

# Green battery production. It's all powered by Québec.

For a stable and secure supply  
from North America to the world





# Québec located strategically within the North American EV market

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**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**

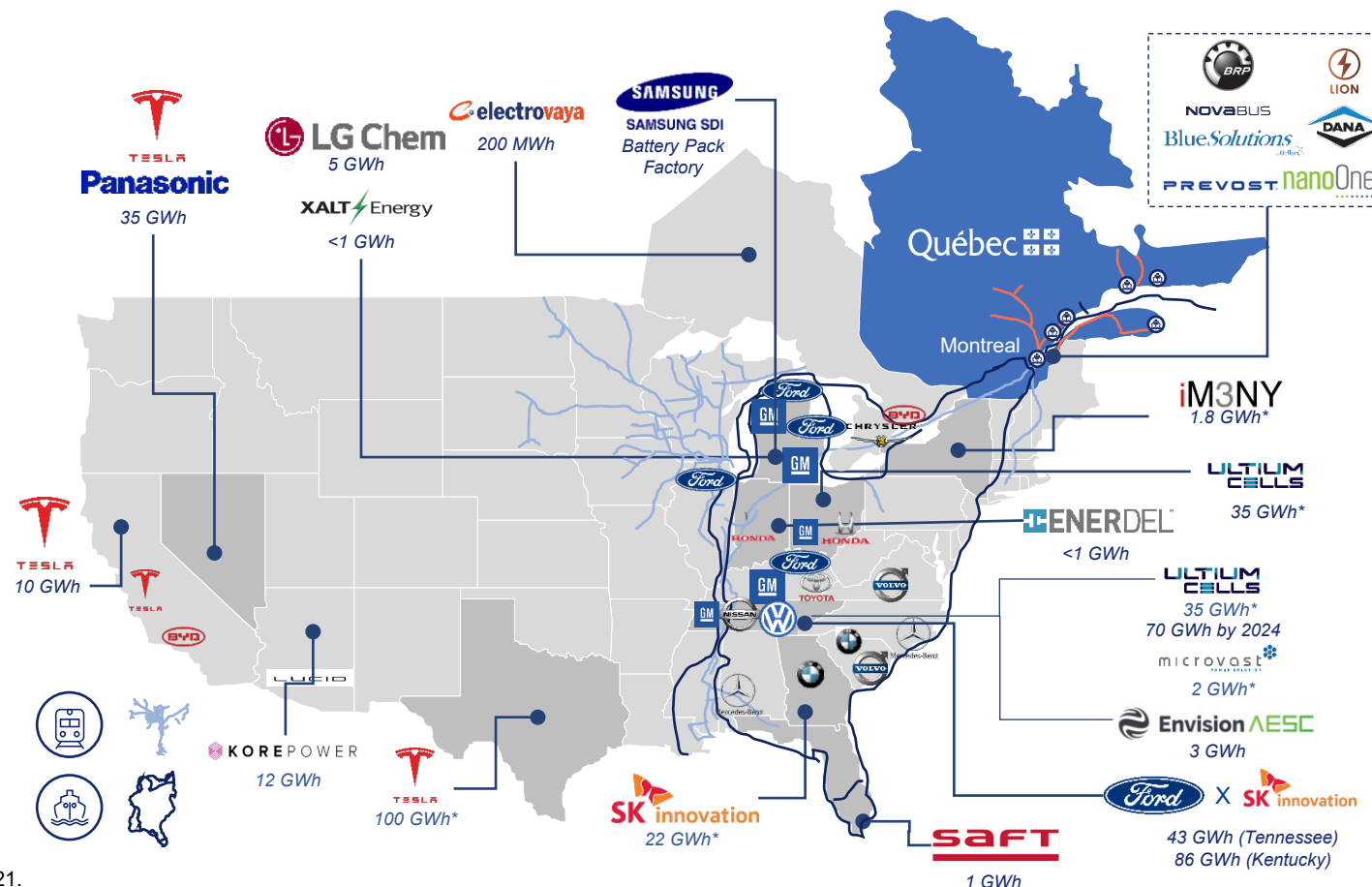
**Proximity to “Auto Alley” rail links and ~65% of North America’s cell manufacturing capacity**

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

\* Announced Capacity.

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

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



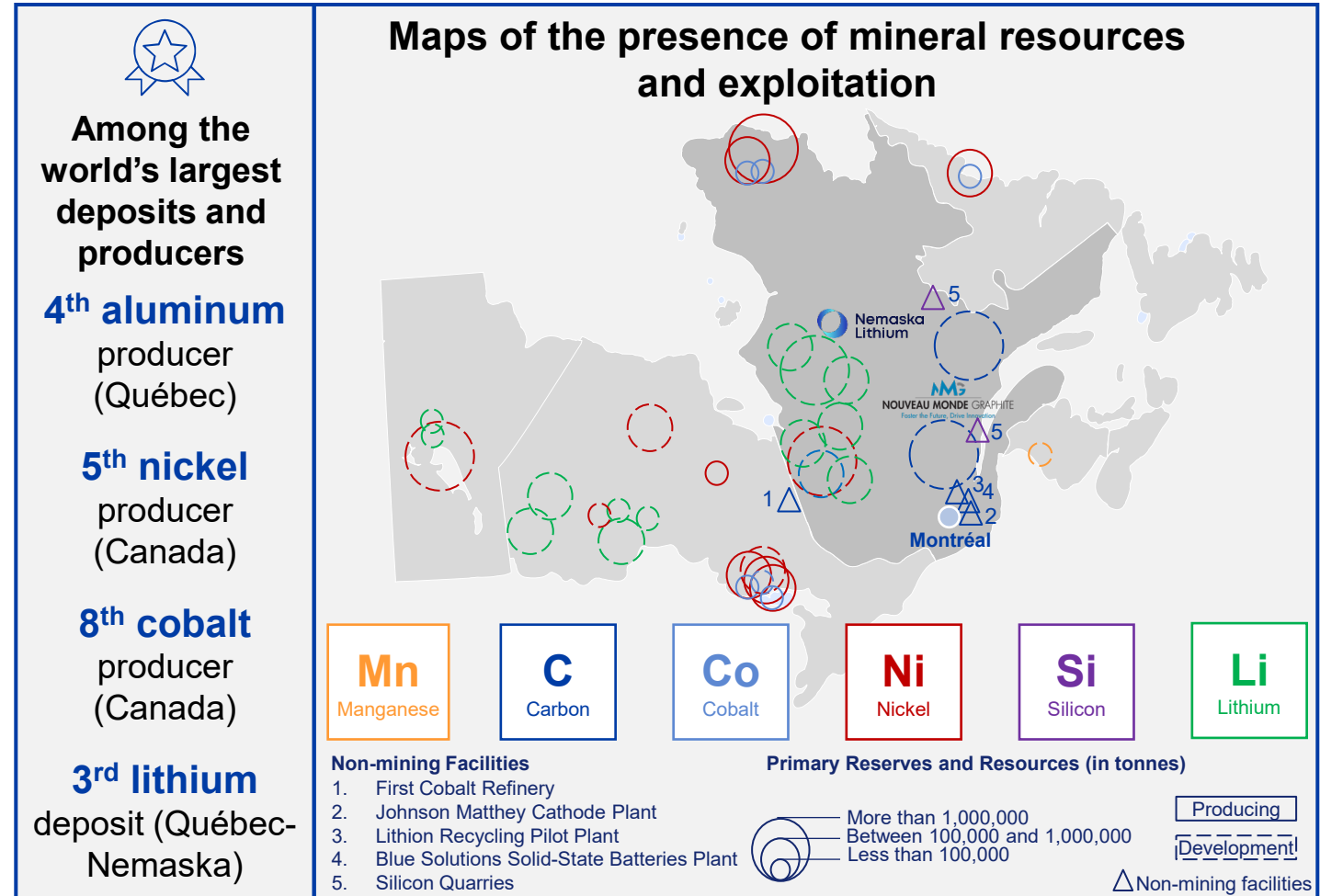
# All key mineral resources for battery manufacturing can be mined locally

## 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

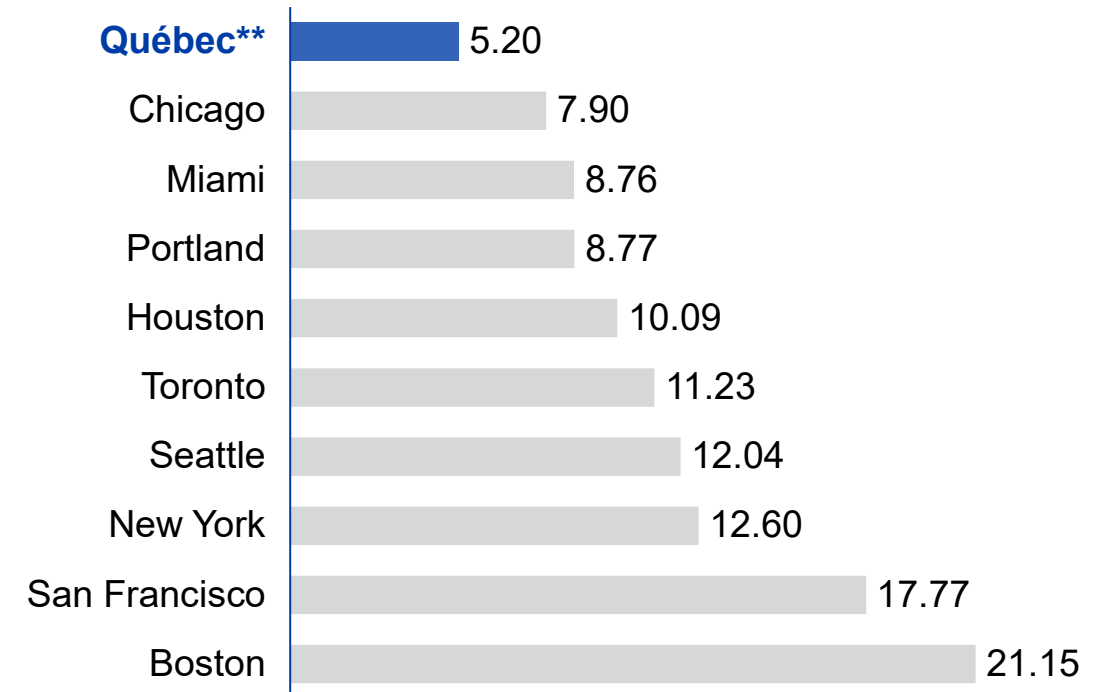


**No. 1 in North America for the lowest and most stable rates** for large power consumers

- 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

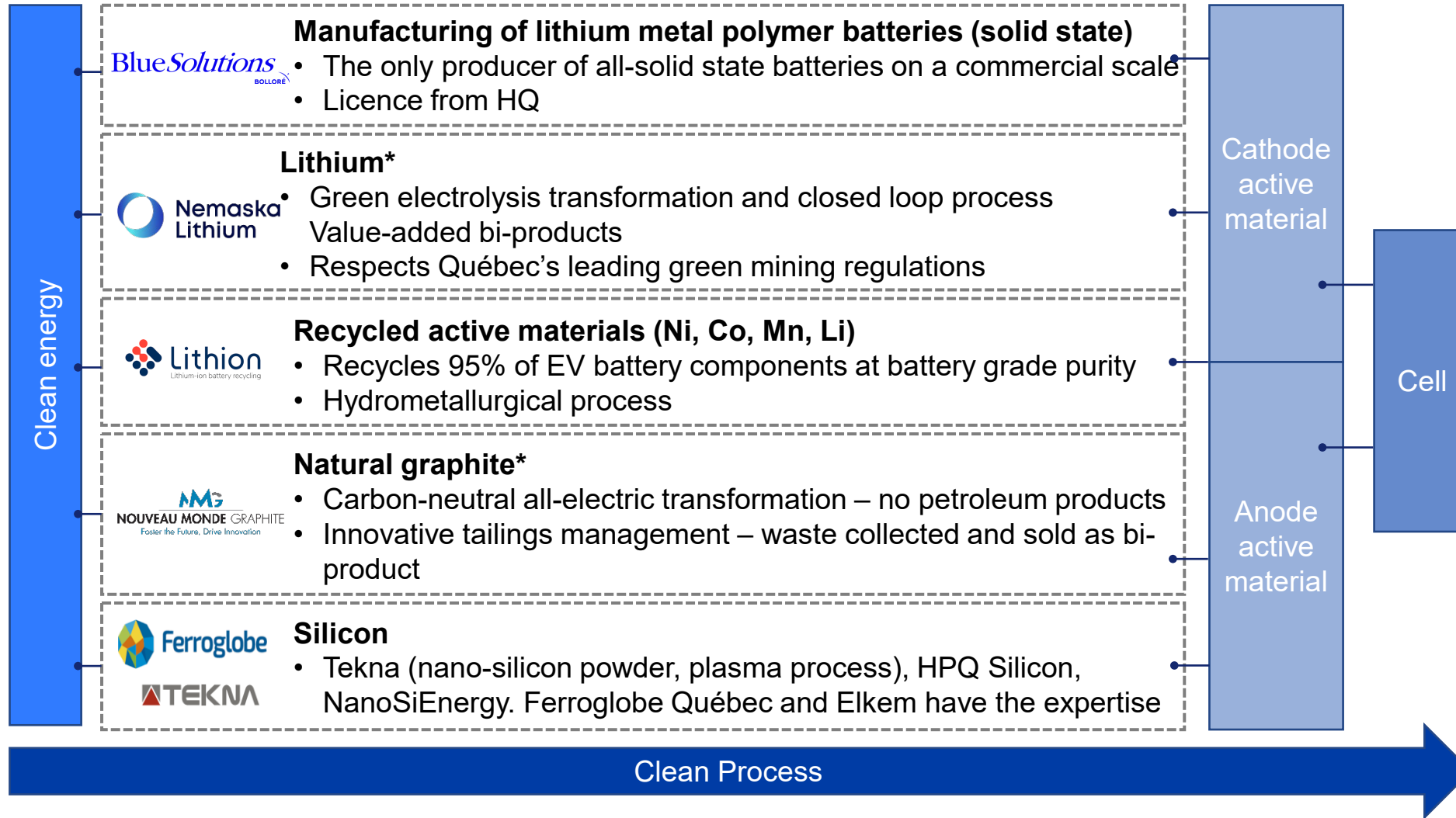


\* According to Hydro-Québec's estimate based on 3,060,000 kWh of usage, 5,000 kW of power and a 85% load factor.

\*\* 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



## Traceability is key

- Québec's goal is to become the **1<sup>st</sup> location in North America to provide traceability for green batteries**
- Québec is home to OPTEL Group, a leading global provider of traceability systems, and many more!



\* 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.

# 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!

# What is Québec's battery strategy?

- Low carbon, stable and renewable energy
- Among the lowest energy costs in the world
- Significant critical and strategic mineral (CSM) resources and flagship projects under development
- Environmentally friendly refining processes
- Leading R&D ecosystem
- Leading scientific expertise in the battery sector (many major patents)
- Skilled, educated and bilingual workforce
- Among the lowest costs of living in North America
- Stable and secure geopolitical environment

## 1. Mineral resource development (upstream development)

- Consolidation of upstream activities (mining and refining) to supply precursors and battery component producers
- Support for technological innovation to develop clean processes

## 2. Downstream development of local production capacity for value-added battery components to supply the North American and European EV value chains

- **Key words: SAFETY, STABILITY, DURABILITY**
- Strategic partnership with a major industrial player
- Importance of stability throughout the value chain (*Global Battery Alliance* battery passport)

## 3. End-of-life battery management (circular development)

- North American collaboration based on the *hub and spoke* model
- Management processes in place for CSM “urban depots” (e.g., batteries and magnets at end of life)



# Recent major announcements in Québec



## *Solus Advanced Materials to Break Ground for Battery Copper Foil Plant in Canada in July*

**- February 2022**

- The first Korean battery copper foil producer to build a plant in North America (Granby, Québec)
- Mass production of copper foils for battery anodes at the plant is planned in the 2nd half of 2024
- The site includes a copper foil factory established in 2001 by Circuit Foil Luxembourg



## *BASF Acquires Site for North American Battery Materials and Recycling Expansion in Canada*

**- March 2022**

- Bécancour, Québec chosen for its future cathode active materials (CAM) and recycling site
- The site allows for ample space to expand up to 100 kt CAM/year with potential for fully integrated (PCAM) supply
- Project commissioning in 2025



## *GM Expands its North America-Focused EV Supply Chain with POSCO Chemical in Canada*

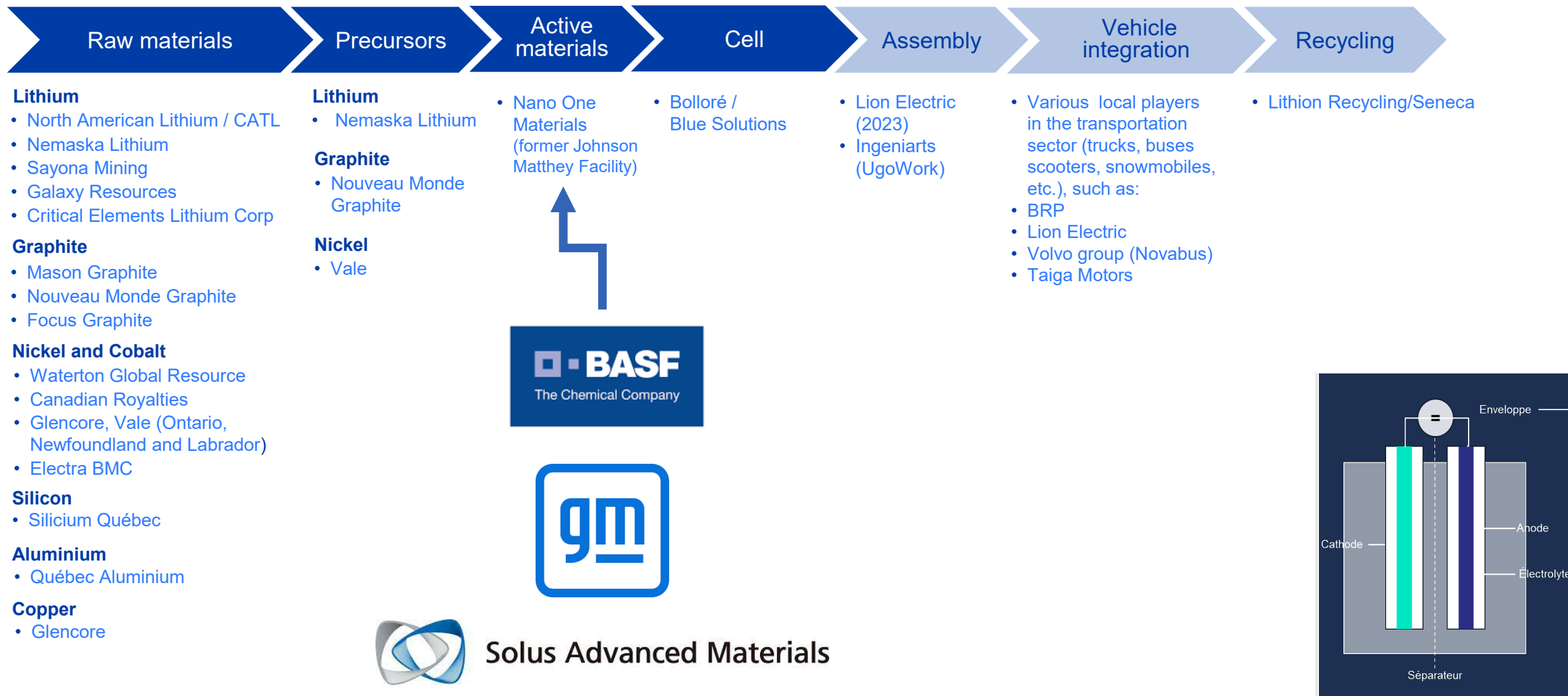
**- March 2022**

- JV between GM and POSCO Chemical to build a facility in Bécancour, Québec, estimated at US \$400M for the production of cathode active materials (CAM) for GM's Ultium batteries
- Construction begins immediately
- The site allows for future expansion opportunities

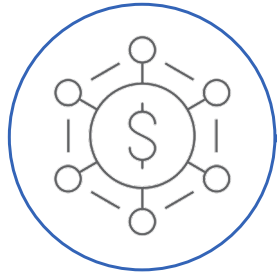
# Building a circular and Québec-based supply chain



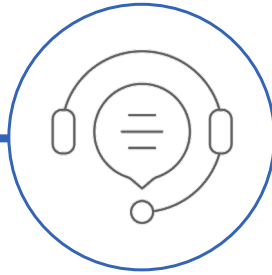
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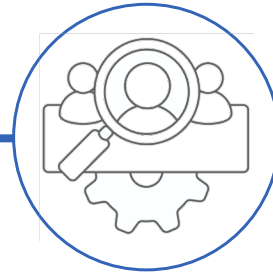
# IQI your strategic partner to set up your business in Québec



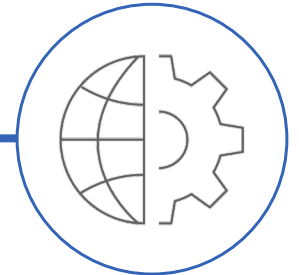
**Financing**



**Support  
Services**



**Technological  
Support**



**International**

Offices located  
across Québec's 17  
administrative regions



**Over 1,000 employees**

working to create, attract and grow businesses in Québec and global markets

# Our support services



## Business intelligence

- Information on Québec's business environment and strategic industries
- Comparative data on operating costs



## Site prospecting

- According to stringent criteria
- Regional teams covering the entire province



## Financing

- Financing solutions
- Government incentive programs



## Business network

- Contact with qualified business partners
- Access to government agencies



## Local sourcing

- Identification and qualification of local suppliers



## Manufacturing technology support

- 100+ engineers and technical experts
- Topics: productivity; digital transformation; environmental performance; product innovation and conformity



## Export assistance

- Market validation
- Networking with foreign partners and clients



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