

EXPONOR '99 MINING CONFERENCE
La Minería del Siglo XXI - Mining in the XXI Century
Antofagasta, Chile
Participation in a Panel by Video Conference
“Economic Clusters: A Vision for Mining and Mining Suppliers”
Remarks by
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Good afternoon, distinguished participants. May I first express my appreciation to the organizers of the Conference, for inviting us to participate and to share with Chile Canada's experience in the development of cluster industries that are linked to mining.

I was asked if I would address what vision Canada might have with regard to mining, and to speak about the activities of government in the development of cluster sectors.

At the outset, I want to emphasize that there has really been no industrial policy in Canada to *directly* promote the growth of mining industry clusters. Rather, the strength and dynamism of the mining industry cluster has come about by private sector companies responding to market opportunities.

This success has been aided by the openness of the Canadian economy, which has forced individual companies to respond to global competition pressures if they wished to survive. A positive investment climate has had to be provided by Canadian governments, but it is in this framework that companies have had to develop and become globally competitive, on the basis of their own comparative advantage, costs, innovation, etc. On the macroeconomic level, government has had to make sure that proper policies have provided companies with accommodating interest rates, inflation rates and currency exchange rates: there have been times in Canada's economic history when this was not so - so that individual companies, and industry in general - did suffer. The overall result, though, has been the development of a very strong range of companies that supply the exploration and mining industry worldwide. However, it is noteworthy that the very large machinery companies have not taken root in Canada. These products come from other countries, and the failure of this line of business to develop in Canada would have to be explained in terms of the need for economies of scale in producing such equipment.

¹ This presentation was prepared in response to a specific request from the Conference organizers in Antofagasta. The main goal of the conference panel in which we were invited to participate was to seek ways of using mining as a basis for regional economic development, and to look at approaches used in other jurisdictions that may support this goal. This presentation provides a summary of the broad lines of evolution in the Canadian context and of trends within the mining industry. The presentation was assembled by Keith Brewer, Dale Hull and Ed McDonnell of the Economic and Financial Analysis Branch, Minerals and Metals Sector, Ministry of Natural Resources Canada, Ottawa, Canada K1A 0E4 (Tel: (613) 992-2662).

The ‘total mining spectrum’ in Canada includes ‘backward linkage and ‘forward linkage’ clusters connected to the mining industry.

Backward linkages include:

- contract mining and exploration companies;
- lawyers;
- accountants;
- mining analysts, including those who specialize in due diligence;
- government regulators;
- environmental technology suppliers, and environmental management consulting ;
- financial services industry, including stock exchanges with quick and easy access to the major US financial markets through the Multi-Jurisdictional Disclosure System;
- a broad range of sophisticated investors in mining from all parts of the country and from all social and economic classes;
- geoscience: expertise in physical and resource evaluation, including mapping, remote sensing, and all types of geomatics, including airborne geophysics;

This range of specialities is the Canadian “mining tradition”. These sectors have developed “naturally”, in the sense that private sector individuals have been free to pursue profit-making opportunities. Entrepreneurs are free to invest or not to invest in these “cluster” sectors, based on their perception of the viability of a business that would supply mining companies - whether the mining takes place in Canada or takes place outside Canada.

Therefore, the vision that Canada has for ‘mining’ envisages optimum use of the resource endowment as one source of employment and sustainable growth in the total economy. The development of mining, and mining clusters, was based on “knowledge capital”, that is, the knowledge of mineral resources and how best to exploit those resources. The drive to remain competitive in the face of international competition has kept these sectors on the frontier of technological change. Clusters service *domestic* mining in Canada, but the global nature of Canada’s mining industry has taken the mining equipment and service supply companies global as well.

Consider forward linkages in the context of possibilities for further processing of minerals

My basic message is that value-added manufacturing will happen if the market signals point the right way, and the best that can be done by government is to remove any barriers.

About a year and a half ago, Natural Resources Canada released a discussion paper (which many of you may have seen), entitled *From Mineral Resources to Manufactured Products*. This document summarized Canada’s performance in adding value to its production of minerals and metals, and sought industry views on how best to encourage more minerals and metals-based production higher up the value chain. The responses varied from suggestions to reduce taxes, to recommendations to enhance the acquisition of skills. Some of these concerns are not unique to

this sector of the economy, but are on the minds of business leaders in many economic sectors. Many companies had concerns such as difficulties in obtaining financing, and in acquiring visibility against more entrenched competitors. Another class of concerns had to do with access to technology, and lack of money to invest in R&D.

This information is extremely useful. The government recently announced that economic priorities will include investing to provide greater access to the information technologies that play a major role in reducing costs and improving productivity. The emphasis by government is on investing in a “knowledge infrastructure.” The government is also looking for ways to help Canadians upgrade their skills through training, with the goal of making “lifelong learning” the norm. While these are likely to be broad-based initiatives, and not mining-specific, they will address some of the specific concerns of businesses adding value to minerals and metals, in particular those relating to skilled labour shortages.

There has also been a commitment to increased support for advanced research in Canada. The government has indicated that this will be done in partnership with universities and institutes, and has also made a commitment to find new markets for new products and services developed through research by universities and government research centres.

I was asked to address three specific questions.

Question 1. “Which policies are considered by Canada to assure the sustainability of its mining sector?”

Government in Canada sees ‘sustainability’ as requiring the integration of environmental, economic, and social objectives in decision-making. In making sure that this happens, we aim for the following:

- A proper public policy framework: Companies require a stable and predictable public policy framework that recognizes the particular conditions that characterize the sectors. For example, the mining corporate tax system recognizes the fact of risk in exploration, and the long-lead time and high investment costs of bringing a project into production, as well as the cyclical nature of commodity markets. Hence, the tax system contains measures for an immediate 100% write-off for exploration, an immediate 100% write-off for capital costs against the profits of the mine, and generous loss carry forwards and carry backs.
- The Role of the Market Mechanism: A competitive mechanism is the most effective means of allocating resources, and I have already addressed that.
- The Role of Regulation: Regulatory interventions are required to ensure that social objectives are met. Governments in Canada have sought to harmonize federal and provincial rules and regulations to avoid overlap and duplication. The *Canada-wide*

Accord on Environmental Harmonization signed by the federal and provincial governments in 1998, was a major step in this direction.

Question 2. “What is the importance given by Canada to scientific research and development and technology associated with the mining sector?”

Science and technology plays a critical role in three broad areas: Health, environmental protection, and creating jobs.

In addition to what I have already mentioned, the federal government S&T organizations working on mining and minerals include the Canada Center for Mineral Technology (CANMET), Geomatics Canada, and the Geological Survey of Canada (GSC). These organizations pursue partnerships with industry, provincial and territorial governments, international organizations and government agencies in other countries, academia and other groups who are actively involved in S&T.

One of the most important things that governments do in Canada is to provide a comprehensive geoscience database about Canada’s land mass. Maps, data and concepts provided by governments play an important role in attracting investment and enhancing the cost effectiveness of mineral exploration.

Question 3. “Mining activities develop in certain regions of the country, with very few connections with the rest of the sectors of the economy. Does Canada promote such interconnection with the other sectors in a specific region?”

One of the ways that Canada has sought to overcome the isolation of its rural mining communities is to connect, through the Internet, these communities with cities and individuals throughout the country and around the world. This enables a free-flow of information and an ever constant contact with the so-called outside world.

However, Canada’s remote mining operations are not always unconnected to the other parts of the economy. More and more in Canada, we see fly-in/fly-out operations, where rotations of staff permit continual contact with the urban areas. The trend towards fly in-fly out operations has permitted companies and governments to dispense with the need to provide the huge levels of investment and services needed to effectively build new towns aimed at attracting workers to remote areas. This model was also hastened into oblivion by economic factors. Neither companies nor governments were able to support high overhead costs, except in cases of exceptional mineral wealth such as would be the case for the Antofagasta region. The fly in-fly out operation no doubt has undesirable social effects in the same way as the mining town has its social problems, but by and large it seems to be a success. Workers appreciate the extended breaks they obtain to spend with their families. Also, and this bears on the question about sustainability, the “environmental footprint” of the mining industry is thereby reduced.

One of the problems, however, with remote mines is the hardship that is involved when the mining sector goes into decline or mines close for lack of ore. Canada does have several policies in place to upgrade worker skills, and provide information to people wishing to remain employed in the mining industry. We have programs to provide for free flow of information regarding new mining developments elsewhere, for those people faced with lay-off. We provide 'economic adjustment policies' in the form of employment insurance and, in many cases, the companies themselves provide assistance to move personnel to other places of employment.

From another perspective, we also see this question as .. How can mineral development take place in a way that leaves lasting economic benefit with the host communities? Too often in the past, mining has produced an economic boom followed by a later decline, accompanied by personal disillusionment.

Currently, however, thinking has advanced to yet another stage. Would it be possible to reduce the reliance on workers transported in from outside? Would it not be better to develop the skills locally as far as possible and, thereby, blend in even more seamlessly with the pre-existing economy. Some companies have made enormous strides in this area. Cameco, for example, which mines uranium in northern Saskatchewan, has a work force of which more than 40% are of aboriginal background. Employees work one week on, followed by one week off, allowing them to continue their traditional pursuits. The company also has a program to encourage aboriginal contractors and some of the businesses developed as a result are having success in export markets. In all cases, however, any solution has to be tailored to the local situation.

I hope that these remarks have been useful for you.

Thank you for your attention.