# North American Security of Critical Metals Supply



December 2024







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#### **Historical Information**

The information in this presentation has been reviewed and approved by Dr. Scott Jobin-Bevans, P.Geo., who is a Qualified Person for the Company under the definitions established by National Instrument 43-101 ("NI 43-101"). Historical mineral resources for the Langmuir Nickel Property were estimated by SRK Consulting (Canada) Inc., as documented in a report entitled, "Golden Chalice Resources Inc., Mineral Resource Evaluation, Langmuir W4 Project, Ontario, Canada", dated June 28, 2010 (the "Historical Report"). A qualified person, as defined by NI 43-101, has not done sufficient work to verify the historical assay results and technical information reported herein. The Company is not treating the Historical report as current. The reader is cautioned not to rely upon any of the historical report, or the estimates therein. The historical estimates are presented herein as geological information only, as a guide to follow-up technical work, and for targeting of confirmation and exploration drilling. The Issuer is not using the Historical Report and any historical estimate therein in an economic analysis or as the basis for a production decision, and will not be adding on or building on the historical estimate or adding the historical estimate to current mineral resource or mineral reserve estimates.

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# **EV Nickel: North America Security of Supply**



# We believe our resource represents an on-shoring, friendshoring, clean and reliable source of critical metals to ensure the security of supply to our North American supply chain

#### **US Department of Defense**

"The DoD defines strategic and critical materials as those needed to support a military and essential civilian industry, but that are not available or produced in the U.S. in sufficient quantities to meet our needs. U.S. reliance on foreign sources of chemicals and solid materials increases risk to critical DoD munitions. The concentration in China of global supply chains for strategic and critical materials creates risk of disruption and of politicized trade practices."

### **US Department of Commerce**

"Our over-reliance on adversarial nations for supply of critical metals, the projected increase in demand by 400-600 percent for such metals, and the essential function they play in our nation's defense and commerce create significant consequences to the economy and the nation's security."



## **EV Nickel Highlights**





One of the Largest Nickel Deposits in the World: 1Bt + at CarLang A Zone alone

Recent drilling indicate higher grades, magmatic sulfides, heazlewoodite (CarLang C / Gemini North Zone)

**Potential 5Bt across the CarLang Project** 



Deposit is at surface, within 30km of Timmins, Ontario and 1,000km to Detroit

Full infrastructure, labour, and mining-friendly



High grade deposits, multiple targets identified to increase resource



North American Security of Supply for defense, auto / EV and Electrification, manufacturing and other applications

**North-South Vertical Integration** 



No Debt, well funded

**Strong Shareholders** 



Clean reliable source of Critical Metal



## **EV Nickel: Three Businesses with Optionality in the Portfolio**





### Two scalable high-quality nickel assets in mining friendly Timmins Ontario

CarLang: One of the Largest Nickel Deposits in the world

- CarLang A Zone = 1Bt resources with >10km contiguous strike
- CarLang C Zone (Gemini Zone) = Potential for meaningful higher grades and better recoveries (magmatic sulfides; millerite; heazlewoodite)
- At surface; excellent infrastructure with road access
- Potential to grow CarLang trend to 5Bt across 5 areas

W4 High-Grade Mineralization:

- Several high-grade pods, with potential for 10Mt+ at 1%+ (5x current, with several additional potential)
- At surface; excellent infrastructure with road access

<b>♯</b> EV Nickel	CURRENT	POTENTIAL	Estimated Future Nickel Production	
High Grade Mineralization	<b>W4 Zone-</b> 2M+ tonnes @ 0.98% Ni	10 m tonnes at 1%+	~5,000 to 10,000 tonnes per year of nickel in concentrate	
Large Scale At Surface	CarLang A Zone- 1B tonnes @ 0.24% Ni	5 B tonnes at ≥0.24%	~40,000 tonnes per year of nickel in concentrate	
Clean Nickel Processing	Bioleaching- >90% extraction in 7 days  Carbon Capture- captured ~40 kg CO <sub>2</sub> per ton of tailings	Bioleaching- produce pre-CAMs, direct to Battery Plants Carbon Capture- add'l potential business	BY-Pass Smelting	



lean nickel process / bioleaching

### **Nickel Applications**



#### **MILITARY AND AEROSPACE**

- Missile Components
- Stealth Coatings
- Anti-aircraft firearms
- Propulsion Devices

#### **INDUSTRIAL**

- Batteries for EV
- Mobile Phones
- Power Generation
- Food Processing Equipment
- Stainless Steel



#### **MEDICAL**

- Prosthetic Limbs
- Medical Implants
- MRI Machines

### Alloys

- Nickel –Titanium Alloy
- Nickel Copper Alloy
- Nickel Titanium Alloy

### **Macro Outlook**



**Current Nickel Production in Canada all subject to long term off-take** 

New demand from announced battery plants 30,000 tonnes per plant, 30 plants, 900,000 tonnes/year

USA DOD and Canada Security of Supply for the Defense of North America Supply deficit projected beginning 2028



### **Macro Themes**





Over-coming military and economic vulnerabilities of critical metals in North America



Creating independent self sufficient USA-Canada supply chain



**Existential threat to US** auto industry by China



Mitigating risks of hostile power reliance for **National Security and National Defense** 



**Trump Executive Order 13817 Strengthen America's Critical Minerals Supply Chain and Industrial Base** 



**Clean Energy Transition** 



TSXV: EVNI

# **Nickel Supply Deficit 2028**



Market balances for energy transition metals under BNEF's Economic Transition Scenario and Net Zero Scenario

Metal	Scenario	2024-2030	2031-2040	2041-2050
01 1	ETS NZS	2024		
Steel		2024		
Aluminum	ETS	2024		
Aluminum	NZS	2024		
Copper	ETS NZS	2024		
Сорреі		2024		
Lithium	ETS NZS	2025		
Littliaiii		2025		
Graphite	ETS NZS	2028		
Graprine		2026		
Nickel	ETS NZS		2030	
		2028		
Cobalt	ETS			2050
	NZS		2034	
Manganese	ETS NZS			

Source: BloombergNEF. Note: Year is the first year in which a given metal is expected to enter a supply deficit. Only primary supply is considered in this table. All supply is mined nameplate capacity, apart from that for aluminum, graphite and steel







## **American National Security and Nickel**



#### US DEPARTMENT OF DEFENSE

- DOD Weapons System DIB Program
- National Defense Stockpile Initiative
- National Defense Authorizations Act
- Loans and awards program

#### US DEPARTMENT OF COMMERCE

- Supply Chain Disruption Concerns
- Over-dependence on China
- Surge in demand projected



#### **US AIRFORCE**

- Stealth technology
- NicFkel Plating

#### **US ARMY**

**CORPORATE PRESENTATION** 

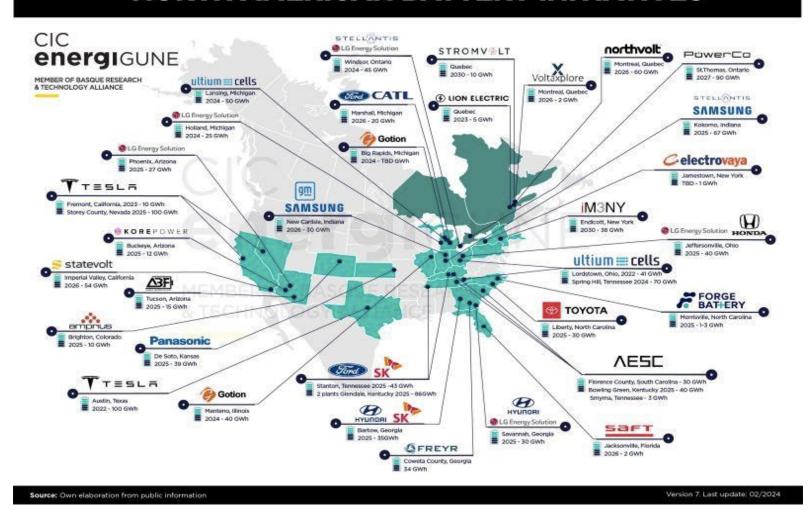
- Tank components
- Artillery components
- Weapons and firearms



# North America Battery Demand 30+ Battery Plants – 600k/T Y Demand



### **NORTH AMERICAN BATTERY INITIATIVES**





# **North America New Nickel Demand Battery Plants**



Nickel Demand<sup>1</sup>

**Current Production** 

Deficit to be filled by new production

EV Nickel Potential
Shaw Dome Production

600k

tonnes/year

180k

tonnes/year

420k

tonnes/year

50k

tonnes/year

1. Adams Intl. June 2024



# Policy and Investment: Protect North American Auto Industry





US Inflation Reduction Act – mandating on-shoring of critical metals



US and Canada EV Tariff Protections



Billions in government subsidies and investment (DOD, EDC, Provincial)



\$211 B of investment committed for battery plant build out





### **Recent Headlines**



# **Bloomberg**

EU to Impose Tariffs Up to 45% on Chinese Electric Vehicles. The decision by the EU comes after an investigation found that China unfairly subsidized its industry.

View Article



Business Canada: Chinese-made EVs are now subject to a 100% tariff.

OFFICE OF THE PARLIAMENTARY BUDGET OFFICER
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

\$28.2 billion in EV battery production subsidies: Governments to break even in 20 years, PBO estimates

View Article

View Article

### **Shaw Dome: Timmins Nickel District**

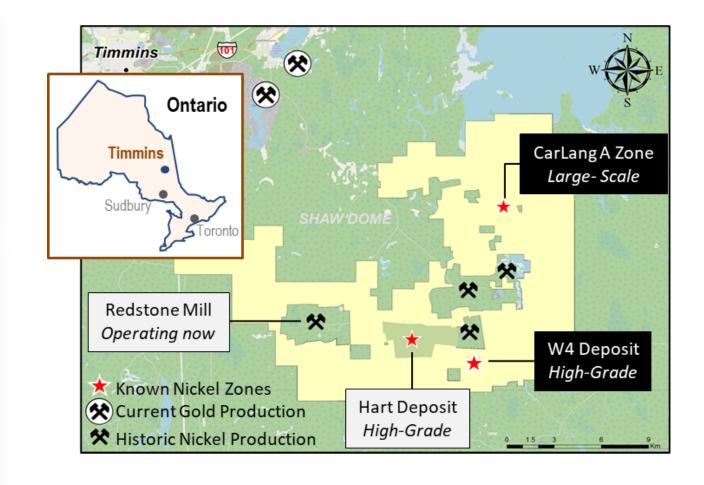


### **Timmins**

- Major Nickel Deposit, one of largest in North America
- Historic mining district, well developed services
- Served by clean hydro power, infrastructure and labour

### **Shaw Dome Project**

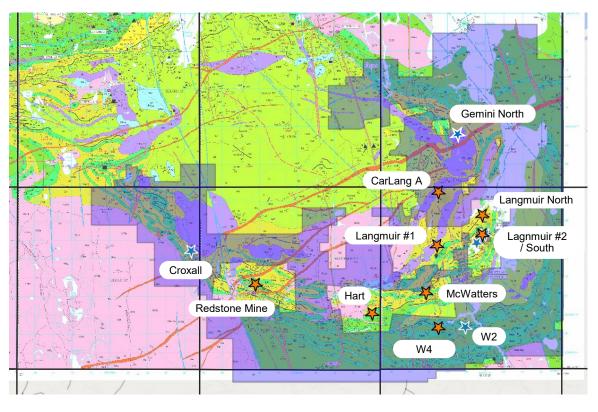
- Within 50km of Timmins
- >30K Ha of prospective geology, alongside a horizon which has hosted multiple mines and deposits
- >100km long of favourable stratigraphic contacts with basal komatiitic units



### **Shaw Dome: Current and Historical Resources**



Deposit	Owner	Status	Year	Tonnes (Mt)	NI Grade (%)	Contained NI (Kt)
High Grade						_
W4	EVNI	Resource	2023	2.01	0.98	20
Langmuir #2	EVNI	Reserve	1978	0.54	1.45	8
Hart	Other	Resource	2022	2.00	1.38	28
Redstone Mine	Other	Resource	2010	0.74	1.57	12
Langmuir #1	Other	Resource	1991	0.13	2.21	3
Langmuir North	Other	Resource	1991	0.45	1.2	5
Langmuir South	Other	Resource	1991	0.18	1.5	3
Total				6.05	1.28	78
Low Grade						
CarLang A	EVNI	Resource	2023	1,007	0.24	2,417
Langmuir North	Other	Resource	2010	8.32	0.40	33
Langmuir #1	Other	Resource	2010	1.73	0.51	9
Total				1,017	0.24	2,459



Source: Geology Ontario Geology Map of Shaw Dome after Houle et al., 2007



# **North American Nickel Junior Peer Comparison**



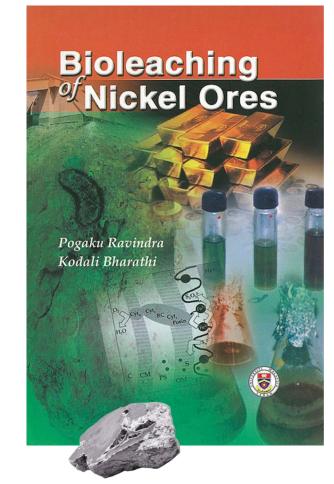
EV Nickel: Several strong aspects, including scale (large-scale CarLang and High-Grade W4), location, permitting, at surface, and a strong strategic mining investor ... a re-rate is expected as EV Nickel delivers on catalysts drill result on various targets, PEAs, on other like events

COMPANY	TICKER	MARKET CAP	PROJECT	GOOD LOCATION	LOW COMPLEXITY AND COSTS	NEARBY-BY GOOD INFRASTRUCTURE	MINING STRATEGIC INVESTOR	STRATEGIC INVESTOR	GOOD SHAREHOLDERS	GENEARL COMMENTS
EV NICKEL	EVNI-TSXV	CAD\$70	Carlang low-grade (1 Bt) + W4 high-grade (5 pods - room to grow)					N/A "FREE AGENT"		* 2 high-quality assets (LG & HG)  * Mining friendly Timmins Canada  * Good access  * NO strategic investor yet ("Free Agent")
CANADA NICKEL	CNC-TSX	CAD\$175	Crawford (1 Bt low-grade)		$\bigcirc$					* 1 Bt Crawford asset  * Mining frinedly Timmins Canada  * Challenging terraine  * Already has Samitomo (new strategic investor not likely)
FPX NICKEL	FPX-TSXV	CAD\$80	Baptiste				N/A			* Baptiste project is good * Location, permitting, and costs appear challenging * Already have Samsung (new strategic investor not likely)
TALON METALS	TLO-TSX	CAD\$80	Tamarack							* HG quality project  * Access to project good; but unlikely to be permitted (near-by park / community)  * Already have Samsung (new strategic investor not likely)
LEGEND	$\bigcirc$	) POOR	Low		MEDIUM	•	HIGH		CELLENT	

# **Bioleaching: By-Pass Smelting**



- <del>∰</del> -	Naturally occurring sulfide oxidizing bacteria
(§)	Low capital and operating cost consuming significantly (<50%) less energy than conventional methods <sup>1</sup>
	Next Step – Full Scale Pilot Plant
	Short and traceable North American supply chain
	Produces a nickel product that can be sold directly to battery plants



Source: (1) Terrafame (2024) - <a href="https://www.terrafame.com/company/strategy.html">https://www.terrafame.com/company/strategy.html</a>



# **Low Carbon Intensity: Carbon Capture**





Shaw Dome host rocks contain brucite and hydrotalcite to capture CO<sub>2</sub>



Advanced Test work with EPCM Group



# **R&D** Funding sources







Government of Canada

Gouvernement du Canada

# NRC-Industrial Research Assistance Program

The National Research Council of Canada Industrial Research Assistance Program (NRC IRAP) is Canada's leading innovation assistance program for small and medium-sized businesses.

# Scientific Research and Experimental Development (SR&ED) tax incentives

The Scientific Research and Experimental Development (SR&ED) tax incentives encourage businesses of all sizes and in all sectors to conduct research and development (R&D) in Canada. Depending on the size and type of business, SR&ED incentives are: a deduction against income and an investment tax credit (ITC) that can be non-refundable or refundable



#### **Critical Minerals Innovation Fund**

The Critical Minerals Innovation Fund (CMIF) provides funding to projects that help strengthen Ontario's critical minerals sector.

# Ontario Junior Exploration Program (general exploration)

The Ontario Junior Exploration Program (OJEP) helps junior mining companies finance early exploration projects. These projects help boost mineral exploration, growth and job creation in the province, particularly in northern and Indigenous communities.





### Why EV Nickel?





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**North-South Vertical Integration** 



Clean reliable source of Critical Metal



**Strong Shareholders** 





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