

Québec's invitation for partner(s) in active materials and cell manufacturing

Last modification: November 3rd, 2021



Why invest in battery manufacturing in Québec?



A strategic location within the North American EV market, with efficient intermodal transportation services



Lowest electricity rates in North America and most reliable grid, **powered by 99% renewable energy**



World class innovation hub, with **40+ research organizations**, such as Hydro-Québec's Center of Excellence



Numerous free trade agreements facilitating trade between battery manufacturers and OEMs



Abundant natural resources essential for battery production: Lithium, graphite, titanium, phosphate, cobalt, etc.



Strong government support and many **attractive tax credits and incentives**



Proximity to “Auto Alley” rail links and **~65% of North America’s cell manufacturing capacity**



A sustainable ecosystem with a clean and traceable supply chain, an ethical exploitation of mineral resources, etc.



Nearly 30% cost advantage on salaries for battery manufacturing employers

An economy built on a strong foundation favorable to the development of the battery industry



Strong government support for the industry with the implementation of a battery strategy



Many attractive and stable incentive programs: R&D, tax incentives, electricity rebates, etc.



Québec is No. 1 for vehicle electrification in Canada* thanks to numerous public policies to promote the electrification of transportation



Stable political landscape focused on supporting the energy transition and their actors



Foreign-investor friendly jurisdiction in OECD country with strong credit ratings (Aa2 credit rating for Québec)



Aerial view of the industrial park of Bécancour © Olivier Croteau



National Assembly of Québec

* Registration of zero-emission vehicles in Canada, 2020.
Source: Statistics Canada, 2021; Moody's, 2019.

Québec located strategically within the North American EV market

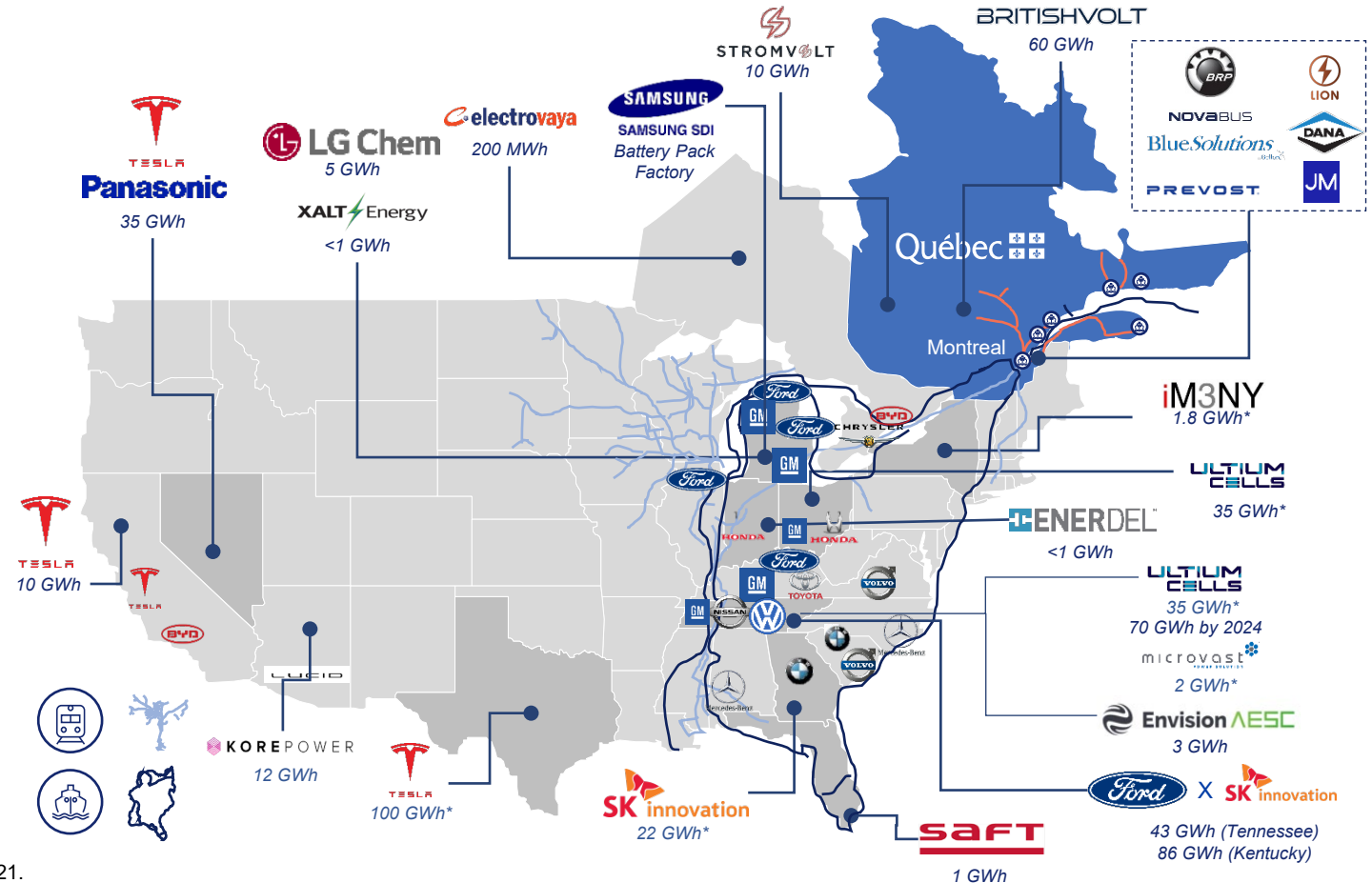
Tariff-free trade with battery and OEM manufacturers providing security from supply chain disruption and mitigating geopolitical risks

In the U.S. through the **CUSMA**
 In APAC through the **CPTPP**
 In the EU through the **CETA**
 In South Korea through the **CKFTA**

Proximity to “Auto Alley” rail links and ~65% of North America’s cell manufacturing capacity

Multiple deep-sea ports with the shortest route from Europe to North America

North American battery cell manufacturing landscape
 Company announcements, 2019-2021



* Announced Capacity.
 Source: Québec Government Market Study, “Bloomberg Electric Vehicle Outlook”, 2019 and 2021.

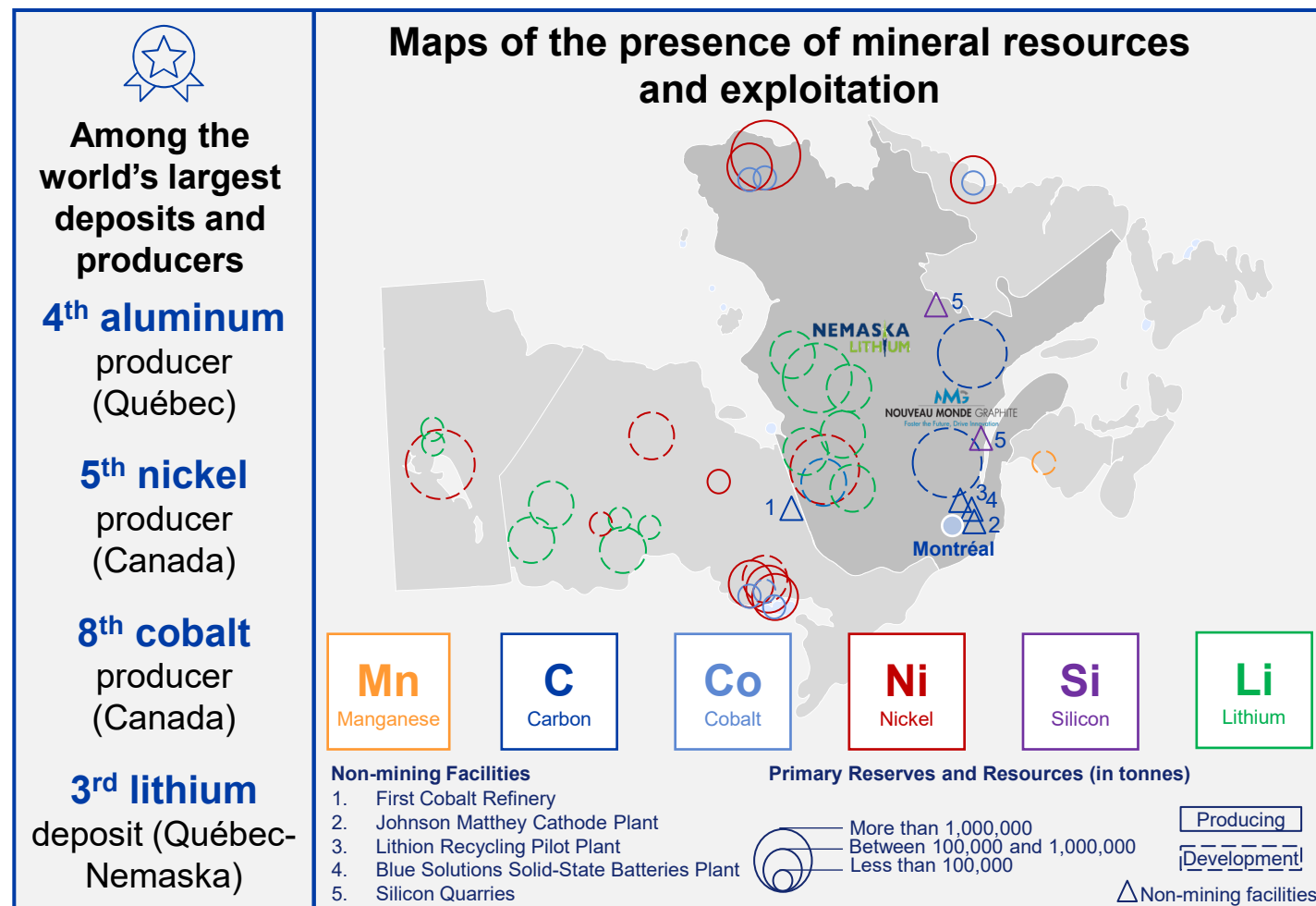
All key mineral resources for battery manufacturing can be mined locally

Ethical and green operations

- **Ethical exploitation of mineral resources**, such as cobalt production
- **Development of revolutionary transformation processes**, such as the elimination of all GES directly related to aluminum production (Elysis project)

A strategic location within the manufacturing supply chain

- **Lower transport costs due to the region's own mining supply**
- Reduction of dependence on material imports from Asia and Australia
- **Security of supply through IQ's participation in key operations and projects**, reducing the material supply deficits expected from 2023



Source: AluQuébec, 2020; Government of Canada, "Nickel facts", 2019; US Geological Survey, "World Mine Production and Reserves", 2021; Propulsion Québec, 2019; S&P Market Intelligence, Québec Government Market Study.

Leveraging Québec's low-cost hydropower to meet OEMs' net zero carbon targets

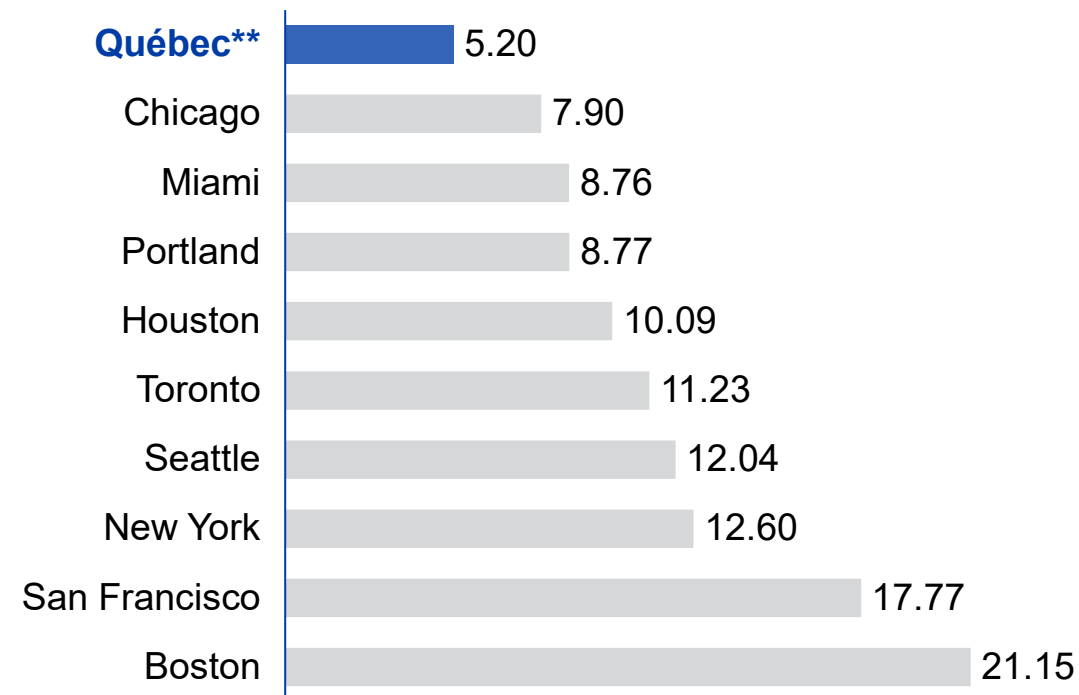


No. 1 in North America for the lowest and most stable rates for large power consumers

- Hydro-Québec, a Crown corporation, **is one of the world's leading hydropower producers**
- **99%** of the electricity in Québec is produced from **clean, renewable sources**
- **Preferential rates** also granted to **large consumers of energy**

Average electricity rates—Large power customers*, ¢/kWh (before taxes), CA\$

Selected metropolitan areas in Canada and the U.S., April 2020

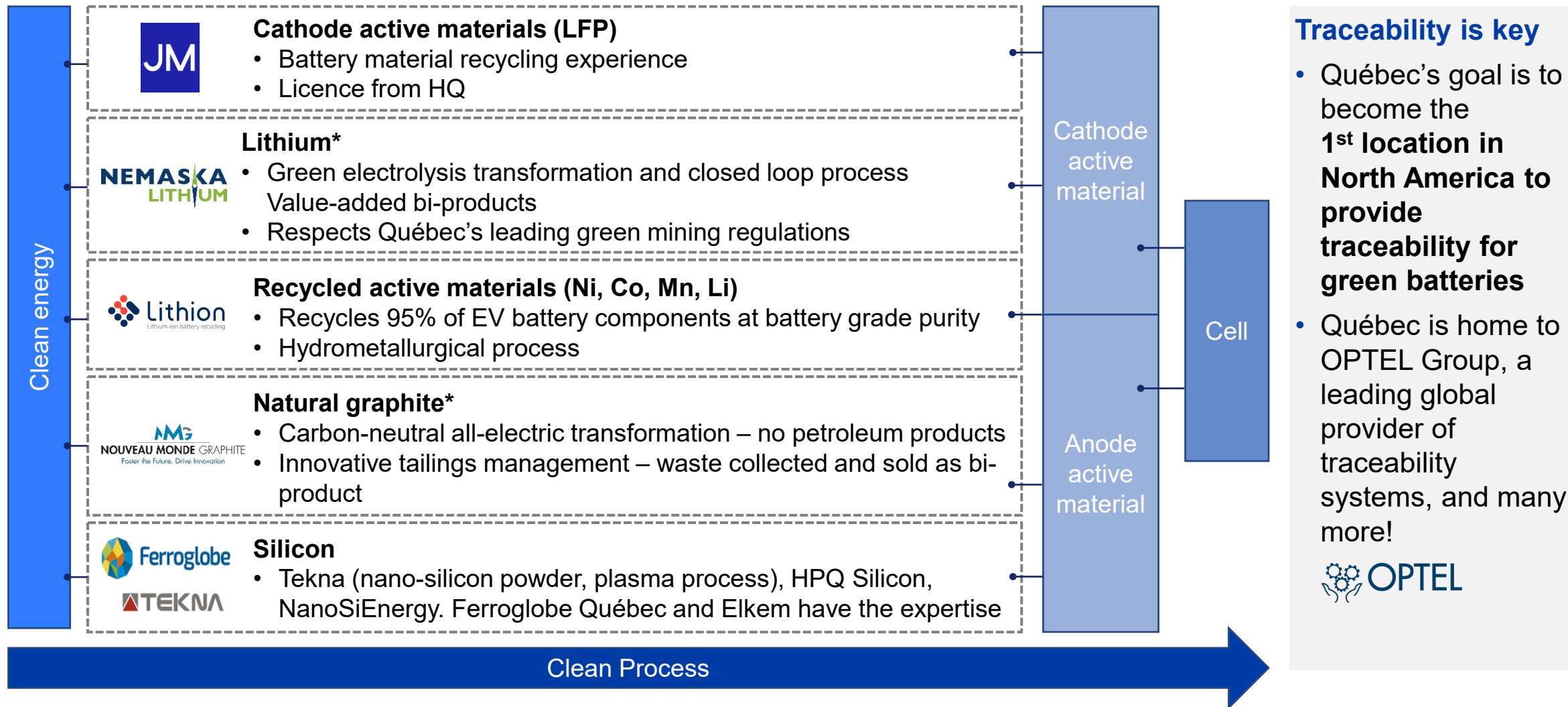


* According to Hydro-Québec's estimate based on 3,060,000 kWh of usage, 5,000 kW of power and a 85% load factor.

** The electricity rate is the same for all of Québec; there is no rate variation based on region or municipality.

Source: Hydro-Québec, "Comparison of Electricity Prices in Major North American Cities—Rates in effect April 1, 2020".

Developing a uniquely clean and traceable supply chain



* In development.

Source: Ministère de l'Énergie et des Ressources naturelles, "Québec Plan for the Development of Critical and Strategic Minerals 2020-2025 (QPDCSM)", 2021.

A world class innovation hub for battery materials with more than 40 R&D players across the entire value chain

- **Hydro-Québec's Center of Excellence in Transportation Electrification and Energy Storage a leader in battery technology**
- **Among the Top 10 in the world for IP related to Lithium-ion battery and 40+ years experience in R&D for electric transportation and storage**
- **Access to 2000+ patents, of which 110+ are related specifically to the battery and 60+ licenses provided**
- **+250 scientific publications** by over 100 researchers with exclusivity rights available
- **Local and international R&D partnerships**, such as the U.S. Army Research Laboratory on Li-ion cells or Lawrence Berkeley National Laboratory



Examples of research centers and consortium



Source: IREQ, 2021; Center of Excellence in Transportation Electrification and Energy Storage, 2021.

A large pool of skilled workers and many students ready to take over

Example of occupations related to the sector (all industries combined)	Employees, 2019
Production supervisor	28,700
Industrial, manufacturing and mechanical engineering technologists and technicians	18,800
Mechanical, electrical and electronic engineers	18,400
Industrial electricians and electromechanics	15,500
Machinists and machining and tooling inspectors	13,300
Electronic and electrical engineering technicians	11,700
Assemblers and testers in the manufacture of electrical and electronic equipment, appliances and accessories	11,000
Supervisors in manufacturing and assembly	10,900
Chemists and chemical engineers	5,600
Industrial and manufacturing engineers	5,200
Production logistics coordinators	2,700
Supervisors in metal and mineral processing	1,800

– And many more!

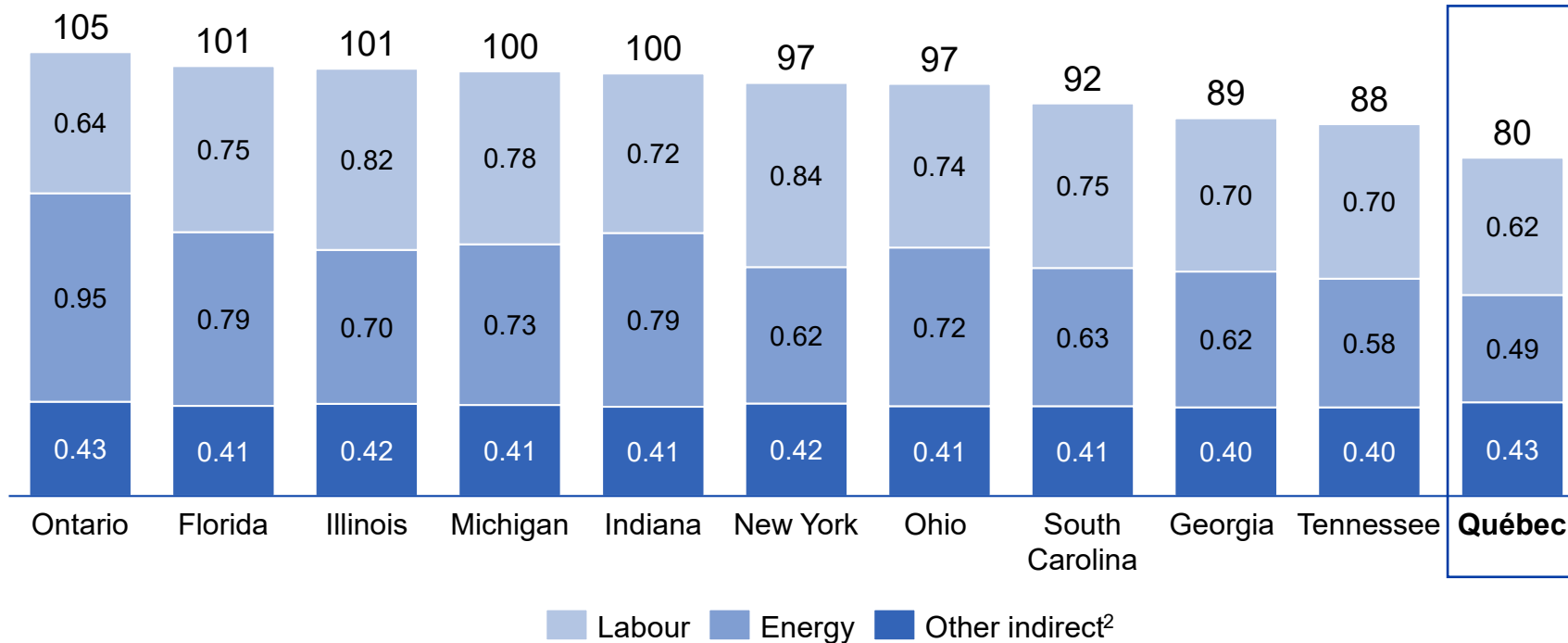
- A large pool of workers skilled in manufacturing, electronics and chemistry
- Close to 18,000 students enrolled in battery manufacturing-related programs (chemistry, chemical engineering, electrical engineering, mechanical engineering, physics engineering)
- 18 universities and nearly 140 colleges, with campuses spread out over Québec, such as:



Source: Statistics Canada, special compilation based on data from Labour Force Survey, 2019; Ministère de l'Éducation et de l'Enseignement supérieur, 2021

Some of the lowest operating costs in Canada and the United States

Cathode¹ cost by location in 2030 (base case),
% of estimated Michigan Total Costs



20-25%
lower costs of
operation costs³
than Ontario,
Michigan and Ohio
achieved through
Québec's low
energy cost

Note: ¹Assuming NMC 8.1.1.; ²Includes chemicals processing and waste disposal; ³Except raw material costs.
Source: Market Study for the Québec Government, 2020.

A cost-advantage of nearly 30% on salaries for battery manufacturing employer

Median annual salaries (USD*) for 5 occupations in the battery manufacturing sector
Selected U.S. and Canadian cities, 2021

	Montréal	Cleveland	Austin	Reno	Albany	Detroit	San Francisco
Battery Scientist	\$74,004	\$102,725	\$105,404	\$94,631	\$103,882	\$101,184	\$121,100
Production Engineer	\$64,336	\$88,162	\$89,424	\$81,024	\$89,145	\$86,629	\$103,537
Battery Engineer	\$55,588	\$86,566	\$87,669	\$79,534	\$87,513	\$85,029	\$101,618
Logistics analyst	\$49,664	\$58,907	\$59,315	\$56,834	\$62,286	\$57,764	\$74,017
Maintenance Worker	\$42,301	\$54,532	\$51,002	\$51,891	\$54,982	\$54,962	\$68,740

* Salaries based on five years of experience in the battery manufacturing industry NAICS 335910).
Average exchange rate of September 2021: 1US\$ = 1.2671 CA\$.
Source: ERI, October 2021.

Attractive custom-made financial incentives and support to maximize project returns

Initial investment

- **Strategic Innovation Fund:** Contributes **up to 50%** of eligible expenses for a **project of at least \$20M**
- **Québec's custom-made financial stimulus packages:** equity, debt, loan, etc., according to project's specifications

Tax incentives - Ongoing operation

- **Tax Credit for Investments and Innovation (C3i):** Tax credit from **20% to 40%** of the value of production equipment or computer equipment and software package purchases
- **Tax Holiday for Large Investment Projects (C2i):** Provides a **15-year tax exemption** on earnings and contributions to the Health Services Fund contributions for **projects over \$100M (\$50M in some regions)**

Electricity rebates - Ongoing operation

- **Electricity Discount Program – Ministère des Finances:** Grants a **reduction of up to 20% of electricity invoice** for a maximum of 4 years for companies billed at rate “L”

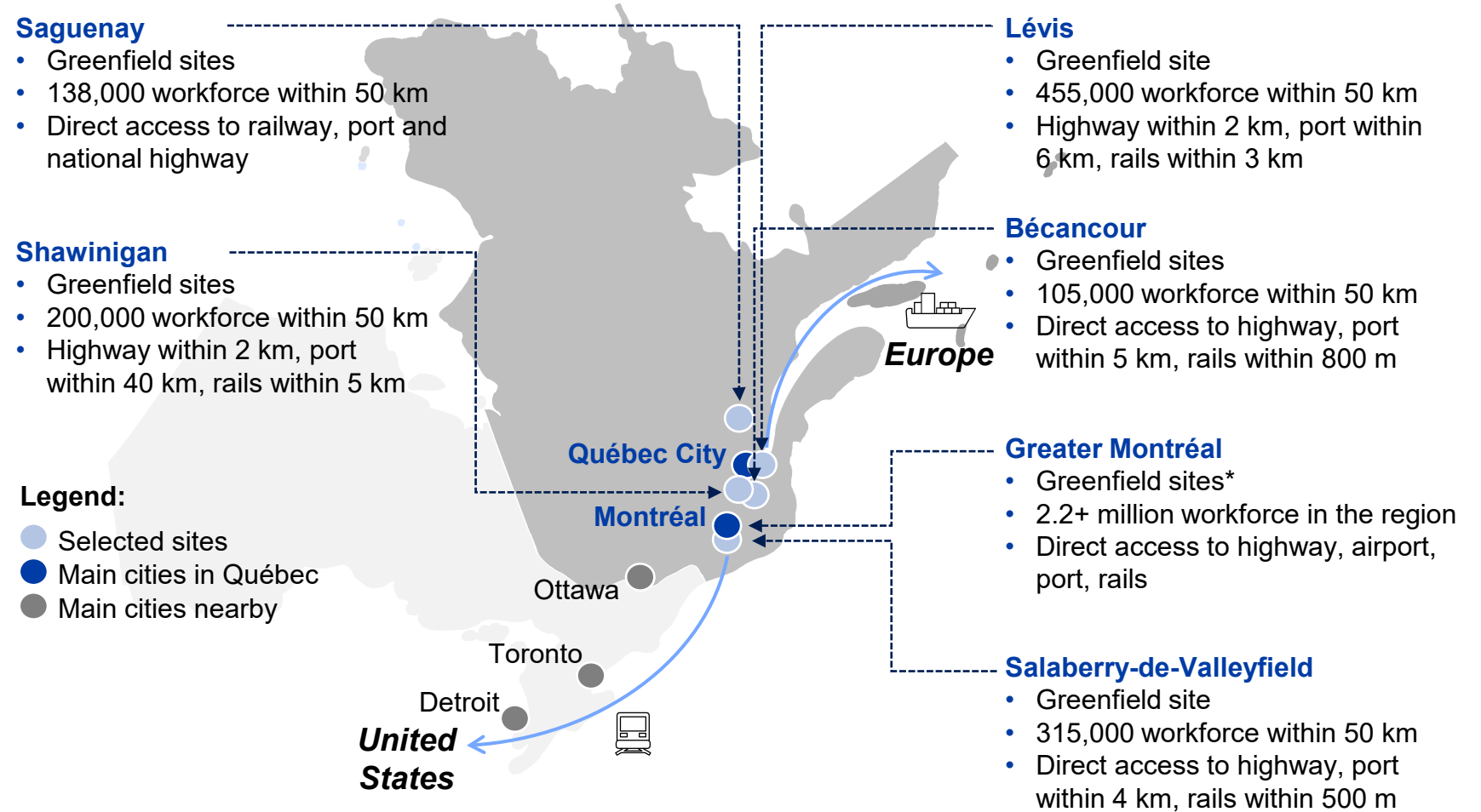
R&D tax incentives - Ongoing operation

- **Tax Credit for Scientific Research and Experimental Development (SR&ED):** Entitles company to a **15% tax credit from Canada and a 14% refundable credit* from Québec** on all wages and subcontracting fees
- **Tax Holiday for Foreign Experts and Researchers:** Tax holiday for foreign experts through a **Québec tax exemption** over a maximum of five years on a degressive scale

– And many more!

Various well-defined site options near large Québec cities

- Several near shovel ready sites of over 200 acres are available in established chemical/metallurgical industrial parks such as Bécancour, Lévis, Salaberry-de-Valleyfield, Greater Montréal and Shawinigan
- Sites with access to substantial amounts of electricity, natural gas, water and are close to major transportation infrastructures such as highways, rail and ports
- IQ and HQ can provide you assistance during your site research process (greenfield and brownfield)



* Several sites identified : Montréal-Est, Mirabel, Rive-Sud (Varenes, St Basile, etc.), Terrebonne, etc.
Source: Statistics Canada, special compilation based on data from Labour Force Survey, 2019.

IQI your strategic partner to set up your business in Québec

A Key Player In Québec's Growth

Investissement Québec ("IQ") is a government corporation that plays a key role in Québec's economic development by stimulating job creation and investment in every region.

Operating in all the Province's administrative regions, the Corporation supports the creation and growth of businesses of all sizes with **investments** and **customized financial solutions**. It also assists businesses by providing **consulting services** and other support measures, including technological assistance.

Thanks to its range of financial solutions, IQ can support businesses of all sizes at every stage of their development.



Close to 1,000 employees



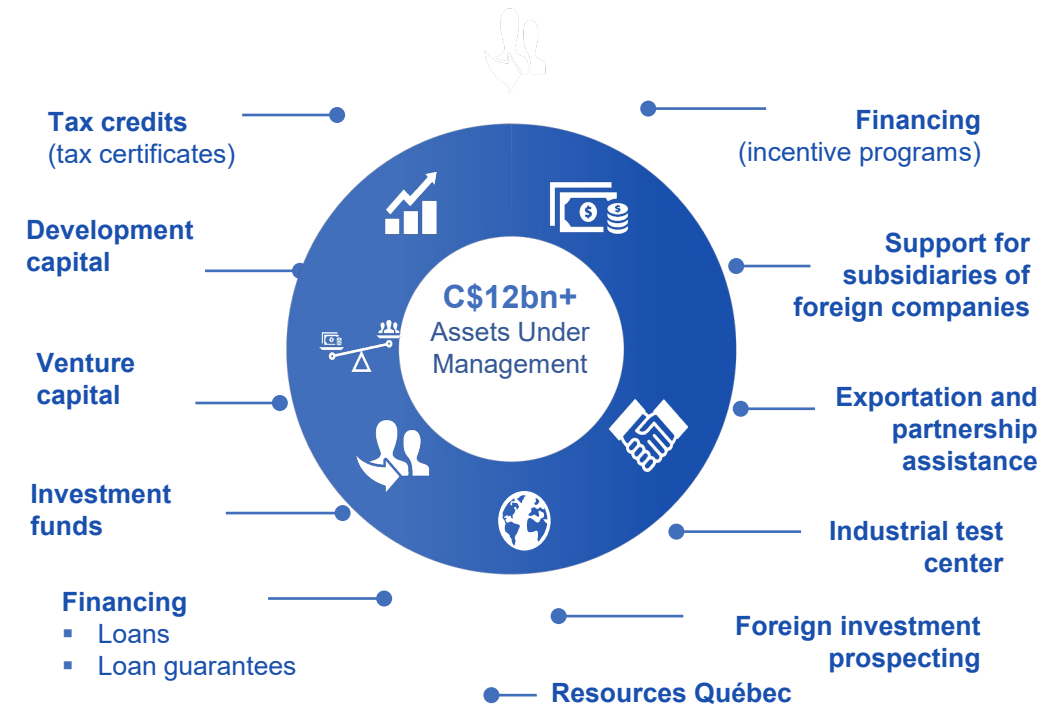
30 offices in Québec



33 offices abroad

Québec's Financial Arm and Economic Development Agency

IQ's services are complete and diversified: it offers financing, investment, prospecting, support and fund management services. It also acts as an agent of the Québec government.





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