

Regional Importance of Mining in Canada

***Mines Ministers' Conference:
The Viability of Mining Communities***
**St. Andrews, New Brunswick,
September 19, 2005**

Gary Nash

Assistant Deputy Minister

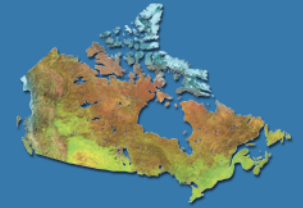
Minerals and Metals Sector, Natural Resources Canada



Natural Resources
Canada

Ressources naturelles
Canada

Canada 



Overview



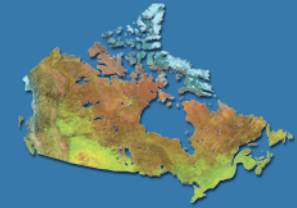
Natural Resources
Canada

Ressources naturelles
Canada

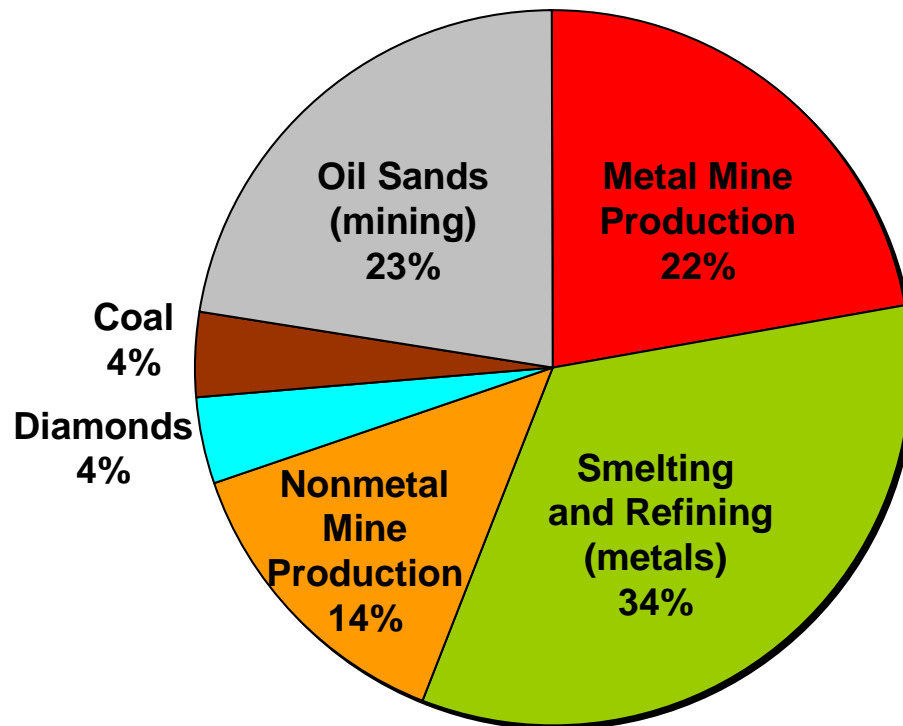
- 1 -

Canada 

Canadian mining and mineral processing industries, 2004



Value of Production = \$60 billion

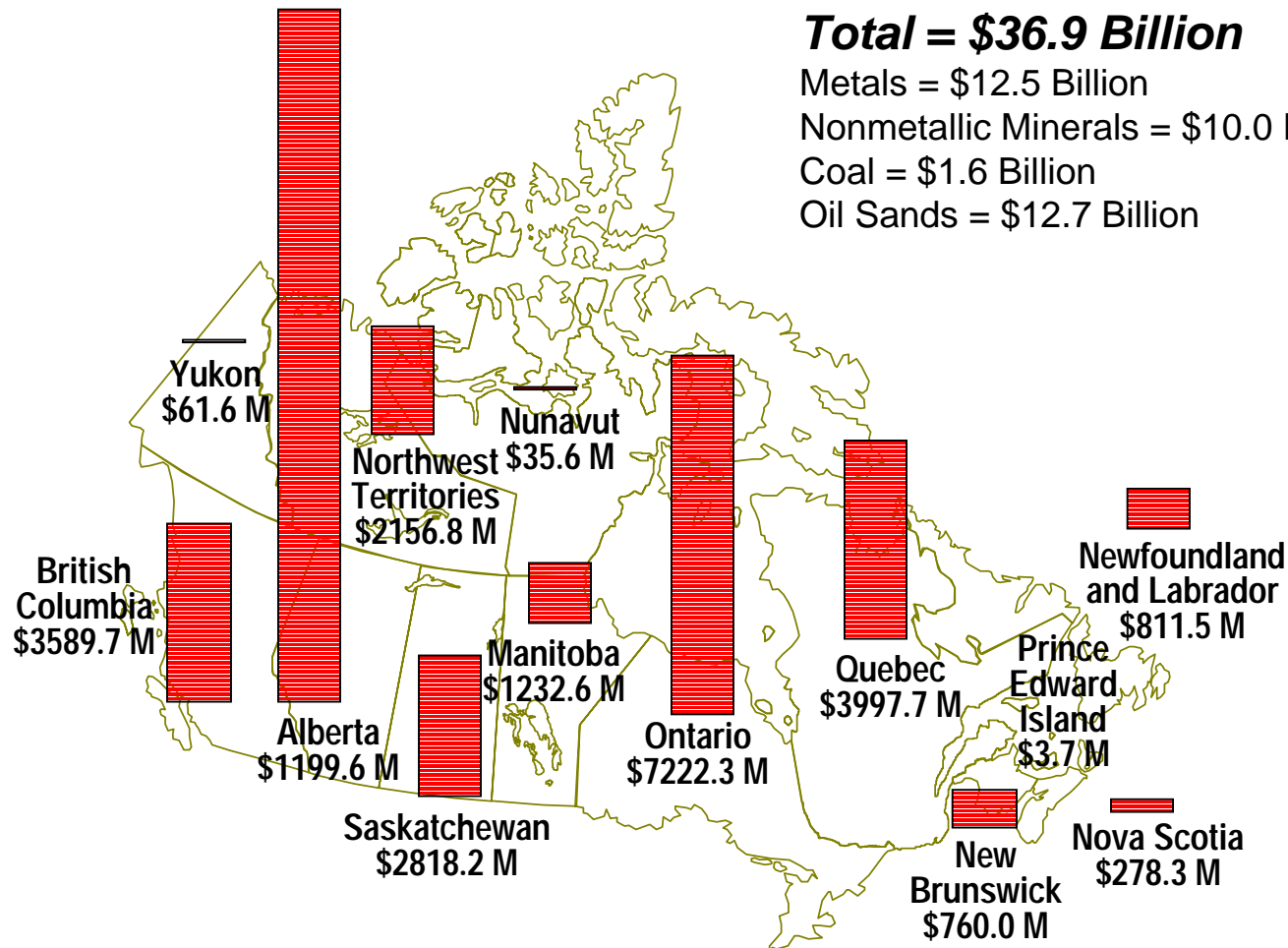
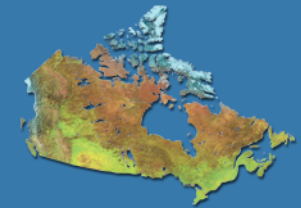


This figure includes the “traditional” value of production from “Canadian” mined ores, concentrates and aggregates (\$23 billion). The balance includes oil sands mining and the value of production realized from the smelting and refining of domestic and imported ores, concentrates and recyclables, as well as steel, aluminum, and coal production, which are generally excluded from the traditional value of production. Data are preliminary.

Sources: Natural Resources Canada; Statistics Canada.



Value of Canadian mine production, 2004 (excluding smelting and refining)



Total = \$36.9 Billion

Metals = \$12.5 Billion

Nonmetallic Minerals = \$10.0 Billion

Coal = \$1.6 Billion

Oil Sands = \$12.7 Billion

Note: Data are based on preliminary estimates.

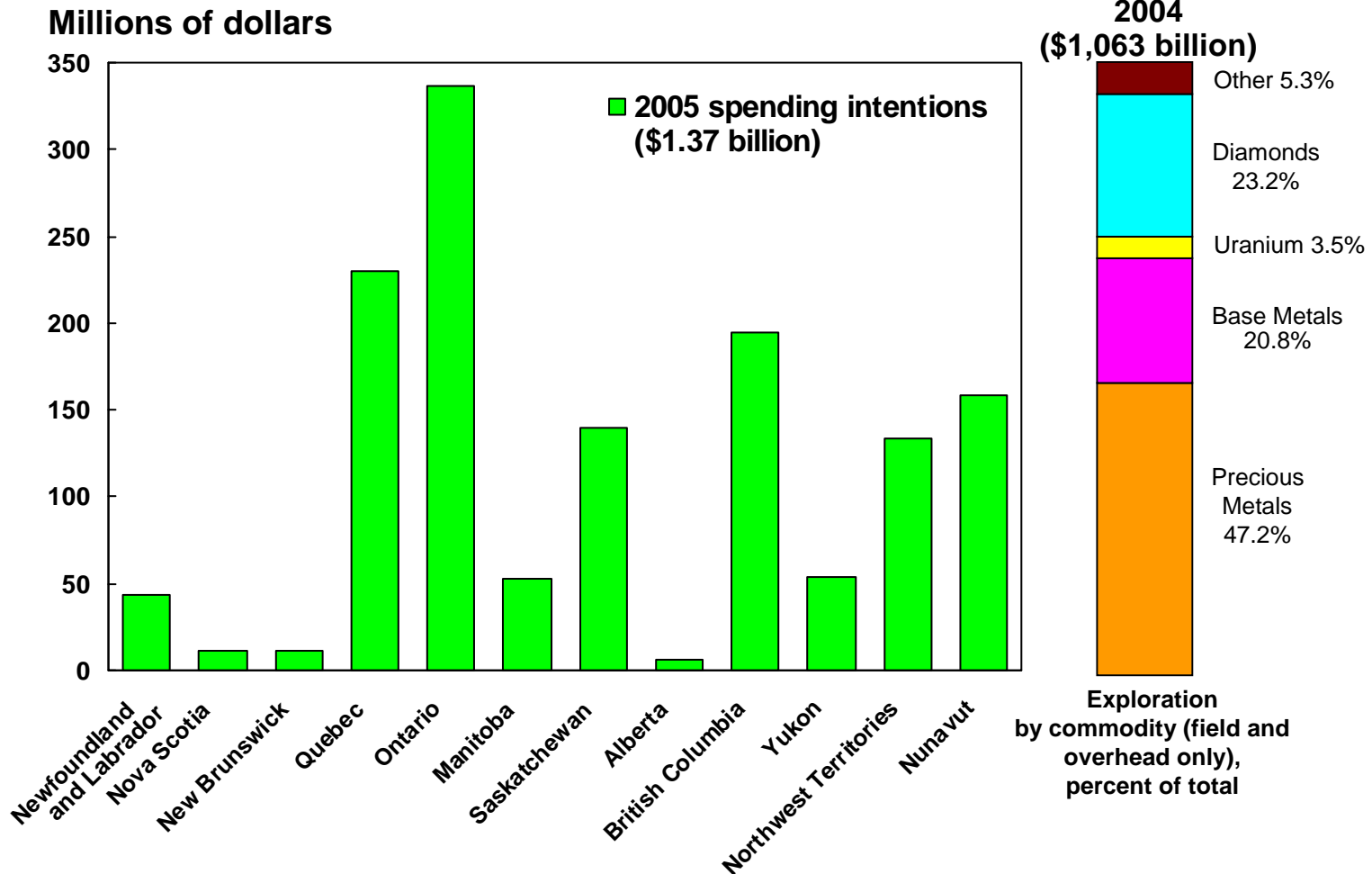
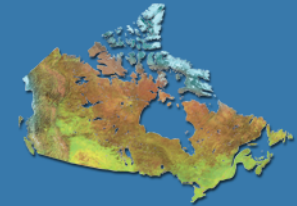
Source: Natural Resources Canada, from the federal-provincial-territorial survey of mining and exploration companies.



Natural Resources
Canada

Ressources naturelles
Canada

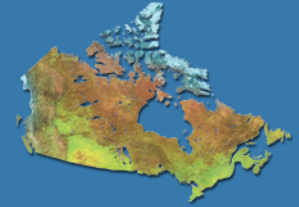
Exploration in Canada is expected to top the \$1 billion mark in 2004 and 2005



Source: Natural Resources Canada, from the federal-provincial-territorial survey of Mineral Exploration, Deposit Appraisal and Mine Complex Development Expenditures.



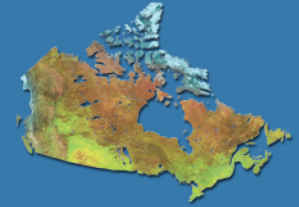
Canada's mining communities



- **Over 150 communities in Canada, many in rural and northern regions, directly depend on mining**
- **Approximately 1200 Aboriginal communities are located within 200 km of 190 principal producing mines in Canada**



Mining's support of community businesses



- **Mining can provide direct and indirect economic benefits and new market/business opportunities for northern and Aboriginal businesses, JVs and communities**
- **Aboriginal companies and/or Aboriginal JVs are local suppliers of goods and services to the sector**
 - \$124 million = Ekati Diamond Mine (up to end of 2002)
 - \$604 million = Diavik Diamond Mine (construction phase) and \$85 million in 2004
 - \$72 million = Raglan Mine, Falconbridge Ltd. (to date)
 - More than \$750 million = Syncrude Canada Ltd. (1992-2005)



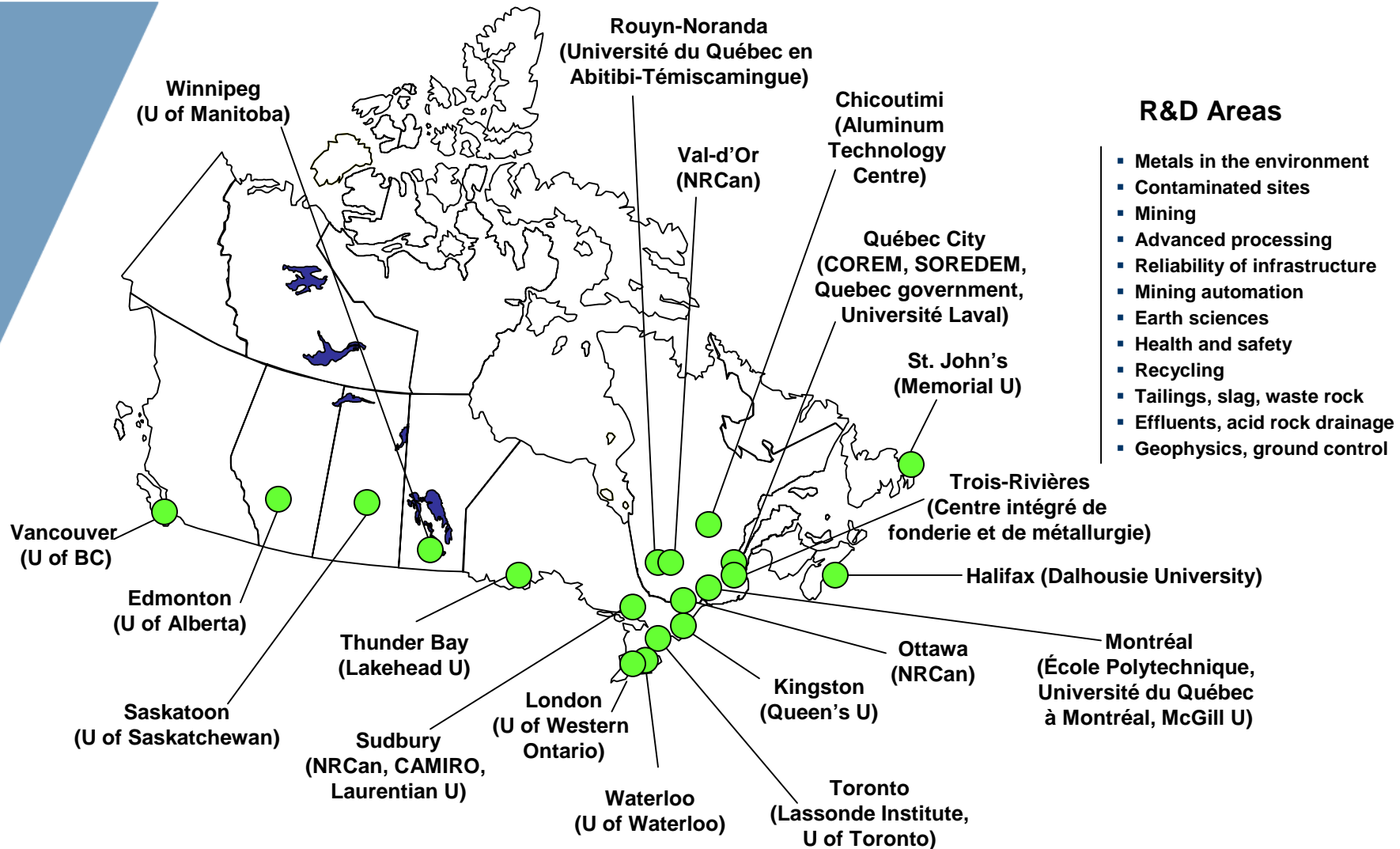
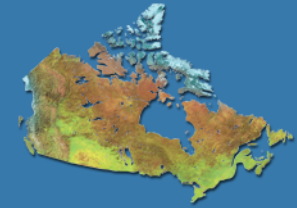
Canadian mining companies support a strong allied industry cluster



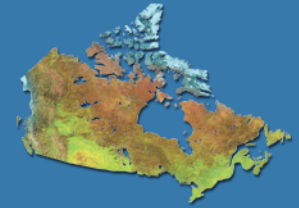
- Exploration financing
- Investment analysis
- Due diligence
- Legal services
- Geophysics
- Geology
- Geochemistry
- Mapping
- Remote sensing
- Drilling
- Communications
- Community relations
- Analytical laboratories
- Feasibility studies
- Engineering
- Project management
- Mine construction
- Parts and equipment
- Mineral processing
- Refining
- Smelting
- Automation and software
- Environmental management
- Transportation



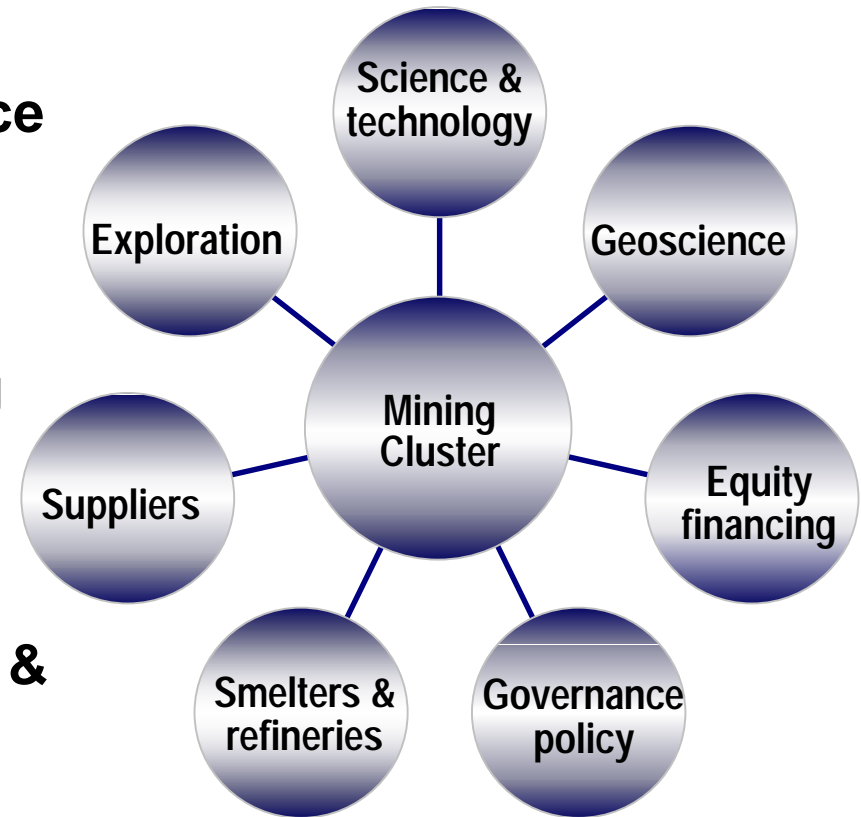
Canada's principal mining-related R&D centres



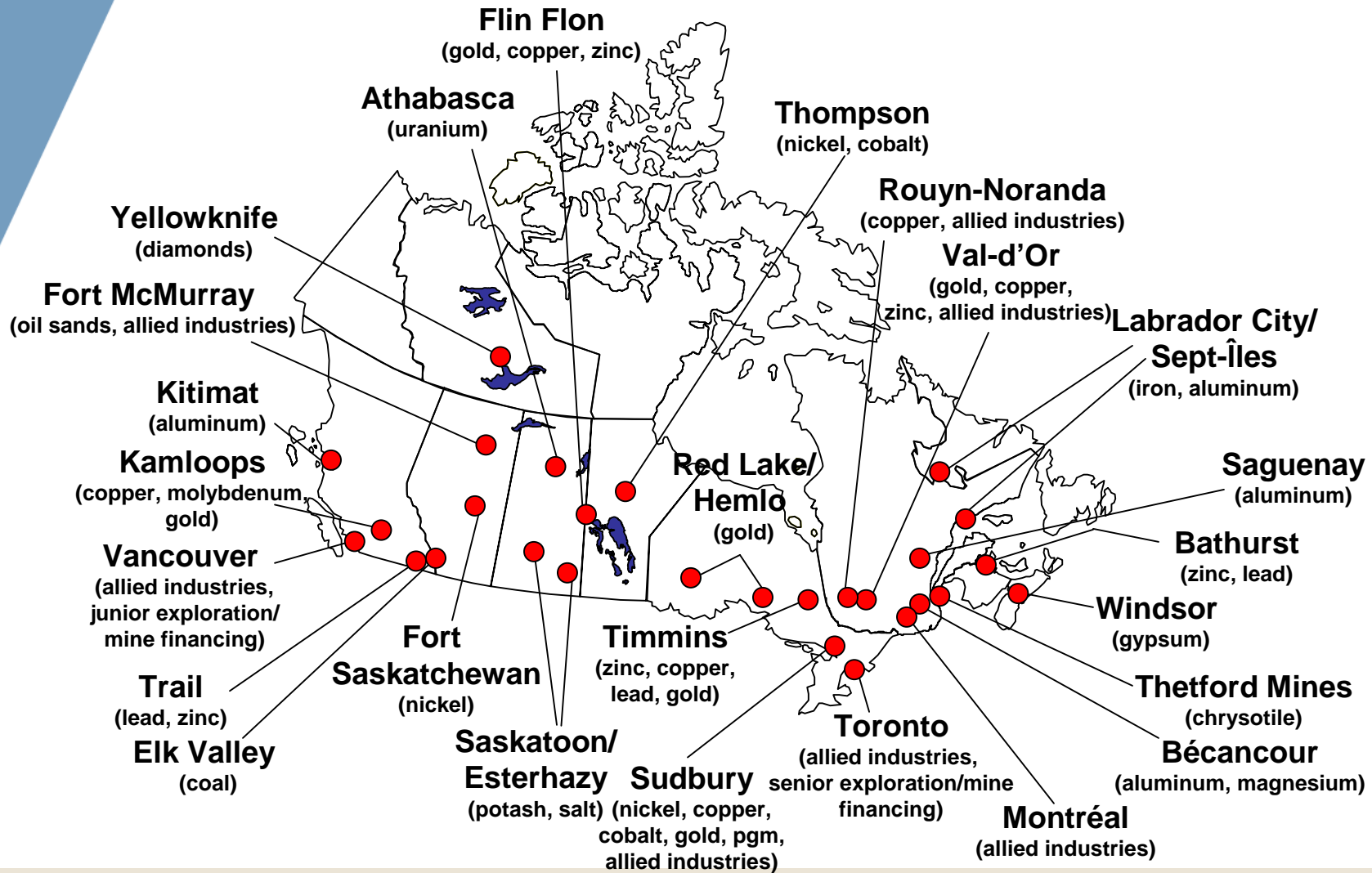
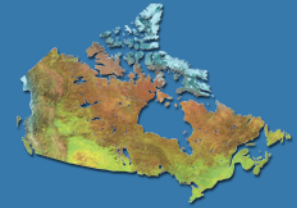
A strong domestic cluster



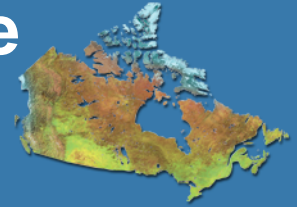
- **Extensive science & technology network**
- **Broad expertise in geoscience**
- **Sophisticated financial institutions**
- **Canadian mineral policy: a governance model influencing many developing countries**
- **Smelters and refineries in Canada and abroad**
- **2200 suppliers of equipment & services**
- **More than 1000 exploration companies listed on Canadian exchanges**



Selected regionally-based mining and allied industry communities



Canada's mining industry is a source of competitive advantage for the country



- **Canada's global mining and metals industry, with interests in more than 100 countries, has the potential to create many trade and investment opportunities for Canadians (e.g., Canada-Chile Free Trade Agreement)**





Issues of Concern



Despite strong metal prices, the long-term viability of numerous mining communities is threatened



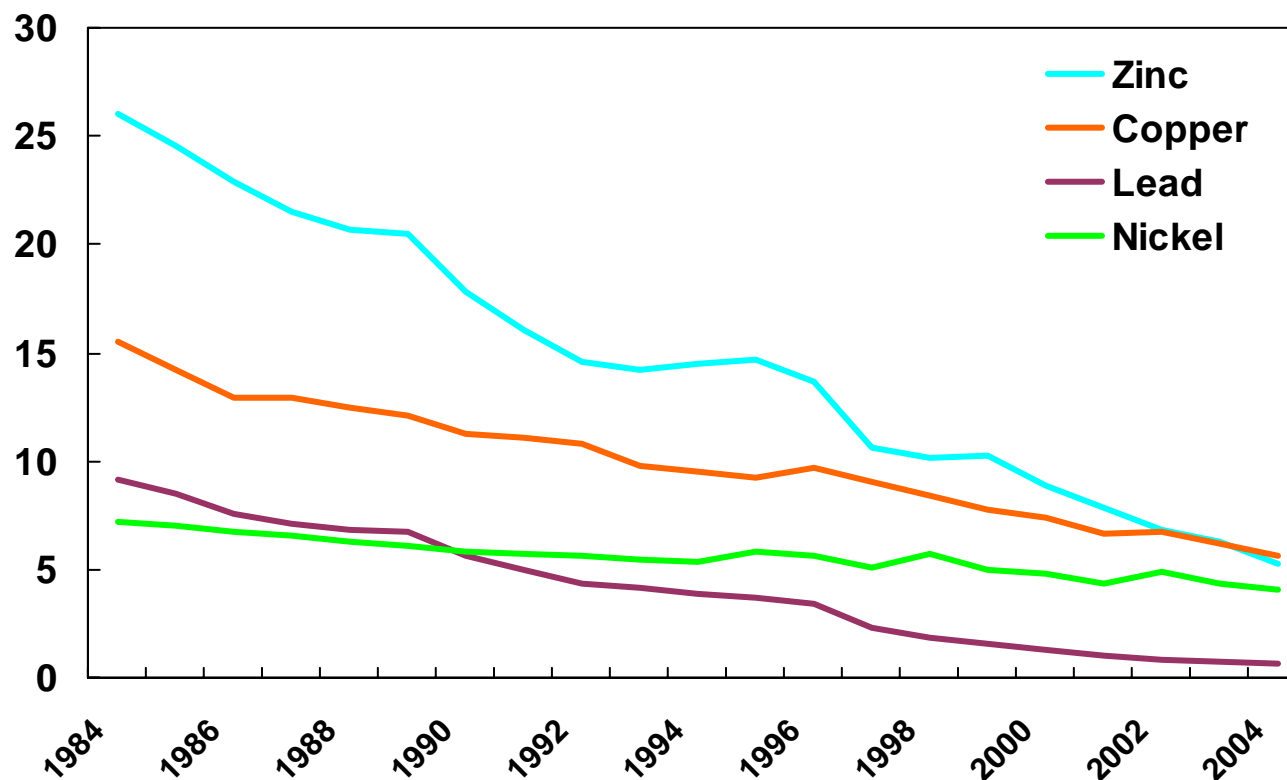
- **Declining base-metal reserves**
- **International competitiveness/closure of Canadian smelters**
- **Environmental concerns**
- **Declining investment in R&D**
- **Market access barriers**
- **Barriers remain to Aboriginal participation in mining**



Canadian reserves of selected base metals, 1984-2004



Millions of tonnes

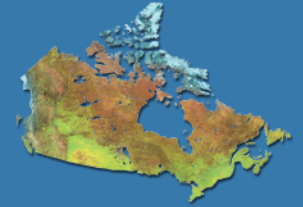


Notes: Metal contained in proven and probable mineable ore in operating mines and deposits committed to production. No allowance is made for losses in milling, smelting and refining. Excludes material classified as "possible." Includes "geological reserves" for some mines that do not report mineable ore. Includes metal in mines where production has been suspended temporarily. As at December 31 of each year.

Source: Natural Resources Canada, based on company reports and the federal-provincial/territorial survey of mines and concentrators.



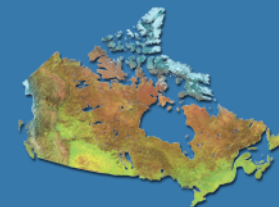
Canadian smelters are facing a number of difficult issues






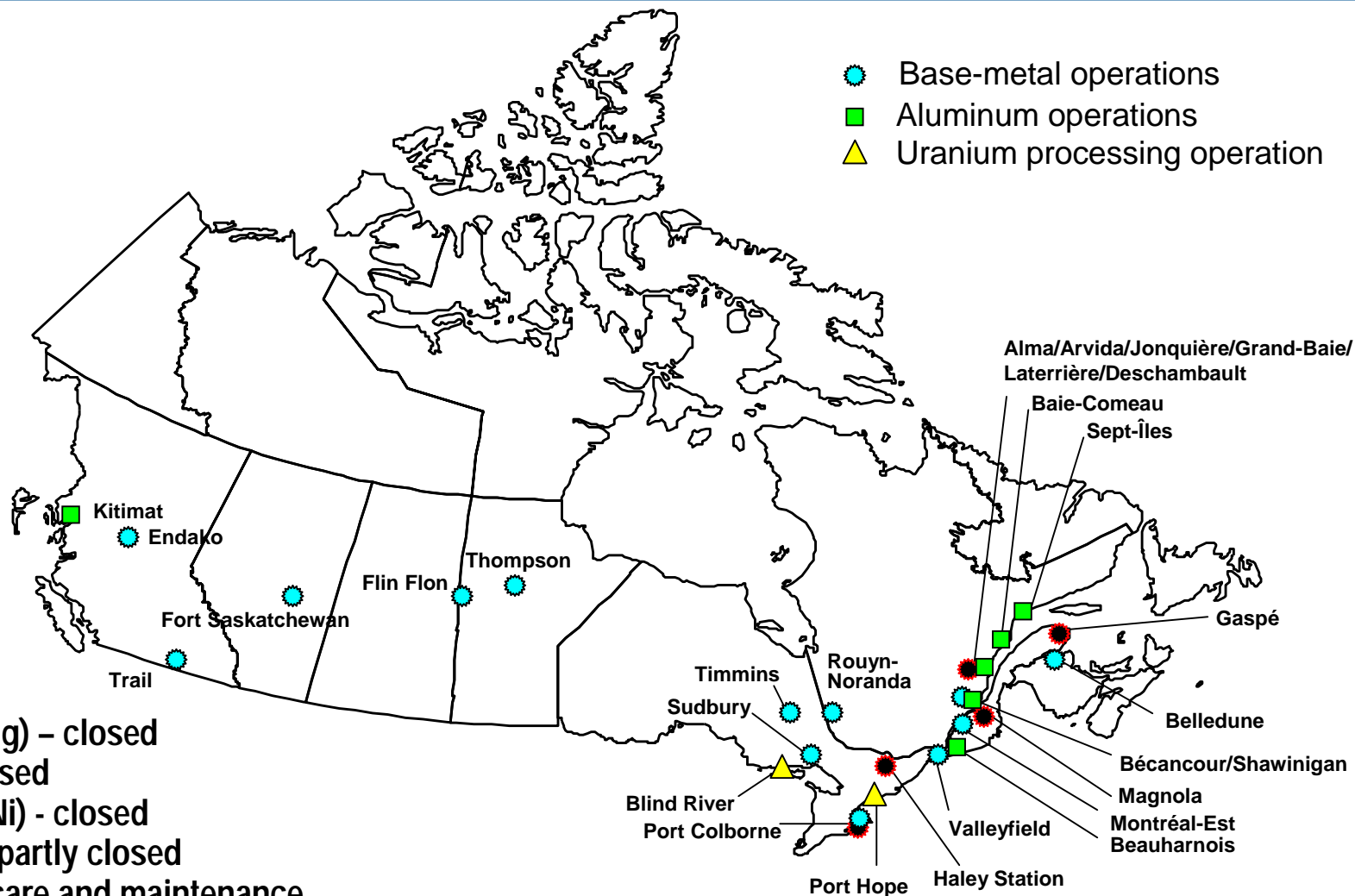
- **Shortage of domestic mineral concentrates as feed (declining reserves)**
- **International competition for mineral concentrates as feed (particularly from China)**
- **Difficulty in accessing recyclables as feed (definition of waste)**
- **Location – high transportation costs for feed and output**
- **Increasingly stringent environmental regulations**
- **Increasing worldwide competition (technical innovation, environmental performance, cost structure)**



Canadian (nonferrous) smelters and refineries



-  Base-metal operations
-  Aluminum operations
-  Uranium processing operation



Haley Station (Mg) - closed
Gaspé (Cu) - closed
Port Colborne (Ni) - closed
Jonquière (Al) - partly closed
Magnola (Mg) - care and maintenance



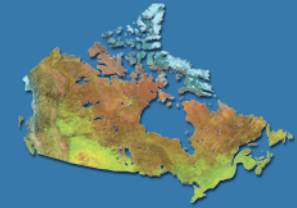
Environmental issues in Canada's minerals and metal industry



- **Increasingly stringent environmental emission standards and targets could compromise the future viability of smelters**
- **Waste management (e.g., tailings, sulphur)**

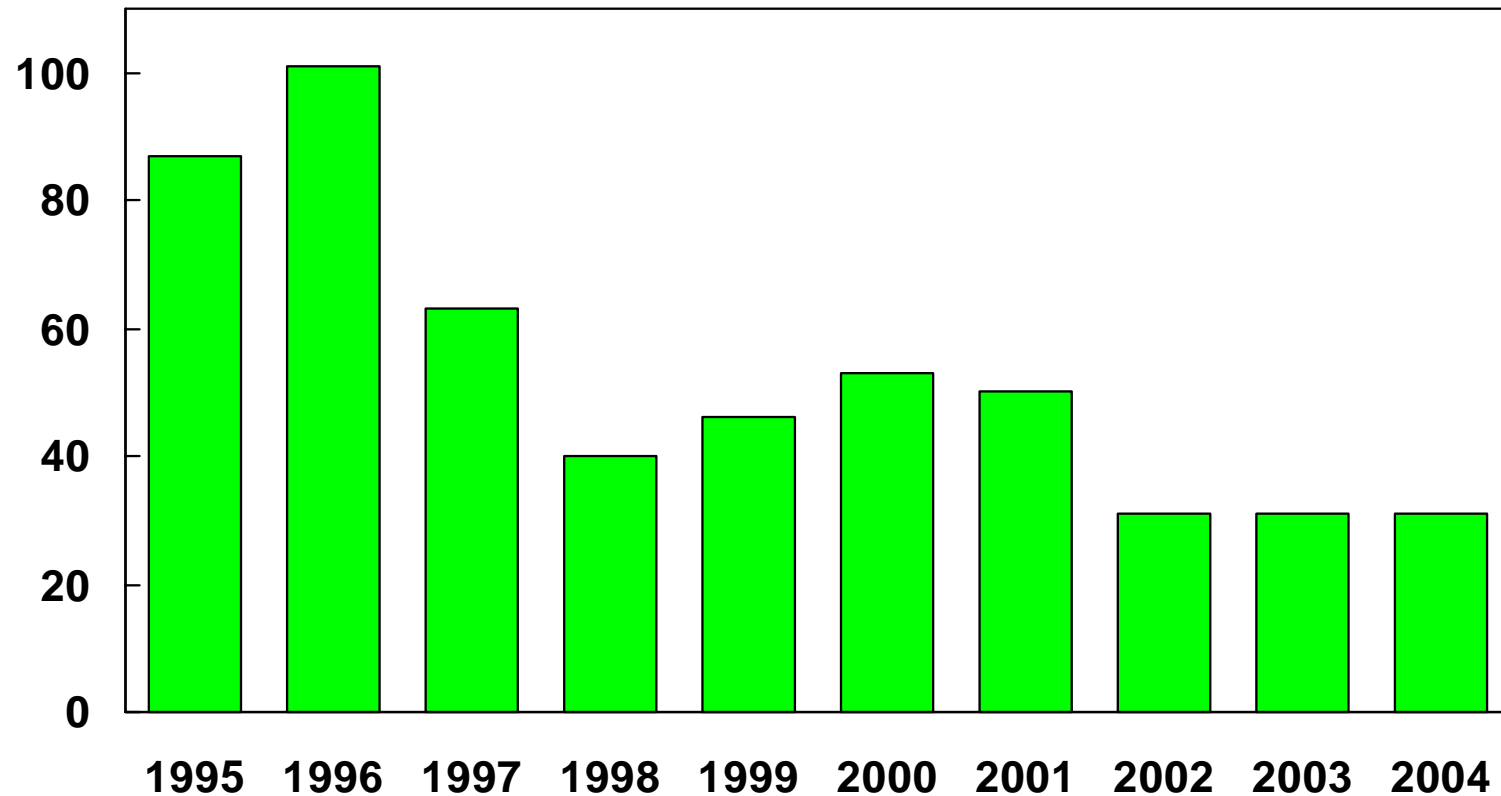


Mining-related R&D is in decline



Total Intramural R&D Expenditures in the Canadian Mining Industry

Millions of dollars



Notes: Data for 2003 are preliminary; 2004 data are company intentions. Recent data are subject to revision.
Source: Statistics Canada.



Natural Resources
Canada

Ressources naturelles
Canada

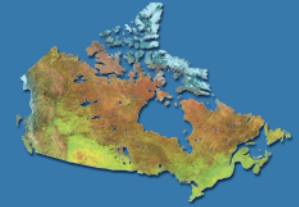
Market access barriers – a few examples



- **European Metal Risk Assessments**
 - Cadmium
 - Nickel
 - Copper
 - Zinc
 - Lead
- **Product bans (e.g., certain products containing asbestos, lead, cadmium)**
- **European REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) Legislation**
- **Heavy Metals Protocol (United Nations Economic Commission for Europe)**
- **Regulations controlling the movement of hazardous recyclable materials**



Barriers remain to Aboriginal participation in mining



- **Unemployment rate of Aboriginal people in mining is twice as high as the non-Aboriginal rate**
- **Educational level of Aboriginal people in mining is still below that of non-Aboriginal people**
- **Income of Aboriginal people in mining is lower than that of non-Aboriginal people**
- **Need for more training, skills and capacity building**
- **Need for greater insight into mining operations and trends**
- **Need for greater knowledge and institutional capacity relating to sustainable mining resource management**

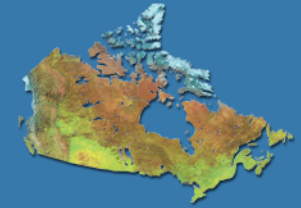




Observations



Considerations for the future viability of mining communities in Canada



- **Deep exploration**
- **Deep mining**
- **Innovation with respect to processing technologies**
- **Increasing Aboriginal involvement in exploration and mining**
- **Promoting market opportunities for Canadian mining-related equipment and service providers**
- **Improving the investment climate (e.g., regulatory reform, taxation)**

