, the mine’s energy consumption is very high”, says Mikkel Myrup, chairman of Avataq, Greenland’s Nature & Environment Association. “Storm van Leeuwen’s analysis clearly documents that uranium production at Kvanefjeld will be near the bottom of the energy cliff. The Kvanefjeld violates the Mineral Resources Act’s climate protection requirements, because it increases

Greenland's total CO₂ emissions by more than 60%. The CO₂ emissions will increase from currently almost 10 tons CO₂ per capita yearly to 16 tons in the operational period, which could be centuries, considering the size of the uranium deposit. It is projects like Kvanefjeld that has prevented Naalakkersuit from adopting the Paris Agreement as well as other international climate agreements in the past."

J.W. Storm van Leeuwen's paper can be found here: <http://kortlink.dk/noah/pydz>

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Notes:

[1] GMEL: Kvanefjeld Project, Environmental Impact Assessment, Draft, October 2015: <http://kortlink.dk/noah/pydy>

[2] The Environmental Agency for Mineral Resource Activities: Decision regarding access to draft EIA report, 1 March 2017: <http://kortlink.dk/noah/pye4>

[3] For more information on Greenland's legislation in this field, see Ellen Margrethe Basse: Juridisk respons om den gældende grønlandske lovgivning vurderet i lyset af Århuskonventionen, Juridisk Institut, Business and Social Sciences, Aarhus Universitet, Juni 2014: <http://kortlink.dk/naalakkersuisut/pk6q>

[4] Greenland Parliament Act of 7 December 2009 on mineral resources and mineral resource activities (the Mineral Resources Act), unofficial translation: https://www.govmin.gl/images/stories/faelles/mineral_resources_act_unofficial_translation.pdf

[5] Kim Pilegaard: Preliminary environmental impact statement for the Kvanefjeld uranium mine, Risø National Laboratory, 1990, s. 44: <http://kortlink.dk/dtu/k5vh>