



**[ MINING INDUSTRIES ]**  
Canada's competitive advantages

# CANADA'S MINING SECTOR

Canada's mining industry employs 418,000 workers and contributes \$52.6 billion to gross domestic product (GDP). Mining accounts for 20.4 percent of Canadian goods exports.<sup>1</sup>

- Canada is the world's top destination for exploration, attracting 16 percent of global investment in 2012 — more than Australia, the U.S. and Mexico.<sup>1</sup>
- Canada has the world's third largest mining supply capacity with over 3,200 suppliers.<sup>1</sup>
- In 2012, Canadian mining and metals companies invested \$638 million in research and development (R & D) and employed 5,500 R & D workers. Innovation focuses on tailings management, energy efficiency and effective exploration.<sup>1</sup>
- Stock of foreign direct investment in Canada's metallic minerals and metal products industry totalled \$58.5 billion in 2012.<sup>1</sup>
- The value of Canadian mineral production reached \$47 billion in 2012.<sup>1</sup>
- Canadian companies account for approximately 35 percent of global exploration expenditures — the largest share of all nations.<sup>2</sup>

## A WEALTH OF OPPORTUNITIES

Canada produces some 60 minerals and metals, and is the world's largest producer of potash. It is also a major producer of aluminum, cobalt, diamonds, nickel, platinum-group metals, titanium, tungsten, uranium and zinc. In Canada, there are over 200 producing mines (metal, non-metal and coal); 50 non-ferrous smelters, refineries and steel mills. Growing interest in rare-earth elements has spurred significant exploration efforts across the country, adding to Canada's already considerable list of promising prospective projects.

## CANADA'S KEY STRENGTHS

- Extensive science and technology network
- Broad expertise in geoscience
- Sophisticated financial institutions
- Abundant mineral and metal resources
- Responsible resource development: one project, one review, in a clearly defined time period

<sup>1</sup> The Mining Association of Canada — Facts and Figures of the Canadian Mining Industry (2013)

<sup>2</sup> Natural Resources Canada, based on Metals Economics Group's Corporate Exploration Strategies: A Worldwide Analysis, 2013.

# MINING SECTOR ACTIVITIES



## BRITISH COLUMBIA

- » Available resources include: aluminum, copper, gold, lead, zinc, coal, silver, molybdenum
- » **Vancouver:** allied industries, junior exploration/mine financing

## CANADA'S NORTH

- » Available resources include: gold, diamonds, uranium, zinc, copper, silver
- » **Leading companies:** De Beers Canada, Avalon Rare Metals Inc., Baffinland Iron Mines Corporation, Agnico Eagle Mines Limited, Newmont Mining Ltd, Xstrata Zinc, AREVA Resources Canada Inc., MMG Limited

## ALBERTA

- » **Fort McMurray:** oil sands, allied industries
- » Available resources include: nickel, iron, gold, limestone

## SASKATCHEWAN

- » Available resources include: potash, salt, uranium, gold, copper, zinc
- » **Leading companies:** Potash Corporation of Saskatchewan Inc., Cameco, BHP Billiton

## ONTARIO (RING OF FIRE)

- » Available resources include: gold, zinc, copper, chromite, lead, nickel, cobalt
- » **Toronto:** allied industries, senior exploration / mine financing

## QUEBEC

- » Available resources include: copper, gold, zinc, iron, aluminum, magnesium, niobium
- » **Montréal, Rouyn-Noranda, Val-d'Or:** allied industries

## ATLANTIC CANADA

- » Available resources in **Newfoundland-and-Labrador:** iron, gold, copper
- » Available resources in **New Brunswick:** zinc, lead, gold, tungsten
- » Available resources in **Nova Scotia:** gypsum, coal

## RECENT INVESTMENTS

### BHP Billiton

Anglo-Australian BHP Billiton will invest US\$2.6 billion in the Jansen potash project in Saskatchewan. The mining company plans to spread the investment in Jansen over a number of years and start production in 2018. BHP also signed agreements with three First Nations in the area to supply mine services.

### Vale

Brazil-based company Vale has begun to invest C\$1 billion in its "Clean AER Project," one of the largest single environmental investments in Ontario's history. The Clean 'Atmospheric Emissions Reduction' Project will reduce emissions of sulphur dioxide, dust and metals at Vale's Sudbury smelter by 85 percent from current levels. The project is scheduled to be completed by the end of 2016.



# CANADA'S ADVANTAGES

## OPEN TO TRADE AND INVESTMENT

Canada remains among the world's most open countries in terms of trade and investment in mining. The country does not restrict foreign involvement in the development of its mineral resources, except for uranium. Canada has trade and investment initiatives with Europe, India, China, the Americas and Africa.

## FINANCIAL INCENTIVES

- Flow-through shares (FTS) enable a company to transfer eligible exploration and development expenses to investors. Investors can then apply for tax credit for these expenditures. This feature generates attractive prices for FTS, enabling a junior company to fund exploration activities more easily.
- Canada offers a variety of financial incentives including the accelerated capital cost allowance (ACCA), Canadian Exploration Expense (CEE) and Mineral Exploration Tax Credit (METC).

## READY ACCESS TO CAPITAL

The Toronto Stock Exchange (TSX) and the TSX Venture Exchange handled 70 percent of the world's public mining financings in 2012. Almost 60 percent of the world's publicly-listed mining companies list in Canada.<sup>3</sup> Canada's top standing as a source of equity financing for mineral capital is supported by disclosure standards that ensure fairness and efficiency. In 2012, almost 70 percent of a worldwide total of \$13.28 billion of mining equity was raised in Canada.

## LOW BUSINESS COSTS

Overall business costs in Canada are the lowest in the G-7 and 7.2 percent lower than the U.S.<sup>4</sup>

## INFRASTRUCTURE

According to the World Bank, Canada has one of the world's best logistics infrastructures,<sup>5</sup> including ports and railways. Canada also offers duty-free access to the U.S., Mexico and many other global markets.

## AVAILABLE LABOUR FORCE

Canada ranks second in the G-7 for the availability of qualified engineers in its labour market.<sup>6</sup> A total of 50,500 students graduate from Canadian universities each year in architecture, engineering and related technologies.<sup>7</sup>

## PUBLIC GEOSCIENCE

Legislation in Canada requires the publication of all publicly-funded geological surveys. Making geoscientific data available for free is meant to encourage exploration and development of mineral and energy resources.

## K+S AKTIENGESELLSCHAFT

"We are convinced that Legacy [Project based in Saskatchewan] is a decisive strategic step forward for the whole K+S Group and, in combination with our German potash mines, will significantly strengthen the international competitiveness of K+S."

Norbert Steiner, Chairman of the Board of Executive Directors, K+S Aktiengesellschaft

<sup>3</sup> The Mining Association of Canada, *Facts and Figures of the Canadian Mining Industry* (2013)

<sup>4</sup> KPMG, *Competitive Alternatives Report* (2014)

<sup>5</sup> World Bank, *International Logistics Performance Index* (2014)

<sup>6</sup> IMD, *Rank among 59 economies considered in the World Competitiveness Yearbook*, 2014

<sup>7</sup> Statistics Canada, *Public postsecondary graduates by institution type, sex and field of study*, 2010

# SUPPORT PROGRAMS AND INNOVATION

Canada's mining industry develops technological innovations in the production and processing of minerals and metals. Canada's unique combination of abundant natural resources, diverse geology and strong R & D capacity, continues to drive innovation in the mining industry.

Many foreign mining firms take advantage of Canada's expertise through R & D programs and collaboration with research organizations.

- Scientific Research and Experimental Development Program (SR&ED)
- Canadian Mining Industry Research Organization (CAMIRO) (Sudbury, ON)
- Canadian Mining Innovation Council (CMIC) (Ottawa, ON)
- Centre for Excellence in Mining Innovation (CEMI) (Sudbury, ON)
- CANMET Mining, a branch of the Minerals and Metals Sector of Natural Resources Canada
- Mining Innovation, Rehabilitation and Applied Research Corporation (MIRARCO – Sudbury, ON)

In 2013, six mining and metal companies ranked among Canada's Top 100 Corporate R & D Spenders<sup>8</sup>, namely MolyCorp Minerals Canada ULC, Arcelor Mittal Dofasco, Novelis Inc., Rio Tinto Iron & Titanium, Teck Resources Limited and Vale Canada.

**Selected Canadian companies** that are currently undertaking innovative projects include Barrick Gold Corporation, Inmet Mining Corporation, Novelis Inc. and Teck Resources Limited.

**Canadian innovative technologies** cover a wide range of sectors, including ICT and machinery among others.

- **Sight Power Inc.** has developed a revolutionary, fully-automated shaft-monitoring and inspection system for deep-level mining based on a 3D mobile laser-scanning technology. [www.sight-power.com](http://www.sight-power.com)
- A first hybrid diesel-electric loader was developed by **Mining Technologies International**, in collaboration with CANMET Mining. It decreases emissions of noxious gases by 40 to 70 percent. [www.mti.ca](http://www.mti.ca)
- **Photonic Knowledge Inc.** has developed a faster and more efficient method to analyze the composition of core after drillings. [www.photonicknowledge.com](http://www.photonicknowledge.com)
- **Abitibi Geophysics** developed InfiniTEm, a system that detects deposits of metallic sulphides up to 1000 m below the surface. [www.ageophysics.com](http://www.ageophysics.com)
- **EQWin Software Inc.** developed a leading-edge environmental data management software for a wide variety of physical and chemical parameters. [www.eqwin-inc.com](http://www.eqwin-inc.com)
- **BoréalisIMS™** is the only corporate social responsibility (CSR) software that delivers a production-proven solution designed to address the social and environmental challenges of the extractive industries. [www.boreal-is.com](http://www.boreal-is.com)

<sup>8</sup> Research Infosource Inc. Canada's Top 100 Corporate R&D Spenders List. 2013.

# INVEST IN CANADA TO ACHIEVE GLOBAL EXCELLENCE

## A WELCOMING BUSINESS ENVIRONMENT

Canada is ranked as the best country for business in the G-20.

Source: Forbes and Bloomberg

## A HIGHLY EDUCATED WORKFORCE

Canada's workforce is the most highly educated among members of the OECD, with half of its working-age population having a tertiary-level education.

Source: Organisation for Economic Co-operation and Development (OECD)

## LOW TAX RATES

Canada's overall marginal effective tax rate on business investment is by far the lowest in the G-7 — about 17 percentage points lower than that of the United States.

Source: Department of Finance Canada

## COMPETITIVE R & D ENVIRONMENT

Canada offers the lowest business costs in the G-7 for R & D-intensive sectors, with a 15.8 percent cost advantage over the United States.

Source: KPMG

## FINANCIAL STABILITY

For six consecutive years, the World Economic Forum has declared Canada's banking system to be the soundest in the world.

Source: World Economic Forum (WEF)

## UNPARALLELED MARKET ACCESS

Canada's NAFTA advantage gives investors access to 470 million consumers. Many Canadian production hubs are actually closer to U.S. markets than American production sites — of Canada's 20 largest cities, 17 are within an hour-and-a-half drive of the U.S.

Source: The World Bank

## A GREAT PLACE TO INVEST, WORK, AND LIVE

Canada is one of the globally most multicultural countries with world-class universities, a universal health care system and clean and friendly cities in addition to having the second highest standard of living in the G-20, as measured by GDP per capita.

Source: The World Bank

Unless otherwise noted, all values in this publication are in Canadian dollars. Content is based on the latest available information at time of publication.

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