



# Strategically positioned for the global energy transition

**Refining, Recycling & Mining**  
May 2021

TSX.V: FCC | OTCQX: FTSSF



# Forward looking statements

All statements in this presentation other than statements of historical fact constitute “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995, and “forward-looking information” under similar Canadian legislation and are based on the reasonable expectations, estimates and projections of First Cobalt Corp. as of the date of this presentation. Forward-looking statements and forward-looking information 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 First Cobalt Refinery, the processing of cobalt hydroxide feedstock, the ability to secure financing, results of exploration activities, potential acquisitions, capital expenditures, successful development of assets, currency fluctuations, government policy and regulation and environmental regulation. In particular, forward-looking information included in this presentation includes, without limitation, the opportunity to restart the First Cobalt refinery and targeted metrics. Generally, forward-looking statements and forward-looking information 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”, 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 and forward-looking information 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 and forward-looking information. Such factors include changes in supply and demand for cobalt, the results of metallurgical and engineering studies, changes in competitive pressures, timing and amount of capital expenditures, changes in capital markets, changes in exchange rates, 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, success in obtaining any required additional financing to advance strategic priorities, and risks associated with obtaining necessary licenses or permits.

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Timelines used in this presentation are for the purpose of aiding management in the planning and implementation of the projects and are not based on a detailed assessment of project requirements. Consequently, the timelines are subject to material revision as subsequent technical reports and assessments are completed. Future phases of the project are contingent upon completion of preceding phases. Nothing in this presentation should be construed as either an offer to sell or a solicitation of an offer to buy or sell shares in any jurisdiction.

This presentation includes a summary of the results of a feasibility study related to the First Cobalt Refinery Project. This study does not constitute a feasibility study within the definition employed by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), as it relates to a stand-alone industrial project and does not concern a mineral project of First Cobalt. As a result, disclosure standards prescribed by National Instrument 43-101 – Standards of Disclosure for Mineral Projects (NI 43-101) are not applicable to the scientific and technical disclosure in the study and in this presentation to the extent it relates to the Refinery Project.

Dr. Frank Santaguida, P.Geol and Mark Trevisiol, P.Eng. are Qualified Persons as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Project (“NI 43-101”) and has reviewed and approved the technical content in this presentation. Both are employed as officers of First Cobalt.

# The opportunity

- **70%** of cobalt is mined in the DRC
- **80%** of battery grade cobalt is produced in China
- **85%** of the world's EV batteries to contain cobalt by 2030

"We have a lot of catching up to do but we're going to be in a position where we ought to own the future. We ought to be the single most significant supplier of electric buses and vehicles in the world before it's over."

- U.S. President Joe Biden

## First Cobalt Corporation

Building a new environmentally friendly battery raw materials supply chain in the North America, strategically positioned to become an indispensable player in the global energy transition

### 2022 cash flow from North American refinery



- Only permitted cobalt sulfate refinery in North America
- Expansion underway for October 2022 commissioning
- Hydrometallurgical with near-zero carbon emissions

### Lithium-ion battery black mass recycling



- Phase 2 expansion into battery recycling (black mass)
- Targeting cobalt, nickel, copper, and other battery raw materials for OEM closed loop supply chain

### Iron Creek cobalt-copper project



- One of the largest cobalt resources in the US
- Strategically important for U.S. supply chain security

# First Cobalt investment highlights

01

## Refining

Capitalizing on Atlantic battery raw materials demand growth

02

## Strategically located

Only fully licensed North American refinery within proximity world's largest lithium-ion battery cell makers in the western world

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## Battery recycling

Ability to process black mass with existing hydrometallurgical infrastructure, extracting cobalt, nickel, and other battery materials

04

## World class ESG credentials

Hydrometallurgical refinery powered by hydroelectricity – near-zero carbon emissions

05

## Mining

Active development program to develop North America's first cobalt mine



# Battery market opportunity

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# First Cobalt Refinery

- Hydrometallurgical facility with proven track record
- Only facility of its kind in North America, capable of supplying the electric vehicle market
- US\$60M CAPEX to upgrade and expand capacity
- Funding plan developed with anticipated completion in Q2 21
- Commissioning in October 2022



**>20.5% CoSO<sub>4</sub>**

High purity battery  
grade sulfate



**5,000 tpa Co**

25,000 tpa of  
cobalt sulfate

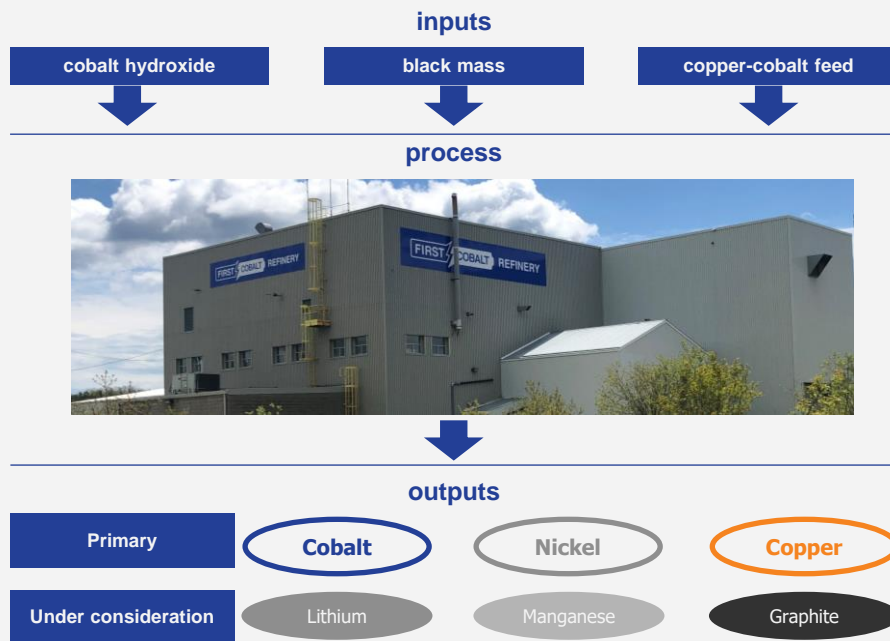


**ESG**

Peer leading  
credentials

## Process and markets

**First Cobalt is strategically positioned for growth in the global energy transition**



## Project overview

80% of cobalt sulfate is produced in China. There is no North American alternative – until now

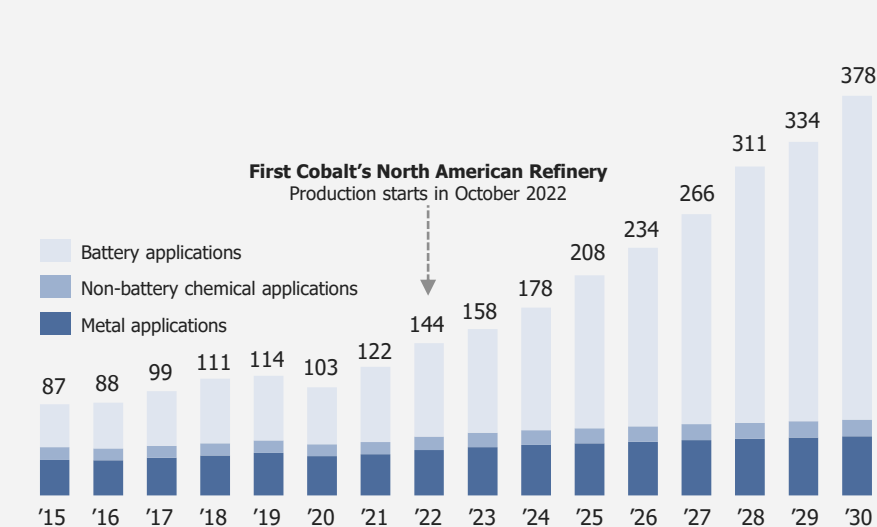
- Phase I annual production of 5,000t of cobalt (25,000t cobalt sulfate)
- Phase II expansion potential to add an additional 1,500t of battery materials
- Feed secured from KCC mine (Glencore) and Tenke Fungurume mine (CMOC)
- Offtake secured with Stratton Metal
- Globally competitive operating costs

# Cobalt demand | Set to grow by a CAGR of 14% to 2030

First Cobalt will account for one quarter of ex. China cobalt sulfate production by 2023

## Cobalt demand growth, 2015-2030 (kt Co)

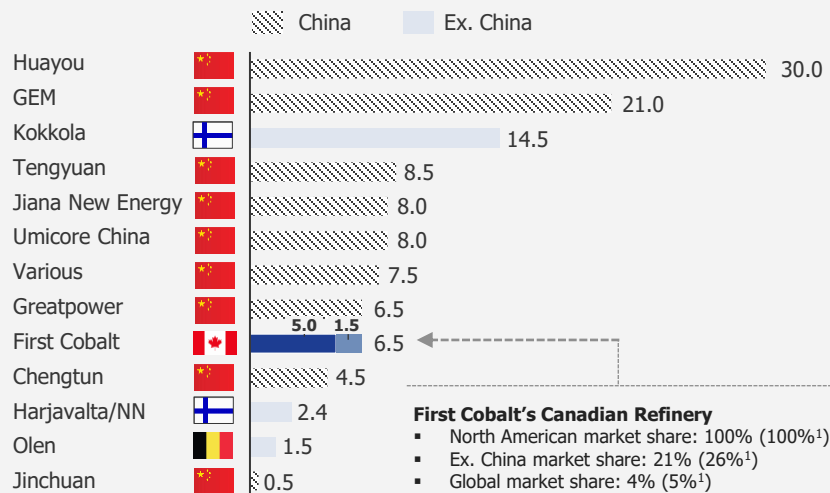
Cobalt demand from the battery segment will make up more than 90% of total growth, with a CAGR of 19% over the 2020-2030 period.



<sup>1</sup> Based on 2022 forecast, when First Cobalt's refinery commences operations.  
Source: First Cobalt Market Intelligence, BNEF

## Global battery grade sulfate capacity, 2023 (kt Co)

First Cobalt will be the world's second largest non-Chinese battery grade sulfate refinery, and the only refinery in North America.

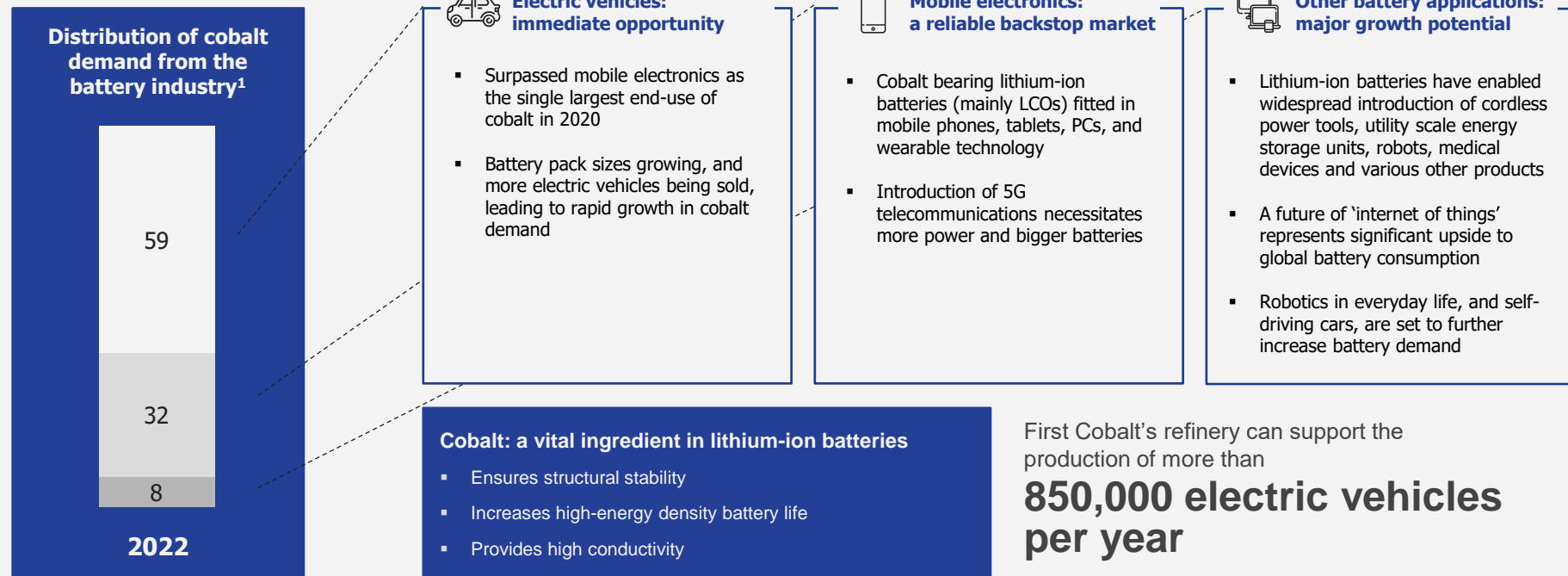


<sup>1</sup> First Cobalt market share with Phase II expansion.  
Source: First Cobalt Market Intelligence, BNEF



# Lithium-ion batteries | Much more than electric vehicles

In the future, batteries will be everywhere



<sup>1</sup> Assumes NCM811 chemistry and an average battery pack of 60kWh.  
Source: First Cobalt Market Intelligence

# Electric Vehicles (EVs)<sup>1</sup> | Extraordinary growth trajectory

Lithium-ion battery demand from the electric vehicle sector will represent the bulk of First Cobalt's market

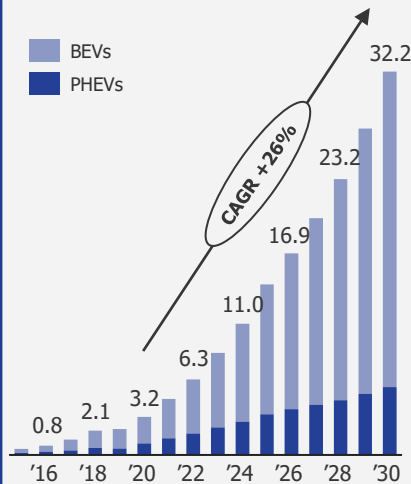
## Cobalt demand from the EV market

- Unprecedentedly **strong EV sales growth**, rising by a CAGR of 26% between 2020 and 2030
  - EV penetration rates rising fast, to make up almost **one-third of total road vehicle sales by 2030**
  - Cobalt-bearing** lithium-ion battery chemistries forecast to **dominate** in the foreseeable future
- A. More battery intensive **BEVs** set to grow stronger than less battery intensive **PHEVs**
- B. Electric vehicle **battery installations** forecast to reach **1,853GWh by 2030**, compared to 145GWh in 2020

## EV sales to 2030 (million units)

Global electric vehicle sales are forecast to increase ten-fold from 3.2m units in 2020 to 32.2m units in 2030.

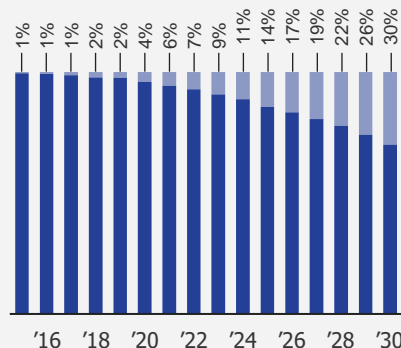
BEVs  
PHEVs



## EV market penetration to 2030

Global EV market penetration rates forecast to rise from 4% in 2020 to 30% by 2030.

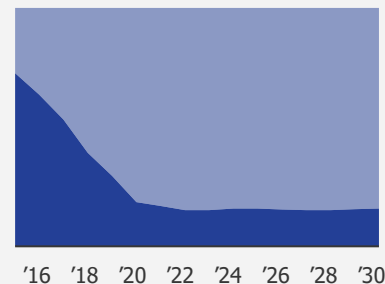
NEVs  
ICEVs



## Lithium-ion battery chemistry distribution to 2030

As long-range passenger vehicles have come to dominate the EV market, so have cobalt bearing high nickel battery chemistries (NCA and NCM). Analysts forecast that cobalt-bearing batteries will account for 83-85% of total battery installations in EVs over the next decade.

Cobalt bearing chemistries  
No cobalt chemistries



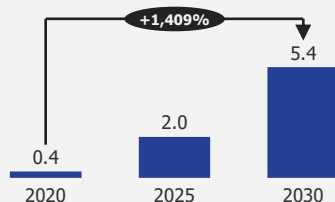
<sup>1</sup> Based on 2022 forecast, when First Cobalt's refinery commences operations.  
Source: First Cobalt Market Intelligence, BNEF

# Well placed to supply North America and Europe

US administration and EU parliament targeting clean mobility leadership

## US – aiming to ‘win’ the electric vehicle race

US EV sales forecast to 2030 (m units)



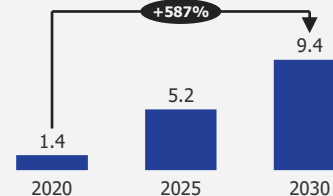
### Highlights

- U.S. re-joined the Paris Accord
- \$2 trillion Clean Energy Plan
- \$174 billion to ‘win’ the electric vehicle market
- \$621 billion over 8 years for transportation-related programs
  - \$85bn for mass transit and
  - 500,000 charging stations by 2030
  - Cash-for-Clunkers scheme
  - Federal vehicle fleet to 100% electric
- Expected to restore EV purchase credit and eliminate/extend the 200,000-vehicle cap

*“The President’s plan will unify and mobilize the country to meet the great challenges of our time: the climate crisis and the ambition of an autocratic China” [White House press release]*

## EU – overtook China in total EV sales in 2020

EU EV sales forecast to 2030 (m units)



### Highlights

- European Commission goal to have 30 million EVs on European roads by 2030
- Stricter CO<sub>2</sub> emissions targets introduced in 2021, forcing producers to sell vehicles will lower emissions on average
- Ford (2030), Jaguar Land Rover (2030), and GM (2035) are the most recent OEMs committing to go full electric in Europe
- World’s strongest EV subsidy plans
- New internal combustion vehicle sales banned in Norway in 2025, Germany, UK and Netherlands in 2030, and France in 2040

*“The European Union is committed to achieving the highest levels of climate and environmental protection” [European Commission press release]*

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## Battery recycling

Ability to process black mass with existing hydrometallurgical infrastructure, extracting cobalt, nickel, and other battery materials

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Hydrometallurgical refinery powered by hydroelectricity – near-zero carbon and particulate matter emissions

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## Mining

Active development program to develop North America's first cobalt mine

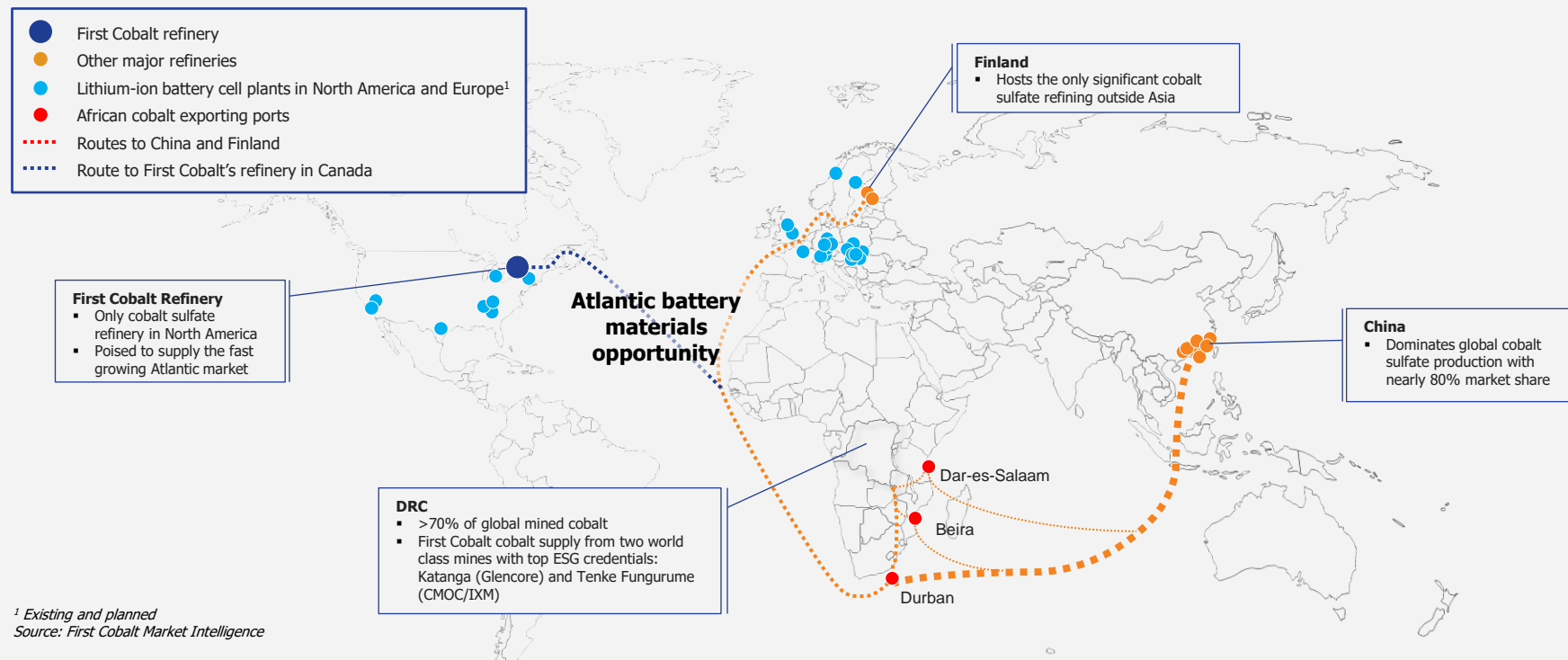
An aerial photograph of a large industrial refinery complex situated in a rural landscape. The complex features several large, light-colored industrial buildings with flat roofs, some with blue accents. To the right of the main building, there are several large, cylindrical storage tanks. The facility is surrounded by green fields and dense forests. In the background, there are rolling hills and a large body of water, possibly a reservoir or lake. The sky is filled with scattered white clouds. The word "Refinery" is overlaid in large white text in the bottom left corner.

# Refinery



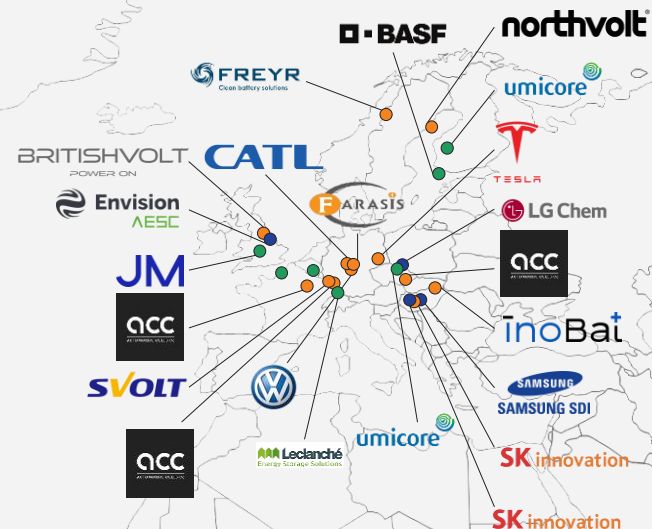
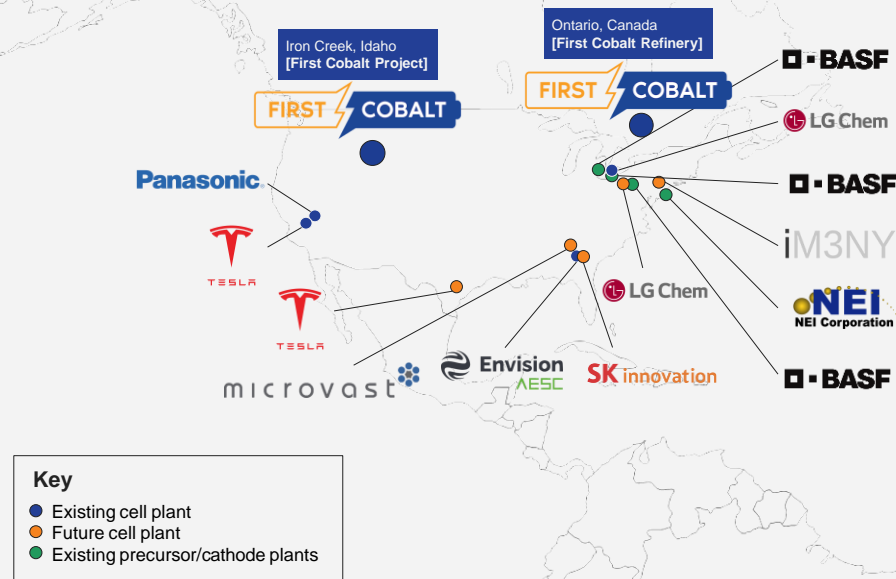
# Atlantic opportunity | Filling the regional battery raw materials vacuum

With 80% of battery grade cobalt processed in China, First Cobalt aims to become indispensable to the Atlantic market



# Marketing plan focused on Atlantic opportunities

Ample opportunity to supply battery raw materials in North America and Europe

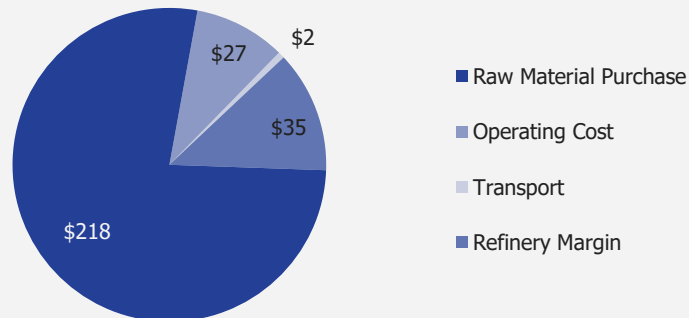


# Refinery economics

Base case projects  
US\$35 million in annual  
pre-tax cash flow

Operating costs are  
globally competitive

## Refinery Economics (US\$M/yr, pre-tax)



### Assumptions (US\$)

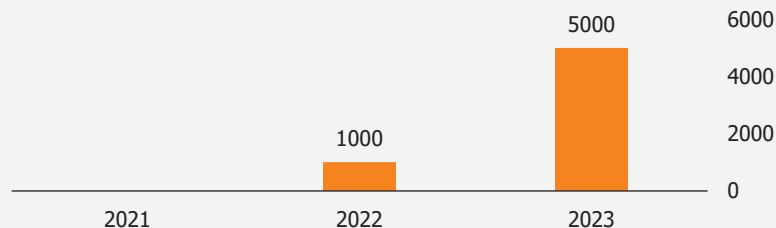
- 75% long-term cobalt hydroxide feed payability
- 97% refinery recovery
- \$25/lb long-term cobalt price

## Sensitivity Table (US\$)

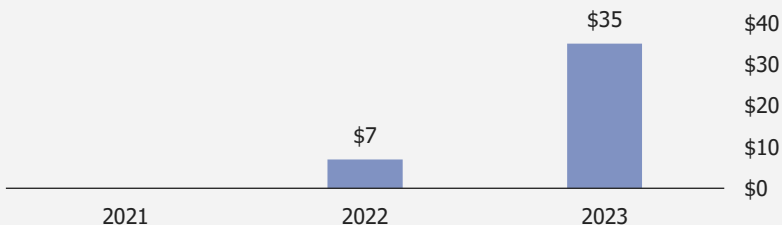
Cobalt Price	\$25	\$30	\$35
Hydroxide Payability	75%	77.5%	80%
FCC Annual Margin	\$35	\$39	\$41

# Production / EBITDA profile

**Production in tonnes  
(Feasibility Study)**

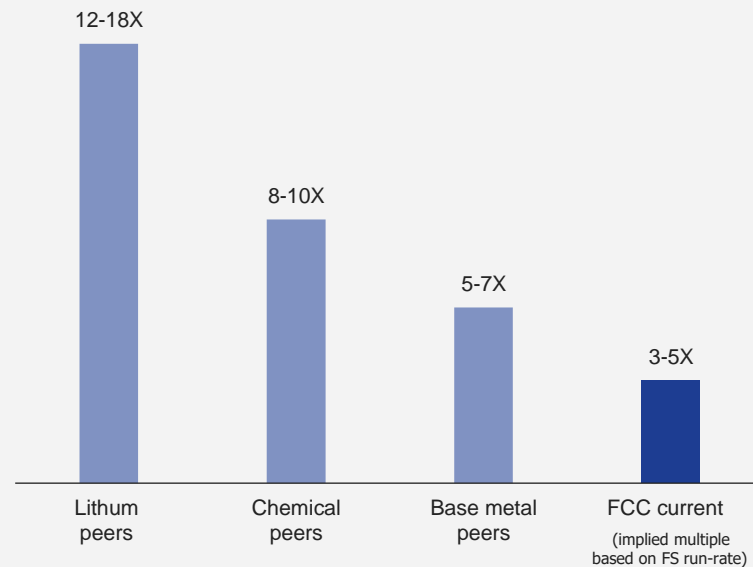


**EBITDA<sup>1</sup>  
(Feasibility Study)**

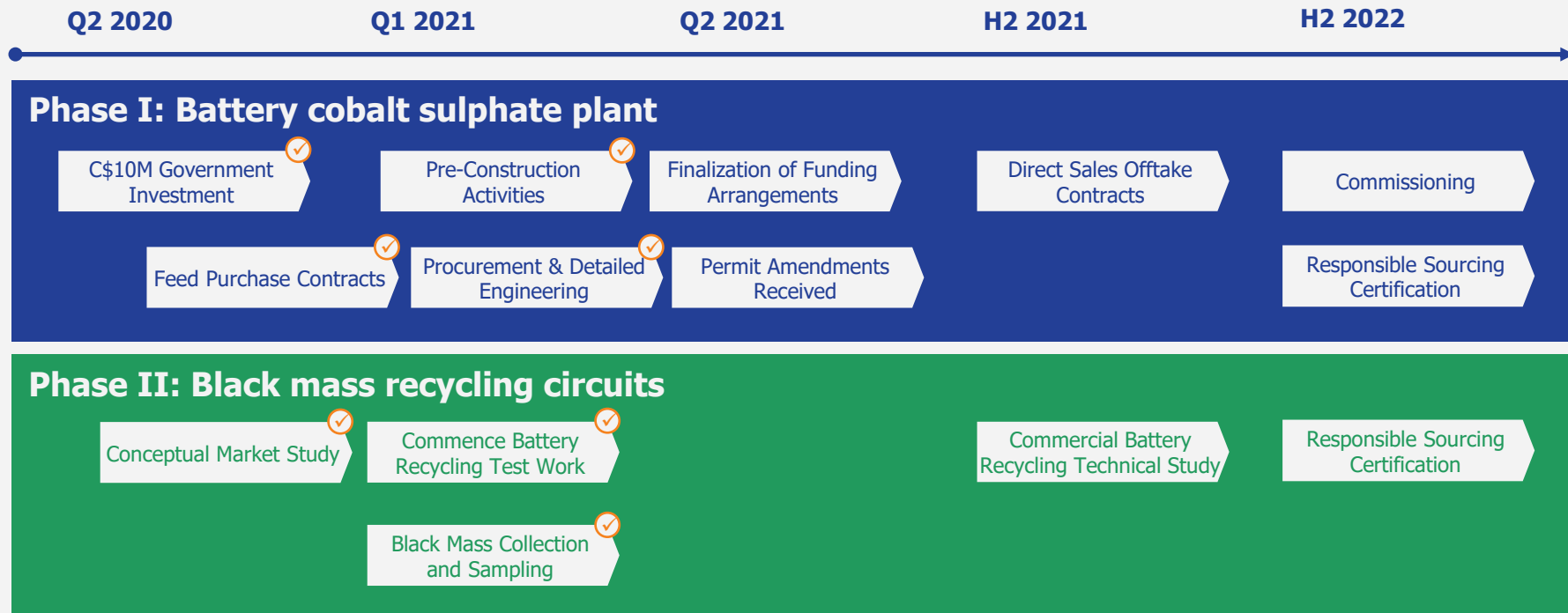


<sup>1</sup> EBITDA based on \$25/lb cobalt price

**Trading comparables  
EV / 2+ forward EBITDA**



# Refinery development schedule





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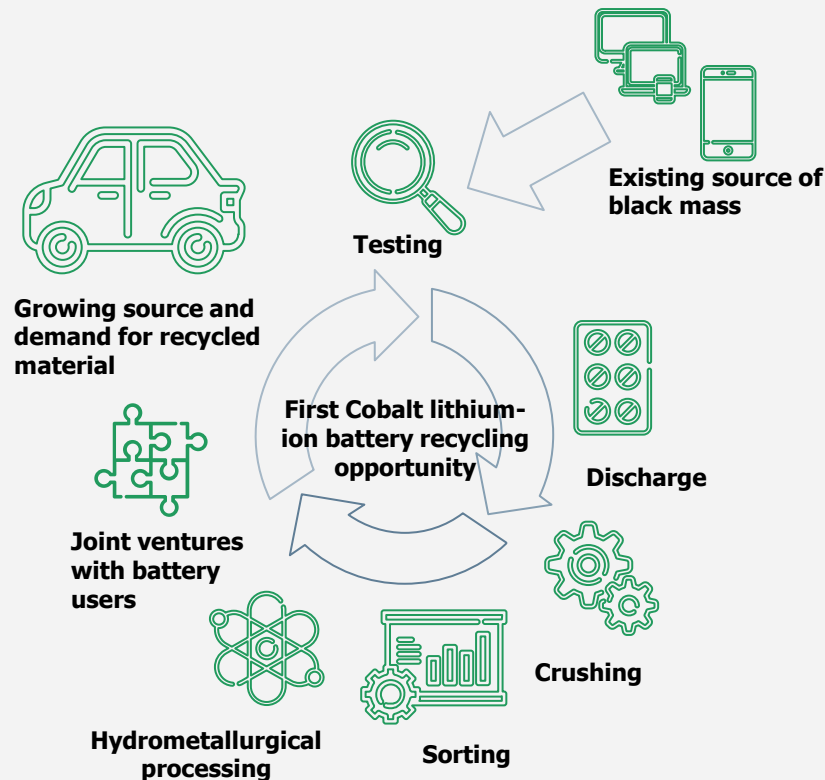
# Battery recycling opportunity

## Capitalizing on existing infrastructure to recycle black mass from lithium-ion batteries

- Phase II refinery expansion incorporates extraction of cobalt, nickel, copper and potentially lithium, manganese, graphite and aluminum from end-of-life batteries
- Sampling and test work underway, engineering study to commence shortly
- First Cobalt's hydrometallurgical refinery expected to provide higher yields at lower costs and significantly lower energy intensity and lower GHG emissions, compared to traditional pyrometallurgical facilities
- Low CAPEX compared to new built plants

### Recycled batteries market opportunity

- Stage 1: Processing of existing high-cobalt black mass from mobile devices
- Stage 2: Closed-loop recycling joint-ventures with automakers



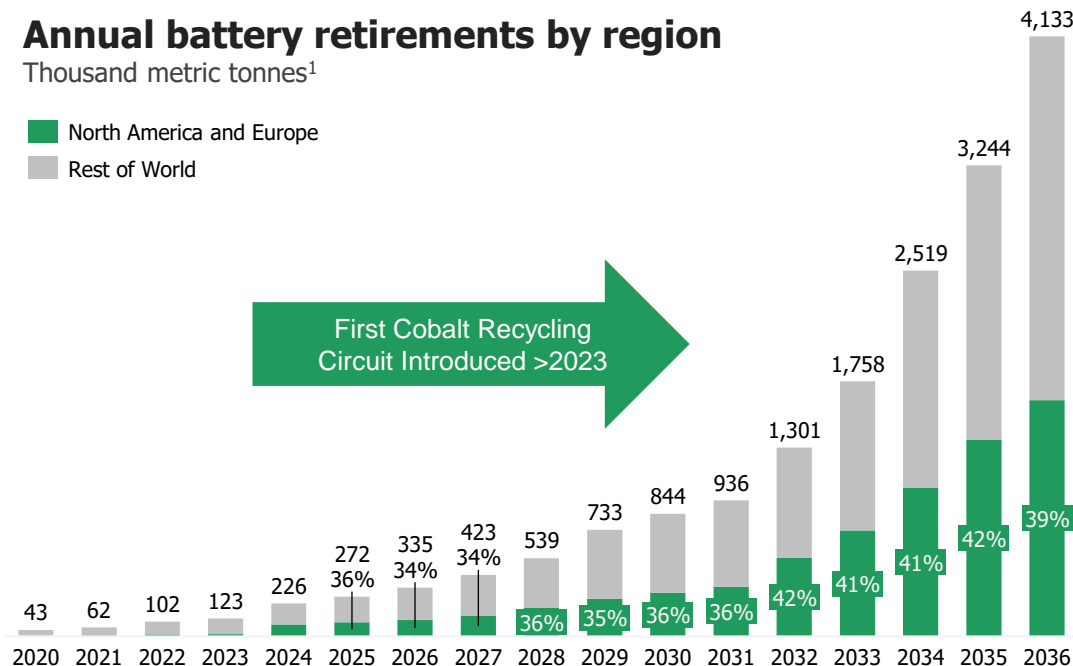
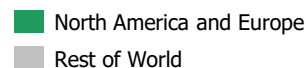
# Battery recycling rationale and market size

- 4.1 million metric tonnes of available end-of-life EV and storage packs by 2035
- 98% mandated recovery rate of nickel, cobalt and manganese in China (North America and Europe expected to follow)
- US\$2/kWh gross profit from recycling a 100kWh NCA pack in the US today
- Using recycled materials can lower the carbon footprint of cells by up to 85%



## Annual battery retirements by region

Thousand metric tonnes<sup>1</sup>



<sup>1</sup> BNEF (Battery Recycling Technology, A Primer)



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### **Strategically located**

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Hydrometallurgical refinery powered by hydroelectricity – near-zero carbon and particulate matter emissions

## 05

### **Mining**

Active development program to develop North America's first cobalt mine



# Our approach to ESG

Our mission is to produce the world's most sustainable cobalt



**Responsible Sourcing**



**Low Environmental Footprint**



**Strong governance and social responsibility**



# Responsible Sourcing



We have a responsibility to respect and protect stakeholders within our sphere of influence. This includes our direct influence on human rights as well as human rights within our supply chain. This is in line with the **United Nations Guiding Principles on Business and Human Rights**.

We commit - as a priority - to prevent the use of child labor in all its forms, whether directly through our business's activities or indirectly through our supply chains. By embedding child labour prevention provisions into our business conduct, we can help ensure that our cobalt is free of such abuses.



# 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.

At Iron Creek, ore sorting is an innovative method we are exploring to reduce our environmental impact (concentrates the ore for shipping and processing, fewer trucks on the road and less processing energy = lower greenhouse gas emissions).

## 51%

lower CO2 emissions<sup>1</sup>

## 73%

lower water consumption<sup>1</sup>

## 30%

lower eutrophication potential<sup>1</sup>

## Removes ~650,000

combustion engines from the road every year<sup>1</sup>

CO2 reduction of

## 3m tonnes/year<sup>1</sup>

<sup>1</sup> Based on a peer comparison life cycle assessment conducted by Minviro Ltd.  
Source: First Cobalt Market Intelligence

# Strong Governance and Social Responsibility



## Community Relations

We will be a catalyst for local community and economic development.

We will strive to provide regional economic opportunities, local employment, local procurement opportunities, infrastructure availability, and tax revenues for service implementation.

## Health & Safety

Our approach to safety and health 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.



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## **Cobalt mine development project**

Active development program to develop North America's first cobalt mine





# Primary cobalt property

# Idaho cobalt belt

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

Belt extends over 100km and contains several known cobalt-copper deposits and prospects

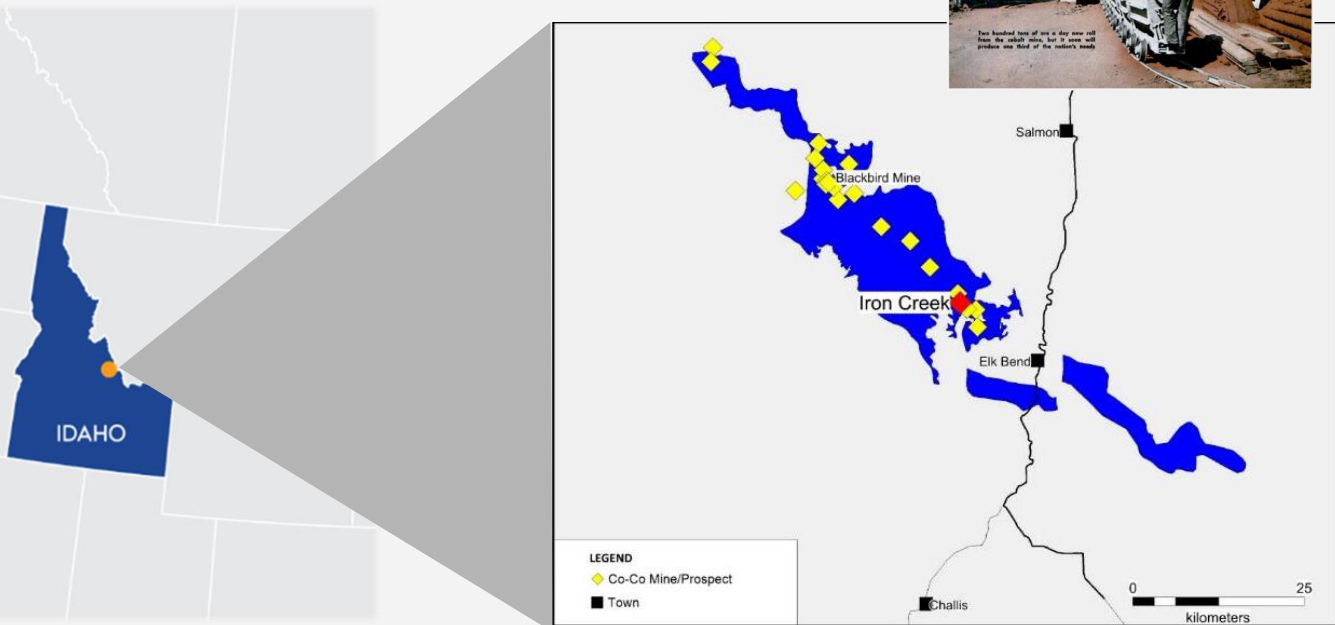
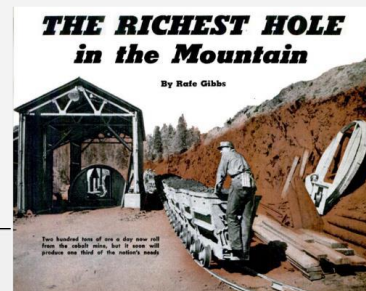
Includes former producing Blackbird Mine (1902-1968); produced 50% of US total cobalt output in 1954

Idaho has a long mining history, including silver and phosphate

Idaho ranked 9<sup>th</sup> best jurisdiction in the world for investment in 2020 (Fraser Institute)

## Important strategic asset:

- Defense Production Act
- National Defense Authorization Act





## Iron Creek, Idaho, USA

High-grade, quality asset base

Socially responsible cobalt located in a tier 1 jurisdiction

Integrated supply chain potential – ability to supply First Cobalt refinery in the future

Flagship primary cobalt deposit with significant copper credits on patented land

900m of strike extension and 350 depth from surface; remains open

Extensive infrastructure, including 3 adits with 600m of underground development

Stratabound cobalt and copper mineralization; true widths +30m; optimal for underground bulk mining



# Iron Creek project

<b>1946</b>	Staked for iron
<b>1967-1972</b>	Copper-cobalt exploration and underground development
<b>1972-1974</b>	Intermittent exploration drilling, surveys & metallurgical tests
<b>1979-1983</b>	Noranda resource estimation

**42km**

from town of Salmon &amp; Challis in central Idaho

**2,600  
acres**

7 mining patents surrounded by 126 claims

## Property

- Site restored by First Cobalt in 2017
- All season road access from State highway
- Infrastructure upgraded
  - 3 existing adits for 600m of underground development, exposing mineralized zones (sampled in 2017)
  - Underground access for exploration drilling
  - Over 3km of surface drill road and pad construction

**Adit #1 Entrance - 2016****Adit #1 Staging Area - 2018**

# Resource estimate



Higher-grade Co and Cu zones to the east and west respectively remain open along strike and down-dip



Mineralization is stratabound with true widths up to 30 metres thick



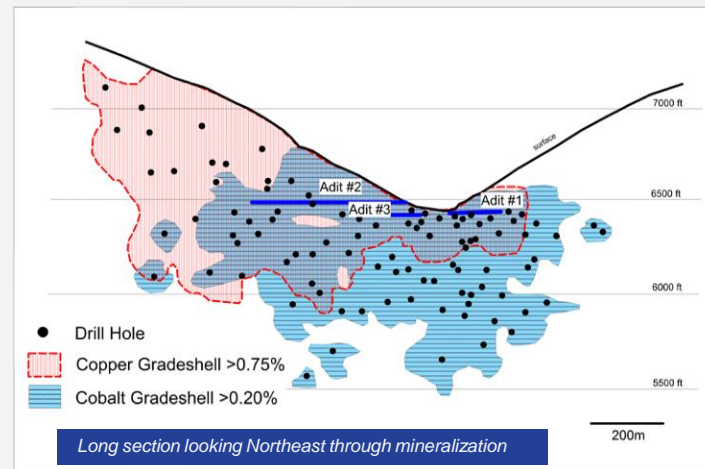
High property potential with other known surface mineralized zones



Metallurgical tests show conventional extraction methods applicable



Critical Materials Institute



Category	Tonnes	CoEq (%)	Cobalt (%)	Cobalt (Mlbs)	Copper (%)	Copper (Mlbs)
Indicated	2,154,000	0.32	0.26	12.3	0.61	29.1
Inferred	2,676,000	0.28	0.22	12.7	0.68	39.9

Resource calculation at 0.18% CoEq cutoff for for underground mine, where  
 $\text{CoEq} = \text{Co\%} + 0.1 \times \text{Cu\%}$

Mineral Resources estimated using CIM Standards on Mineral Resources and Reserves, Mineral Resources, which are not Mineral Reserves, do not have demonstrated economic viability.

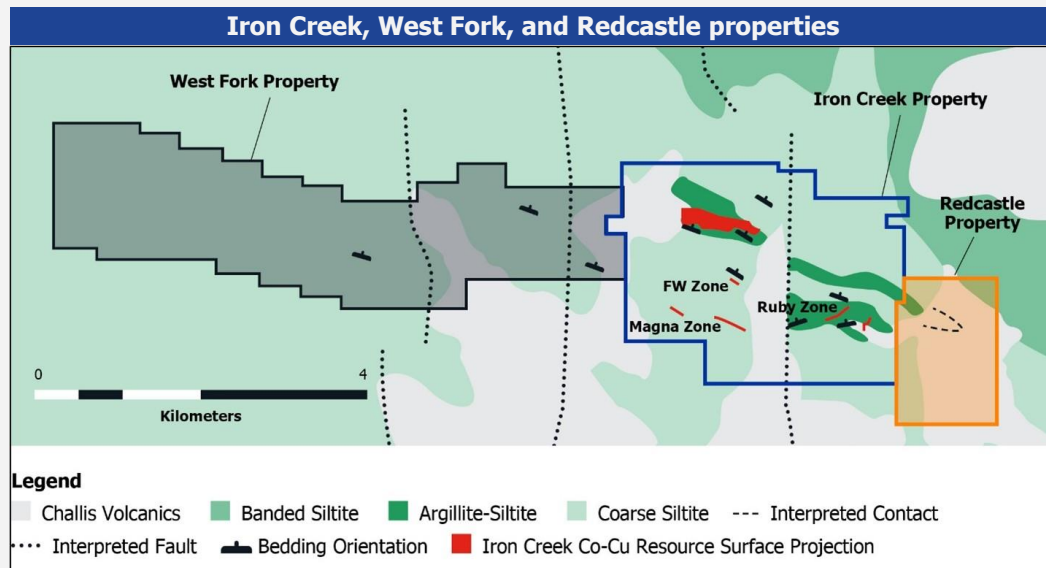
Complete description of estimation parameters is available within the NI 43-101 technical report available on the First Cobalt website.

# Exploration potential

## 2021 Program

Assess Iron Creek strike extensions as well as new targets both on site and elsewhere in the Idaho Cobalt Belt

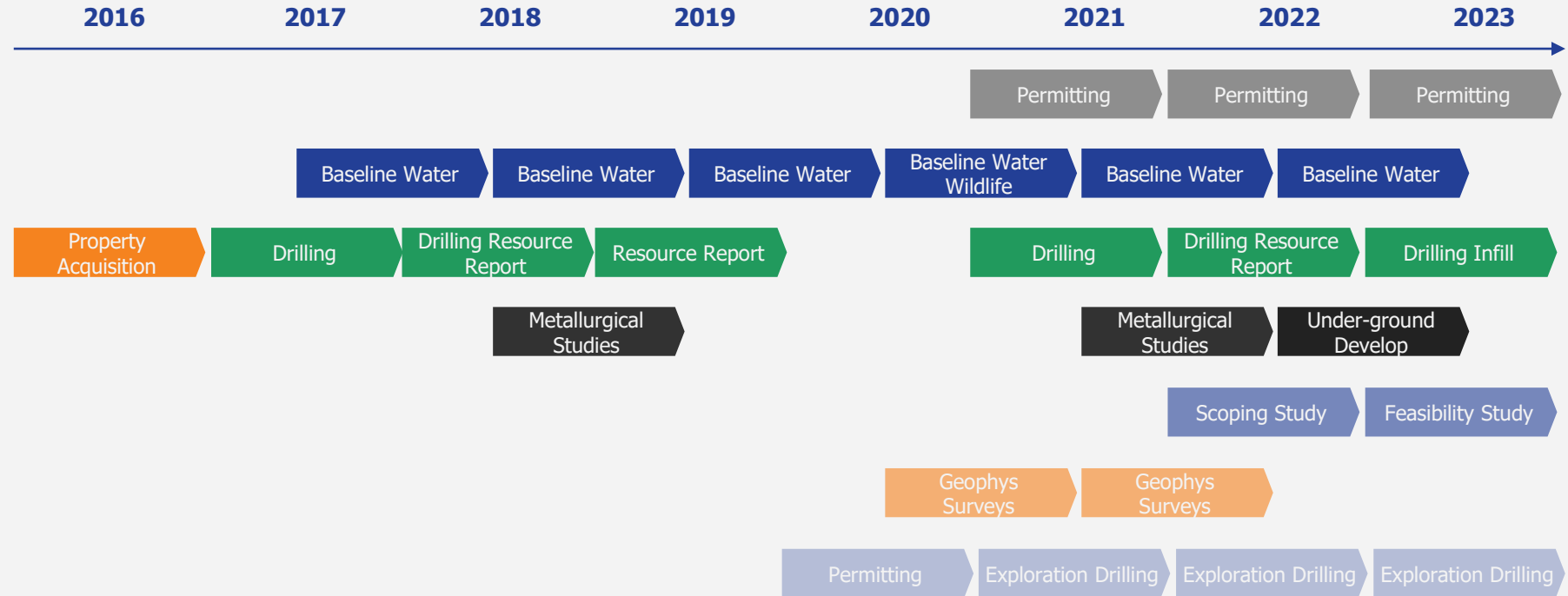
Build on current high-grade underground mine opportunity and demonstrate scalability for cobalt mining in America



## Target-rich environment

- Chargeability signature of Iron Creek cobalt-copper mineralization can be traced over 1,500m total strike extending toward West Fork Property
- Chargeability anomalies to be tested that may be associated with mineralization in the footwall rocks and a new mineralization zone further east
- Exposed mineralization at Ruby Zone over 500m in extent: channel sampling returned 0.24% Co over 10.7m and 0.26% Co over 7.6m
- Magna Zone represents pyrite mineralization and copper staining not systematically sampled

# Idaho cobalt development schedule





# Appendix



# Leadership team

## Management



**Trent Mell**  
President, CEO & Director



**Ryan Snyder CPA**  
Chief Financial Officer



**Mark Trevisiol P.Eng**  
Vice President, Project Development



**Regan P. Watts**  
Vice President, Corporate Affairs



**Dr. Frank Santaguida P.Geo**  
Vice President, Exploration



**Michael Insulán, PhD**  
Vice President, Commercial

## Board of Directors



**John Pollesel**  
**Chairman**  
CEO, Boreal Agrominerals Inc.



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



**Henrik Fisker**  
**Special Advisor**  
Chairman & CEO Fisker Inc.



**Garett Macdonald P.Eng**  
**Director**  
President & CEO, Maritime Resources



**Susan Uthayakumar**  
**Director**  
Global Sustainability Leader, Schneider Electric



# Share structure

## Covering Analysts



Matthew O'Keefe



Mitch Vanderydt



David Talbot

**TICKERS:**  
(TSX-V: FCC, OTCQX: FTSSF)

**SHARE PRICE**  
(May 18, 2021) C\$0.35

**52 WEEK HIGH/LOW**  
C\$0.46  
C\$0.10

**AVE. VOL/DAY (20-DAY)** 2.1M

**MARKET CAP** C\$188M

**WORKING CAPITAL**  
(March 31, 2021) C\$19M

**494.1M**

**Basic**

**23.9M**

\$0.41 average price

**Warrants**

**15.5M**

\$0.33 average price

**Options**

# US electric vehicle investment landscape | On the verge of something big

American will soon have many models to choose from

In addition to federal support, strong inter-state bipartisan backing to revitalize the American economy

