

Climate change and the Canadian mining sector: risks and responses

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Climate change is already being experienced in Canada with implications for natural resources and the industries that rely on them. For the mining sector, climate change is a pressing environmental threat and a significant business risk. Thus, planning that reduces the negative impacts of climate change and which identifies opportunities to address the climate change problem is needed. This article reports on a research initiative that will work with mining industry stakeholders to identify opportunities to improve capacity in the Canadian mining sector to manage current climatic stresses, reduce vulnerability to future climate change, and enhance business security.

Warming temperatures, extreme weather events, increased flood risks, rising sea-level, and melting permafrost are but a few of the several changes that have been recorded across Canada. These shifts in the natural environment have also translated to shifts in the political environment, with climate change now a key issue for many Canadians. The Canadian mining sector is already well aware of climate change and it acknowledges that many operations will be affected. A need exists for companies to assess both their exposure to climate risks and the ability they have to adapt to these changing climate and political conditions. The future success of many mining operations will be influenced by the ability of companies to reduce the negative impacts of climate change while taking advantage of new opportunities and adapting to a climate change-sensitive marketplace.

To date, there has been limited work done to identify what climate change means for mining operation logistics, including an operation's physical assets and transportation routes, and

the capacity of companies to adapt to the 'political' risks associated with a changing climate. Carbon taxes, energy efficiency guidelines and other mechanisms to reduce greenhouse gas emissions have already been legislated in some jurisdictions, while shareholder and public demands for carbon disclosure and sustainable mining practice are all increasing. It is important to address these knowledge gaps to ensure that the Canadian mining sector is well informed and prepared to address climate change risks and opportunities.

In March 2008, the "Climate Change Impacts on the Canadian Mining Sector" project was initiated by ArcticNorth Consulting. The project will work with mining industry stakeholders to examine current and potential future impacts of climate change on the mining sector in Canada and identify opportunities to enhance adaptability. Specifically, the project has four key objectives:

- To characterise how the Canadian mining sector is sensitive to climate change and assess how the problem is perceived among different operators;
- To document strategies the sector has adopted to deal with changes in climate currently affecting operations and assess how these strategies differ across Canada and by mine type;
- To identify strategies to deal with expected future changes and explore potential costs of adaptation; *and*
- To identify greenhouse gas mitigation and marketing strategies currently used by the mining industry.

The project seeks to document industry experience and perspectives on problems and opportunities presented by climate change, opportunities and constraints to adaptation, and greenhouse gas

reduction strategies being employed. To do this, a Canada-wide, phone/mail/internet survey was employed between June and August to canvass industry perspectives. The survey will be complimented with in-depth case studies with relevant stakeholders (mine owners, operators, designers, etc.) to investigate key trends revealed by the surveys. Selection of stakeholders will be guided by trends documented in the surveys, but we welcome hearing from other interested parties. The main report documenting the project findings will be completed in December 2008.

For an overview of the project and forthcoming results, please visit: www.arctic-north.com

About the authors

Tristan Pearce and Dr. James Ford are partners in ArcticNorth Consulting. ArcticNorth specialises in vulnerability assessment and adaptation planning, with a focus on climate change, natural hazards, and resource development. Jason Prno of Knight Piésold Consulting is using this research as an opportunity for continuing professional development within his home firm. Frank Duerden of Ryerson University is a consultant employed on the project. Dale Marshall is a climate change policy analyst for the David Suzuki Foundation.

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