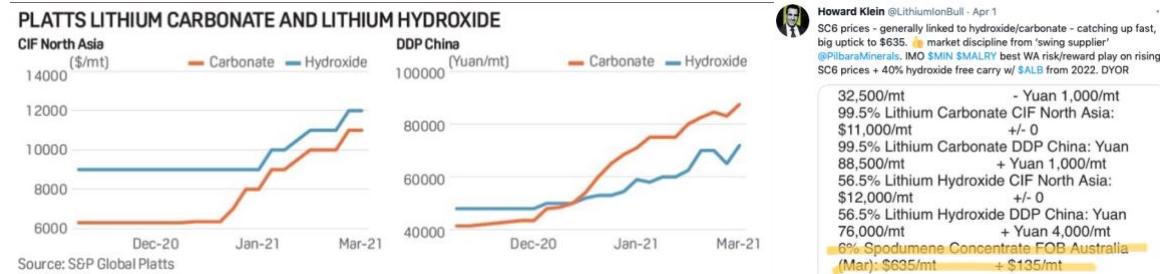




## April 5: Issue 69.420 - The Sleeping Giant Awakes

**Tesla** blowing away Q1 estimates on Made in China X and Y deliveries corroborate the sharp rises in lithium carbonate, hydroxide and spodumene prices.



Momentum since November's US Election and January's Georgia run-offs which put Chuck "Clean Cars for America" Schumer as Senate Majority leader is building. Build Back Better Biden's \$1.9T Eisenhower-esque #AmericanJobsPlan is massively bullish the EV/clean energy investment thematic.

While last week's main headline was \$174B for EVs/Charging, looking closer at the [White House Fact Sheet for the American Jobs Plan](#), uncovers ingredients to the upstream critical materials supply, namely **\$52B** for rural manufacturing and clean energy, the potential revival of the [48C investment tax credit](#) and **\$50B** for Department of Commerce related to critical goods manufacturing. This is on top of **\$40B** in unspent funds available at the [Loan Projects Office](#) of the [Department of Energy](#) which Secretary of Energy Granholm has articulated with her "hair on fire" she wants to "invest" in all sorts of projects. Recall in 2012 Albemarle predecessor [Rockwood secured DOE funding](#) to expand hydroxide capacity in North Carolina and also at Silverpeak in Nevada.

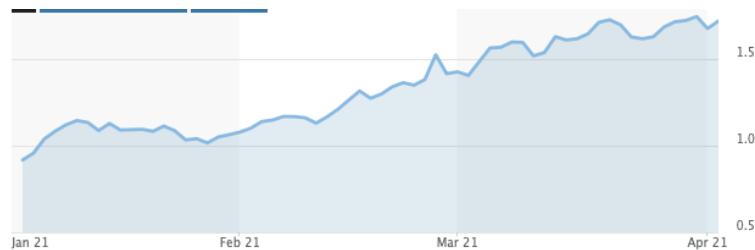
*...calling on Congress to invest more than \$52 billion in domestic manufacturers...invest in existing capital access programs with a proven track record of success, with a focus on supporting rural manufacturing and clean energy...specific supports for modernizing supply chains, including in the auto sector, like extending the 48C tax credit program... creation of a new financing program to support debt and equity investments for manufacturing to strengthen the resilience of America's supply chains...calling on Congress to invest \$50 billion to create a new office at the Department of Commerce dedicated to monitoring domestic industrial capacity and funding investments to support production of critical goods.*

Joining Chuck Schumer, Michigan Senator Debbie Stabenow -- who [sponsored legislation in 2019](#) to expand EV tax credits -- is co-leading implementation of Biden's EV plans. [Prolific Tesla Tweeter Gary Black](#) suggested on [Dave Lee on Investing](#)'s YouTube channel talk in DC about a "\$10,000" rather than "\$7,500" EV credit/rebate – a key question is whether the 200,000 per company cap will be eliminated; and if a "point of sale" rebate will be implemented, which would result in an immediate price reduction rather than having to apply and get credit later - psychologically geared to stimulate demand. Nancy Pelosi is targeting July 4 for passing something in House, so it's possible by mid/end summer there will be legislation enacted. **Q3/Q4 USA EV sales numbers in USA could start to go ballistic.**



## Beware The Ides of March - SPAC-tacular Indigestion

March witnessed bond vigilantes nearly doubling 10-year treasury yields from 0.92% to 1.72%...



...which hit high P/E tech stocks, including Tesla, and resulted in a number of EV/Battery SPACs to trade below \$10 issue price IPO price.

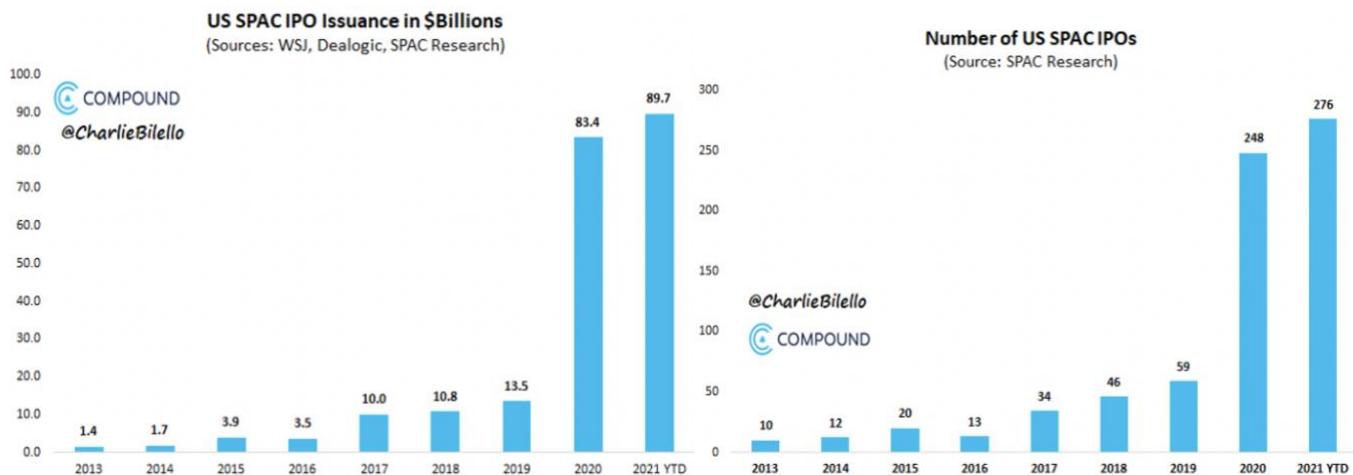
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RK Equity	Product	Ticker	Proforma Equity Value @ SPAC merger	Market Cap	SPAC/Consummation Date	Price Mar 31	Price Apr 1	Month to date	1 day perf	1 mo perf	YTD perf	Perf since SPAC IPO	SPAC IPO Cash	SPAC PIPE Cash	IPO + SPAC Cash
<b>EV/Battery-Themed SPACs</b>															
<b>SPAC Merger Consummated</b>															
QuantumScape	Battery - Solid State	QS	\$ 3,300	\$ 20,612	11/25/20	\$ 44.75	\$ 49.30	-19%	10%	26%	-47%	393%	\$ 230	\$ 500	\$ 730
MP Materials	Raw Materials - Rare Earths/Magnets	MP	\$ 1,500	\$ 5,296	11/18/20	\$ 35.95	\$ 35.15	-14%	-2%	44%	12%	252%	\$ 345	\$ 200	\$ 545
Chargepoint	Charging Infrastructure	CHPT	\$ 2,401	\$ 8,141	2/26/21	\$ 26.70	\$ 29.84	-13%	12%	-19%	-33%	198%	\$ 317	\$ 225	\$ 542
Luminar	Lidar/Autonomous Vehicles	LAZR	\$ 3,400	\$ 8,236	12/2/20	\$ 24.31	\$ 24.43	-10%	0%	-17%	-29%	144%	\$ 406	\$ 184	\$ 590
Eos Energy Storage	Zinc Battery Storage Systems	EOSE	\$ 550	\$ 1,081	11/16/20	\$ 19.72	\$ 18.14	-7%	-8%	-5%	-5%	81%	\$ 177	\$ 40	\$ 217
Fisker	EV - SUV	FSR	\$ 2,900	\$ 5,063	10/30/20	\$ 17.22	\$ 16.90	-40%	-2%	90%	18%	69%	\$ 569	\$ 500	\$ 1,069
Arrival	EV - Vans/Buses (Europe)	ARVL	\$ 5,392	\$ 9,732	3/19/21	\$ 16.06	\$ 16.24	-30%	1%	-15%	-43%	62%	\$ 259	\$ 400	\$ 659
Nikola	EV - Truck (Class 8, Pickup)	NKLA	\$ 3,300	\$ 5,013	6/3/20	\$ 13.89	\$ 13.91	-23%	0%	-22%	-9%	39%	\$ 237	\$ 525	\$ 762
Nuvve	Vehicle to Grid	NVVE	\$ 202	\$ 204	3/17/21	\$ 10.10	\$ 12.86	-29%	27%	-23%	-41%	29%	\$ 58	\$ 18	\$ 76
Velodyne	Lidar/Autonomous Vehicles	VLDR	\$ 1,566	\$ 1,965	9/30/20	\$ 11.40	\$ 12.78	-22%	12%	-32%	-50%	28%	\$ 117	\$ 150	\$ 267
Lordstown Motors	EV - Truck	RIDE	\$ 1,600	\$ 1,832	10/22/20	\$ 11.17	\$ 12.05	-42%	8%	-23%	-44%	21%	\$ 280	\$ 500	\$ 780
Hylion	EV - Truck (Class 8)	HYLN	\$ 1,500	\$ 1,724	10/1/20	\$ 10.67	\$ 10.99	-29%	3%	-9%	-35%	10%	\$ 235	\$ 325	\$ 560
Canoo	EV - B2C Lifestyle Vehicle, Subscription	GOVE	\$ 2,400	\$ 2,211	12/22/20	\$ 9.03	\$ 8.99	-30%	0%	-15%	-35%	-10%	\$ 309	\$ 323	\$ 632
Ouster	Lidar/Autonomous Vehicles	OUST	\$ 1,900	\$ 1,573	3/11/21	\$ 8.50	\$ 8.75	-37%	3%	15%	-35%	-13%	\$ 200	\$ 100	\$ 300
Romeo Systems	Battery Packs	RMO	\$ 1,300	\$ 1,111	12/30/20	\$ 8.33	\$ 8.28	-41%	-1%	-48%	-69%	-17%	\$ 234	\$ 150	\$ 384
XL Fleet	EV- (Retrofitting) Trucks	XL	\$ 1,438	\$ 1,291	12/22/20	\$ 8.98	\$ 7.89	-37%	-12%	-25%	-62%	-21%	\$ 232	\$ 150	\$ 382
<b>Average</b>				<b>\$ 2,166</b>	<b>\$ 4,693</b>								<b>Post-merger SPAC + PIPE Cash</b>	<b>\$ 8,495</b>	
													<b>Average Cash Raised</b>	<b>\$ 531</b>	
<b>SPAC Merger in Process (Sponsor/Target)</b>															
Star Peak Energy Transition/Stem	AI-driven Clean Energy Storage	STPK	\$ 1,354	\$ 3,599		\$ 26.58	\$ 26.95	-22%	1%	26%	30%	170%	\$ 383	\$ 225	\$ 608
Churchill / Lucid	EV - Luxury Passenger	CCIV	\$ 11,750	\$ 37,081		\$ 23.18	\$ 23.78	-25%	3%	34%	132%	138%	\$ 2,070	\$ 2,500	\$ 4,570
TPG Pace Beneficial/EVBox Group	Charging Infrastructure (Europe, N. America)	TPGY	\$ 1,394	\$ 2,722		\$ 19.58	\$ 20.31	-5%	4%	-19%	-24%	103%	\$ 350	\$ 325	\$ 675
ArcLight Clean Transition / Proterra	EV - Bus	ACTC	\$ 2,401	\$ 4,293		\$ 17.88	\$ 18.38	-14%	3%	-13%	61%	84%	\$ 278	\$ 415	\$ 693
Northern Genesis/Lion Electric	EV - Medium/Heavy Duty Urban EVs	NGA	\$ 1,505	\$ 3,179		\$ 16.31	\$ 16.94	-18%	4%	-22%	-8%	69%	\$ 319	\$ 200	\$ 519
Rodgers / Enovix	Batteries Lithium-Ion (silicon anode)	RSVA	\$ 1,513	\$ 1,947		\$ 13.31	\$ 14.07	-13%	6%	13%	-2%	41%	\$ 230	\$ 175	\$ 405
Climate Change Acquisition/EVGo	Charging Infrastructure	CLII	\$ 2,631	\$ 3,162		\$ 12.02	\$ 13.65	-22%	14%	-26%	12%	37%	\$ 230	\$ 400	\$ 630
Interprivate/Aeva	Lidar/Autonomous Vehicles	IPV	\$ 1,803	\$ 2,109		\$ 9.90	\$ 13.04	-29%	32%	-6%	-32%	30%	\$ 243	\$ 120	\$ 363
Tuscan Holdings / Microvast	Batteries	THCB	\$ 3,000	\$ 3,696		\$ 12.30	\$ 12.47	-26%	1%	6%	-28%	25%	\$ 282	\$ 540	\$ 822
Property Solutions/Faraday Future	EV - Luxury Passenger	PSAC	\$ 3,370	\$ 4,064		\$ 12.06	\$ 12.40	-14%	3%	-24%	21%	24%	\$ 230	\$ 775	\$ 1,005
Tortoise II / Volta	Charging Infrastructure	SNPR	\$ 2,031	\$ 2,224		\$ 10.95	\$ 10.89	-14%	-1%	10%	3%	9%	\$ 345	\$ 300	\$ 645
GigCapital3 Inc/Lightning eMotors	EV - Class 3-7 Commercial BEV/FCEV	GIK	\$ 823	\$ 878		\$ 10.67	\$ 10.72	-9%	0%	-20%	-19%	7%	\$ 200	\$ 125	\$ 325
Peridot/Li-Cycle	Re-cycling - lithium battery	PDAC	\$ 1,665	\$ 1,779		\$ 10.65	\$ 10.71	-11%	1%	4%	3%	7%	\$ 300	\$ 315	\$ 615
Atlas Crest / Archer Aircraft	Electric Vertical Takeoff & Landing (VTOL)	ACIC	\$ 3,750	\$ 3,769		\$ 10.05	\$ 10.12	-16%	1%	15%	0%	1%	\$ 500	\$ 600	\$ 1,100
Forum Merger III/Electric Last Mile Solutions	EV - Class 1 Commercial Vehicle (van)	FIII	\$ 1,196	\$ 1,421		\$ 9.97	\$ 10.09	-5%	1%	-15%	-26%	1%	\$ 250	\$ 155	\$ 405
Allusa/Freyr	Batteries (Semi-solid)	ALUS	\$ 1,377	\$ 1,377		\$ 10.00	\$ 10.04	-9%	0%	-6%	-1%	0%	\$ 290	\$ 600	\$ 890
Next Gen Acquisition / Xos	EV - Class 5-8 Commercial BEV	NGAC	\$ 1,965	\$ 1,949		\$ 9.92	\$ 10.00	-14%	1%	13%	-1%	0%	\$ 375	\$ 220	\$ 595
<b>Sustainable Opportunities/Deep Green Metals</b>		SOAC	\$ 2,948	\$ 2,929		\$ 9.93	\$ 9.94	-6%	0%	-4%	-8%	-1%	\$ 300	\$ 330	\$ 630
Collective Growth / Innoviz Technologies	Lidar/Autonomous Vehicles	CGRO	\$ 1,403	\$ 1,397		\$ 9.96	\$ 9.43	-26%	-5%	3%	-30%	-6%	\$ 150	\$ 200	\$ 350
<b>Average</b>				<b>\$ 1,984</b>	<b>\$ 2,482</b>								<b>Post-merger SPAC + PIPE Cash</b>	<b>\$ 10,582</b>	
													<b>Total</b>	<b>\$ 19,077</b>	
<b>Average Cash to be Raised</b>															



SPACs are bull market vehicles as I've written here and said in various interviews. On February 21, Berkshire Hathaway's Charlie Munger quipped – ‘the investment banking profession will sell ‘sh\*t’ as long as ‘sh\*t’ can be sold’. SPACs went into overdrive in part because, in an era of zero-yielding treasuries, SPACs offered a ‘no yield alternative’. Additionally, a SPAC is a “public equity,” in which equity hedge funds can park their cash (secured by escrow invested in treasuries) to earn their 2% management fee - cash they otherwise could not park directly in treasuries for a fee. Against this free downside protection, SPACs offer essentially a free option to earn their 20% performance fee if the sponsors source a deal that – if only for a fleeting few weeks/months – pops, post definitive announcement.

In the first 3 months of 2021 SPAC capital raised is higher than all of 2020’s blockbuster record: more than two times as much capital was raised in 2020 than in the previous 7 years COMBINED. 70% of 2021’s IPOs have been SPACs. ***More than 400 SPAC are looking for deals.***



Inevitably, too much money chasing too few goods will result in inflated values for lower quality targets. For every successful new **Arrival (ARVL)** I suspect many more conceptions from pre-mature e-SPACulations will be aborted or stillborn.



“EV battery in a rock”

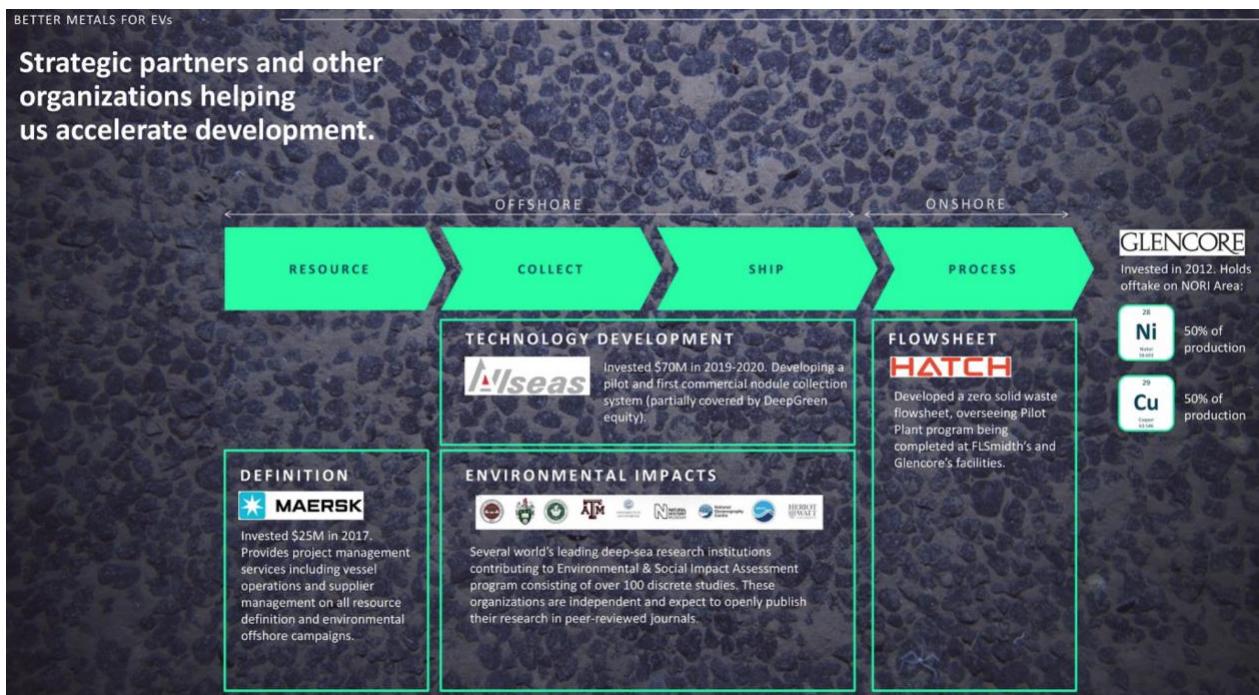


## Unsustainable Promotion

Almost as soon as **Sustainable Opportunities Acquisition Corp (SOAC)** informed SPAC-landia that vacuuming manganese-dominant nodules from the sea floor was the solution to future nickel shortages, [BMW, Volvo, Google and Samsung](#), in unprecedented public commentary, joined the **World Wildlife Fund** calling for a moratorium on deep seabed mining. Sustainability aside, compare SPAC 2020 to SPAC 2021 vintage EV metals bull:

**MP Materials:** July 2020. Brownfield redevelopment of historic mine currently producing and EBITDA positive. \$1.7B sunk capital. Permitted. Full mining rights. Capex requirement: \$170M to achieve \$250M forecasted EBITDA by 2023. The only rare earth producer in USA for a product currently 100% imported from China. **Pre-money Value:** \$1B, proforma equity value: \$1.5B. Backed by Wall Street central casting – Chicago/NY distressed/special situation/turnaround funds – PLUS **Fortress Investment Group** PLUS new and old investment legends **Chamath Palihapitiya** and **Leon Cooperman**. SPAC IPO + PIPE = \$500M.

**Deep Green Metals (The Metals Co):** March 2021. Just \$160M venture capital raised to date. Pre-revenue, “exploration stage”. Uncertain permitting as “law of the seas” not yet finalized, though the powerpoint confidently highlights “progress towards securing exploitation rights”. #MadeInVancouver. **Pre-money Value:** \$2.4B, proforma equity value \$3B. SPAC Cash + PIPE = \$600M. \$330M PIPE from strategic partner **Allseas** who anchored \$70M from last \$150M placement and is “developing a pilot” and will no doubt receive a meaningful portion of the capex (essentially getting much of its equity back in sales). **Glencore** - which invested in 2012 (amount unspecified) for which Deep Green already gave up 50% of both Nickel and Copper off-take – is NOT investing in the PIPE. Ditto, **Maersk**, which invested \$25M in 2017; like Allseas, Maersk will receive much of its equity back in contract revenues.





## Worth SPAC-ulating

SPACs offer Jane and George Batterypack retail investors the same pre-revenue “public venture capital” that has been the lifeblood of junior mining equity for generations. The vast majority of such companies fail, but the potential exists for SPAC-tacular returns for calculated risk/reward for investors who do their homework.

I was fortunate to buy into MP Materials around \$11.5 soon after its definitive announcement and am seeking to replicate the experience elsewhere. Nobody Does it Better than Robert “James Bond” Friedland. **Ivanhoe Capital Acquisition Corp (IVAN)** which hasn’t announced a deal yet is trading around \$10 share, when escrow is entirely backed by \$10 cash. This is a near zero downside proposition, except time value; and has massive optionality that sometime in the next 22 months he will present a high quality/well packaged deal that will be timed when Mr. Market is more receptive.

Against an enormous oversupply of SPAC capital – and a backdrop of paranoia about shortages of both batteries and battery materials – I see an undersupply of pure-play opportunities fully listed on US stock exchanges. Quality advanced developers – even if pre-revenue – with world class backers/projects/management teams should continue to attract market support at strong valuations. To wit, despite the March SPAC attack:

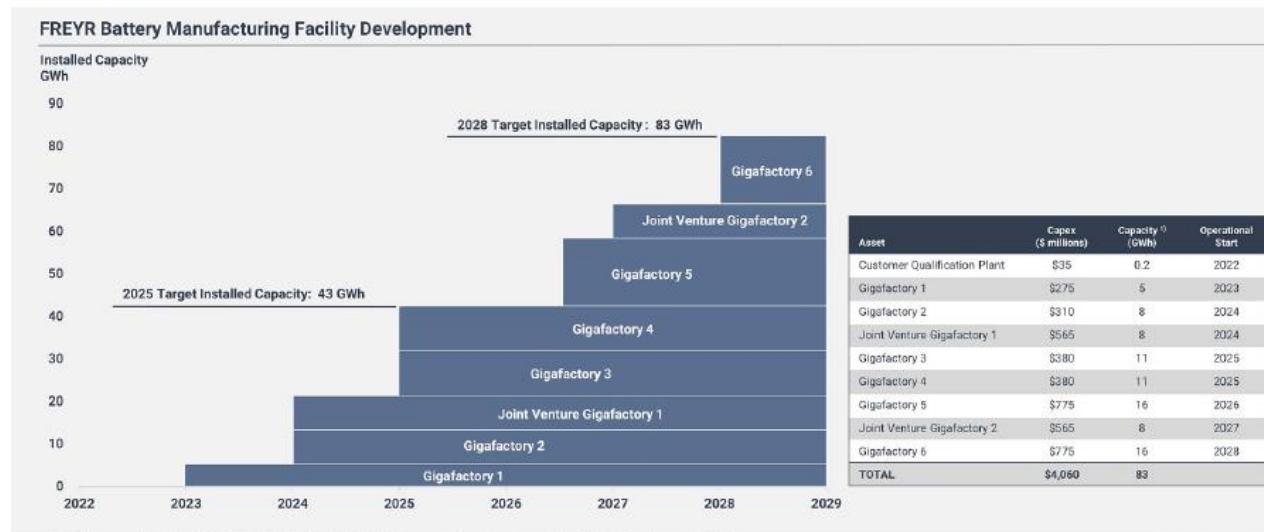
- **MP Materials** raised \$500M via convert while insiders/SPAC sponsors sold down ~\$250M equity at \$35 (\$5B+ valuation)
- **QuantumScape** (solid state battery, zero revenue/EBITDA before 2025) did a follow on financing raising \$859M at ~\$15B valuation
- **Piedmont Lithium** raised \$123M at north of \$1B valuation, a PREMIUM to 20-day VWAP



In addition to **IVAN** I own Alussa Energy Acquisition Corp (**ALUS**), which agreed a merger with Norway's **Freyr**. Real investors are writing real checks into the \$600M PIPE - **Koch Strategic Platforms, Glencore, Fidelity, Franklin Templeton, Sylebra Capital and Van Eck**. In the context of VW's Power Day articulating by 2030 240 GWH battery capacity *in Europe alone* across 6 plants in Sweden (1), Germany (2), Czech/Poland (3) and Spain/Portugal France (4), could Freyr in Norway's lowest of low cost and greenest of green hydro power be #5 or 6? VW has done wonders of late for QS – and its own VWAGY stock price. I continue to dig into the ALUS investment thesis. But, again, before merger consummation - expected in mid-May - buying near \$10 offers virtually zero downside with optionality to renewed EV/Battery SPAC interest as April 1 witnessed in a number of **Charging** and **Lidar** names on the SPAC scoreboard post Biden plan (see above).

Battery pure-plays are scarce. ALUS presents an opportunity for those paying attention to Europe and may love to play VW partner Northvolt if they could, but Northvolt is private. Freyr – unlike Quantumscape's "next generation" risk – is largely an execution story licensing and scaling/commercializing a proven "semi-solid" technology that cuts out 10 of 15 battery production steps. The technology has been incubating over 10 years from M24, an MIT offshoot. [Kyocera has been implementing the technology](#) in Japan, piloting since June 2019, commercializing since January 2020. Through an innovative "out-licensing" arrangement, M24 shares learnings across all licensees, meaning Freyr can copy from Kyocera's IP.

## FREYR's Phased Gigafactory Development: 80+ GWh Installed by 2028





## Commercializing Lithium-ion Bull/Rock Stock Channel by Popular Demand...

RK Equity has backed from early stages some of the highest quality critical minerals developers who've created long-term shareholder value (see below credential slide). We are principally focused on addressing the significant geopolitical imbalance of critical mineral production & continue to advise & invest in what we consider to be the best & most likely developers that can bring North America & European supply to meet North America & European demand.

In addition to this newsletter, please click through the links here for [@RodneyHooper13 twitter commentary](#) and on [LinkedIn](#), [@LithiumIonBull on twitter](#) and [LinkedIn, Rock Stock Channel on YouTube](#) and through various relationships with [Crux Investor](#), [Cleantechica](#), Mines & Money and elsewhere.

*Since last year RK Equity began to offer a premium, bespoke institutional investor service. In response to many readers/viewers request, we have recently begun offering a scaled down version of this service to our Patreon subscribers contributing \$333/month or greater. If you're interested in this or other RK Equity services, please reach out at [lithiumionrocks@gmail.com](mailto:lithiumionrocks@gmail.com) or visit <https://www.patreon.com/m/rockstockchannel>.*

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Please click this link for [latest Mines & Money video RK Equity co-sponsored](#):

- [Piedmont Lithium Limited](#) founder Taso Arima talk about how he aims to disrupt the titanium market [TAO Commodities Ltd](#) pairing a world class resource in Tennessee with downstream technology incubated at University of Utah by [U.S. Department of Energy \(DOE\)](#);
- Nirvana Nickel [Talon Metals Corp.](#) from [Sean Werger](#);
- A New World of Graphite, naturally, from [Nouveau Monde Graphite | TSXV: NOU](#) [Eric Desaulniers](#)
- [Chris Doornbos](#) talks through Alberta's Energy Transition to Direct Lithium Extraction (DLE) [e3 Metals Corp](#)
- [Eric Zaunscherb](#) updates [Critical Elements Lithium Corp](#) in EV Nord Quebec,
- [Keith Coughlan](#) outlines why [European Metals](#) Czechs all the right European boxes.



## March and Q1 2021 Scoreboards

Below are RK Equity's updated Nickel, Graphite and Lithium scoreboards for March/Q1 2021 and some brief commentary on some other investment ideas.

Driving US treasury yields higher is inflation worry; too much monetary and fiscal stimulus at a time of re-opening of the US and global economy as the vaccine rollout accelerates. As I've stated a number of times over the past 12+ months, vastly underowned commodity equities have massive tailwinds that should attract sustainable inflows.

- If you think inflation is coming, commodities offer a hedge.
- If you prefer Value/Cyclical stocks, commodity equities trade at meaningful discounts.
- China vs. Non-China supply chains and Climate/Clean Energy & Infrastructure are among the biggest themes animating the Biden Administration. It's hard to see how commodities – critical battery/technology metals in particular – won't be a major beneficiary.
- If you believe in "disruptive innovation" – hyper growth epitomized by Ark's Cathie Wood with energy storage/Electric Vehicles among her top themes – battery metals in particular are hard not to love.
- Note, unlike Autos and other "old economy" S&P 500 stalwarts "in harm's way" to use Ms. Wood's narrative, hard rock mining and chemicals are relatively immune to "disruption," though some materials are at risk of substitution.

For some diversification away from my massively overweight portfolio in lithium (and more recently nickel, graphite and titanium) I've written in past issues about investments I made in various ETFs for thematics I believe in but can't track individual companies day to day, namely:

- PICK – diversified mining ETF (but no gold or oil or agricultural commodities)
- COPX – Copper ETF
- URA – Uranium ETF
- GDX/GDXJ – Gold Senior/Juniors ETF
- RIO – for iron ore, copper exposure and due to its lithium and nickel investments



## Lithium Equity Raises

### March Additions:

- Piedmont Lithium – USD 123M
- Ioneer – USD 62M
- Jindalee – USD7M
- Frontier Lithium – USD6M

NOT INVESTMENT ADVICE. DO YOUR OWN RESEARCH														
RK Equity	Use of Proceeds Type	\$M USD Raised	\$M Raised (local currency)	Pricing Date	Price	3/31/21	% since Pricing	Shares issued (m)	Warrant Coverage	Strike	Prem	Months	Announced	Banker(s)
<b>Lithium Equity Raises</b>														
SQM	Rock/Brine	\$ 1,100	NA	3/21/21	\$ 49.01	\$ 53.07	<b>8%</b>	22.4	NA	NA	NA	NA	1/22/21	NA
Albemarle	Rock/Brine	\$ 1,500	NA	2/4/21	\$ 153.00	\$ 146.11	<b>-5%</b>	9.8	NA	NA	NA	NA	2/2/21	JP Morgan, BAML, Mizuho
IGO Ltd	Rock	\$ 590	\$ 766.0	1/19/21	\$ 4.60	\$ 6.28	<b>37%</b>	167	NA	NA	NA	NA	12/9/20	Macquarie
LAC(Secondary)	Clay	\$ 400	NA	1/22/21	\$ 22.00	\$ 16.07	<b>-27%</b>	18.2	NA	NA	NA	NA	1/19/21	Canaccord, DB, Evercore, Stifel, NBF, Cormark
LAC(ATM)	Clay	\$ 100	NA	11/30/20	\$ 10.79	\$ 16.07	<b>49%</b>	9.3	NA	NA	NA	NA	10/20/20	Jefferies, NBF, Stifel, Cormark, BMO, Canaccord
Pilbara	Rock	\$ 185	\$ 240.2	1/13/21	\$ 0.36	\$ 1.05	<b>192%</b>	667	NA	NA	NA	NA	10/28/20	Macquarie
Galaxy	Brine	\$ 124	\$ 161.0	12/15/20	\$ 1.70	\$ 2.53	<b>49%</b>	95	NA	NA	NA	NA	11/25/20	UBS, Canaccord
Piedmont Lithium	Rock	\$ 122.5	NA	3/23/21	\$ 70.00	\$ 69.49	<b>-1%</b>	1.75	NA	NA	NA	NA	3/22/21	JP Morgan, Evercore, Canaccord, BTIG, B Riley, Loop, Roth, Think Equity, Jett, Tuohy
Orocobre	Brine	\$ 122	\$ 169.0	10/1/20	\$ 2.52	\$ 4.76	<b>89%</b>	67	NA	NA	NA	NA	8/28/20	Canaccord
Vulcan Resources	DLE Brine	\$ 92	\$ 120.0	2/1/21	\$ 6.50	\$ 5.79	<b>-11%</b>	18	NA	NA	NA	NA	2/1/21	Goldman, Canaccord, EAS
Ioneer	Rock	\$ 62	\$ 80.0	3/5/21	\$ 0.38	\$ 0.34	<b>-11%</b>	211	NA	NA	NA	NA	3/10/21	Goldman, Ords, Stifel, Loop
Piedmont Lithium	Rock	\$ 58	NA	10/23/20	\$ 25.00	\$ 69.49	<b>178%</b>	2.3	NA	NA	NA	NA	10/19/20	Evercore, Canaccord, Think, Loop, Roth
Bacanora	Clay	\$ 60	NA	2/3/21	\$ 0.45	\$ 0.42	<b>-8%</b>	107.0	NA	NA	NA	NA	2/2/21	Citi, Canaccord
Bacanora	Clay	\$ 30	\$ 21.9	11/23/20	\$ 0.30	\$ 0.42	<b>40%</b>	NA	Ganfeng 27.5% Project Investment					Citi, Canaccord
Sigma Lithium	Rock	\$ 33	\$ 42.0	2/10/21	\$ 4.40	\$ 5.20	<b>18%</b>	9.5	NA	NA	NA	NA	2/2/21	XP Investments, Cormark, NBF
Core Lithium	Rock	\$ 31	\$ 40.0	2/12/21	\$ 0.25	\$ 0.22	<b>-12%</b>	160	50%	0.45	80%	24	2/3/21	Jett, Bell Potter, Taylor Collison, Petra
Millennial Lithium	Brine	\$ 27	\$ 34.5	2/11/21	\$ 4.00	\$ 3.00	<b>-25%</b>	8.6	50%	\$4.80	20%	36	1/21/21	Cantor, Sportt
Standard Lithium	DLE Brine	\$ 27	\$ 34.5	12/18/20	\$ 2.20	\$ 3.98	<b>81%</b>	15.7	NA	NA	NA	NA	2/16/21	Roth, Echelon
Neolithium	Brine	\$ 24	\$ 30.2	2/10/21	\$ 3.05	\$ 2.96	<b>-3%</b>	9.9	NA	NA	NA	NA	1/20/21	Stifel
Neolithium	Brine	\$ 7	\$ 8.4	9/14/20	\$ 0.86	\$ 2.96	<b>244%</b>	10.7	CATL 8.5% Strategic Placement					9/14/20 NA
Argosy	Brine	\$ 23	\$ 30.0	2/16/21	\$ 0.13	\$ 0.09	<b>-31%</b>	230.8	50%	0.25	92%	18	2/8/21	Bell Potter
Alpha Lithium	Brine	\$ 18	\$ 23.0	2/19/21	\$ 0.81	\$ 0.74	<b>-9%</b>	28.4	100%	1.1	36%	24	1/25/21	Echelon, Leed Jones Gable
Lake Resources	DLE Brine	\$ 16	\$ 20.6	1/27/21	\$ 0.17	\$ 0.34	<b>103%</b>	125.0	50%	\$0.30	82%	24	1/25/21	Roth Capital
Critical Elements	Rock	\$ 12	\$ 15.0	2/11/21	\$ 1.10	\$ 1.31	<b>19%</b>	13.6	50%	\$1.75	59%	24	1/20/21	Paradigm, Cantor, Stifel, Raymond James
Infinity Lithium	Rock	\$ 9	\$ 12.0	2/25/21	\$ 0.19	\$ 0.19	<b>0%</b>	63.2	NA	NA	NA	NA	2/16/21	Canaccord
Jindalee	Clay	\$ 7	\$ 9.0	3/15/21	\$ 1.50	\$ 1.68	<b>12%</b>	6.0	NA	NA	NA	NA	3/15/21	Blue Ocean, Curran
Sayona Mining	Rock	\$ 7	\$ 9.2	1/20/21	\$ 0.0092	\$ 0.0360	<b>291%</b>	1,001	Strategic Deal with Piedmont					1/11/21 Jett Capital
Sayona Mining	Rock	\$ 5	\$ 6.6	TBD	NA	NA	NA	Piedmont 25% Project Investment					1/11/21 Jett Capital	
Galan Lithium	Brine	\$ 8	\$ 10.0	1/27/21	\$ 0.50	\$ 0.62	<b>24%</b>	20.0	NA	NA	NA	NA	1/27/21	Barclay Wells
Frontier Lithium	Rock	\$ 6	\$ 7.6	3/16/21	\$ 1.00	\$ 1.02	<b>2%</b>	7.6	50%	1.25	25%	24	2/24/21	NA
Savannah	Rock	\$ 6.4	NA	TBD	\$ 4.50	\$ 4.65	<b>3%</b>	NA	Galp 10% Project Investment					1/12/21 NA
Cypress Development	Clay	\$ 6.2	\$ 8.0	3/3/21	\$ 1.25	\$ 1.05	<b>-16%</b>	6.8	100%	1.75	40%	36	2/8/21	PI Financial
Lithium Power	Brine	\$ 6.2	\$ 8.0	12/16/20	\$ 0.22	\$ 0.27	<b>23%</b>	36.4	NA	NA	NA	NA	12/16/20	Canaccord, Everblu
European Metals Holdings	Rock	\$ 5.5	\$ 7.1	2/2/21	\$ 1.10	\$ 1.42	<b>29%</b>	6	NA	NA	NA	NA	2/2/21	NA
e3 Metals	DLE Brine	\$ 4	\$ 5.2	2/8/21	\$ 1.19	\$ 2.80	<b>136%</b>	4.40	100%	1.65	39%	24	1/21/21	Echelon, Canaccord
e3 Metals	DLE Brine	\$ 4	\$ 5.0	12/18/20	\$ 0.85	\$ 2.80	<b>229%</b>	5.88	50%	1.4	65%	24	11/19/20	Canaccord
e3 Metals	DLE Brine	\$ 1	\$ 1.3	10/26/20	\$ 0.40	\$ 2.80	<b>600%</b>	3.34	NA	NA	NA	NA	10/16/20	non-brokered
Rock Tech	Rock	\$ 3	\$ 4.0	1/21/21	\$ 1.60	\$ 4.33	<b>171%</b>	2.5	100%	\$2.00	25%	24	1/6/21	non-brokered
Rock Tech	Rock	\$ 3	\$ 4.0	1/8/21	\$ 1.55	\$ 4.33	<b>179%</b>	2.6	100%	\$1.80	16%	24	1/4/21	non-brokered
Arena Minerals	Brine	\$ 2	\$ 2.8	2/3/21	\$ 0.05	\$ 0.13	<b>160%</b>	56.0	50%	\$0.15	200%	36	2/3/21	non-brokered, Ganfeng took CS2M
Total Since August		\$ 4,846												
Rock		\$ 2,588	53%											
Brine		\$ 1,510	31%											
Clay		\$ 603	12%											
DLE Brine		\$ 144	3%											
Total		\$ 4,846												



RK Equity		Share Price 3/31/21	1 Mo Perf	YTD	From 9/1 Lithium 3.0 begins	From 9/22 (Battery Day)	Since June 30 (9 mos)	Since March 30 (1 yr, since market bottom)		
Lithium Market Scoreboard March 31, 2021										
Chemical Producers	\$ 42,846									
Ganfeng (HKSE)	\$ 19,603	\$ 94.90	-5%	2%	142%	136%	169%	482%	China, Aus, Arg, Mex	Rock, Brine
Albemarle Corporation	\$ 17,054	\$ 146.11	-7%	-1%	61%	53%	89%	359%	US, Chile, Aus, China	Rock, Brine
SQM	\$ 13,968	\$ 53.07	-1%	8%	69%	62%	104%	335%	Chile, Aus	Brine, Rock
Tianqi Lithium	\$ 8,533	\$ 37.78	-16%	-4%	66%	77%	65%	305%	China, Aus	Rock
IGO Limited	\$ 3,615	\$ 6.28	-11%	-2%	42%	46%	30%	250%	Aus	Rock
Livent	\$ 2,539	\$ 17.32	-7%	-8%	104%	108%	181%	430%	US, Arg, China, Quebec	Brine, Rock
Orocobre Limited	\$ 1,245	\$ 4.76	2%	6%	83%	71%	106%	328%	Arg, Japan	Brine
Spodumene Producers	\$ 4,479									
Mineral Resources Limited	\$ 5,454	\$ 38.02	0%	2%	30%	51%	80%	372%	Aus	Rock
Pilbara Minerals Limited	\$ 2,301	\$ 1.05	0%	20%	203%	203%	318%	715%	Aus	Rock
AMG Advanced Metallurgical	\$ 1,160	\$ 34.86	15%	43%	102%	110%	119%	370%	Brazil	Rock
Galaxy Resources Limited	\$ 971	\$ 2.53	-3%	13%	105%	75%	226%	416%	Aus, Arg, Quebec	Rock, Brine
Emerging - Funded/Partnered	\$ 2,276									
Lithium Americas (NYSE)	\$ 1,912	\$ 16.07	-14%	28%	103%	78%	217%	704%	Arg, Nevada	
LAC - Cauchari (RK estimate)	\$ 850								Arg	Brine
LAC - Thacker Pass (RK estimate)	\$ 1,062								Nevada	Clay
Sigma Lithium	\$ 363	\$ 5.20	3%	74%	130%	119%	225%	425%	Brazil	Rock
Advanced Development/Exploration	\$ 6,981									
Piedmont Lithium (NASDAQ)	\$ 1,092	\$ 69.49	3%	162%	1041%	532%	1104%	1465%	Carolina	Rock
Liontown Resources	\$ 586	\$ 0.43	-1%	25%	215%	124%	305%	707%	Aus	Rock
Ioneer	\$ 490	\$ 0.34	-25%	21%	240%	240%	162%	525%	Nevada	Rock
Vulcan Energy Resources	\$ 473	\$ 5.79	-10%	110%	791%	606%	925%	3506%	Germany	DLE Brine
AVZ Minerals Ltd.	\$ 428	\$ 0.195	11%	15%	225%	195%	275%	490%	DRC	Rock
Standard Lithium	\$ 411	\$ 3.98	17%	40%	213%	129%	298%	798%	Arkansas	DLE Brine
Neo Lithium Corp	\$ 295	\$ 2.96	8%	49%	335%	300%	537%	648%	Argentina	Brine
Lake Resources	\$ 259	\$ 0.335	-13%	359%	885%	359%	857%	1217%	Argentina	DLE Brine
Millennial Lithium	\$ 235	\$ 3.00	-2%	17%	107%	117%	197%	426%	Argentina	Brine
American Lithium	\$ 228	\$ 2.44	-20%	100%	65%	130%	171%	1384%	Nevada	Clay
European Metals Holdings	\$ 205	\$ 1.42	14%	23%	284%	216%	390%	793%	Czech	Rock
Core Lithium	\$ 196	\$ 0.220	-2%	52%	450%	450%	389%	1200%	Australia	Rock
Rock Tech Lithium	\$ 192	\$ 4.33	7%	156%	647%	610%	647%	949%	Ontario	Rock
Critical Elements Corporation	\$ 191	\$ 1.31	-10%	90%	303%	245%	337%	604%	Canada	Rock
Bacanora Lithium	\$ 188	\$ 0.415	-1%	-35%	89%	93%	87%	292%	Mexico	Clay
Frontier Lithium	\$ 143	\$ 1.02	2%	176%	343%	300%	437%	738%	Ontario	Rock
Ironridge Resources	\$ 120	\$ 0.19	-14%	54%	30%	24%	103%	308%	Ghana	Rock
Galan Lithium	\$ 113	\$ 0.620	29%	61%	300%	313%	313%	543%	Argentina	Brine
E3 Metals Corp	\$ 108	\$ 2.80	-21%	226%	866%	657%	957%	1220%	Alberta	DLE Brine
Sayona Mining Ltd.	\$ 104	\$ 0.036	16%	300%	350%	227%	414%	460%	Quebec	Rock
Cypress Development	\$ 96	\$ 1.05	-23%	19%	119%	163%	304%	683%	Nevada	Clay
Savannah Resources	\$ 92	\$ 4.650	-4%	6%	121%	155%	127%	488%	Portugal	Rock
Lepidico	\$ 87	\$ 0.022	-4%	120%	175%	175%	214%	375%	Africa	Rock
Argosy Minerals Limited	\$ 86	\$ 0.09	-17%	14%	82%	49%	78%	403%	Argentina	Brine
Jindalee	\$ 69	\$ 1.68	-9%	111%	226%	348%	434%	634%	Nevada	Clay
Alpha Lithium	\$ 68	\$ 0.74	-3%	-1%	12%	25%	-13%	290%	Argentina	Brine
Lithium Power International	\$ 60	\$ 0.27	0%	20%	66%	39%	47%	321%	Chile	Brine
Infinity Lithium	\$ 57	\$ 0.19	12%	19%	106%	115%	128%	563%	Spain	Rock
Hawkstone Mining	\$ 55	\$ 0.044	10%	389%	132%	214%	238%	1200%	Nevada	Clay
Plateau Energy Metals	\$ 50	\$ 0.690	-5%	89%	109%	130%	165%	400%	Peru	Clay
Prospect Resources	\$ 47	\$ 0.19	-3%	9%	0%	12%	157%	306%	Africa	Rock
European Lithium	\$ 46	\$ 0.064	-2%	42%	28%	7%	31%	260%	Austria	Rock
Pure Energy	\$ 41	\$ 1.58	9%	123%	163%	103%	193%	978%	Nevada	Brine
Wealth Minerals	\$ 38	\$ 0.270	46%	218%	135%	125%	238%	293%	Chile	Brine
Noram Ventures	\$ 31	\$ 0.61	-21%	22%	221%	239%	430%	608%	Nevada	Clay
Aggregate Lithium Market Cap	\$ 56,581									

Emerging Projects	
Rock	\$ 4,352
Clay	\$ 1,691
Brine	\$ 1,754
DLE Brine	\$ 1,235
Total	\$ 9,032

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RK Equity	Market Cap (USDM)	Price 3/31/21	1 mo	YTD	Since Tesla Battery Day, Sept 22	Since Elon's "mine more nickel" July 22	Location
<b>Nickel Equity Scoreboard March 31, 2021</b>							
<b>Producers (Exchange) - Aggregate Mkt Cap</b>	<b>\$ 204,910</b>						
Vale (NYSE)	\$ 89,158	\$ 17.38	3%	3%	63%	50%	Canada
Glencore (ADR)	\$ 52,059	\$ 7.84	-3%	25%	79%	74%	Canada
Norilsk Nickel (Russia)	\$ 49,515	\$ 31.29	0%	0%	28%	22%	Russia
Lundin Mining (TSX)	\$ 7,628	\$ 12.93	-11%	13%	60%	60%	Various
IGO Limited (ASX)	\$ 3,615	\$ 6.28	-11%	-2%	45%	21%	Australia
Nickel Mines (ASX)	\$ 2,342	\$ 1.23	-13%	11%	83%	115%	Indonesia
Western Areas (ASX)	\$ 429	\$ 2.05	-21%	-22%	-6%	-23%	Australia
Sherriet International (TSX)	\$ 165	\$ 0.520	-17%	25%	181%	160%	Cuba/Canada
<b>Developers (Exchange) - Aggregate Mkt Cap</b>	<b>\$ 2,992</b>						
Talon Metals (TSX)	\$ 387	\$ 0.710	11%	39%	154%	407%	USA
Legend Mining (ASX)	\$ 262	\$ 0.125	-7%	9%	-19%	-4%	Australia
Canada Nickel Company (TSX-V)	\$ 205	\$ 3.19	-9%	64%	72%	210%	Canada
Panoramic Resources (ASX)	\$ 210	\$ 0.135	-10%	0%	29%	88%	Australia
Centaurus Metals (ASX)	\$ 180	\$ 0.720	-20%	-12%	50%	53%	Brazil
Clean TeQ Holdings (ASX)	\$ 175	\$ 2.60	-10%	4%	-15%	33%	Australia
Metals X (ASX)	\$ 145	\$ 0.21	-13%	50%	184%	153%	Australia
Horizonte Minerals (AIM)	\$ 164	\$ 0.074	-2%	0%	11%	104%	Brazil
Poseidon Nickel (ASX)	\$ 122	\$ 0.057	-27%	-12%	10%	111%	Australia
Blackstone Minerals (ASX)	\$ 109	\$ 0.44	-17%	16%	2%	63%	Vietnam
FPX Nickel (TSX-V)	\$ 103	\$ 0.69	-22%	-4%	-5%	138%	Canada
Noront Resources (TSX-V)	\$ 87	\$ 0.255	-11%	38%	42%	34%	Canada
Australian Mines Limited (ASX)	\$ 60	\$ 0.020	-17%	25%	25%	18%	Australia
Ardea (ASX)	\$ 43	\$ 0.440	-20%	9%	-7%	14%	Australia
Garibaldi Resources (TSX-V)	\$ 40	\$ 0.42	-14%	-6%	-28%	-44%	Canada
St George Mining (ASX)	\$ 30	\$ 0.079	-19%	-25%	-28%	-21%	Australia
Giga Metals (TSX-V)	\$ 29	\$ 0.52	-20%	6%	-42%	136%	Canada
Amur Mineral (AIM)	\$ 28	\$ 1.47	-7%	-8%	-16%	-35%	Russia
Galileo Mining (ASX)	\$ 23	\$ 0.210	-43%	-7%	-16%	-22%	Australia

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RK Equity	Market Cap (USDM)	Price 3/31/21	1 mo	YTD	Since 9/30/20 just post Battery Day	Location
<b>Graphite Equity Scoreboard Mar 31 2021</b>						
Novonix (ASX: NVX)	\$ 651	\$ 2.16	-27%	79%	110%	Australia
Nouveau Monde Graphite (TSXV: NOU)	\$ 556	\$ 19.00	-6%	84%	726%	Quebec
Syrah Resources (ASX: SYR)	\$ 395	\$ 1.05	-15%	9%	130%	Mozambique/USA
Talga Resources (ASX: TLG)	\$ 283	\$ 1.23	-14%	-24%	58%	Sweden
EcoGraf (ASX: EGR)	\$ 202	\$ 0.59	-20%	244%	216%	Tanzania/Aus
Magnis Energy Technologies (ASX: MNS)	\$ 191	\$ 0.30	3%	50%	54%	Tanzania/Aus/USA
Westwater Resources (NASDAQ: WWR)	\$ 181	\$ 5.37	-13%	9%	114%	Alabama
NextSource Materials (TSX: NEXT)	\$ 165	\$ 0.35	0%	289%	775%	Madagascar
Renascor Resources (ASX: RNU)	\$ 139	\$ 0.110	80%	817%	900%	Australia
Mineral Commodities (ASX: MRC)	\$ 104	\$ 0.30	-25%	-19%	-6%	Norway/Australia
Tiraputi Graphite (LON: TGR)	\$ 97	\$ 0.94	4%	44%	NA	India/Madagascar
Mason Graphite (TSXV: LLG)	\$ 77	\$ 0.56	-22%	17%	173%	Quebec
Black Rock Mining (ASX: BKT)	\$ 68	\$ 0.125	-17%	30%	116%	Tanzania
Gratomic (TSXV: GRAT)	\$ 59	\$ 1.76	50%	418%	826%	Namibia
SRG Graphite (TSXV: SRG)	\$ 55	\$ 0.69	-21%	19%	47%	Guinea
Focus Graphite (TSXV: FMS)	\$ 54	\$ 0.165	-3%	200%	450%	Quebec
Graphite One (TSXV: GPH)	\$ 51	\$ 1.32	-18%	169%	257%	Alaska
Walkabout Resources (ASX: WKT)	\$ 52	\$ 0.195	26%	44%	-3%	Tanzania
Beowulf Mining (AIM: BEM)	\$ 51	\$ 4.50	5%	-6%	-25%	Finland
Triton Minerals (ASX: TON)	\$ 45	\$ 0.044	-15%	-14%	-17%	Mozambique
Leading Edge Materials (TSXV: LEM)	\$ 41	\$ 0.32	-10%	-15%	66%	Sweden
Armadale Capital (AIM: ACP)	\$ 32	\$ 5.05	23%	51%	36%	Tanzania
Northern Graphite (TSXV: NGC)	\$ 28	\$ 0.385	-18%	35%	54%	Canada
Ceylon Graphite (TSXV: CYL)	\$ 26	\$ 0.25	-9%	11%	145%	Sri Lanka
Lomiko Metals (TSXV: LMR)	\$ 25	\$ 0.160	-16%	191%	191%	Canada



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