

Electra Battery Materials

SUPPORTING THE ONSHORE OF
NORTH AMERICA'S BATTERY SUPPLY CHAIN

April 2024

Forward looking statements

This presentation includes certain “forward-looking information” within the meaning of Canadian securities legislation and “forward-looking statements” within the meaning of U.S. securities legislation (collectively “forward-looking statements”). Forward-looking statements include, without limitation, possible events, trends and opportunities and statements, including with respect to the state of the cobalt market, global market conditions, the proposed development of the Electra Battery Materials Park, the processing of raw material feedstocks, the ability to secure financing, results of exploration activities, potential acquisitions, operations outlook, capital expenditures and allocation, statements of intention with respect to Electra’s business and operations, successful development of assets, currency fluctuations, government policy and regulation and environmental regulation. In particular, forward-looking statements included in this presentation includes, without limitation, the opportunity to restart the Electra refinery and targeted metrics, anticipated recovery and earnings levels. Generally, forward-looking statements can be identified by the use of forward-looking terminology such as “plans”, “expects” or “does not expect”, “is expected”, “budget”, “scheduled”, “estimates”, “forecasts”, “intends”, “anticipates”, “believes”, “suggesting” or variations of such words or state that certain actions, events or results “may”, “could”, “would”, “might” or “will be taken”, “occur” or “be achieved”. Forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company as of the date of such statements, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking statements. Such factors include changes in supply and demand for cobalt, nickel and other battery raw materials, the results of metallurgical and engineering studies, changes in competitive pressures, growth within the industry and contributing factors thereto, timing and amount of capital expenditures, changes in capital markets, changes in foreign exchange rates and currency fluctuations, geopolitical risks and considerations, unexpected geological or environmental conditions, changes in and the effects of, government legislation, taxation and regulations and political or economic developments, success in attracting officers for the future success of the Company’s business, dependence on management and other highly skilled personnel, success in obtaining any required additional financing to advance strategic priorities, disruptions to Electra’s technology network including computer systems and software, as well as natural events such as severe weather, fires, floods and earthquakes or man-made or other disruptions of operating systems, structures or equipment, Electra’s ability to successfully integrate new technology, business and industry trends, including the success of current and future product development initiatives, risks associated with obtaining necessary licenses or permits, as well as those factors disclosed in the Company’s current Annual Information Form, as well as other public disclosure documents, available on SEDAR+ at www.sedarplus.com.

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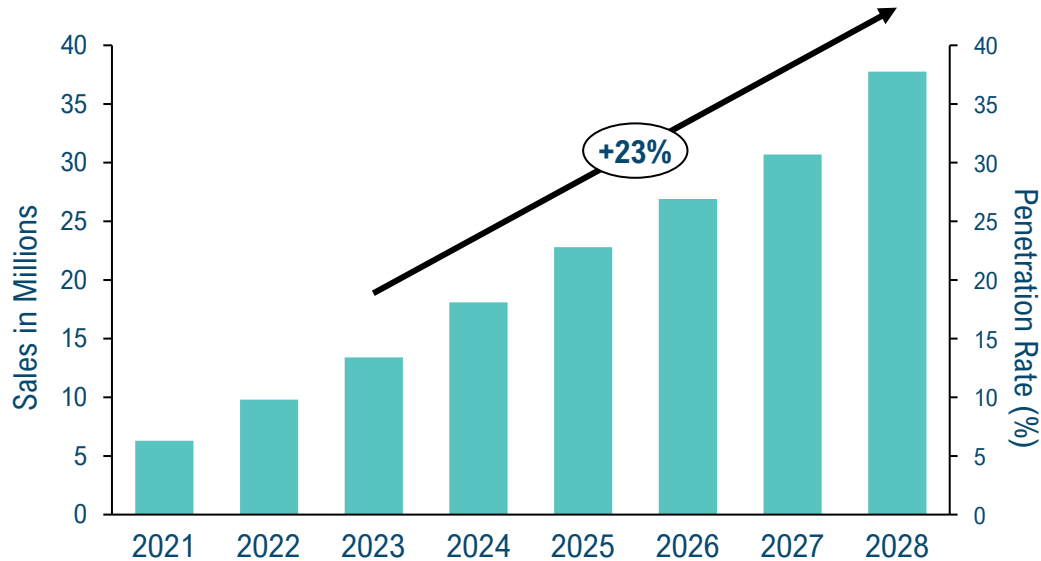
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North America must reduce reliance on processing from China

Electrification and the net-zero transition are driving increasing demand for battery materials

- China dominates processing of EV battery materials*
- Governments are looking to reduce the geopolitical risks by supporting development of domestic supply chains
- U.S. Inflation Reduction Act will prohibit EVs from containing any critical minerals sourced from China and Russia to qualify for US\$7,500 vehicle credit
- Electra is uniquely positioned to build **North America's first** fully integrated, localized and environmentally sustainable battery materials park

EV sales outlook remains bullish

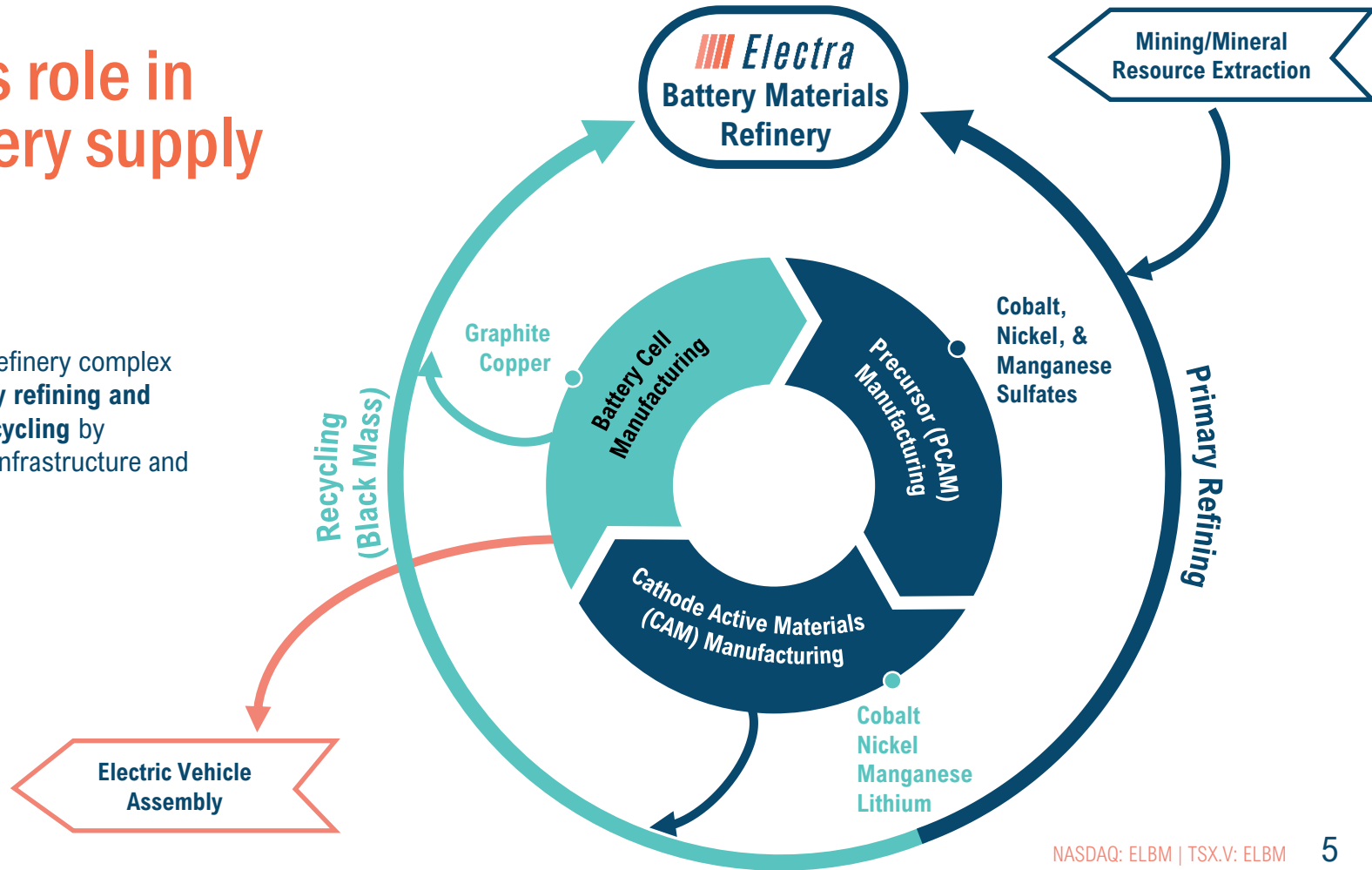


- Annual growth rate of 23% expected over next 5 years
- Penetration rate of EVs to all cars sold is expected to nearly 40% by 2028
- Growth is being accelerated by:
 - Government policies and incentives
 - Consumer demand
 - Shift in supply by OEMs

Growth of EV sales is driving demand for critical minerals

Electra's role in the battery supply chain

Electra's Canadian refinery complex can **support primary refining and battery material recycling** by leveraging existing infrastructure and equipment.



Staged development plan to grow with the battery market



Phase 1
[Ontario]

Battery grade cobalt sulfate refinery
5.0ktpa cobalt contained in sulfate

Phase 2
[Ontario]

Battery grade cobalt sulfate refinery
+1.5ktpa cobalt contained in sulfate

Phase 3
[Ontario]

Lithium-ion battery hydrometallurgical recycling plant
2.5ktpa+ black mass processing capacity

Phase 4
[Quebec]

Battery grade cobalt sulfate (metal dissolution)
2.0ktpa cobalt contained in sulfate

[Idaho]

Copper-cobalt mine
3.0ktpa cobalt contained, 6.5ktpa copper contained

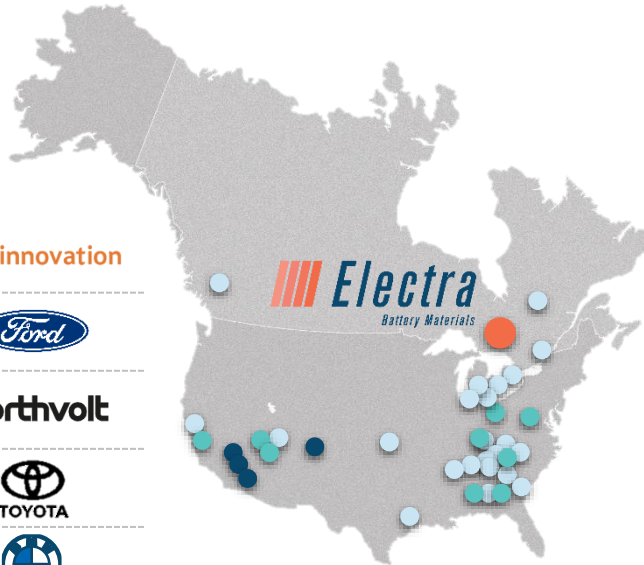
[Canada/US]

Battery grade nickel sulfate refinery
20ktpa+ nickel contained in sulfate

Onshoring North American EV Battery Supply Chain

Strategically located in North America

Battery pipeline of >1 TWh, sufficient to supply more than **15 million** full-battery electric vehicles per year¹



- Existing cell plant
- Future cell plant
- Pilot cell plant
- Electra Battery Materials Park

	Electra	China
Distance to USA ²	1,350 km	13,250 km
Distance to Europe ³	6,100 km	19,500 km

- North America has recognized need to onshore capacity to support electrification
- Electra's Refinery is the only hydrometallurgical facility of its kind in North America
- Allows EVs to maintain eligibility for US\$7,500 IRA vehicle credit
- Additional optionality for future development with first mover advantage

Leadership team

Management



Trent Mell
Founder & CEO



Mark Trevisiol
P.Eng
Vice President,
Project Development



David Allen
CFO



Michael Insulán
PhD
Vice President,
Commercial



Heather Smiles
Vice President, Investor
Relations & Corporate
Development



Dr. George Puvvada
P.Eng., PMP, PhD
Vice President,
Metallurgy and
Technology

Directors



John Pollesel
Chairman
CEO,
Boreal Agrominerals Inc



Trent Mell
Director
Founder & CEO,
Electra



Gov. Butch Otter
Director
Retired, Governor of
Idaho ('07-'19)



Susan Uthayakumar
Director
MD, Chief Energy and
Sustainability Officer,
Prologis

Cobalt Sulfate Refinery

NORTH AMERICA'S FIRST COBALT
SULFATE REFINERY



The image shows an aerial view of the Electra Battery Materials Cobalt Sulfate Refinery. The facility consists of several large industrial buildings with grey roofs and blue walls. One building prominently displays the Electra logo. The site is surrounded by paved areas, parking lots with several vehicles, and some greenery. In the top right corner, the Electra Battery Materials logo is overlaid on the image.

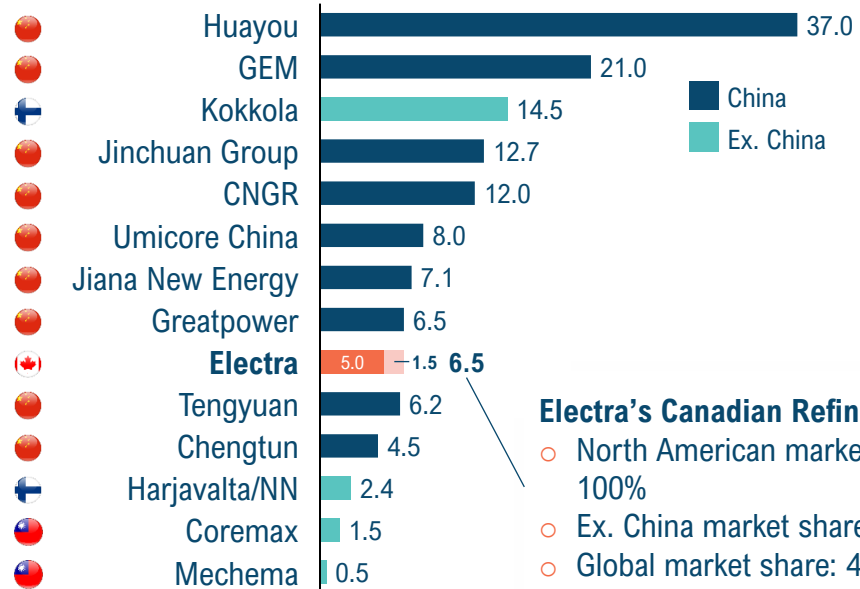
Electra
Battery Materials

Right time, right asset

Onshoring of EV materials is of critical importance in North America

- U.S. Inflation Reduction Act disqualifies Chinese cobalt sulfate from US\$7,500 EV subsidies
- China dominates processing of EV battery materials, with 80% market share globally of cobalt sulfate production
- Finland hosts the only significant cobalt sulfate refining outside of Asia, but most of it is consumed in Europe and not available in North America
- Electra's cobalt sulfate supply will be integral to Precursor Cathode Active Materials (PCAM) plants being constructed in North America

Global battery grade sulfate capacity, 2023 (kt Co)



The first of its kind

Existing refinery, infrastructure and permits

- Hydrometallurgical facility with an operating history of producing cobalt carbonate and nickel carbonate, and only facility of its kind in North America in construction to supply the electric vehicle market with cobalt sulphate
- Located in Ontario, Canada; a location with exceptional infrastructure and labour force in place
- Technically derisked with successful flowsheet testing and proven construction engineering and technology solutions
- Modular design to grow with the EV market
- Fully permitted site and well-equipped for expansion
- 51% lower GHGs than Chinese peers, in part owing to



Development well underway

Strong progress over the past 24 months

USD 200M
replacement value

USD 60M
to complete

600+ acres
of land

100+ years
asset life






Plans for 30% capacity increase in Year 3 with minimal capital expenditure

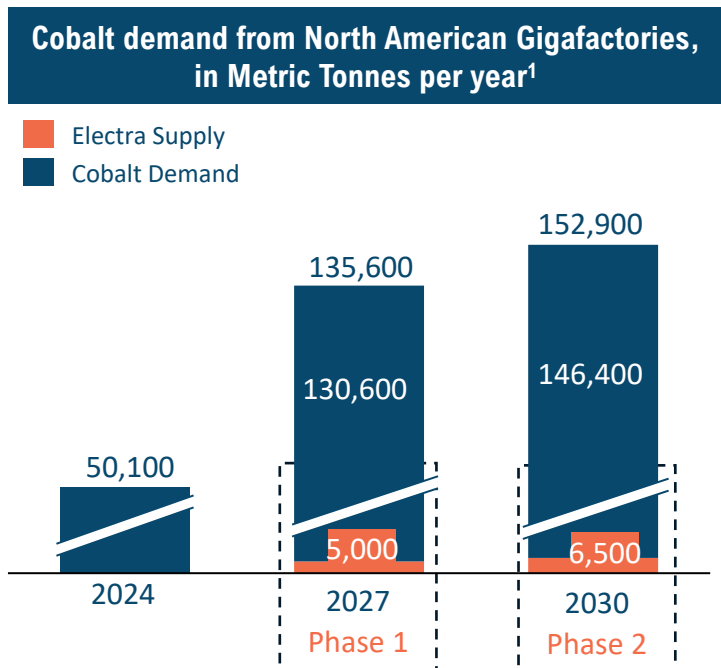
- Plant to be commissioned for 5,000t cobalt
- Crystallizer circuit has been sized to 6,500t cobalt to remove future bottleneck
- Site currently permitted to produce 5,100t cobalt contained in sulfate; permit amendment required for expansion
- Additional 1,500t could generate an additional US\$32.5M* per annum in revenue



Permit amendments to increase production to 6.5ktpa expected to take approximately 12 months

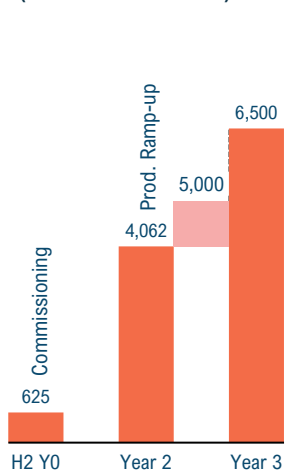
Expansion plans supported by demand projections

	Location	Material	Start-up	Distance from Electra
	Loyalist, Ontario	PCAM/CAM	2025	600km
	Saint-Basile-le-Grand, Quebec	PCAM/CAM	2025	750km
	South Sarnia, Ontario	PCAM	Operating	750km
	Bécancour, Quebec	CAM (PCAM planned)	2024	850km
	Bécancour, Quebec	CAM	2026	850km
	Bécancour, Quebec	CAM	2025	850km

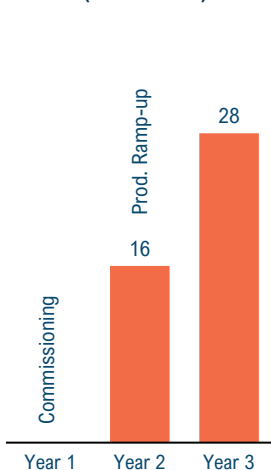


Cobalt Sulfate Plant – Production and EBITDA Profile^{1,2}

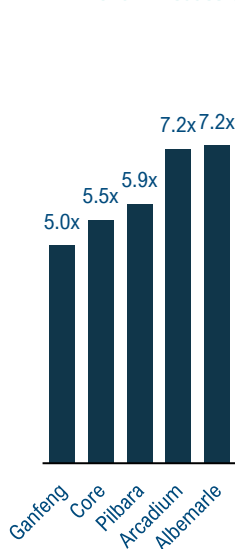
Production
(cobalt in metric tonnes)



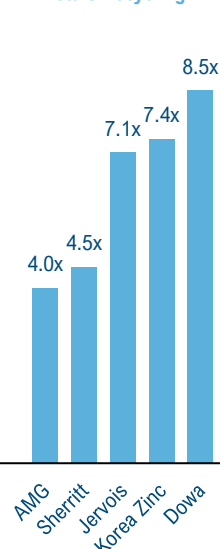
EBITDA
(USD millions)



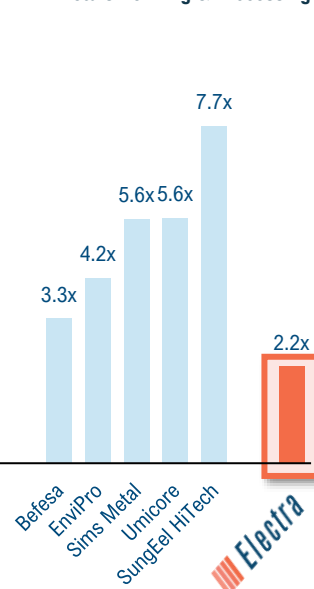
Lithium Producers



Metals Recycling



Metals Refining & Processing



Key Assumptions

100% Toll Agreement

Excludes corporate G&A
(Stand-Alone Asset Assumption)

2% annual inflation target rate
applied to all revenue and cost
line items

Operating costs and recoveries in
line with internal technical
estimates (commercially
sensitive)⁴

¹ Bloomberg street consensus estimates; based on 2026E EBITDA, and 2025E EBITDA where 2026E figures are unavailable

² Commissioning in year 1 following completion of construction, with ramp up to 5,000 tpa run rate by year 2-3 and 6,500 tpa run rate in year 3.

³ Electra's forward multiple based on management year 3 estimated EBITDA, reflecting when run-rate operations are expected to be achieved

⁴ Refer to the Forward-Looking Statements slide for additional commentary on operating cost and recovery assumptions.

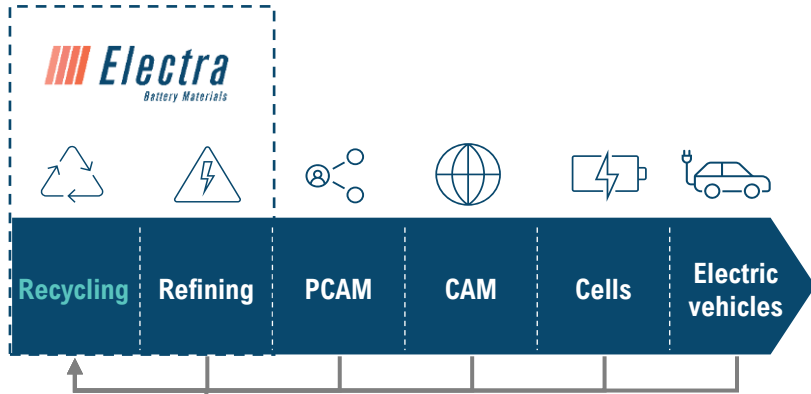
Battery Recycling

OPERATING PLANT SCALE REFINERY ON A DEMONSTRATION
BASIS SINCE JANUARY 2023

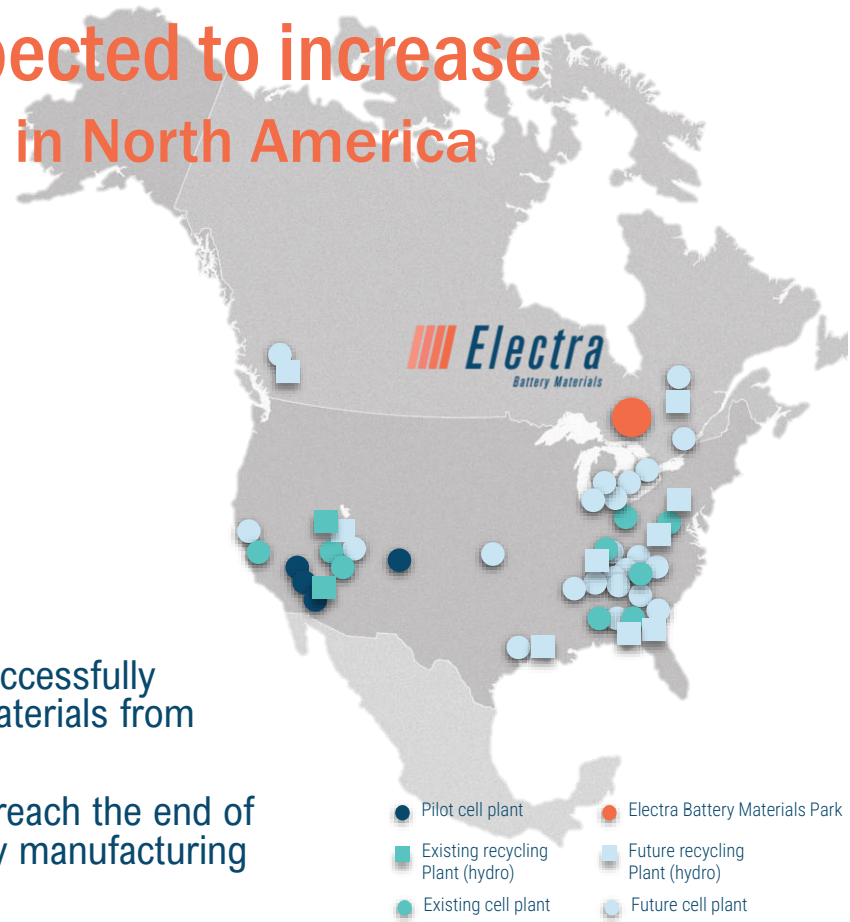


Supply of recycled material expected to increase

Electra positioned to close the loop in North America



- Year-long demonstration process has successfully proven capable of producing saleable materials from Black Mass
- Black Mass is produced when batteries reach the end of their useful life, or as waste from battery manufacturing process



Successful separation of Black Mass

~95% of value

Nickel and cobalt in MHP



Lithium carbonate



~35% of volume

Graphite



First recovery of nickel-cobalt MHP and lithium carbonate through hydrometallurgical route in North America

Black mass commercial scale demonstration plant



Recovery of lithium, nickel, cobalt, manganese, and graphite



Demonstration plant operated throughout 2023 using existing facilities and equipment



Currently optimizing go-forward strategy for recycling facility commercialization



Hydrometallurgical process and hydroelectric power ensures low GHG emissions

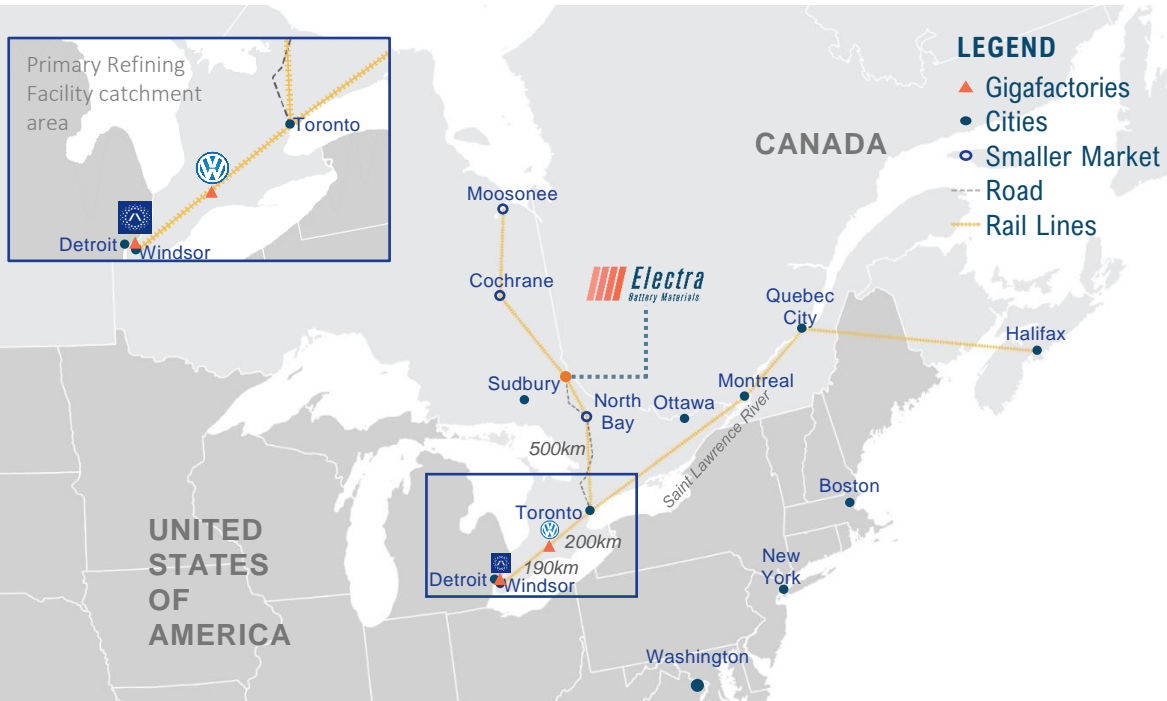


Engineering work completed by Hatch and metallurgical work by SGS Lakefield



First-of-its-kind commercial scale hydrometallurgical demonstration plant in North America

Electra pre-processing strategy



- First wave of battery scrap will come from cell plants and manufacturing
- Electra seeks to partner with some of these North American facilities to create a closed loop
- Electra announced joint-venture plans with Three Fires Group (TFG) in May 2023, focused on the recycling of battery waste in Ontario
- TFG is a First Nations-owned investment group focused on generating wealth for its members
- Planned Stellantis/LGES and VW/PowerCo battery plants sit on traditional lands of Three Fires' First Nations shareholders
- Launched 'north-south' business alliance to create linkage between raw materials in Northern Ontario and EV manufacturers in the south

Future Pipelines

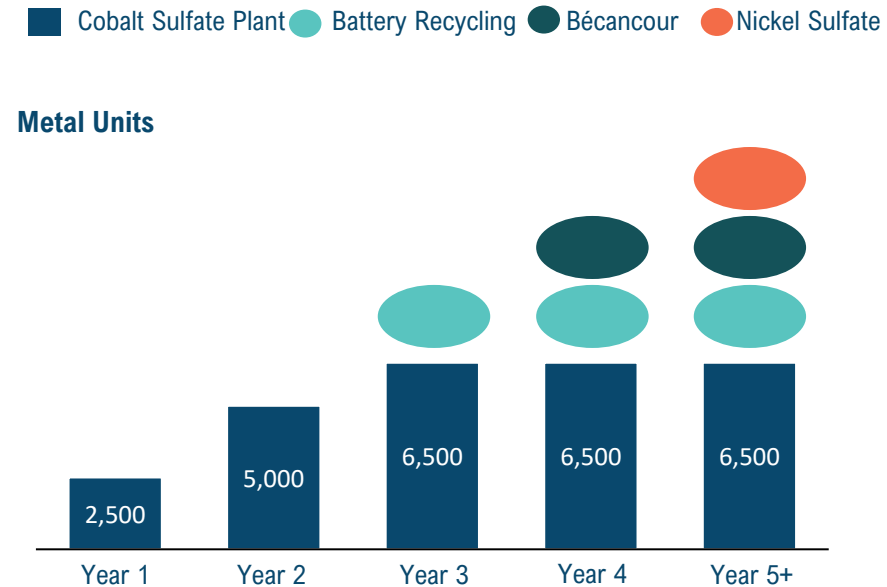
POSITIONED AND PREPARED TO GROW ALONGSIDE
BATTERY MATERIALS SECTOR



Production optionality

As market expands, Electra can grow in conjunction

- Battery Grade Cobalt Sulfate planned for initial commercial production
 - LGES offtake agreement providing steady source of revenue
- Recycling underpinned by lack of domestic refining capacity to support battery manufacturing plants
 - Hydrometallurgical refining of Black Mass is superior to pyrometallurgy due to higher yields, significantly lower energy intensity and lower GHG emissions
- Battery Grade Nickel Sulfate - Large nickel endowment but no battery grade nickel refining in North America



Bécancour cobalt sulfate refinery opportunity

Co-locating with precursor makers in Quebec

Electra in Bécancour

- Strategic location - allocated site next to Vale's nickel sulfate plant (also metal dissolution)
- GM, POSCO, Ford, and others are building facilities in “battery valley”
- Government support, with strong relationship with Investment Quebec
- Electra uniquely positioned to build this refining capacity
- Targeting Phase I metal dissolution line of up to 2,000tpa cobalt contained in sulfate, with Phase II of 5-10ktpa
- Attractive economics of processing with Electra, including cost savings through direct integration with POSCO facility

Core Strategic Benefits

- Refining capacity secured in a friendly jurisdiction
- 100% hydroelectric electricity supply
- Supplemental supply from Electra's Ontario site in case of Bécancour bottleneck





Nickel sulfate opportunity

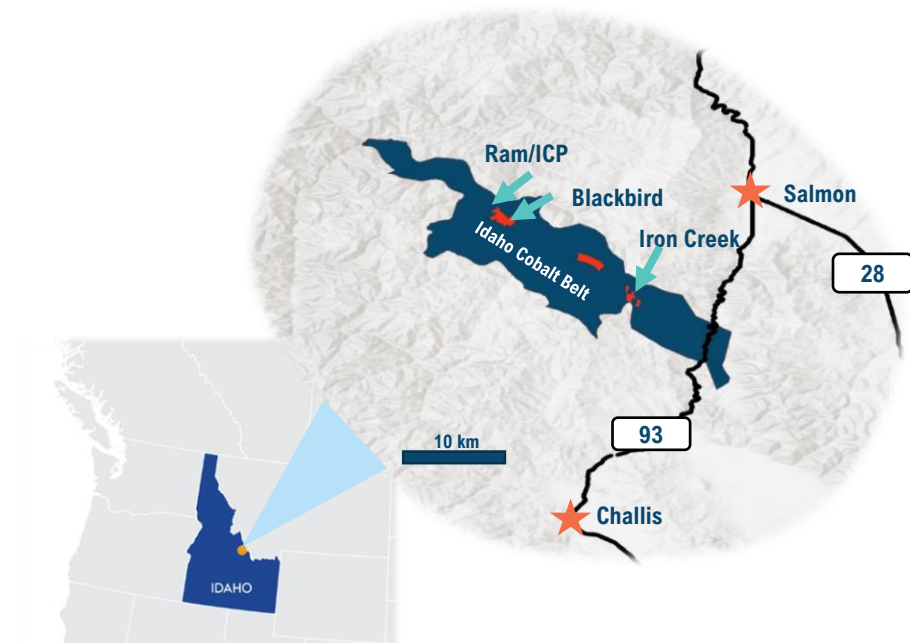
- Nickel is the most abundant mineral in NCM and NCA cathodes
- There are no nickel sulfate refineries in North America today
- Glencore and Talon Metals Corp collaborated with Electra on government-sponsored nickel sulfate refining scoping study
- Three nickel source options developed derive CAPEX and OPEX estimates for the facility and under the following conditions
 - (1) Battery grade nickel sulfate plant without a PCAM production facility
 - (2) Battery grade nickel sulfate plant with integrated PCAM production facility
- Work was undertaken to quantify GHG estimates to allow for comparisons against internationally recognized benchmarks

Idaho cobalt belt

Iron Creek Copper-Cobalt mine

Largest unmined cobalt resource in the U.S. (USGS 2017)

- America's best opportunity to reduce reliance of DRC and China for cobalt supply
- High grade deposits amenable to underground mining with a minimal environmental footprint
- 53Mlbs of Cu and 14Mlbs of Co produced historically
- Many prospects and targets in the 80km x 20km belt which have seen minimal modern exploration



Iron Creek						
Category ¹	Tonnes	Cobalt (%)	Cobalt (Mlbs)	Copper (%)	Copper (Mlbs)	NSR Value (US\$)
Indicated	4,451,000	0.19	18.4	0.73	71.5	\$123.65
Inferred	1,231,000	0.08	2.1	1.34	36.5	\$118.48

Electra's total land package in Idaho covers 32.6 km²

ESG Credentials

ELECTRA IS SECOND TO NONE



Low environmental footprint



We take a proactive, risk-based approach to environmental management, with robust measures that help ensure we minimize our environmental impact, while ensuring the viability of the environment for future generations. In line with our overall approach to responsible mining, the 'zero harm' principle will guide our approach to environmental management

Life Cycle Assessment, Cobalt Refinery

51%

lower CO₂ emissions¹

73%

lower water consumption¹

30%

lower eutrophication potential¹

Removes ~1,500,000²

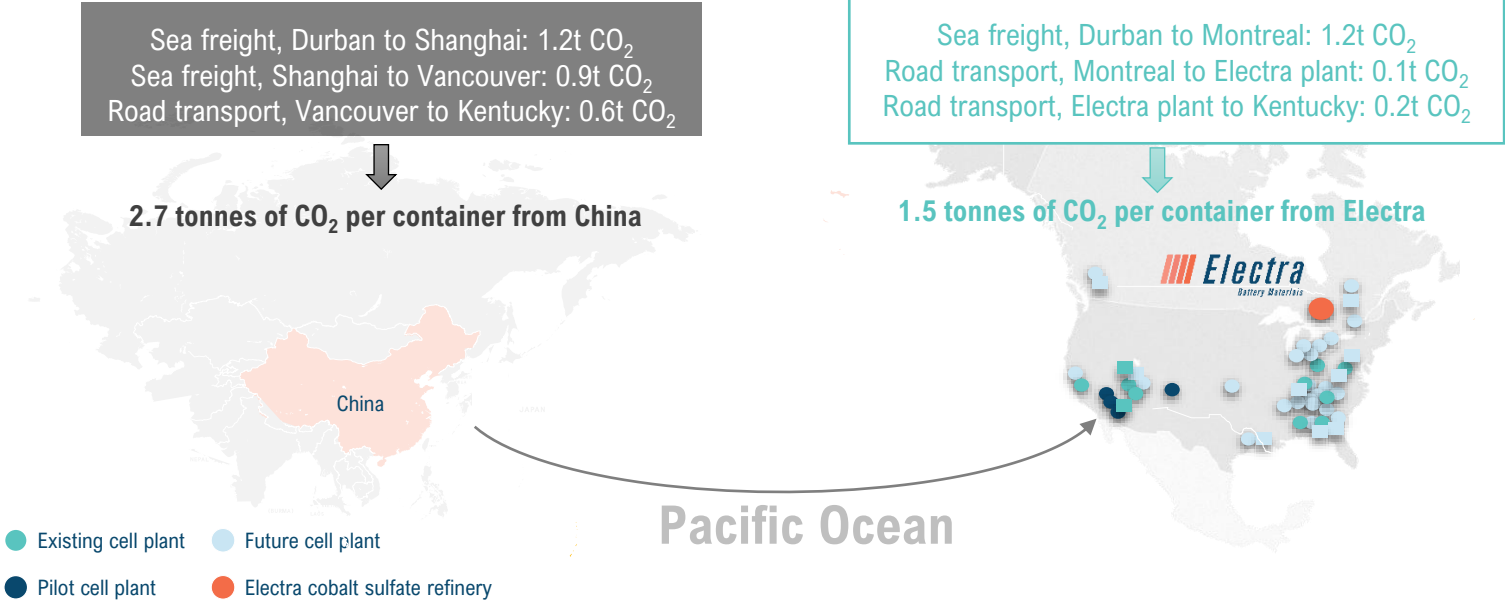
combustion engines from the road every year¹

CO₂ reduction of

3m tonnes/year¹

ESG advantage in North America

Electra's refinery has 40% lower CO₂ freight emissions compared to shipments from China



Strong governance and social responsibility



Community Relations

- Our goal is to be a catalyst for local community and economic development
- We strive to provide regional economic opportunities, local employment, local procurement opportunities, infrastructure availability, and tax revenues for service implementation



Health & Safety

- Our approach to health and safety is guided by the 'zero harm' principle, where every employee goes home safely each and every day. We will work to embed a strong safety culture into all our operations

Environmental, Social & Governance



Electra tree planting initiative (Ontario, Canada)



Wild Basket Initiative (Plant Study): Timiskaming First Nation and Electra Team (Ontario, Canada)



Electra Battery Materials

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TSX-V: ELBM

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