

Cobalt as the global resource

Cobalt Congress, Istanbul, May 2023



**Our purpose is to responsibly source the commodities that advance everyday life.
Our ambition is to be a total NET Zero emissions business by 2050**

Inputs and resources on which our business model depends:

Assets and natural resources

- Many long-life and high-quality assets
- Value over volume approach
- Embedded network and knowledge in marketing operations

Our people and partners

- Established long-term relationships with customers and suppliers
- Major employer with c.140,000 employees and contractors globally

Financial discipline

- Disciplined capital deployment
- Marketing hedges out the majority of absolute price risk
- Marketing profitability driven by volume-driven activities and value-added services

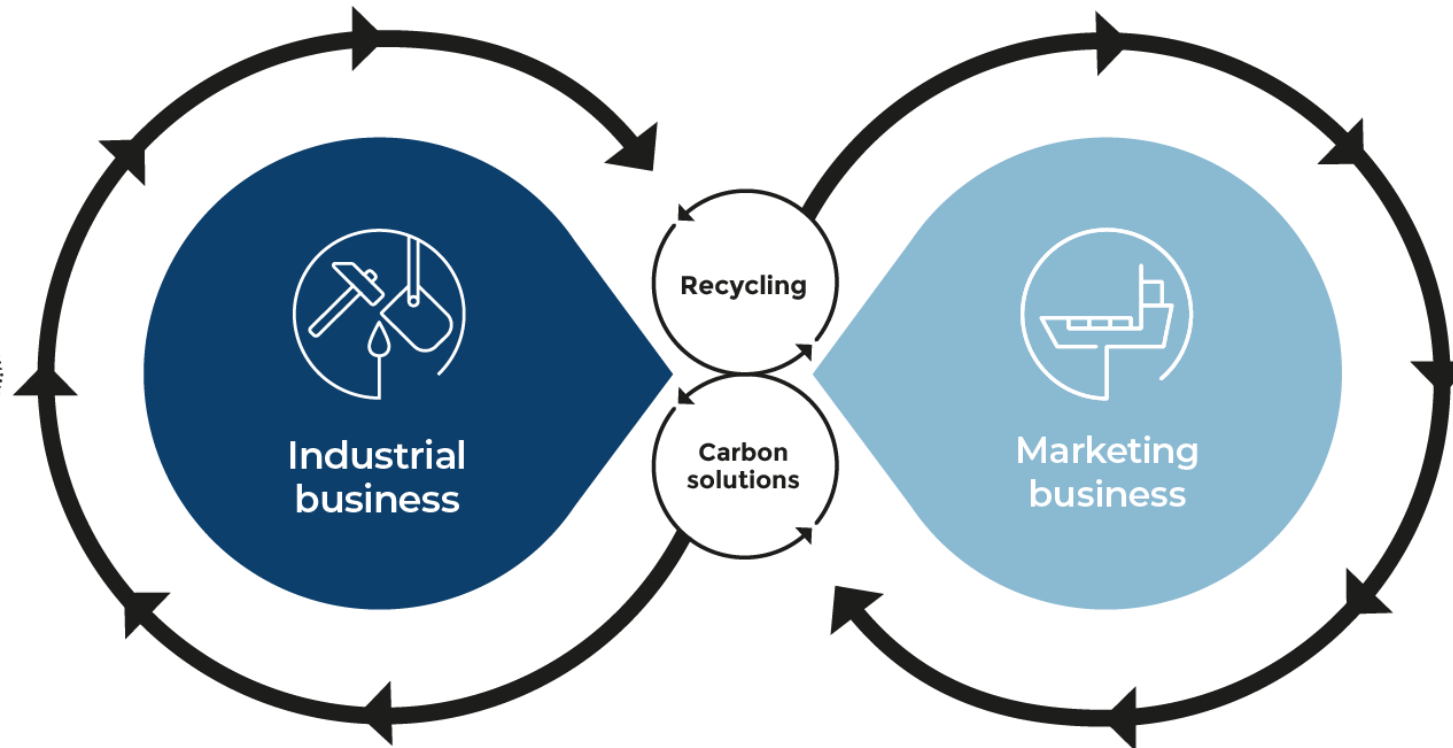
Unique market knowledge

- Finding value at every stage in the commodity chain

Our industrial business spans the metals and energy markets, producing multiple commodities from over 65 assets

We move commodities from where they are to where they are needed

Output and impact on stakeholders



- Unique position in producing, recycling, sourcing, marketing and distributing the commodities that enable the transition
- Portfolio of critical minerals and energy necessary to meet the needs of today and tomorrow
- Leading CO2e emissions reduction targets for scope 1+2+3 emissions to 2035 with net zero ambition by 2050
- Significant pipeline of future critical mineral growth options
- Flexible business model that adapts quickly to changing conditions and is ideally positioned for the future

The lithium-ion EV battery chain is long and complex

Glencore has a key position in the critical refined metals and sulfate via mined and recycled production



Glencore products



Nickel / Cobalt briquettes



Cobalt hydroxide



Future:

- Nickel / cobalt battery grade sulfates
- Lithium products

Example assets



Murrin Murrin (Western Australia)



Nikkelverk (Norway)



Kamoto Copper Company (DRC)

World's largest cobalt producer, trader and marketer

Global #1

2022 cobalt production ~44kt Co from own sources
→ Majority via Co hydroxide at Katanga and Mutanda (DRC)
→ 3.6kt Co metal at Murrin Murrin (Australia) + Nikkelverk (Norway)

~25-30%

Glencore share of global cobalt production

#1 marketer

World's largest cobalt trader and marketer, including significant 3rd party material

Sourcing responsibly

Committed to operating responsibly

Strategic partnerships

Committed to forming strategic partnerships for the energy transformation



Glencore plays a lead role in ensuring cobalt can be sourced responsibly

We are active members of key initiatives, e.g.

Supply chain due diligence

- RMI audit
- ICMM

Fair Cobalt Alliance

- Improving standards in the artisanal mining sector
- Helping to eliminating child labour
- Ensuring benefits to local communities
- Securing alternative forms of livelihood

Re|Source

- Blockchain-secured supply chain tracking from mine to EV



Committed to strategic long-term partnerships

OEMs increasing sourcing direct from commodity producers

- We provide reliable supply of responsibly-produced cobalt to enable our customers to deliver products essential to the low carbon economy



3 December 2020

"Around 150,000 tonnes of cobalt contained in hydroxide between 2020 and 2029"



29 May 2019

[Umicore and Glencore develop partnership for sustainable cobalt supply in battery materials](#)



19 November 2019

[SK Innovation to secure significant volume of cobalt in long-term supply deal with Glencore](#) up to c.30,000 tonnes of cobalt contained in hydroxide between 2020 and 2025.



1 February 2021

[Glencore strengthens cobalt partnership with FREYR](#) with up to 3,700 tonnes of high purity cobalt metal cut cathodes from Nikkelverk, Norway



10 February 2020

[Samsung SDI and Glencore extend their long term strategic cobalt partnership](#) up to c.21,000 tonnes of cobalt contained in hydroxide between 2020 and 2024.



12 April 2022

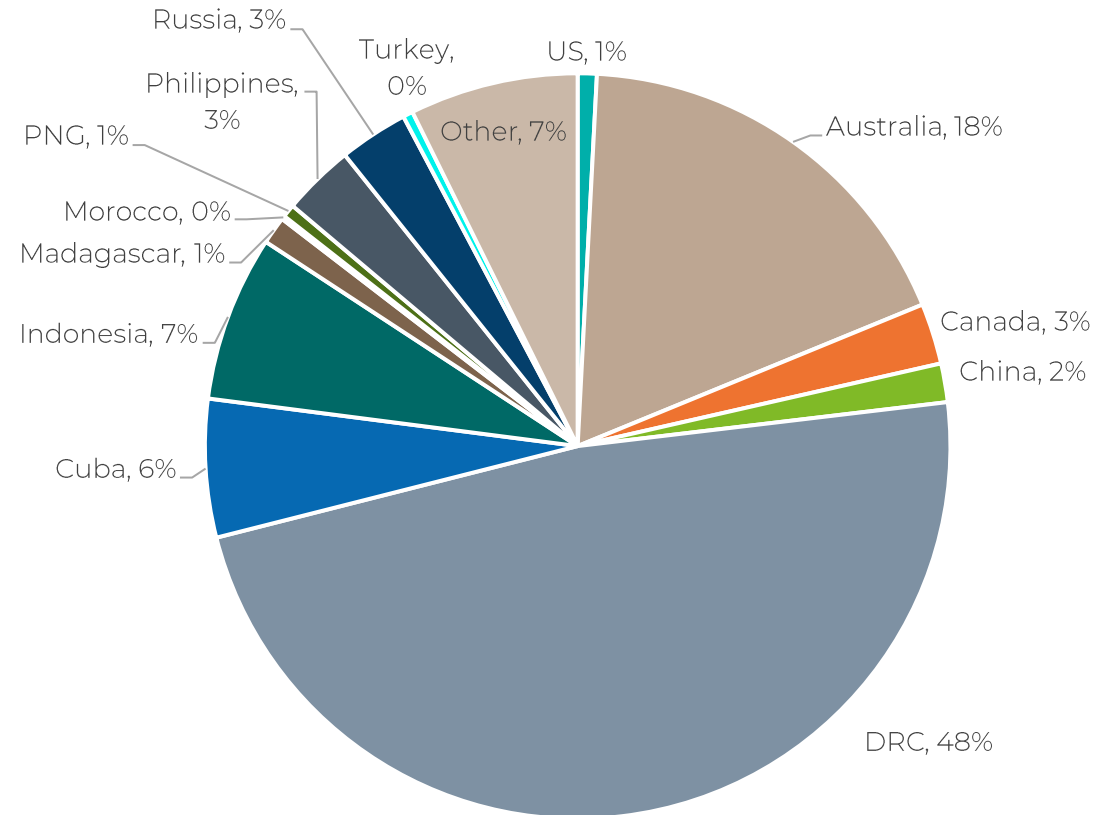
[Glencore and General Motors enter multi-year cobalt supply agreement](#) for cobalt out of Murrin Murrin operation in Australia.

Cobalt – global reserves distribution

Reserves data only tells you so much...

- Reserves = ‘economic’ but many factors need consideration
- More drilling = more reserves (DRC / others under-reported)
- Key factors determining actual production
 - market outlook / S&D
 - primary product (Cu, Ni?)
 - economies of scale / copy-paste
 - fiscal framework
 - other ...

Cobalt mined reserves by region – US Geological Survey 2023



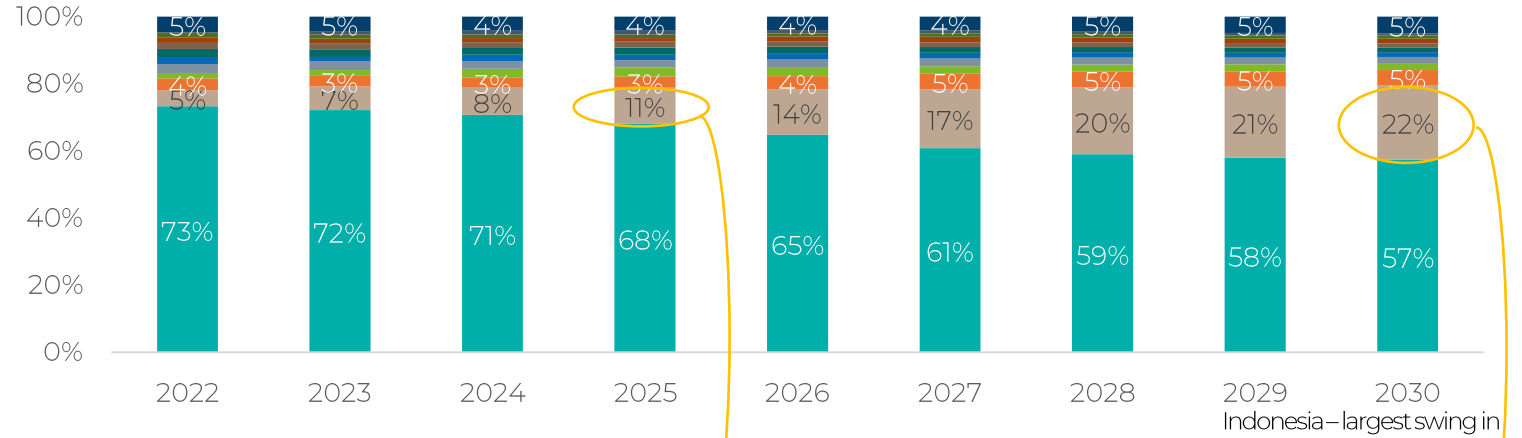
Cobalt – global mine supply by region

DRC >70% supply today and likely in the future

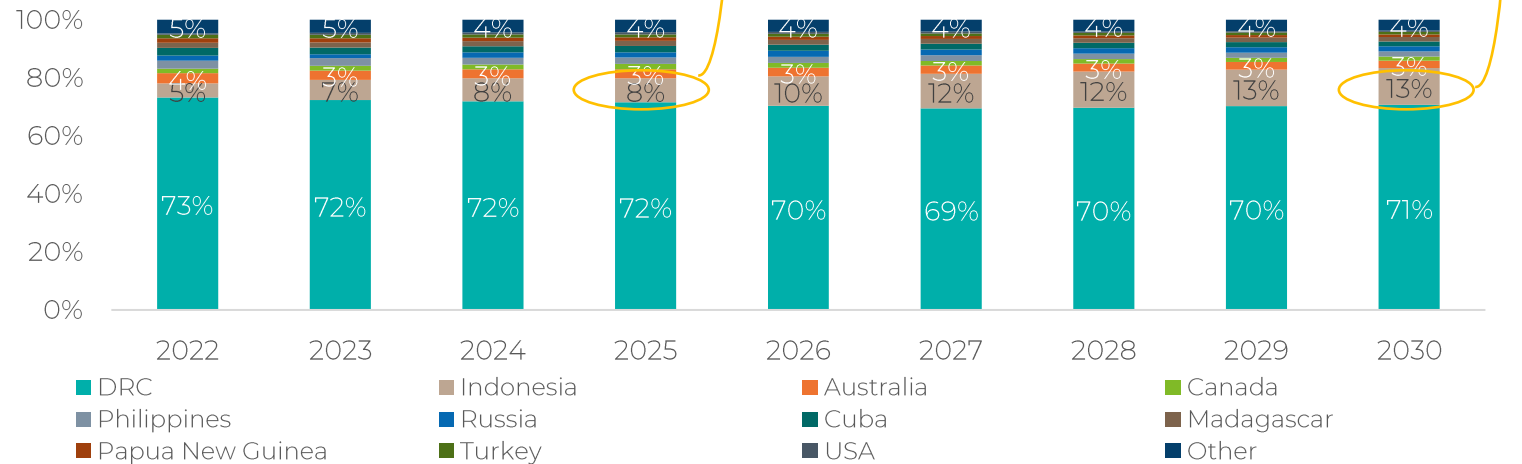
- DRC > 70% supply today and likely in the future
- Indonesia #2 with strong supply potential
- largest swing of 'possible' projects
- Other regions can grow, but difficult to boost market share

Cobalt mined production by region – market share

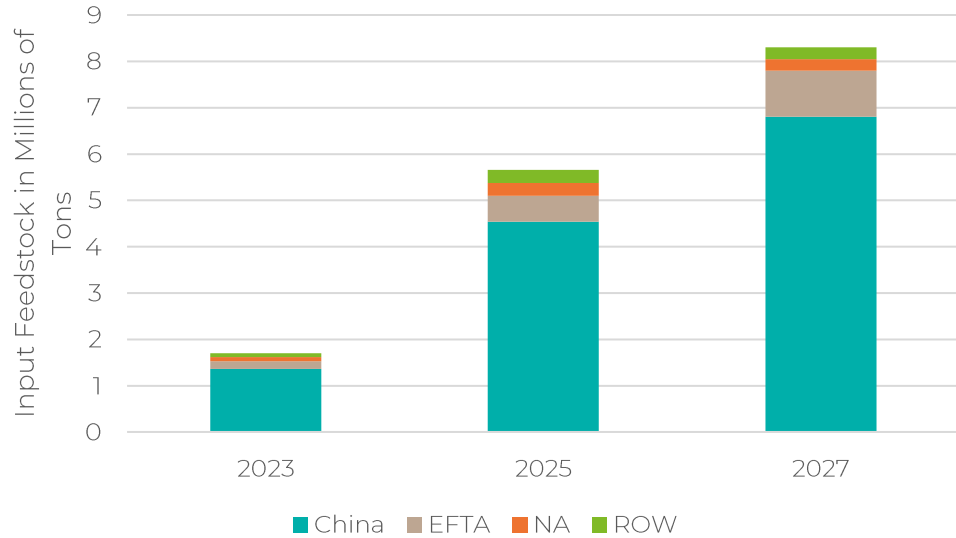
Operating, highly probable, probable and possible



Operating, highly probable and probable

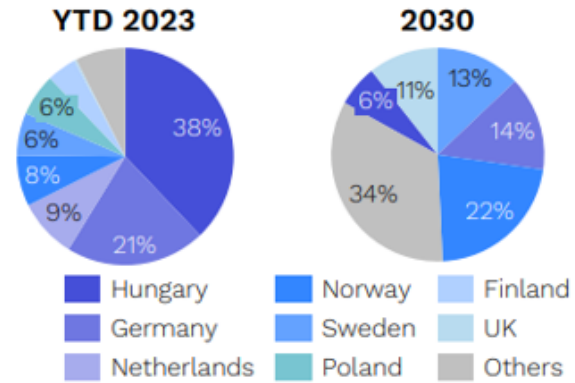


Global recycling capacity



- Global battery recycling capacity is expected to reach over 8 million tons per annum by 2030.
- China will retain 80% market share during this period
- Asian players are having trouble expanding into the European and North American markets
 - Increased regulation e.g. IRA / European Directive.

Europe



- SungEel currently largest, 60ktpa processing capacity in Hungary
- Hydrovolt, Umicore, Northvolt, Ascend Elements, Li-Cycle, Ecobat, BASF & Veolia - announced processing facilities
- European processing capacity ~1Mtpa by 2030 basis current announcements, with more to come

North & South America

- The US will lead recycling capacity in N&S America - over 90% by 2030
- Major players and announced capacities:

American Battery Technology Company	100ktpa
LiNiCo	100ktpa
Ascend Elements	60ktpa
Li-Cycle	45ktpa
ACE Green Recycling	20ktpa
Redwood	20ktpa



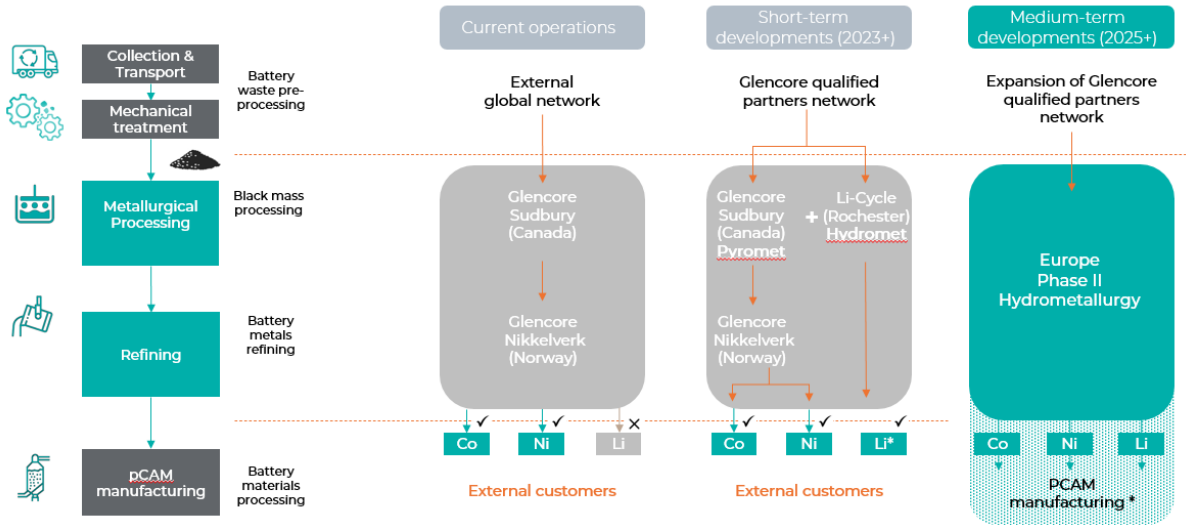
- We are actively looking to expand our network of Hubs and Spokes in Europe, the US and SE Asia
- Our recycling platform will include reuse, repurposing, and recycling, located as close to scrap generation as possible
 - Localizing processing/products
 - Allowing for localized pCAM at scale
- We will use a blended input of primary and recycled feeds, ensuring:
 - minimum recycled content
 - security of supply
 - low carbon footprint
- Located in key regions of the world, starting with Europe

Leveraging existing Glencore recycling sites and those of our partners towards the green transition

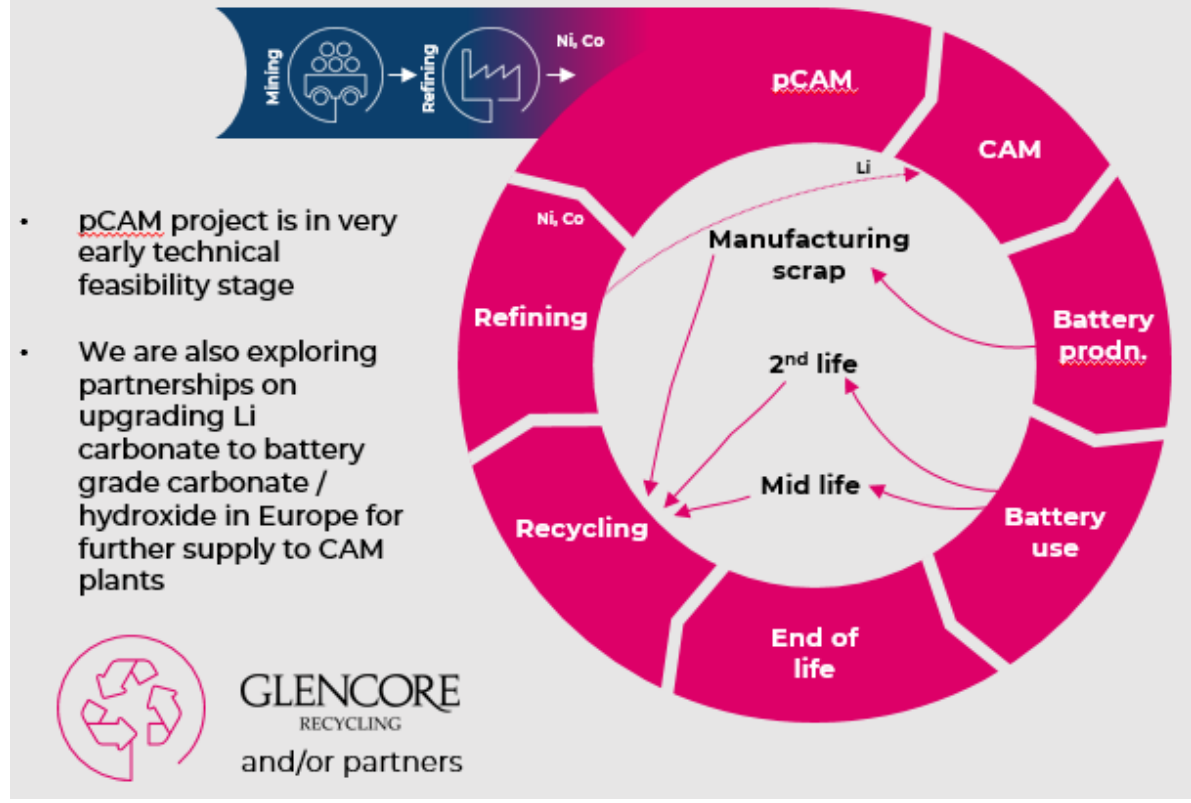
Glencore Recycling 2022 Figures

Copper:	~30.5kt	Nickel:	~6.2kt
Cobalt:	~1.5kt		
Gold:	~107koz	Silver:	~1.35Moz
Palladium:	~13koz	Platinum:	~4koz

We have over 75 years experience in the Recycling business across our businesses

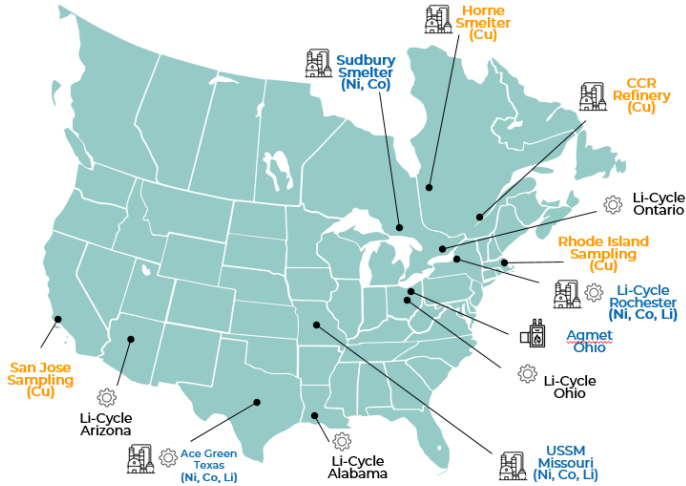


We are working on closing these loops as locally as possible, thus effectively combining primary and recycled battery metals to produce **pCAM** at scale, with as much recycled content as feasible, localized in key regions of the world, starting with Europe

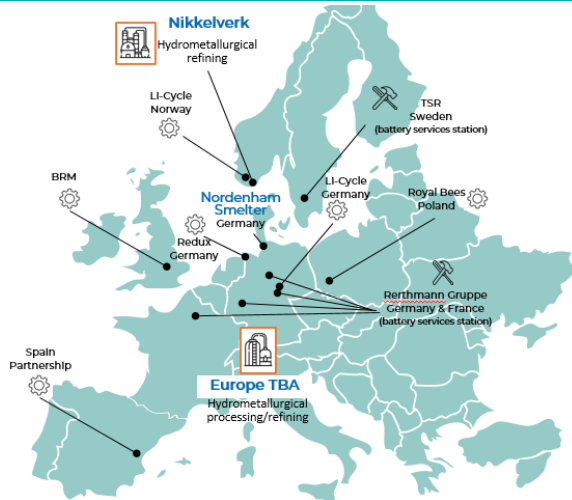


Sources: Glencore, Companies data

North America



Europe



- \$200m investment (convertible bond)
- Commercial agreement whereby Glencore intends to source feeds and market products from Li-Cycle spokes and hubs
- Global marketing relationship
- Long term off-take agreement for 100% of products including Co/Ni sulfates and Li products from Missouri, USA
- Glencore and USSM exploring other commercial arrangements, including recycling and raw materials sourcing to support the ramp-up of USSM's hydrometallurgical processing facility
- Recycling partnership at Managem's CTT hydromet refinery in Morocco
- Intend to enter long term tolling agreement for recycled cobalt plus nickel hydroxide and lithium carbonate
- Conditional on feasibility study to assess commercial viability of modifying plant to treat black mass
- Glencore to source black mass and market recycled products
- Battery Metals Offtake (US, India, Thailand)
- Innovative recycling platform providing sustainable, end-of-life solutions for Pb-acid and Lithium-Ion batteries
- Will process Li-ion batteries, including manufacturing scrap and portable electronics
- Expected to be operational 2023, targeting 100% renewable energy long-term
- Battery Metals Offtake (US, India, Thailand)
- Innovative recycling platform providing sustainable, end-of-life solutions for Pb-acid and Lithium-Ion batteries
- Will process Li-ion batteries, including manufacturing scrap and portable electronics
- Expected to be operational 2023, targeting 100% renewable energy long-term