



Environmental regulation of mineral resource activities 2019-2023

This strategy memo draft contains development goals for regulating environmental, natural and climatic issues regarding mineral resource activities in Greenland both on land and offshore. In the rest of this document the environmental, natural and climatic conditions will be referred as “environment”. The strategy memo covers the period of 2019-2023.

The Environmental Agency for Mineral Resource Activities (EAMRA) is the administrative authority that manages the regulation of environmental, nature and climate conditions regarding mineral activities in Greenland. This is done within the framework of the Mineral Resources Act on environmental, nature and climate protection. The Mineral Resources Act further stipulates that assessments and decisions regarding environmental issues shall be based on assessments and draft decisions from one or more scientific and independent environmental institutions.

The development goals of this strategy memo are based on the recommendations of scientific advisors from Danish Centre for Environment and Energy, Institute of Bioscience, University of Aarhus (DCE) and Greenland Institute of Natural Resources (GINR). The strategy memo also draws inspiration from best international practice in the field.

The scientific advice of DCE and GINR is attached.

- *Appendix: Scientific recommendations for environmental regulation of mineral resources in the strategy period of 2019-2023*

The environmental part of the strategies for mineral resources 2019-2023

The overall objective of the environmental strategy is that the focal areas and development goals of EAMRA will bring the environment into the work flow and attention of companies as early and as effectively as possible. EAMRA’s efforts must support the companies' own responsibility for the best possible environmental solutions.

The strategy is based on the general purpose of the Mineral Resources Act - that all activities in the area must be conducted in a sound manner with regard to the environment and in accordance with, under similar conditions, good international practice.

Mind the environment – from before start-up until after decommissioning

With updated environmental legislation and a strong focus on locally based nature and environmental protection, Greenland is a pioneer in the Arctic. As a

Brevdato: 19-06-2019
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society, we use considerable resources every year to ensure a sustainable nature and a healthy environment.

In order to ensure the best environmental regulation generally there must be an early focus on the environmental element in the exploration for and exploitation of mineral resources.

The activities must be carried out all the way through recognized, good international practice adapted to Greenlandic conditions - with the best environmental practices and the best available techniques.



Figure 1: The focal areas and development goals are focused on the different phases in the life cycles of the mineral resource projects: Before feasibility study and exploration, the transition from exploration to exploitation - when exploitation is in action- and after decommissioning starts. The efforts that are in focus in all phases are central.

Across the different phases

The total environmental impact – an ecosystem-based management

Mineral resource activities do not differ in many contexts from other business activities. Ecosystem-based management examines how an area is exposed to a total impact from the mineral resource activities and other types of activities in the area - the total environmental impact. It requires collaboration with the nature and environmental management, to move towards a management of mineral resource activities, which takes into account the total environmental impact (ecosystem-based management).

In this context, an overall focus area is to continue the development of the environmental area through independent legislation on environmental regulation of the oil and gas area, respectively, and environmental regulation in the mineral area.

The objectives for the coming strategy period are to:

1. Develop independent legislation on environmental regulation of the oil and gas area and the mineral area.
2. Work for coherence between environmental regulation of mineral resource activities and other environmental and nature regulation towards a more ecosystem-based management.
3. Support relevant research and network participation to ensure that the regulatory framework is adapted to arctic conditions.

Transparency, cooperation and communication

The EAMRA's environmental regulation of the mineral resource activities has the purpose of ensuring that mineral resource activities comply with the purpose of the Mineral Resources Act, that mineral resource activities must be conducted environmentally sustainably and in accordance with, under similar circumstances, good international practice. The Mineral Resources Act also establishes local anchoring of mineral resource activities and the public's involvement in the development process.

EAMRA wishes to enter into an effective and mutually respectful cooperation with the various participants in the development of mineral resource activities.

This requires an open, objective and constructive dialogue between the partners involved. EAMRA therefore also has transparency, cooperation and communication as key focus areas.

It is important to have sufficient transparency so that the local community, including local authorities, interest organizations and citizens can follow and take stock of mineral resource projects. It is also important to allow mineral resource companies to carry out the necessary development work, under reasonable conditions and development conditions according to the Mineral Resources Act.

Predictability, clear rules and guidelines are important in this context.

The objectives are to:

4. Promote a constructive and locally based development process with good participation conditions based on transparency, cooperation and communication in collaboration with other participants.
5. Offer reasonable terms and conditions of development for the mineral resource companies by clarifying applicable rules, guidelines, instructions and terms and clear clarification of how confidentiality conditions are for environmental information and environmental data in connection with mineral resource activities.
6. Provide research-based information on environmental assessment and environmental regulation (in collaboration with scientific advisors).
7. Collect and disseminate historical environmental and nature data collected in the mineral resource area in Greenland before 2009, as well as reported data for public use as much as possible.

Prior to the start of the mineral resource activities

Clear regulation of areas and activities in need of effective protection

Based on the scientific recommendations of DCE and the Greenland Institute of Natural Resources and the goal of effective protection of particularly important natural and biodiversity areas, EAMRA has prioritized the efforts to:

8. Protect certain areas from oil exploration at sea:
 - a. The waters north of 75° N in West Greenland and 80° N in East Greenland
 - b. The North Water Polynya between Qaanaaq and Ellesmere Island
 - c. Store Hellefiskebanke at Disco Bay
 - d. The mouth of Scoresby Sound
 - e. Limit the distance between a license area to the closest coastline based on a specific environmental assessment of the vulnerability of the coast.

9. Avoid the use and transportation of heavy fuel oil (HFO) in any mineral resource activity in Greenland - both on land and offshore.

Strengthening of the strategic environmental assessments offshore – with regional baseline surveys on land

Strategic environmental assessments of larger sea areas have been produced for areas that has been licenced to oil exploration since the 1990's. The strategic environmental assessments identify knowledge of the environment and the ecological dynamics of a larger area prior to the initiation of the mineral resource projects.

The assessments can be utilized by the citizens who want to have extensive knowledge of the environmental issues of the area, by the authorities in their work with regulation – and by companies wishing to conduct an exploration of the area. The strategic environmental assessments are therefore extended to include land areas in places where mineral resource exploration is expected.

The existing knowledge from the strategic environmental assessments of sea areas must be made accessible as much as possible.

The objectives are to:

10. Prepare regional baseline surveys for land and fjord areas, and include local knowledge in the preparation.
11. Maintain and expand the strategic environmental assessments for marine areas.
12. Make knowledge and data from the strategic environmental assessments and regional baseline surveys available as much as possible.
13. Promote dialogue with neighbouring countries on strategic environmental assessments.

Further development of norms, standards and guidelines based on scientific research and international cooperation

It is a strategic environmental priority to create as much predictability for the mineral resource industry as possible through further development of environmental norms, standards and guidelines. This includes norms, standards and guidelines for example naturally occurring radioactive minerals (NORM). The development goals should support the use of the best available technologies and best available environmental practices. It is a strategic focus area to support the companies' own responsibility for the best possible environmental solutions.

The objectives are to:

14. Develop catalogues of environmental standards and norms.
15. Update guides continuously.
16. Prepare guidelines for applicants for small-scale licenses on environmental assessment and environmental requirements adapted to their needs.
17. Support the companies' responsibility for the best possible environmental solutions.

Phase: The transition from exploration to exploitation in mineral resource projects

EIA is expanded with the possibility of an environmental consultation of activity plans (MAP) on land

It is a focal area to ensure coherence between the mitigation measures that are described in the EIA and the white paper and the implementation of those in the construction and operational phase. Due to logistical and economic conditions of the mineral resource industry there can be a long time period between the public hearing of the EIA and the construction phase of the project.

EIA guidelines for mining projects on land can be expanded with the possibility of launching an environmental consultation of activity plans (MAP). MAP is included here as a sub-process in the framework of an approved EIA report. Environmental impact assessments must continue to encompass the entire project and the overall impact and remain the basis for all activities with significant impact on the environment, in accordance with the Greenland Government's guidelines and the provisions of the Mineral Resources Act.

It is still mandatory that project changes that significantly changes the prerequisites of the original EIA will result in a new EIA process.

MAP can only be initiated for activities that do not have a significant impact on the environment and can be approved administratively.

Common procedures for environmental consultation of activity plans (MAP)

Environmental consultation of activity plans is based on an activity description in English, Greenlandic and Danish. The activity description is sent in public consultation for 5 weeks, after which a white paper is prepared based on the consultation. The white paper and the activity description are approved at the administrative level by the environmental authority after consulting its advisors. The approval is published in English, Greenlandic and Danish.

The company must subsequently fully implement and comply with the mitigating measures described in the terms of the approval.

Environmental consultation of activity plans will allow for public insight into single project approvals in connection with a construction and operational phase, which in some cases will take place several years after approval of the overall EIA report. For the companies, a MAP report can be prepared at a time when several specific design details are in place for individual construction parts.

The objectives are to:

18. Update the EIA guidelines for onshore mining projects in general and incorporate the possibility of environmental consultation of activity plans within the framework of the EIA report.
19. Set indicative assessment criteria in the guidelines for when there is a significant impact on the environment that requires an EIA report and when it will be sufficient with environmental consultation of activity plans.

Phase: When the mining activities have started

Follow-up and environmental monitoring locally and regionally

The focus is to promote the follow-up and environmental monitoring of the mineral resource activities while the activities take place, in order to detect the environmental impacts as early as possible in the process. So far, it has been the practice of the mining projects that the company conducts a self-regulation of certain activities in the license area and that the authorities carry out a supplementary regulatory monitoring. This is expanded with the possibility of a regional environmental monitoring surrounding the mining area, carried out and funded by the environmental authority. Finally, it is a strategic goal to involve the local community in the follow-up and environmental monitoring as much as possible.

The objectives are:

20. A regional environmental monitoring of the health of the ecosystem surrounding an area with mineral resource activities is carried out by the environmental authorities in and around the license area.
21. Companies must have a local environmental management system according to international standards and carry out self-regulation in the license area.
22. The environmental authority carries out environmental monitoring of the activities and supervision of the company's self-regulation in the license area.

23. The local community is involved in the follow-up and environmental monitoring as much as possible.

Environmental contingency

Large environmental damage can occur as a result of major accidents. A large oil spill in the ocean can have long lasting effects. Collapse of a dam at a lake where by-products of a large mine are stored, can also have long-lasting effects on the surrounding environment. In addition, minor events over a long period of time, which are not detected or prevented, can also cause environmental damage.

Accident incidents must first and foremost be prevented by planning prior to the start of the activities. After the activities start, the planning must be expanded with regional and local environmental monitoring. A key part of the planning is to have an adapted and thorough environmental contingency. Due to the “the polluter pays”-principle in the provisions of the Mineral Resources Act on environmental liability, the responsibility lies in the hands of the mining company.

The objectives of developing the administrative environmental regulation and the criteria for the environmental contingency are:

24. Promoting internationally coordinated research in technology development and in the harmful effects of pollution as well as contingencies to combat environmental damage.
25. Promoting dialogue and communication about environmental contingency conditions.

Phase: After decommissioning of the activities

Monitoring the environmental state after the decommissioning of mining activities

Focus on the phase after decommissioning makes Greenland a pioneer country. The Mineral Resources Act stipulates that decommissioning plans must be prepared and approved before the activities start up in accordance with best international practice. The monitoring provides data and experiences that are crucial for the continued development of environmental regulation and adaptation to Greenlandic conditions.

The objective is still to:

26. Include the decommissioning phase as early as possible and monitor the environmental condition after shutdown of mineral resource activities.