

Canada's Mining Industry: Mining the Future

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Gordon R. Peeling
President and CEO



The Mining Association of Canada
L'Association minière du Canada



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Mining the Future



- 1) Economic Dimension
- 2) Challenges to Growth
- 3) Reasons for Optimism



1. Economic Dimension: A Snapshot

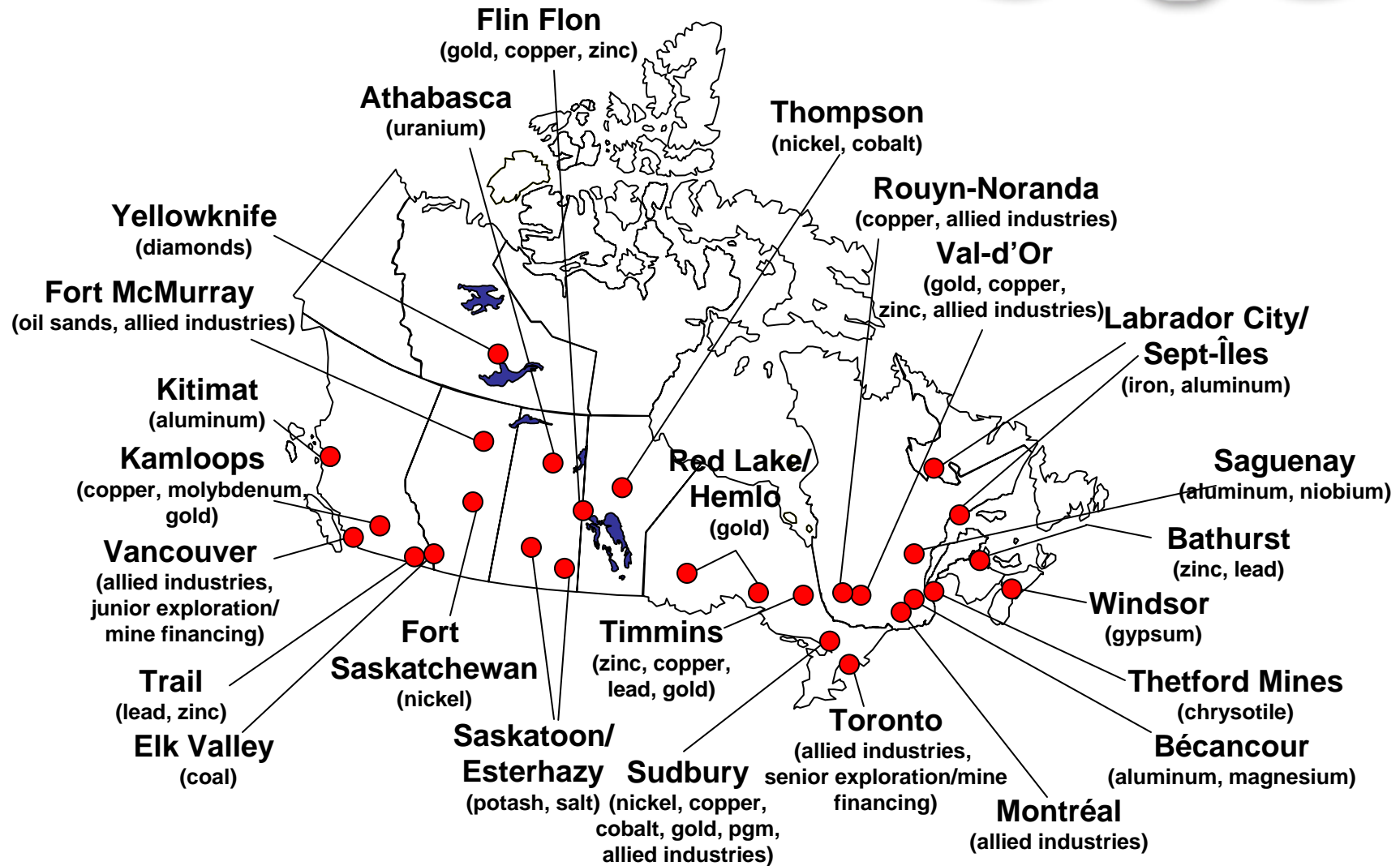


Some key facts:

- Directly employs 370,000 Canadians
- 235 major mines
- Accounts for 4% of Gross Domestic Product
- The largest private sector employer, and growing, of Aboriginal Canadians
- Annual wages paid \$17.38 billion
- Provides a market to 2,200 suppliers of mining goods and services
- Invests about \$300 million in R&D Expenditures annually
- Paid \$702 million in corporate income tax in 2004, double the 2000 figure



Selected Regionally-Based Mining and Allied Industry Communities



Economic Dimension: Annual Transportation Impacts



- 75% of port loadings
- 60% of rail freight revenue
- \$8 billion in exports and \$3 billion in imports of mineral products shipped by rail
- \$2.5 billion of mineral products shipped by truck
- \$5 billion of mineral products shipped offshore via marine
- 24% of Seaway traffic volume is iron ore. A further 10% is coal
- 25% of Port of Vancouver traffic is coal, 6% sulphur, and 4% ores and alloys



Economic Dimension: Financing



- 41% of worldwide mining capital in 2005 was raised on TSX
- 88% of financings worldwide in 2005 were handled on TSX. London is second with 9%
- 48% of mineral projects of TSX-listed companies are outside Canada



Geographic Reach of TSX-Listed Companies, 2005



LOCATION OF MINERAL PROJECT	NUMBER	% OF TOTAL
Canada	4,489	52
South America	880	10
United States	899	10
Mexico/Central America	598	7
Africa (except SA)	615	7
Russia/Asia	366	4
Australia	297	3
Europe	201	2
South Africa	104	1
China	116	1
TOTAL	8,565	100

Source: InfoMine, January 2006

Mining Equity Raised – Role of Toronto Stock Exchange



	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
Worldwide Equity Raised (\$USbIn)	3.1	3.5	8.4	9.6	8.8	9.7
Equity Raised on TSX (\$USbIn)	1.1	1.0	2.2	4.1	4.1	4.0
TSX Share (%)	36	28	26	43	47	41

Source: Toronto Stock Exchange



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Global Mining Financings in 2005, by Stock Exchange



Exchange	Financings	Percent	Value (US\$mIn)	Percent
TSX-Toronto	1,422	88.3	3,968	41.0
HKGSE-Hong Kong	2	0.1	3,134	32.3
LSE-AIM-London	139	8.6	1,687	17.4
ASX-Australia	28	1.7	654	6.7
JSE-Japan	5	0.3	191	2.0
NYSE-New York	7	0.4	41	0.4
Other	8	0.5	14	0.1
TOTAL	1,611	100.0	9,689	100.0

Source: Toronto Stock Exchange



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Economic Dimension: Exploration



- Significant global price increases in 2005 (copper 50%, zinc 46%, silver 31%, gold 20%)
- Exploration spending in Canada was \$1.4 billion in 2005 (versus \$0.6 billion in 2002)
- Junior companies conducted 58% of this exploration (versus 33% in 2002)
- This increase has been stimulated by government flow-through share incentives
- 19% of worldwide exploration budgets in 2005 will be spent in Canada; Australia second at 13%



Worldwide Exploration Spending, by Region (%)



	2001	2005
Latin America	29	23
Canada	17	19
Africa	14	16
Australia	17	13
United States	8	8
SE Asia	6	4
Rest of World	8	17
Total	100	100

Source: Metals Economics Group, 2006



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2. Challenges to Growth



- Reserves of base metals in decline
- Labour and skills Shortage
- Climate change and energy use



Challenges to Growth: Declining Reserves



Canadian Reserves of Selected Metals (000 tonnes, except silver and gold in tonnes)

Year	Copper	Nickel	Lead	Zinc	Molyb	Silver	Gold
1980	16,714	8,348	9,637	27,742	551	33,804	826
1985	14,201	7,041	8,503	24,553	331	29,442	1,373
1990	11,261	5,776	5,643	17,847	198	20,102	1,542
1995	9,250	5,832	3,660	14,712	129	19,073	1,540
2000	7,419	4,782	1,315	8,876	97	13,919	1,142
2003	6,176	4,303	749	6,251	78	9,245	1,042
2004	5,586	4,025	631	5,226	80	7,469	806

Source: Natural Resources Canada



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Challenges to Growth: Declining Geoscience Investment



- Investment in geoscience by federal and provincial/territorial governments declined by 50% in fifteen years
- This most affects potential in northern Canada, where resources interest is high but geological mapping is poor
- Some 72% of Nunavut, for example, remains unmapped or poorly mapped



Challenges to Growth: Declining Geoscience Investment



Geoscience Spending in Canada (\$ million, constant 1986)

<u>Year</u>	<u>Provincial Territorial</u>	<u>Federal</u>	<u>Total</u>
1988	74	98	172
1991	64	85	149
1994	48	79	127
1997	44	52	96
2000	46	44	90
2003	41	49	90
2004	39	49	88

Source: Natural Resources Canada, 2006



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Challenges to Growth: Labour and Skills Shortage



- 40% of employees to retire in next decade
- Estimated that 57,000 - 81,000 new employees will be needed in next decade – 60% of whom will require post-secondary education
- 65% of Canadian geoscientists will be over age 65 in next decade
- Visible minorities and new Canadians do not traditionally enter the mining industry
- Potential to increase Aboriginal representation
- \$100 billion-plus investment plans in Canadian oil sands creating huge pressure on labour market

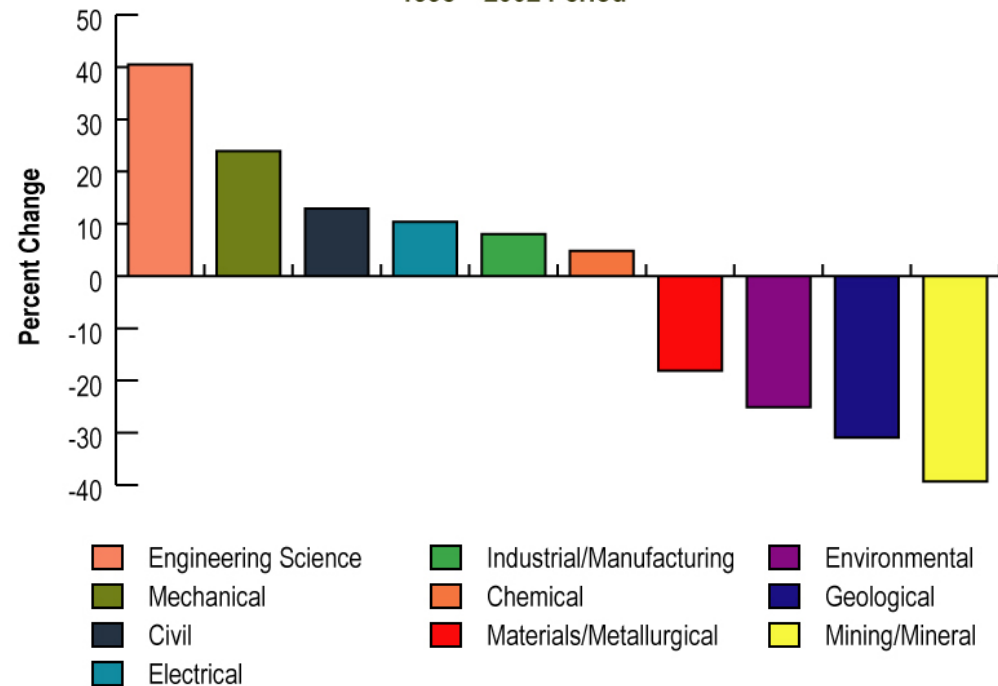


Challenges to Growth: Falling Enrolment



- Enrolment in mining-related engineering programs is declining
- Some mining-specific programs have disappeared.

Cumulative Rate of Change in Undergraduate Enrolments in Engineering for the 1998 – 2002 Period



Source: Canadian Council of Professional Engineers



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Challenges to Growth: Climate Change and Energy



- Approximately 25% of industry costs are energy
- Increased energy prices pressure this cost component
- Canada has ratified the Kyoto Accord and, in theory, faces significant GHG emission reduction targets
- The new federal government seeks new approach toward these targets, although the exact future of the 'Large Final Emitters' target system remains unclear



3. Reasons for Optimism



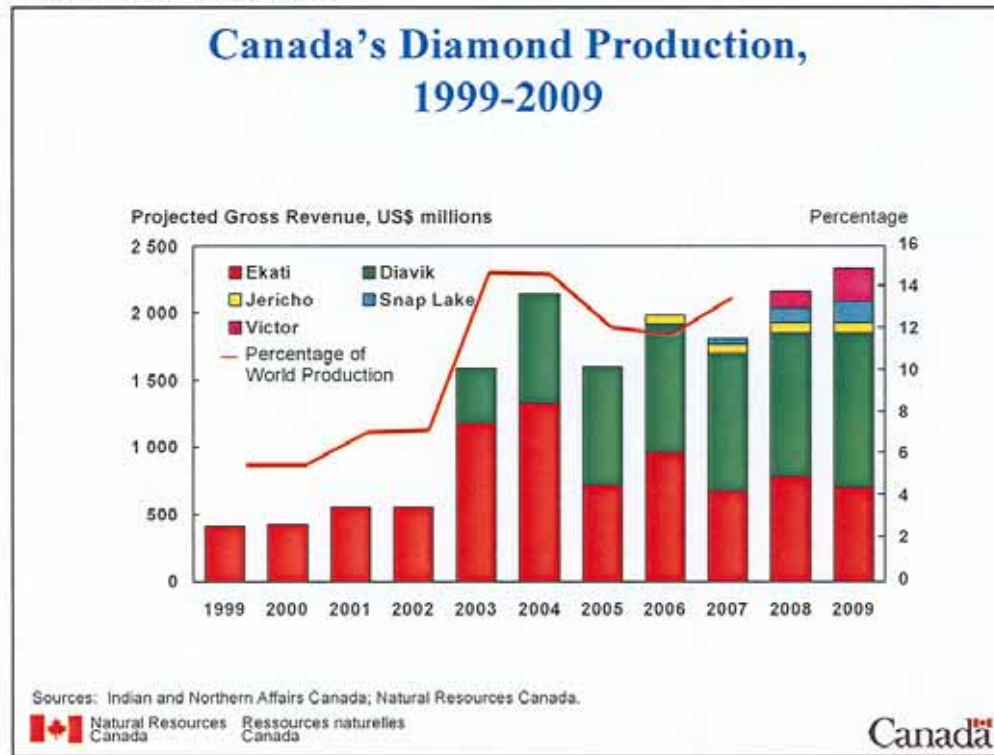
- Diamonds
- New Mines
- Global Presence
- China



Reasons for Optimism: Diamonds



Canada's diamond production is expected to remain strong as new mines continue to come on stream.



Reasons for Optimism: Mine Openings and Re-openings



<u>Mine</u>	<u>Location</u>	<u>Capacity (t/d)</u>	<u>Commodities</u>	<u>Company</u>
<u>Openings</u>				
Voisey's Bay	NL	6,000	Nickel, copper	Inco
Muskeg Valley	Alberta	600	Limestone	Birch Mountain
Trend	BC	2,000	Metallurgical coal	Northern Energy
<u>Re-Openings</u>				
Sigma-Lamaque	Quebec	5,000	Gold	Century Mining
Pamour	Ontario	5,000	Gold	Placer/Kinross
Copper Rand	Quebec	2,700	Copper, gold	Campbell
Lockerby	Ontario	500	Nickel, copper, cobalt	First Nickel
Mount Polley	BC	16,300	Copper, gold	Imperial Metals
McClellan Lake	Sask	300	Uranium	Cogema/Denison
CanTung	Nunavut	1,000	Tungsten	N.Amer. Tungsten

Source: Natural Resources Canada, 2006



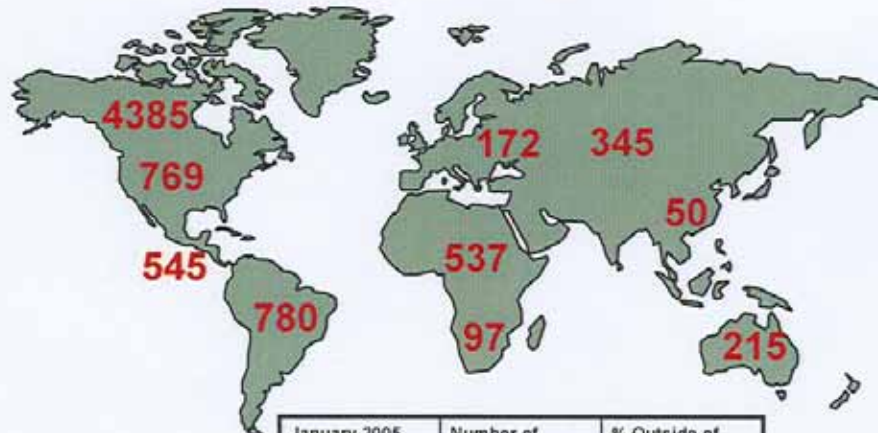
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Reasons for Optimism: Canada's Global Presence



At the beginning of 2005, 4385 projects in Canada and 3510 abroad were being financed by Canadian-listed companies.

Exploration and Mining Projects Financed Through Canadian Capital Markets



January 2005	Number of Active Projects	% Outside of North America
TSX	2797	47%
TSX Venture	5098	28%

Source: InfoMine, compiled by TSX, January 2005.

 Natural Resources Canada / Ressources naturelles Canada

Canada



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Reasons for Optimism: The Chinese Market



- 1.3 billion people
- Urbanizing and modernizing
- Not self-sufficient; huge infrastructure gap
- GDP growth of 9.9% in 2005
- Mineral imports valued at US\$152 billion
- Mineral exports valued at US\$89 billion
- One interesting benchmark – US has 90 vehicles per 100 population, China has around 3



Reasons for Optimism: China's Need for Resources



- Copper Imports 2.9 Mt
- Aluminum Imports 7.0 Mt
- Alumina Imports 5.9 MT
- Nickel Imports 65,700 tonnes
- Both copper and aluminum production hindered by power shortages



¡Muchas gracias!



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