

Strategic Metals & Rare Earths Letter

INTERNATIONAL

the independent information and advisory publication on investing in Strategic Metals & Rare Earths

June 2021



Marino G. Pieterse,
publisher and editor

Critical Metals and Special Minerals		Heavy Rare Earths Oxides (HREO)		Light Rare Earth Oxides (LREO)
lithium (Li)	yttrium (Y)	europium (Eu)	erbium (Er)	lanthanum (La)
cobalt (Co)	scandium (Sc)	gadolinium (Gd)	thulium (Tm)	cerium (Ce)
graphite (C)	niobium (Nb)	terbium (Tb)	ytterbium (Yb)	praseodymium (Pr)
vanadium (V)	tantalum (Ta)	dysprosium (Dy)	lutetium (Lu)	neodymium (Nd)
magnesium (Mg)	beryllium (Be)	holmium (Ho)		promethium (Pm)
tungsten (W)	gallium (Ga)			samarium (Sm)
titanium (Ti)	indium (In)			
zirconium (Zr)	germanium (Ge)			
hafnium (Hf)				
antimony (Sb)				

► **Growing shortage of cobalt as one of the most precious EV battery metals offers highly lucrative investment opportunities**

Overview of listed LITHIUM focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	US\$ billion	US\$ billion
			US\$	US\$		US\$	US\$	US\$ billion	US\$ billion
Albemarle Corp.	NYSE	ALB	167.15	147.52	13	188.36	56.17	17.7	17.7
FMC	NYSE	FMC	121.83	114.93	6	123.67	85.59	15.0	15.0
SQM	NYSE	SQM	54.57	49.09	11	60.75	20.50	13.8	13.8
			Euro	Euro		Euro	Euro	Euro million	US\$ million
ERAMET	Euronext	ERA:FP	61.50	42.92	43	69.55	20.05	1,635.0	1,995
			CNY	CNY		CNY	CNY	CNY billion	US\$ billion
Tianqi Lithium	Shenzen	002466	56.50	39.27	44	70.13	18.69	82.3	12.3
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
Pilbara Minerals	1) ASX	PLS	1.26	0.87	45	1.47	0.23	3,630.0	2,795.1
Orocobre	ASX	ORE	6.65	4.51	47	7.28	2.22	2,280.0	1,755.6
Galaxy Resources	ASX	GXY	3.87	2.31	68	4.17	0.74	1,950.0	1,501.5
Piedmont Lithium	ASX	PLL	0.84	0.37	127	1.14	0.08	1,320.0	1,016.4
Liontown Resources	ASX	LTR	0.57	0.40	43	0.59	0.10	1,030.0	793.1
IoNeer	ASX	INR	0.35	0.28	25	0.49	0.09	654.4	503.9
AVZ Minerals	ASX	AVZ	0.16	0.17	-6	0.23	0.05	450.5	346.9
Neometals	ASX	NMT	0.53	0.28	89	0.59	0.14	289.0	222.5
Core Lithium	ASX	CXO	0.24	0.15	60	0.42	0.04	281.8	217.0
Sayona Mining	ASX	SYA	0.04	0.01	344	0.05	0.01	192.6	148.3
Argosy Minerals	ASX	AGY	0.09	0.08	13	0.22	0.05	113.8	87.6
Lithium Australia	ASX	LIT	0.12	0.07	71	0.21	0.05	104.1	80.2
Lithium Power International	ASX	LPI	0.21	0.22	-6	0.39	0.12	61.7	47.5
Prospect Resources	ASX	PSC	0.15	0.17	-12	0.28	0.06	56.0	43.1
European Lithium	ASX	EUR	0.06	0.05	20	0.13	0.04	56.0	43.1

1) completed acquisition of Altura Lithium on January 20, 2021; in consideration of an upfront cash payment of US\$ 155 million (A\$ 201 million)

Overview of listed LITHIUM focused companies (by market capitalization) - continuation

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	C\$ million	US\$ million
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
Lithium Americas	TSX	LAC	18.96	15.98	19	36.60	5.31	2,231.8	1,852.4
Standard Lithium	TSX.V	SLL	3.74	2.85	31	4.75	0.97	505.9	419.9
Sigma Lithium Resources	TSX.V	SGMA	5.60	2.99	87	7.05	1.30	459.6	381.5
Neo Lithium	TSX	NLC	2.92	1.99	47	3.88	0.45	407.7	338.4
American Lithium	TSX.V	LI	1.85	1.22	52	4.21	0.42	322.6	267.7
Millennial Lithium	TSX	ML	2.98	2.57	16	5.25	0.96	292.5	242.7
Critical Elements Lithium	TSX.V	CRE	1.63	0.69	136	1.70	0.23	277.9	230.6
Frontier Lithium	TSX.V	FL	0.92	0.37	148	1.39	0.19	173.3	143.8
E3 Metals	TSX.V	ETMC	2.18	0.88	148	5.37	0.26	94.7	78.6
Wealth Minerals	TSX.V	WML	0.42	0.09	366	0.45	0.07	77.1	64.0
Avalon Advanced Materials	TSX	AVL	0.19	0.11	73	0.36	0.05	70.2	58.3
Macarthur Minerals	TSX.V	MMS	0.43	0.44	-2	0.70	0.15	60.4	50.1
Pure Energy Minerals	TSX	PE	1.19	0.71	68	2.63	0.24	39.9	33.1
Aberdeen International	TSX	AAB	0.26	0.15	73	0.48	0.04	37.7	31.3
Lithium South Development	1) TSX.V	LIS	0.50	0.46	10	1.18	0.21	29.6	24.6
Power Metals	TSX.V	PWM	0.25	0.39	-36	0.49	0.22	26.4	21.9
Ultra Resources	2) TSX.V	ULT	0.16	0.09	78	0.28	0.03	17.2	14.3
Dajin Lithium	3) TSX.V	DJI	0.09	0.06	50	0.20	0.02	13.1	10.9
Portofino Resources	TSX.V	POR	0.10	0.10	0	0.26	0.05	8.2	6.8
Argentina Lithium and Energy	TSX	LIT	0.15	0.09	67	0.26	0.05	4.8	4.0
			GBp	GBp		GBp		£ million	US\$ million
Bacanora Lithium	4) AIM	BCN	55.00	63.00	-13	69.00	20.05	211.3	300.0
European Metals Holdings	AIM	EMH	70.00	64.00	9	102.50	13.00	122.6	174.1
Savanna Resources	AIM	SAV	3.48	4.40	-21	5.97	1.79	58.7	83.3
Kodal Minerals	AIM	KOD	0.23	0.10	130	0.36	0.03	36.7	52.1

1) name change from NRG Metals effective October 19, 2020

2) also gold assets in Australia

3) name change from Dajin Resources effective January 20, 2020

4) NewView Capital of China holds a 19.89% equity interest

Overview of listed COBALT focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	CNY billion	US\$ billion
Zhejiang Huayou Cobalt	Shanghai 603799		CNY	CNY		CNY	CNY	CNY billion	US\$ billion
			102.84	79.30	30	116.52	31.05	122.4	19.6
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
First Cobalt	TSX.V	FCC	0.31	0.37	-16	0.46	0.12	150.7	125.1
Nickel 28 *	1) TSX.V	NKL	1.01	0.48	110	1.11	0.13	88.3	73.3
Canada Silver Cobalt Works	TSX.V	CCW	0.42	0.58	-28	0.77	0.35	51.4	42.7
Fortune Minerals	TSX.V	FT	0.14	0.08	74	0.27	0.06	50.7	42.1
Sienna Resources	2) TSX.V	SIE	0.13	0.06	117	0.17	0.05	14.9	12.4
Cobalt Blockchain	TSX.V	COBC	0.06	0.07	-14	0.17	0.04	13.0	10.8
Fuse Cobalt	TSX.V	FUSE	0.10	0.04	150	0.33	0.03	10.5	8.7
Quantum Battery Metals	3) CNX	QBAT	1.59	0.30	430	1.70	0.80	9.7	8.0
Cruz Cobalt	CNX	CRUZ	0.10	0.05	100	0.18	0.03	9.0	7.5
Fjordland Exploration	4) TSX.V	FEX	0.10	0.11	-9	0.27	0.05	7.6	6.3
Global Energy Metals	TSX.V	GEMC	0.30	0.30	0	0.35	0.10	4.9	4.1
Bolt Metals	CNX	BOLT	0.39	0.29	34	0.70	0.09	4.8	4.0
Power Group Projects	TSX.V	PGP	0.09	0.07	28	0.12	0.03	2.6	2.1
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
Jervois Mining	ASX	JRV	0.61	0.39	56	0.65	0.15	489.4	376.8
Cobalt Blue Holdings	ASX	COB	0.36	0.18	100	0.52	0.08	89.5	68.9
Ardea Resources	ASX	ARL	0.52	0.41	27	0.63	0.24	65.8	50.6
A-Cap Energy	5) ASX	ACB	0.06	0.03	100	0.08	0.006	54.1	41.7

* featured as a **Special Situation** and included in 2020/2021 Shortlist of investment recommendations

1) name change from Conic Metals effective January 12, 2021

2) cobalt-nickel-copper project in Sweden

3) name change from Quantum Cobalt effective March 23, 2021

4) Nickel-copper-PGE project in Manitoba, USA and Nickel-copper-cobalt project in Newfoundland and Labrador, Canada

5) besides farm-in and Joint Venture Agreement with Blackham Resources to acquire a 75% interest in cobalt and nickel associated metals of the Wilconi Project in Western Australia, also major uranium project in Botswana

Overview of listed GRAPHITE focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	A\$ million	US\$ million
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
Syrah Resources	ASX	SYR	1.02	0.96	6	1.38	0.27	508.2	391.3
Talga Resources	ASX	TLG	1.64	1.62	1	2.15	0.38	497.3	382.9
Ecograf	1) ASX	EGR	0.61	0.17	259	1.10	0.06	271.8	209.3
Magnis Energy Technologies	ASX	MNS	0.28	0.20	40	0.50	0.07	234.1	180.3
Bass Metals	ASX	BSM	0.005	0.003	67	0.014	0.002	24.1	18.6
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
Nouveau Monde Graphite	TSX.V	NOU	15.69	10.30	52	27.40	1.80	569.7	472.9
NextSource Materials	TSX.V	NEXT	3.62	0.90	302	5.30	0.30	347.1	288.1
Zen Graphene Solutions	TSX.V	ZEN	2.74	3.58	-23	3.77	0.39	235.7	195.6
Graphite One	TSX	GPH	1.33	0.49	174	2.40	0.36	86.7	72.0
Mason Graphite	TSX.V	LLG	0.56	0.48	17	1.19	0.15	77.7	64.5
Focus Graphite	TSX.V	FMS	0.09	0.06	50	0.28	0.02	45.8	38.0
SRG Mining	TSX.V	SRG	0.52	0.58	-10	1.05	0.33	43.3	35.9
Northern Graphite	TSX.V	NGC	0.48	0.29	65	0.70	0.15	38.6	32.0
Ceylon Graphite	TSX.V	CYL	0.18	0.22	-18	0.62	0.09	22.5	18.6
Lomiko Metals	TSX.V	LMR	0.12	0.06	100	0.28	0.03	20.1	16.7
Canada Carbon	TSX.V	CCB	0.15	0.18	-17	0.37	0.12	18.4	15.3
Eagle Graphite	TSX.V	EGA	0.17	0.05	240	0.38	0.03	6.2	5.1
			US\$	US\$		US\$	US\$	US\$ million	US\$ million
Westwater Resources	2) NASDAQ	WWR	4.28	4.93	-13	14.50	1.34	138.7	138.7

1) also lithium and uranium properties

Overview of listed VANADIUM focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	£ million	US\$ million
			GBP	GBP		GBP	GBP	£ million	US\$ million
Bushveld Minerals	AIM	BMN	15.10	19.70	-23	24.50	10.22	179.9	255.5
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
TNG	1) ASX	TNG	0.07	0.09	-28	0.13	0.05	81.2	62.5
Australian Vanadium	ASX	AVL	0.02	0.01	100	0.04	0.009	58.6	45.1
Technolpgy Metals Australia	ASX	TMT	0.33	0.33	0	0.48	0.16	49.6	38.2
Vanadium Resources	ASX	VR8	0.05	0.03	67	0.08	0.02	20.9	16.1
			GBP	GBP		GBP	GBP	£ million	US\$ million
Aura Energy	2) AIM	AEE	0.11	0.40	-73	0.13	0.21		0.0
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
Silver Elephant Mining *	3) TSX	ELEF	0.32	0.49	-35	0.59	0.23	64.7	53.7
First Vanadium	TSX.V	FVAN	0.69	0.47	47	0.76	0.16	49.2	40.8
Blue Sky Uranium *	4) TSX.V	BSK	0.21	0.19	11	0.33	0.09	37.3	30.9
Vanadium One Iron	5) TSX.V	VONE	0.27	0.13	108	0.36	0.07	20.6	17.1
CellCube Energy Storage	CNX	CUBE	0.03	0.03	0	0.06	0.02	4.4	3.7
Vanadian Energy	TSX.V	VEC	0.09	0.05	80	0.10	0.03	3.8	3.2

* featured as a **Special Situation** and included in 2020/2021 Shortlist of investment recommendations

1) vanadium-titanium-iron project

2) also uranium project in Mauretania

3) name change from Prophecy Development, effective March 19, 2020

4) uranium-vanadium project

5) vanadium-iron-titanium project; name change from Vanadium One Energy effective June 5, 2019

Overview of listed MANGANESE focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization million	
			June 1 2021	year-end 2020		H	L	local	US\$
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
American Manganese	TSX.V	AMY	1.21	0.41	195	2.86	0.13	289.6	240.3
Euro Manganese	TSX.V	EMN	0.55	0.48	15	0.85	0.06	200.9	166.7
Giyani Metals	TSX	EMM	0.47	0.38	24	0.87	0.12	82.5	68.4
Manganese X Energy	TSX.V	MN	0.41	0.28	46	1.11	0.08	48.9	40.6
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
Element 25	ASX	E25	2.46	1.51	63	2.90	0.37	366.0	281.8

Overview of listed TUNGSTEN focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	C\$ million	US\$ million
			C\$	C\$		C\$	C\$	C\$ million	US\$ million
Almonty Industries	TSX	All	1.21	0.64	89	1.30	0.50	233.8	194.1
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
EQ Resources	1) ASX	EQR	0.03	0.04	-25	0.05	0.02	36.8	28.3

1) formerly Carbine Tungsten; new name change from Specialty Metals effective December 2, 2020; also lithium assets in Chile and gold exploration licences in NSW, Australia

Overview of listed TITANIUM focused companies (by market capitalization)

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization	
			June 1 2021	year-end 2020		H	L	US\$ million	US\$ million
			US\$	US\$		US\$	US\$	US\$ million	US\$ million
Tronox	NYSE	TROX	24.49	14.62	68	24.62	6.50	3,770.0	3,770.0
Kronos Worldwide	NYSE	KRO	16.76	14.91	13	18.41	9.19	1,900.0	1,900.0
			A\$	A\$		A\$	A\$	A\$ million	US\$ million
Iluka Resources	ASX	ILU	7.75	6.49	19	10.42	4.88	3,270.0	2,517.9
			GBP	GBP		GBP	GBP	£	
BlueJay Mining	1) AIM	JAY	8.75	12.38	-29	15.76	5.35	85.0	120.7

1) Dundas ilmenite project in Greenland; also joint venture and earn-in agreement with Rio Tinto to advance Enonkoski nickel project in Finland

Overview of listed REE focused companies (by market capitalization) - traditional countries

June 1, 2021		Trading symbol		Share price		Change in %	12 months prices		Market capitalization million	
		June 1 2021	year-end 2020	US\$ US\$	US\$ US\$		H	L	US\$ million	US\$ million
US:										
Rare Element Resources	1)	OTC US	REEMF	2.10	1.08	94	4.13	0.47	221.2	221.2
Texas Mineral Resources		OTC US	TMRC	2.12	1.77	20	4.70	1.20	149.1	149.1
Ucore Rare Metals										
Ucore Rare Metals		TSX V	UCU	1.18	1.18	0	2.97	0.70	58.9	48.9
Canada:										
Search Minerals		TSX V	SMY	0.15	0.07	114	0.37	0.03	52.2	43.3
Medaillon Resources		TSX V	MDL	0.30	0.29	4	0.75	0.10	25.8	21.4
Commerce Resources		TSX V	CCE	0.32	0.33	-3	0.50	0.18	22.5	18.7
Eagle Plains Resources		TSX V	EPL	0.17	0.15	13	0.19	0.11	18.0	14.9
Appia Energy		CNSX	API	0.14	0.41	-66	0.84	0.13	14.4	11.9
Canada Rare Earth	2)	TSX V	LL	0.08	0.10	-20	0.22	0.05	14.2	11.8
Marvel Discovery	3)	TSX V	MARV	0.11	0.07	57	0.15	0.03	7.8	6.5
Australia:										
Lynas Rare Earths		ASX	LYC	5.25	4.18	26	6.82	1.80	4,730.0	3,642.1
Alkane Resources	4)	ASX	ALK	0.96	0.97	-1	1.54	0.66	568.6	437.8
Hastings Technology Metals		ASX	HAS	0.18	0.19	-5	0.27	0.11	304.2	234.2
Arafura Resources		ASX	ARU	0.17	0.13	31	0.30	0.05	193.2	148.7
Northern Minerals		ASX	NTU	0.03	0.04	-25	0.07	0.02	164.8	126.9
Western Europe:										
Greenland:										
Greenland Minerals	5)	ASX	GGG	0.10	0.28	-64	0.36	0.07	132.8	102.3
Leading Edge Materials	6)	TSX V	LEM	0.24	0.37	-35	0.45	0.11	30.1	25.0

1) approximately 49% held by Synchron, an affiliated General Atomics privately held group of companies

2) vertically integrated REE business

3) also uranium assets

4) also gold producer

5) world's largest undeveloped multi-element REE-uranium-zinc occurrence

6) also graphite and lithium properties in Sweden and cobalt-nickel project in Romania

Overview of listed REE focused companies (by market capitalization) - emerging countries

June 1, 2021	Trading symbol		Share price		Change in %	12 months prices		Market capitalization million		
			June 1 2021	year-end 2020		H	L	C\$ million	US\$ million	
Africa:										
Namibia:										
Namibia Critical Metals	6)	TSX.V	NMI	C\$ 0.38	C\$ 0.25	52	C\$ 0.43	C\$ 0.15	C\$ million 73.5	US\$ million 61.0
Angola:										
Pensana Plc		AIM	PRE	GBP 1.06	GBP 1.94	-45	GBP 2.08	GBP 0.20	£ million 222.0	US\$ million 315.2
Tanzania:										
Peak Resources		ASX	PEK	A\$ 0.12	A\$ 0.07	71	A\$ 0.14	A\$ 0.02	A\$ million 185.3	US\$ million 142.7
Burundi:										
Rainbow Rare Earths		AIM	RBW	GBP 14.75	GBP 10.75	37	GBP 21.50	GBP 2.22	£ million 70.1	US\$ million 99.5
Malawi:										
Mkango Resources		TSX.V	MKA	C\$ 0.54	C\$ 0.28	93	C\$ 0.58	C\$ 0.08	C\$ million 71.8	US\$ million 59.6
Globe Metals and Mining		ASX	GBE	A\$ 0.04	A\$ 0.04	0	A\$ 0.06	A\$ 0.01	A\$ million 18.6	US\$ million 14.3
Central Asia:										
Kyrgyzstan:										
Stans Energy		TSX.V	HRE	C\$ 0.01	C\$ 0.01	0	C\$ 0.01	C\$ 0.005	C\$ million 1.8	US\$ million 1.5
6) heavy rare earths joint venture with <u>JOGMEC</u> of <u>Japan</u>										

CALENDAR OF MINING EVENTS



Uraniumletter INTERNATIONAL

Strategic Metals & Rare Earths Letter
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June	7 – 11	Mining Peru – Lima, Peru
June	15 – 17	DRC Mining Week – Lubumbashi, DRC
June	22 – 24	Mines and Money Online Connect
September	8 – 10	World Nuclear Symposium - London
September	14 – 15	MINEX Kazakhstan – Nur Sultan, Kazakhstan
October	5 – 6	DRC Mining Week – Lubumbashi, DRC
October	12 – 14	Eastern Africa Mining and Energy Conference – Nairobi, Kenya
October	25 – 27	Mines and Money / IMARC Intern. Mining – Melbourne, Australia
November	8 – 11	Lithium Latin America – Buenos Aires, Argentina
November	16 – 17	The Mining Show – Dubai
November	30	MINEX Eurasia – London

CALENDAR OF MINING EVENTS 2022

February 7 – 10 **African Mining Indaba – Cape Town, South Africa**



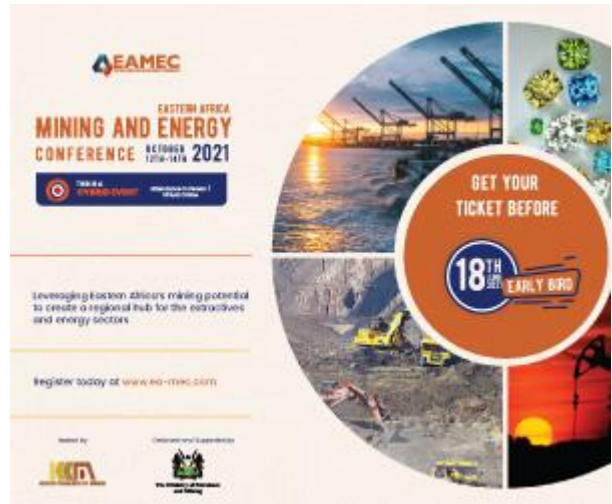


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