

# Climate Change and Mining in Nunavut

Assessing the risks of climate change to Nunavut's mining sector and documenting existing best practices

## CONTEXT

Studies carried out across Nunavut reveal that climate change is impacting the territory in many ways, such as through sea-level rise, more intense storms and permafrost degradation. There is not a lot of information about the effects of these changes on the mining sector. The mining sector is becoming more important to Nunavut's economic future through job creation and promotion of educational opportunities. This sector can be dramatically affected by climate change.

Photo Credit: Baffinland Iron Mines Corporation



## OBJECTIVE

This project assessed the vulnerability of Nunavut's mining industry, including related infrastructure (such as, mine waste management facilities, docks, ports, roads, airstrips and railways) to climate change.

The goal is to understand possible climate change impacts while the mining sector is still fairly new in Nunavut, so that adaptation

measures can be considered, applied and incorporated into decision-making related to the sector. Applying appropriate climate change adaptation measures will help to ensure that new mining-related infrastructure will survive future environmental change. Additionally, the adaptation strategies developed and designed for large-scale mining infrastructure in Nunavut can be applied to similar community-based infrastructure (i.e. roads and ports).

## APPROACH

**Task One** of this project included a literature review and a workshop with key stakeholders. The goal of the workshop was to identify the main concerns of climate change impacts on mining infrastructure in Nunavut. **Task Two** of this project involved gathering best management practices from northern mining projects already happening, as well as preparing two case studies that examined engineering challenges posed by climate change to: (1) mine waste management facilities, and to (2) coastal infrastructure.

## EXPECTED RESULTS

The project identified vulnerabilities of Nunavut's existing and proposed mining infrastructure to climate change. It also recommended best management practices for climate change adaptation related to coastal infrastructure and tailings management facilities. These results are being shared with stakeholders and will ultimately influence the future development of the mining sector in Nunavut.

## Significance

*The vulnerability of Nunavut's mining related infrastructure was assessed, and best management practices were recommended, in order to inform future mining development in Nunavut.*

## Partners

- Department of Environment, Government of Nunavut
- Nunavut Research Institute
- NU Impact Review Board
- Nunavut Chamber of Mines
- Nunavut Tunngavik Inc.
- Newmont Mining
- Baffinland Iron Mines Corp.
- AREVA
- Natural Resources Canada

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