

# COBALT CONFERENCE 17-18 MAY 2022 ZURICH, SWITZERLAND



# WELCOME

• Adam McCarthy, President, Cobalt Institute





# **KEYNOTE SPEECH**

• Deputy Coordinator Ministry of Mines, Dieudonné Tambwe,

Democratic Republic of Congo





## **Keynote speech**

## By H.E. Antoinette N'SAMBA KALAMBAYI Ministre des Mines, RD du CONGO

www.ctcpm.cd

Cobalt Institute Conference, Zurich, 18 May 2022

## The DRC, at the heart of Africa



## **Copper and cobalt resources**

## ☐<u>Mineral resources</u> :

Cuivre: ± 82 Millions t
Cobalt: ± 5,8 Millions t

Production 2021:
Cuivre: 1 796 033,62 t
Cobalt: 93 144,44 t



## Copper exports in tons (2017-2021)



## Cobalt exports in tons (2017-2021)



## A sample of cobalt ore



### Cobalt carbonate



## Cobalt hydroxyde



### **Cobalt electro**







The Mining Code, in its article 266, provides for and the Mining Regulation specifies, in its article 559bis, that a proportion, that is a quotity of the production is reserved for the needs of the local industry.

# Our big challenge : ENERGY





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# **KEYNOTE SPEECH**

• Deputy Secretary Dave Turk, Department of Energy, United

States





# **SESSION 4:** Cobalt in the Circular Economy



# *Electra*

# Cobalt in the circular economy

NASDAQ: ELBM; TSX-V: ELBM

May 2022



# **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 Electra Battery Materials Corporation as of the date of this presentation. 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 Electra Battery Materials Park, the processing of raw material feedstocks, 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 Electra 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", "forecast", "intends", "anticipates", "believes", or variations of such words or state that certain actions, events or results 'may", "could", "might" or "will be taken", "occur" or "be achieved". Forward-looking statements and forward-looking information. 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, timing and amount of capital expenditures, changes in supply and demand for cobalt , nickel and other battery raw materials, the results of metallurgical and engineering studies, changes in competitive pressures, timing and amoun

Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements and forward-looking information made by, or on behalf of, the Company. There can be no assurance that forward-looking statements and forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. All of the forward-looking statements and forward-looking information made in this presentation are qualified by these cautionary statements. Although management of the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements or forward-looking information, there may be other factors that cause results not to be as anticipated. There can be no assurance that such statements will prove to be accurate, as actual results could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements and forward-looking information. The Company does not undertake to update any forward-looking statements or forward-looking information that are incorporated by reference herein, except in accordance with applicable securities laws.

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Mark Trevisiol, P.Eng. and Dan Pace, P.Geo are Qualified Persons as defined by National Instrument 43-101 - Standards of Disclosure for Mineral Project ("NI 43-101") and both are employed by Electra. They have reviewed and approved the technical content in this presentation.

# Strategy: Onshore EV Supply Chain

### **Electra Battery Materials**

Battery materials company

2022	Commission battery grade cobalt sulfate plant (Q4) - Third-party cobalt hydroxide feed - Iron Creek primary cobalt extraction
2023	Lithium-ion battery recycling
2024	Battery grade nickel sulfate production - Third-party North American nickel raw material feed
2025	Battery precurs or co-location
2023-26	National or international expansion Iron Creek cobalt-copper project development
Products	Cobalt, Nickel, Lithium, Copper, Graphite, Precursors

### Rationale



North American need for **industrial hub** to convert regional nickel resources to battery grade sulfate



North America's integrated, sustainable battery materials solution

### NASDAQ: ELBM |TSX.V: ELBM

# Battery <u>circularity necessary but not sufficient</u> to kick-start electric vehicle revolution

### Potential cobalt in recycled battery supply versus cobalt demand from the battery sector

- Cobalt demand from battery sector

Assuming 100% recycling rate of batteries in EVs (after 11 years) and other applications (after 3 years) at 95% recovery

95% recovery 32% 30% 53% 76% 64% 45% 2000 2005 2010 2015 2020 2025

- Primary cobalt demand growth far outpaces recycling feedstock
- Objective of near-100% recycling achievable but concerted effort required

Some batteries are lost forever

O

Battery life likely longer than assumed

Second life applications will take a bite out of available recycled supply

Recycling recoveries are <100%

Source: Electra Market Intelligence, Darton Commodities NASDAQ: ELBM |TSX.V: ELBM

## PHASE 2 - RECYCLING Demonstration Plant in 2022; Commissioning in 2023

Recovery of nickel, cobalt, lithium, copper and graphite

US\$3M demonstration plant in 2022 using existing facilities and equipment

Commercialization in 2023

Hydrometallurgical process and clean power grid ensures nearly zero GHG emissions

Engineering work completed by Hatch and met work by SGS Lakefield



Source: Electra Battery Materials NASDAQ: ELBM |TSX.V: ELBM

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# **Enabling the circular economy through LOCALISATION**

### End-of life battery cells is only a part of viable recycling feed

### Cathode supply chain



- Off-spec PCAM, CAM, primary cells, and manufacturing scrap need to be recycled or retreated
- Hydrometallurgical processing key to circularity, enabling extraction and re-use of all key elements
- Quality matters

### Electra's ESG credentials

- Up to 51% lower GHGs than Chinese peers due to power grid +90% zero carbon and lower energy intensive hydrometallurgical process
- Privileged location to North American and European supply chains, reducing ~ 40% GHGs from freight



# **Enabling the circular economy through COLLABORATION**

### Electra's approach to circularity

- Capitalise on core competences of existing and future market participants
- Every company does not have to do everything
- Ensure that all participants live up to environmental ambitions of the electric vehicle and renewable energy revolution
- Collaboration is key



Source: Electra Battery Materials NASDAQ: ELBM |TSX.V: ELBM



# Improving people's lives towards a clean energy future

ESG objectives 2022: Supply Chain Policy, Human Rights Policy, Environmental and Sustainability Policies; Supply Chain Audit, Whistleblowing Platform

**Mission Core Values Sustainability Framework** Human Rights **Climate Change** Respect for the planet and Provide low-carbon, Health & Safety Water Stewardship Environment Social for future generations **Communities Relations Biodiversity** ethical and traceable **Diversity & Inclusion** Waste Electra Respect for our employees materials to the global Governance Respect for the local battery supply chain while communities Policies & Systems Supply Chain Due Diligence improving people's lives Respect for our Performance Management

Transparency & Engagement

TSX.V: ELBM |OTCOX: ELBMF



shareholders

# *Electra*

## **Electra Battery Materials** NASDAQ: ELBM; TSX-V: ELBM

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Craig Woodburn Head of ESG Britishvolt

17 May 2022

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## Who we are:

We are Britishvolt. Our mission is to accelerate the electrification of society.

We will deliver sustainable, low-carbon batteries on the roadmap to decarbonisation.

Proudly British, passionately global.

"We will be the leading, ESG-focused, organisation that develops technologies to help overcome the environmental, technical and commercial challenges of sustainable, low-carbon battery solutions across all segments of electrification"





### We are providing a solution to accelerate the decarbonisation beyond our boundaries



#### Strong demand for EV batteries... 1.2.

& Reuse

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## Metals for Clean Energy:

Pathways to solving Europe's raw materials challenge

'Recycling is Europe's best long-term route to improve the self-sufficiency and strategic autonomy of its new clean energy system'

Liesbet Gregoir, Lead author



## Three cobalt takeaways from KU Leuven Metals for Clean Energy report

- 1. New demand from local battery cathode production
  - Cobalt Europe demand (kt) Cobalt – European mining self sufficiency Co 97 47 Of Europe's cathode manufacturing needs 21 Cobalt up to +1% uncertain projects 2020 2030 2050 % domestic mining of overall 2030 demand Top transition uses: Battery storage (EVs Europe 2020-2030: +123% Congo (DRC) - French New Caledonia - Russia - Other 2020-2050: +331%
- 2. Low potential for domestic cobalt mining
- 3. High potential from cobalt in battery recycling after 2040

Cobalt – Europe recycling potential

Co

2020

2050



Permanent materials that can recirculate in Europe's clean energy system for decades to come

## Three priorities to achieve Europe's circular economy potential

1. Build up new recycling capacity



2. Set the right legal framework

3. Ensure European battery waste reaches European recyclers







# **INTERVIEW** with **Hugh Brown**, Documentary Mining Photographer





# **Close of Conference**

