



# Global Battery Recycling Sector

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High Level Selected Comps & Scorecard Commentary

30 August 2023

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**Confidential**  
**Draft Discussion Document**



# Financial Scorecard of Listed Battery Recycling Companies

Ticker	Company Name	Country	Enterprise Value			Market Cap			Revenue (A\$m)		EV/Sales	
			Latest	Δ LTM (%)	Latest	Δ LTM (%)	Latest	Δ LTM (%)	Latest	-1Yr		
<b>Australia</b>												
ASX:EGR	EcoGraf Limited	Australia	20	▼	(81.87%)	61	▼	(62.31%)	0	NA	NA	NA
ASX:HNR	Hannans Limited	Australia	22	▼	(55.13%)	27	▼	(50.71%)	0	NA	NA	NA
ASX:LIT	Lithium Australia Limited	Australia	25	▼	(66.43%)	44	▼	(48.80%)	4	4921.13%	5.88x	879.33x
ASX:NMT	Neometals Ltd	Australia	239	▼	(61.20%)	282	▼	(59.17%)	0	NA	NA	NA
<b>Median*</b>			<b>23</b>		<b>(63.82%)</b>	<b>53</b>		<b>(54.94%)</b>	<b>4</b>		<b>5.88x</b>	
<b>Mean*</b>			<b>77</b>		<b>(66.16%)</b>	<b>103</b>		<b>(55.25%)</b>	<b>4</b>		<b>5.88x</b>	
<b>International</b>												
NASDAQCM:AQMS	Aqua Metals, Inc.	USA	167	▲	70.48%	171	▲	61.30%	0	(100.00%)	NA	22.04x
OTCQX:ABML	American Battery Technology Co.	USA	572	▲	964.67%	591	▲	1135.56%	0	NA	NA	NA
TSXV:BMR	Battery Mineral Resources Corp.	Canada	50	▼	(6.23%)	30	▼	(36.53%)	14	NA	3.53x	NA
TSE:5714	Dowa Holdings Co., Ltd.	Japan	3,686	▼	(18.35%)	2,911	▼	(10.20%)	8,243	23.38%	0.45x	0.68x
ENXTPA:ERA	ERAMET S.A.	France	5,565	▲	5.49%	3,650	▲	2.08%	0	(100.00%)	NA	0.89x
HLSE:FORTUM	Fortum Oyj	Finland	22,154	▼	(17.88%)	18,711	▲	36.93%	13,949	(48.10%)	1.59x	1.00x
SZSE:002340	GEM Co., Ltd.	China	10,122	▼	(15.43%)	6,942	▼	(24.81%)	6,073	108.01%	1.67x	4.10x
NYSEAM:KULR	KULR Technology Group, Inc.	USA	125	▼	(43.83%)	115	▼	(50.57%)	11	790.35%	10.96x	173.66x
NYSE:LICY	Li-Cycle Holdings Corp.	Canada	1,374	▲	4.75%	1,290	▼	(31.01%)	51	NA	26.70x	NA
TSXV:AMY	RecycliCo Battery Materials Inc.	Canada	92	▼	(20.43%)	115	▼	(18.73%)	0	NA	NA	NA
NYSE:SES	SES AI Corporation	USA	691	▼	(60.10%)	1,223	▼	(46.84%)	0	NA	NA	NA
BIT:SRG	Snam S.p.A.	Italy	51,234	▲	20.16%	26,611	▲	10.89%	6,092	38.06%	8.41x	9.66x
LSE:TM1	Technology Minerals Plc	United Kingdom	45		NA	44		NA	0	NA	NA	NA
ENXTBR:UMI	Umicore SA	Belgium	12,024	▼	(6.87%)	9,667	▼	(15.57%)	35,138	7.20%	0.34x	0.39x
<b>Median*</b>			<b>1,032</b>		<b>(6.87%)</b>	<b>1,257</b>		<b>(15.57%)</b>	<b>6,073</b>	<b>15.29%</b>	<b>2.60x</b>	<b>2.55x</b>
<b>Mean*</b>			<b>7,707</b>		<b>67.42%</b>	<b>5,148</b>		<b>77.88%</b>	<b>7,730</b>	<b>89.86%</b>	<b>6.71x</b>	<b>26.55x</b>

\*Note: Median and mean calculations exclude 0 and NA Entries.



# Strategic Allocation of Funds (I/II)

Date	Funding (\$M)	Currency	Type	Use of Funds
<b>American Battery Technology Co</b>				
Mar-23	10.00	USD	Post-IPO Equity	Net proceeds will be used for working capital and general corporate purposes, including the purchase of a move-in-ready, commercial-scale battery recycling facility in Nevada
Mar-23	20.00	USD	Pre-Payment	TechMet-Mercuria will purchase black mass intermediate material from ABTC after its Nevada facility becomes operational. Pre-payment will be used for general corporate purposes and assist commissioning.
Nov-22	10.00	USD	Grant	R&D purposes to validate, test, and deploy 3 disruptive advanced separation and processing technologies in its existing lithium-ion battery recycling pilot plant to enhance economic competitiveness
Oct-22	57.70	USD	Grant	To help cover a portion of the \$115m cost to construct a Commercial-scale manufacturing facility for battery grade lithium hydroxide in Nevada. Biden emphasized China has undercut US manufacturing with unfair subsidies and trade practices, allowing them to take control of 75% of the battery market.
Oct-21	2.00	USD	Grant	To support commercial-scale project to demonstrate that recycled battery metal products from the US can be produced at a lower cost and a lower environmental impact than mined virgin minerals
<b>RecycLiCo Battery Materials Inc.</b>				
Aug-22	Undiscl.		Grant	Funding will be used to support feasibility study to target removal of fluoride from black mass
Jan-22	Undiscl.		Grant	Fund R&D activities related to the company's EV battery cathode materials recycling technology
Sep-21	20.00	CAD	Placement	General working capital and corporate purposes
Aug-21	Undiscl.		Grant	Funding will be used to help RecycLiCo and Italtvolt model, commission and test a lithium-ion battery cathode material recycling demonstration plant
Mar-21	2.70		Contract Payment	Develop a 500kg/d demonstration recycling plant and a commercial plant design using the RecycLiCo process
Dec-20	0.13		Placement	Fund exploration activities on mineral properties
Nov-20	Undiscl.		Grant	Funding will be used to conduct technical feasibility study on the synthesis of cathode material precursors from recycled batteries
Sep-20	2.00		Placement	Fund capex required for pilot plant recycling completion, general working capital, and fees required to sell of exploration assets
Feb-20	Undiscl.		Grant	Develop joint action plan and go-to-market strategy between RecycLiCo and Battery Safety Solutions for a deomonstration lithium-ion battery recycling plant in Europe and North America
Nov-18	1.50		Placement	Fund capex required for pilot plant recycling completion and general working capital
Jan-18	2.00		Placement	Fund R&D expenses and general working capital
Oct-17	0.25		Placement	Fund R&D expenses and general working capital
May-17	1.00		Placement	Fund R&D expenses to complete patented recycling processes and general working capital
Jan-17	Undiscl.		Grant	Fund R&D activities related to the company's EV battery cathode materials recycling technology



# Strategic Allocation of Funds (II/II)

Date	Funding (\$M)	Currency	Type	Use of Funds
<b>Li-Cycle Holdings</b>				
Feb-23	375.00	USD	Government Loan	Funding will be used for the construction of Li-Cycle's Rochester battery recycling hub and assist the company in expanding operations.
May-22	200.00	USD	Convertible Note	Funding will be used for the construction of Li-Cycle's Rochester battery recycling hub and assist the company in expanding operations.
Dec-22	50.00	USD	Post-IPO Equity	LG Energy & Chem have chosen Li-Cycle as their official lithium-ion battery recycling partner. Funding will be used to facilitate Li-Cycle's global expansion
Sep-21	100.00	USD	Convertible Note	Funding will be used to accelerate growth of battery recycling footprint in the US and globally to scale Li-Cycle's proven technology and access new customers and markets. Koch will also partner with Li-Cycle to provide EPC services and Optimise Process Design
Feb-21	615.00	USD	IPO Via SPAC	Funding will be used to accelerate growth and construct recycling facilities and other infrastructure
Nov-20	Undiscl.	USD	Series C	Fund development of Rochester recycling hub and international expansion activities
Oct-18	2.70	USD	Grant	Fund R&D activities to develop novel process for the recovery and recycling of valuable materials from all types of lithium-ion batteries.
<b>Aqua Metals, Inc.</b>				
Jul-23	20.00	USD	Post-IPO Equity	Proceeds will be used to fund capex related to the construction of its Tahoe Reno recycling centre, working capital, and general corporate purposes
Jul-23	5.00	USD	Post-IPO Equity	Strategic equity investment to help AquaMetals expand. Yulho possess expertise and established relationships with EV makers in Korea and battery recycling technology of its own. AquaMetals technology will be licensed to Yulho to assist expansion in Asia and the EU.
Oct-23	6.00	USD	Secured Loan	Working capital and corporate purposes to assist business expansion and scaling.
<b>Redwood Materials</b>				
Feb-23	2000.00	USD	Government Loan	Funds will be used to expand Redwood's Nevada recycling facility
Sep-21	50.00	USD	Corporate Round	Fund expansion of existing recycling operations in North America, R&D, and general corporate purposes. Ford will partner with Redwood create closed loop battery recycling and access supply of critical battery minerals
Jul-21	775.00	USD	Series C	Fund expansion of existing recycling operations in North America, R&D, and general corporate purposes
Aug-20	40.00	USD	Series B	Fund R&D expenses related to developing battery recycling processes
May-17	2.00	USD	Seed	Fund R&D expenses related to developing battery recycling processes
<b>Cirba Solutions</b>				
Feb-23	50.00	USD	Corporate Round	Expand international presence and R&D activities.
Oct-22	75.00	USD	Grant	Funds will be used to upgrade and expand its lithium-ion processing facility in Ohio. The Facility collects, disassembles, and shreds lithium-ion batteries to be used to produce new batteries.



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