

Summary

An integrated ecosystem in Quebec significantly impacting the entire economy

In the fall of 2020, Glencore commissioned Avisa Conseil to conduct an economic impact study on all its activities in Quebec. The study examines the Glencore ecosystem, which includes the activities of Matagami Mine, Raglan Mine, Horne Smelter, General Smelting of Canada and the CCR and CEZinc refineries.

A Multifunctional Ecosystem

Through its network of facilities, Glencore is the proud owner of Quebec's largest nickel-producing mine, Canada's only copper value chain, and the largest zinc refinery in eastern North America.

The mining activities of the Glencore ecosystem's Matagami and Raglan mines produce over **80% of nickel**, **61% of zinc** and **44% of copper** in Quebec. This is the proportion of metals contained in the concentrate extracted from the mines.

44,000

Tonnes of nickel

40,000

Tonnes of zinc

15,000

Tonnes of copper

The processing capacities of Horne and the CCR and CEZinc refineries greatly outperform Quebec's extraction capacities.

- Horne imports 95% of copper concentrate and 83% of recycled materials. CEZinc imports 76% of zinc concentrate. This percentage is expected to grow after the Matagami Mine closes in summer 2022.
- Without the Horne Smelter, it would be virtually impossible for the CCR refinery to meet its anode requirements at a competitive price, as it accounts for 68% of CCR inputs, equivalent to 200,000 copper anodes.

The Glencore ecosystem stands out with its annual production of 265,000 tonnes of refined zinc and 300,000 tonnes of copper cathodes.

One million tonnes of sulphuric acid are also produced, mainly for the Quebec market.

265,000

Tonnes of refined zinc

300,000

Tonnes of copper cathodes

1,000,000

Tonnes of sulphuric acid

Sources: Glencore, Avisa Consulting Analysis

Significant Economic Benefits in Quebec and the Rest of Canada

Estimated benefits of the ecosystem were based on the operating and investment expenditures of the Glencore ecosystem in a typical year. Operating expenditures average more than **\$5.8 billion**, of which **\$1.4 billion** is directly spent in Quebec and \$1.9 billion in the rest of Canada. Raw materials make up over 80% of expenditures.

Capital expenditures (sustaining capital) are **\$254 million** per year, excluding special projects.



The Glencore ecosystem contributes significantly to Quebec's economy, generating over **\$1.7 billion in added value** annually. In addition, the benefits for the rest of Canada are estimated at **\$1.5 billion**.



Overall, **14,087 jobs** are supported, including **8,825 jobs** in Quebec. The ecosystem supports **3,088 direct jobs**.



Governments enjoy gross tax revenues of **\$151.2 million** provincially and **\$114.3 million** federally, which does not include tax revenues generated in the rest of Canada or corporate income tax.

Direct and Indirect Impacts of Glencore Ecosystem Activities

In a typical year, in \$ millions, by number of full-time equivalent (FTE) jobs

GLENCORE	 Value added	 Jobs	 Quebec government tax revenues
Operating activities	\$1,615.5 M	7,289	\$135.9 M
Investment activity	\$129.4 M	1,535	\$17.4 M
Total – Quebec	\$1,744.8 M	8,825	\$151.2 M
Rest of Canada	\$1,542.2 M	5,252	-
Total – Canada	\$3,287.0 M	14,087	-

Summary

Abitibi and Nord-du-Québec greatly benefit from Glencore ecosystem activities, with nearly \$1.2 billion in added value

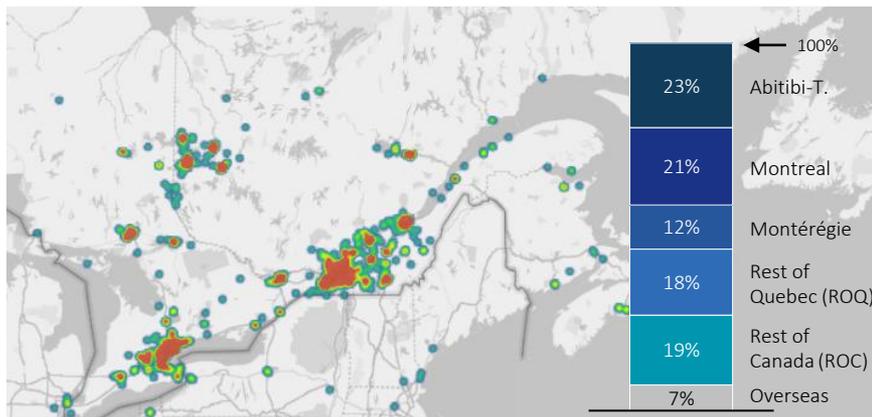
Major Spending Benefits Quebec Suppliers

The Glencore ecosystem’s supplier network comprises more than **5,600 companies**. It is estimated that 75% of these suppliers are Quebec-based. They attract \$800 million in goods and services expenditures annually.

- The **Abitibi-Témiscamingue** supplier network represents **23%** of suppliers. They attract **\$300 million** in goods and services expenditures annually.
- With its Raglan Mine activities, Glencore relies on suppliers in Inuit communities. More than **one hundred** suppliers from this community contribute to the northern economy. More than **\$100 million** is spent annually.
- Annual expenditures in the **Montreal** and **Montérégie** regions total **\$245 million** and **\$110 million** respectively.

Glencore contributes to all regional economies, with at least one supplier in each of Quebec’s 17 regions.

Regional Distribution of Glencore Ecosystem Suppliers – Excluding the North Quebec



(1) Full-time equivalent (FTE). Sources: Glencore, Avisa Consulting Analysis

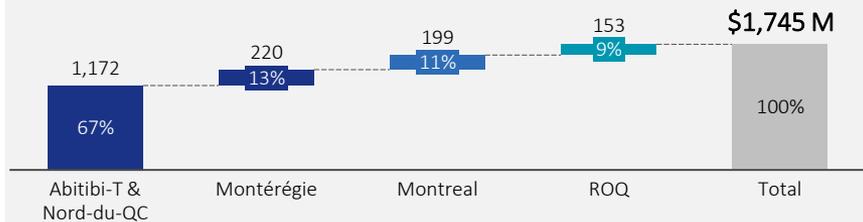
Significant Economic Benefits for Quebec’s Regions

9%
GDP in Abitibi-T. and Nord-du-QC

The economic benefits of the Glencore ecosystem are mainly concentrated in Abitibi-Témiscamingue and Nord-du-Québec. These two regions benefit greatly from ecosystem activities, with 67% of the value added generated there, totalling **\$1.172 billion**, as well as 50% of jobs supported there (**4,446 jobs**). Overall, the Glencore ecosystem generates more than 9% of the GDP of these regions and supports nearly 4% of all jobs.

Value Added by Region

Quebec, in a typical year, in \$ millions, in %

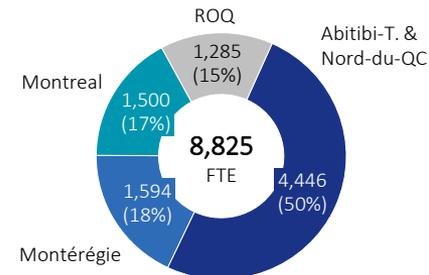


Montreal and Montérégie also benefit from ecosystem activities. It is estimated that **\$419 million** of added value is generated and **3,094 jobs** are supported in these areas.

The rest of Quebec also benefits, with over **\$150 million** in added value generated and **1,285 jobs** supported. The wide-ranging network of suppliers throughout Quebec boosts economic benefits in the regions of the rest of Quebec.

Jobs Supported by Region

Quebec, in a typical year; in FTE⁽¹⁾ and in %



Summary

The Glencore ecosystem supports productive jobs and employs local workers across Quebec

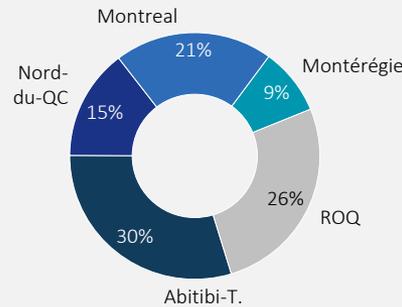
Workers on High Average Salaries

There is at least one Glencore ecosystem worker in each of the 17 regions of Quebec. Abitibi-Témiscamingue and Nord-du-Québec account for the largest share, with more than 45% of workers.

- Employees in the Glencore ecosystem account for over **4% of the workforce** aged 25 to 64 in the RCM Rouyn-Noranda and **5.7%** of that in the RCM Kativik.
- The Northern workforce includes 250 Inuit workers working at the Raglan mining site.

Distribution of Workers in the Glencore Ecosystem

Quebec; % of workers



With its three facilities located in Montreal and Montérégie, these two regions also employ a significant proportion of workers (30%).

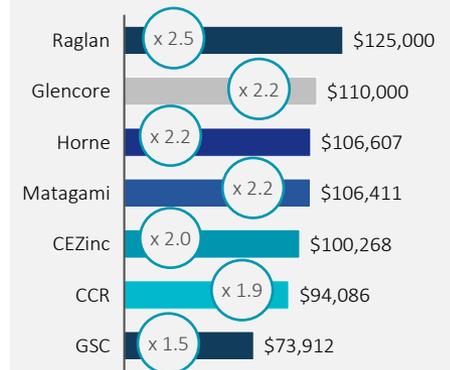
However, just over a quarter of workers live in regions where there is no Glencore facility, the Lanaudière and Laurentians regions being the two main ones.

Depending on the facility, employees earn an average salary of between \$74,900 at General Smelting and \$125,000 at the Raglan Mine.

- These salaries represent an average wage of between **1.5 and 2.5 times** that of the average worker in Quebec.

Average Salary by Facility

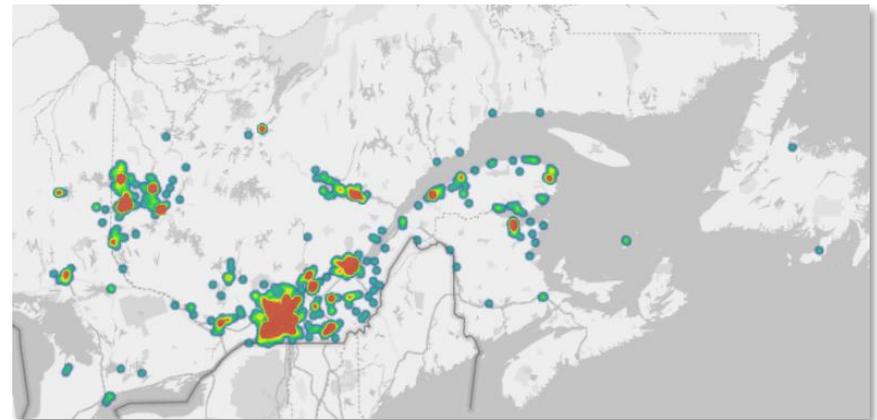
Quebec; in \$



\$110,000
Average Glencore ecosystem salary

Regional Distribution of Glencore Ecosystem Workers – Excluding the North

Quebec, 2019



Productive Jobs



\$350,975

GDP per direct job

The 3,088 direct jobs supported by Glencore ecosystem activities are **high-productivity jobs**, with a value added per direct job of nearly **\$351,000**.

By comparison, the productivity of an average worker in Quebec is \$94,000. Therefore, the direct jobs supported by Glencore are on average **3.7 times** more productive.

(1). ROQ: Rest of Quebec. Sources: Glencore, Aviseo Consulting Analysis

Summary

The Glencore ecosystem has structural impacts for Quebec's economy that go beyond economic benefits

Contribution to Quebec's Trade Balance

5.4%
Quebec exports

Net balance
420
\$ Million

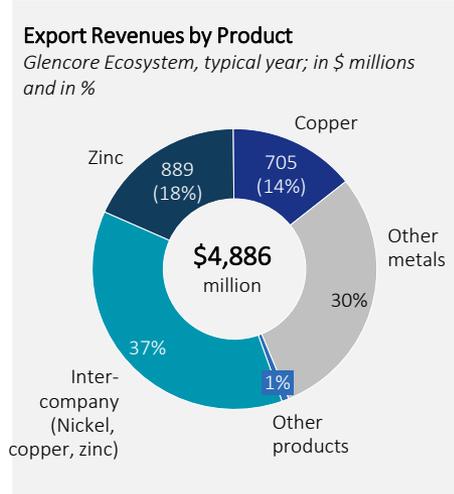
Annual revenues generated by the Glencore ecosystem outside Quebec total over **\$4.9 billion**, representing **5.4% of all Quebec exports**. Excluding sales between Glencore companies, ecosystem exports amount to more than \$3.0 billion. Glencore's net impact on Quebec's trade balance is over **\$420 million**.

Zinc and copper exports are included in the non-ferrous metal processing sector (aluminum excluded). Exports in this sector totalled \$5.6 billion in 2019. Glencore's contribution accounted for **54% of exports in this sector**.

Behind the rest of Canada, the United States is the Glencore ecosystem's main customer, accounting for more than 40% of exports outside Quebec and outside the Glencore company.

Excluding sales between Glencore companies, which mainly consist of nickel, zinc and copper, the ecosystem receives 18% and 14% of its export revenues through zinc and copper sales respectively.

Lastly, 30% of its export revenues come from the sale of other precious metals, such as gold and silver.



Sources: Glencore, Aviseo Consulting Analysis

Production of Precious Metals

With its mining and refining operations, the Glencore ecosystem also produces precious metals as a by-product.

- The three main precious metals the ecosystem produces are silver, gold and palladium/platinum.
- In addition to these three metals, Glencore also produces smaller quantities of rhodium, tellurium and selenium.

≈ 29,681
Thousands of ounces of silver

≈ 840
Thousands of ounces of gold

≈ 375
Thousands of ounces of palladium/platinum

Glencore's Quebec and International Expertise, Its Contribution to the Circular Economy and its Supply of Critical and Strategic Metals



In addition to its six operating sites, Glencore operates a Centre of Global Expertise in Zinc Mining Engineering. Located in Ville Saint-Laurent, this centre is the mining engineering hub for Glencore facilities operating in the zinc sector. With 20 employees from all over the globe, the Centre solidifies Quebec's place in the mining sector. Many Quebecers also work in various Glencore operations around the world.

13.6% of Horne Smelter's inputs are recycled copper, while General Smelting recycles tons of lead scrap annually, with its process allowing it to recycle 100% of its lead electro-winning anode production.



Glencore's production contributes to the supply of critical and strategic metals as defined by the Quebec government. Glencore produces approximately 10 of these 22 metals, which are defined as indispensable for key sectors of Quebec's economy and the shift to green technologies.