Green Li-ion

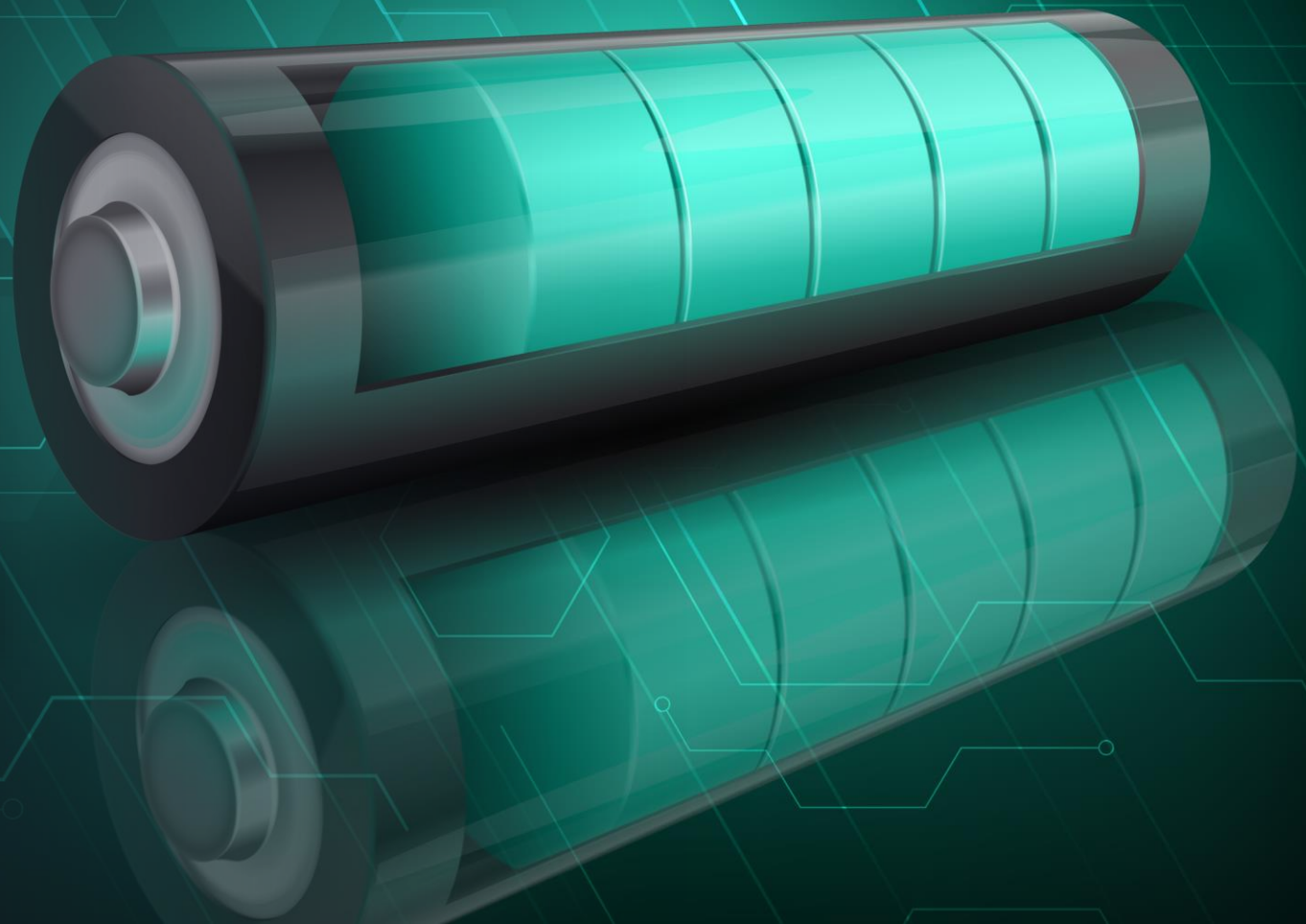
Ashton Tan

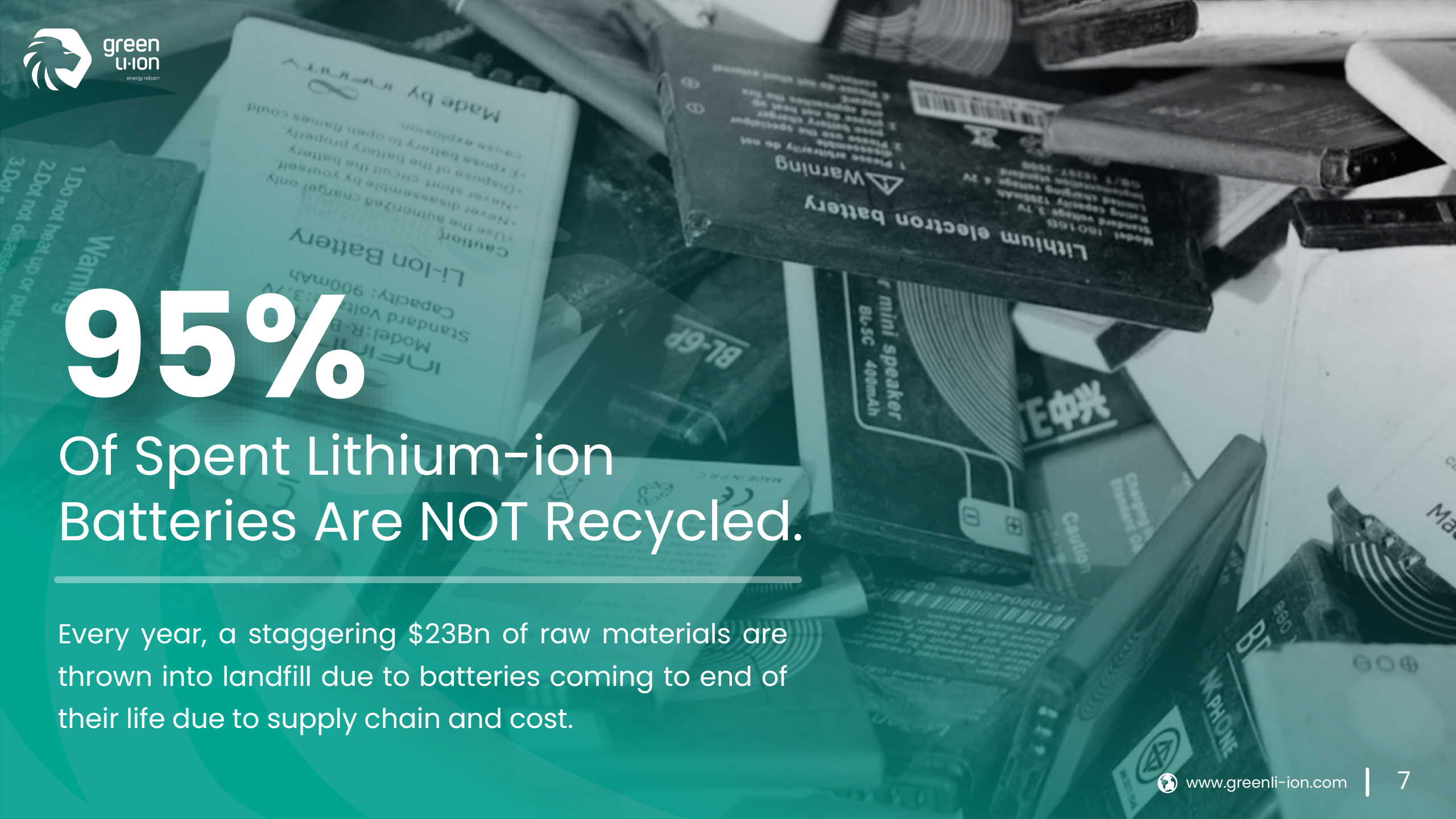
Business Development Manager

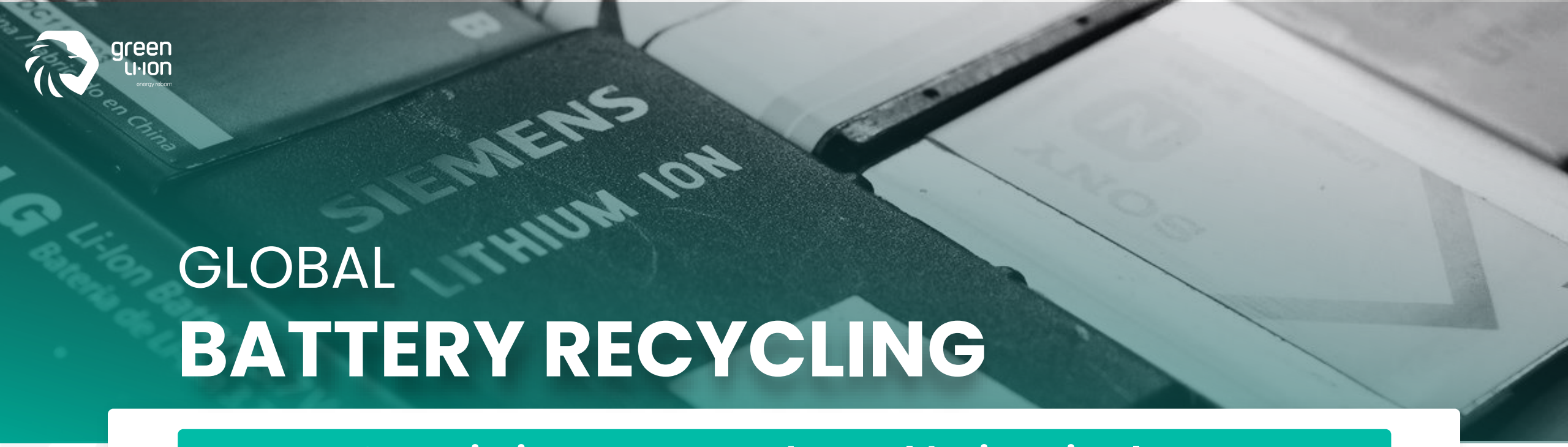
greenLi-ion

energy reborn

THE CIRCULAR ECONOMY SOLUTION FOR BATTERIES




green
LI·ION
energy reborn
95%
Of Spent Lithium-ion
Batteries Are NOT Recycled.
Every year, a staggering $23Bn of raw materials are thrown into landfill due to batteries coming to end of their life due to supply chain and cost.



GLOBAL BATTERY RECYCLING

We Are On A Mission To Become The Worlds First Circular Economy Solution For Lithium-ion Batteries.

$2B	$24B	1 in 3
		Vehicles Will Be Electric
2005	2025	2030

GREEN LI-ION Is Vastly More **Profitable**

Our Clients

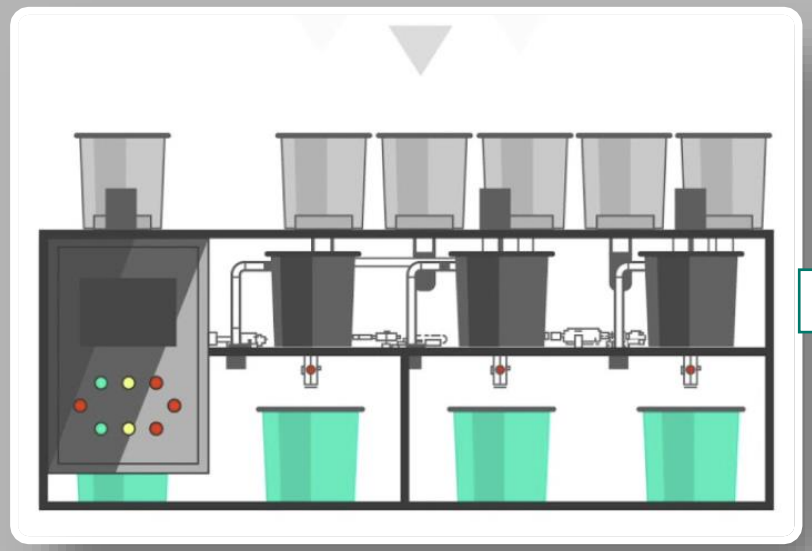
Current Recyclers produce black mass

Material Valued

<$5,000 p/MT

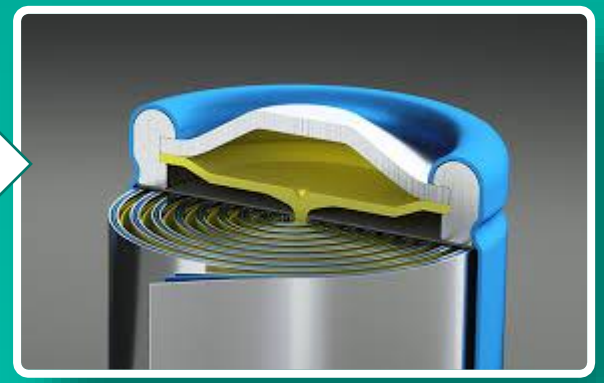
Green Li-ion

2 MT p/day



Manufacturers

GREEN LI-ION Produces Battery Grade Cathode Material



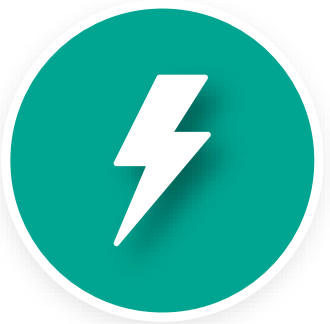
Valued at

$39,0000

Improves profit & efficiency up to **10x**

GREENER

- ✓ Zero toxic discharge
- ✓ Zero landfill
- ✓ Lower reliance on mining
- ✓ 8x less carbon footprint than competitors



FASTER

- ✓ 10x FASTER
- ✓ Process all batteries!
- ✓ No sorting = faster than current pyro and hydro processes

PURER

- ✓ Our end product is battery grade cathodes materials
- ✓ Pure and therefore at A higher value

4X PROFITABLE

- ✓ Process produces pure precious metal compounds increasing profit from
- ✓ $5,000 to $39,000 per ton

INTEGRATES **SEAMLESSLY**

INTO EXISTING INDUSTRIAL TECHNOLOGY

Our technology adds to current recycling process to improve & enhance efficiency and profits of traditional recycling processes. **Our product can bolt on to existing battery recycling machinery.**

Disrupting **Supply Chain to Improve PROFIT**

Current Recycling

1	2	3	4	5
Spent Battery 	**Black Mass** ✓ crushing ✓ shredding ✓ separate	**Further Precious Metal Refinement**	**Cathode Manufacturer**	**Battery grade cathode material Battery Manufacturer**
Competitors: **Battery Recyclers & 2nd Use (Redwood, TES, LI-Cycle, Umicore)**		**Tanaka Refinery, SK, China, JX Nippon**	**SK, Sumitomo & Pulead**	**Panasonic, LG, CATL**

green Li-ion energy reborn

1	2	3
Spent Battery 	**Black Mass** ✓ Feedstock Input	**Black Mass to battery grade cathode** ✓ NMC 111, 811, 622, 535 ✓ Pure Lithium Carbonate ✓ CoSO4, NiSO4, MnSO4

Green Li-ion's

GLMC – 1 + 2

Closing the loop on **Battery Rejuvenation**

Step 1.
Acquisition of spent batteries
Green Li-ion's Clients collect spent batteries. Also after they complete Stage 4 below.

Step 2.
Crushing of Batteries
GL Clients Dismantle, Discharge, Shred, Crush & Separate metals / non metals = BLACK MASS

Black mass would travel up to 50,000 Miles around the global to be refined and turned into cathode material.

Step 3.
GLMC Cathode Creation
With the GLMC technology a metric ton (28,000 iphone8s) can be rejuvenated every 10 hours into battery grade cathode material.

Step 4.
Material used in new batteries
Battery manufacturers will build their new battery cells using Green Li-ion rejuvenated cathode material reducing reliance on mining and their carbon footprint considerably

Step 4.
Battery Grade Cathode Material Sales
Green Li-ion has built a network of Cathode material brokers and buyers to facilitate efficient re-use of our cathode production. Our brokers will sell the material to Battery Manufacturers.

GREEN LI-ION
ENHANCES CLIENTS VALUE

No one has a technology **Ready to directly manufacture battery grade cathode material**

COMPANY	TECHNOLOGY	OUTPUTS
green li-ion energy reborn	Hydrometallurgy (Co-Precipitation + Superior Separation)	✓ Purest & Only Multiple Battery Grade Cathode Materials ✓ Fastest time for spent battery to cathode ✓ Recycle ALL types of lithium batteries in one batch
RecycLiCo™ PATENTED PROCESS	Pyrometallurgy	✓ Extremely high energy consumption & Cost ✓ Only recovery of the Ni and Co ✓ cannot recycle all types of Li-Battery
fortum	Hydrometallurgy	✓ Low purity but a previous leader at <80% cobalt ✓ low purity of other products ✓ cannot recycle all types of Li-Battery
Li-Cycle®	Hydrometallurgy	✓ Main focus on the crushing machine (black Mass) ✓ Mixed metals recovery only ✓ Recent NASDAQ IPO at $1.4 Billion
REDWOOD MATERIALS	Pyrometallurgy	✓ Raised $700m Series A at $3.6 Billion ✓ Currently only produce metals salts ✓ Not currently using proprietary technology
AMERICAN MANGANESE INC.	Hydrometallurgy	✓ Claims NMC Cathode to Cathode ✓ Needs sorting and no Anode material ✓ No production of metals salt
BATTERY RESOURCERS	Hydrometallurgy	✓ Claims cathode to cathode production ✓ Can handle NMC 111 622 only at lab scale
umicore	Pyrometallurgy	✓ Highest energy consumption / cost ✓ High loss of Li and Mn precious metals ✓ Cannot recycle all types of Li-Battery

PURE BATTERY
GRADE CATHODES

We create highly controllable and customizable outputs.
Our Co-Precipitation process can achieve 99.9% accuracy in cafe production.

Green Li-ion is the only technology to skip production of mixed precious metal salts and immediately produce re-usable Battery Cathodes

Rejuvenation as a service:
Our technology is enabled through Pty modular design. Engineered to be scaled into existing facilities and flexibly manage different outputs.

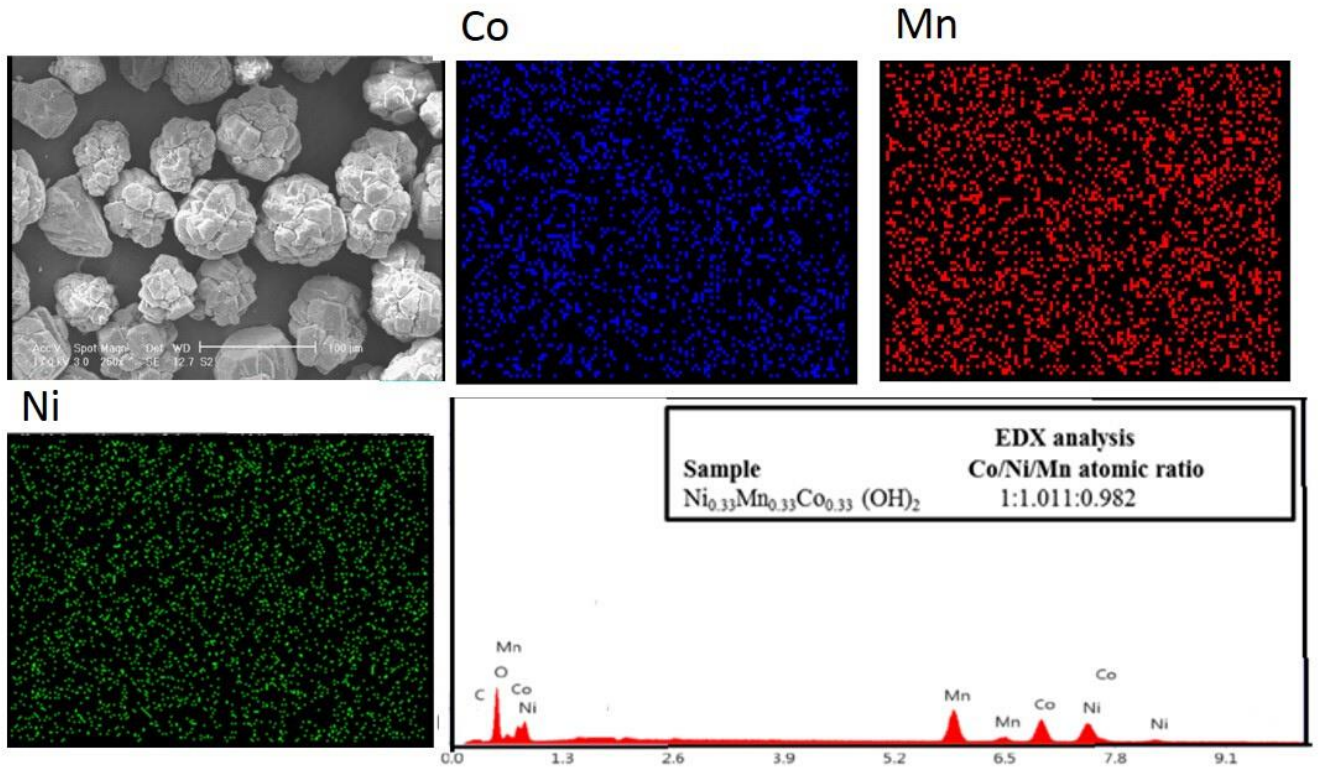


Fig. I. The mapping and EDX (Energy-dispersive X-ray spectroscopy) spectra of regenerative material.

Rejuvenating 100%
Of Li Battery Chemistries

Type	Cathode	Anode	Application	Recycling products
Lithium Cobalt Oxide (LCO or Li-cobalt)	$LiCoO_2$ cathode (~60% Co)	Graphite	Mobile phones, tablets, laptops, cameras	$LiCoO_2$, graphite
Lithium Manganese Oxide (LMO or Li-manganese)	$LiMn_2O_4$	Graphite	Power tools, medical devices, electric powertrains	$LiMn_2o_4$, graphite
Lithium Nickel Manganese Cobalt Oxide (NMC)	$LiNiMnCoO_2$	Graphite	E-bikes, medical devices, EVs, industrial	$LiNiMnCoO_2$, graphite
Lithium Iron Phosphate (LFP or Li-phosphate)	$LiFePO_4$	Graphite	Portable and stationary needing high load currents and endurance	$FePO_4$, Li_2CO_3 and graphite
Lithium Nickel Cobalt Aluminum Oxide (NCA or Li-aluminum)	$LiNiCoAlO_2$ (~9% Co)	Graphite	Medical devices, industrial, electic powertrain (Tesla)	Li_2CO_3, graphite, $NiCo(OH)_2$
Lithium Titanate (LTO or Li-titanate)	NMC	Li_2TiO_3	Electric powertrain (Mitsubishi i-MiEV, Honda Fit EV), solar-powered street lighting	$LiNiMnCoO_2$, TiO_2

We make reoccurring revenue

Profit Share Licence Model

01 6 Month ROI on investment

02 Client has use of machines for 10 year life

03 License agreement (GL holds title)

BATTERY RECYCLER / MANUFACTURE LICENSES OUR TECH

GL will have a profit share of 30% of unit Gross Profit per machine as license fee **04**

GL will have the exclusive maintenance contract **05**

GL will supply 1x Maintenance engineer **06**

REVENUE

- ✓ Reoccurring revenue from the profit sharing agreement
- ✓ Commodity pricing agreed in advance (SMM & LME)

Founded by **Recycling & Energy Pioneers**

DR. REZA KATAL

CHIEF TECHNOLOGY OFFICER

a passionate creator with 10 years industry exposure to the hydrometallurgical processing of Lithium- Ion batteries with a PHD from the National University of Singapore. He developed Green Li-ions novel battery rejuvenation process technology.

LEON FARRANT

CHIEF EXECUTIVE OFFICER

an accomplished CEO & Leader with 15 years experience driving the performance and success of global energy industry companies as well as being a successful entrepreneur with a Bachelors degree in commerce and an MBA.

recognition

- ✓ HSBC's Cities Of the Future hosted by IMG & Unbound Global Winner of Urban Champions award 2021.
- ✓ Microsoft's Global Social Entrepreneurs, 2021.
- ✓ Recognized as SOSV's Climate Tech 100, 2021.
- ✓ Recognized as Asia's 27th most transformative company 2021.
- ✓ Dr Reza Katal – 7th Most Transformative Leader in Energy Business Insider Australia 2021.
- ✓ Leon Farrant - Executive of the Year- Energy. SBR Management Excellence Awards 2021

Utilizing the best **Talent in Asia**

STEPHEN GOW

VP - Commercial

a senior engineering and commercial professional with an accomplished track record in contract and legal management during 32-year career in energy industry.

Dr EBRAHIM AKHONDI

VP - Technology

a forward-thinking chemical expert & innovator with 15 years experience bringing novel deep technology to commercial levels.

TING SHENG GAN

Lead Automation Engineer

a professional with 11 years experiences in industrial automation and machine designing engineering.

ROB PRIMAUX

Director – Projects USA

with 30 years experience delivering complex global engineering & manufacturing projects in the chemical and energy industry.

GRACE LEE

Head Of Finance

Financial; professional with experience listing companies as well as taking high performing start ups through to round D funding. ACCA & ISCA accredited.

Dr TEO YING SHEN

CHEMIST

an environmental engineer who pushes the limit of clean energy technologies using advanced application chemistry.

SYAZWAN SALAM

Process Engineer

With a Bachelor's degree in Chemical & Biomolecular Engineering have knowledge in Processes, Mechanical, piping, and specifications.

THERESA POH

Office Manager

our commercial leader with great exposure to the resources industry and ensuring corporate governance in Singapore and abroad.

SUKARNO JU'ARI

Electrical Engineer

With a Bachelor's degree in electronics have knowledge in electrical, automation, and specifications.

JANNELLE ALCANAR

Junior Accountant

Bachelor of Finance have knowledge in accounting, investments and budgeting

Utilizing the best **Talent in Asia**

CANDICE LI

Lab Assistant

a research and development professional in quantitative analyses on precious metals to make waves in the innovation of our technology.

ASHTON TAN

Business Development Manager

a strategic business development professional experienced bringing 10 years of experience in leveraging industry and market trend knowledge to develop consultative approaches.

DARIA ARBUZOVA

Business Development Manager

an experienced Business Development Manager with over 9 years of experience in Renewable energy and Raw Materials Industry all around the world with a successful track record of origination, deals closing and business extension.

ADVISORY BOARD

Prof. Seeram Ramakrishna

Chair of Circular Economy Taskforce and Director of Center of Nanofibers & Nanotechnology at National University of Singapore; Leader in Future of Manufacturing.

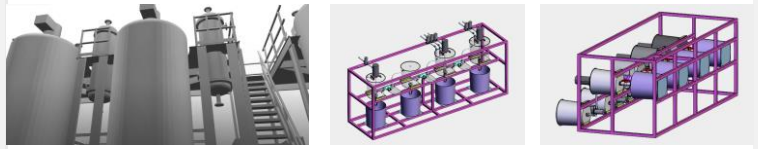
Ad Ketelaars

Start-up ecosystem builder with 30+ years experience in leading and managing emerging and global fortune 500 companies.

We have already locked in $15 Million ARR

Commercial size (728MT/pa)

GLMC x 4 Sold



USD $2,480,000 Price

Licensing agreements signed x 4
~ $3,000,000 ARR p/machine

Commercial size (150MT/pm)

GLLFP-1

1x Sold

License agreement

19 Prospects

9 x Engaged Clients
+
4 x New MOU's

4 x PAYING CLIENTS

2 x Major Battery companies
using Green Li-ion Cathode material

THANK YOU

FOR MORE INFORMATION CONTACT US!

Contact Us

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Connect with Green Li-ion