

Trying to make sense of battery and graphite valuations

The 2024 year has opened with a tick down following the sterling performance of markets in December. Apparently the enthusiasm for early interest rate cuts got a bit out of hand and a more realistic time frame has dampened expectations. You get to the same result if you just said the weakness was due to traders taking profits. Over analysis becomes banter, or noise.

With no major news flow in the last couple of weeks our commentary is more an expression of thoughts rather than insightful analysis, this time concerning graphite and battery technologies. Valuations vary widely but there is limited information available to the public.

Graphene Manufacturing Group - somewhat enigmatic

Given that I have been heavily involved with graphene for seven years now, in First Graphene Limited (FGR), I keep a close eye on other players in the field. Most, if not all graphene participants both in Australia and overseas have struggled with scale-up and technical issues, but the biggest hurdle has been achieving sales of sufficient volume to reach profitability. For all the hype, delivery has been challenging. It is this issue that makes FGR so interesting with its progress in dealing with cement companies, increasingly looking like they will be the key to large volumes and positive earnings.

It is with interest that I have been following Graphene Manufacturing Group Limited (TSX-V:GMG), a company based in Brisbane. That company listed in Canada and achieved a share price of over C\$6.00 in November 2021, but has recently been selling at C\$1.42, giving a market capitalisation of C\$105m (undiluted). I always find it curious when an Australia company goes to Canada to list rather than the ASX. It is my cynical mind that suggests the Australian company feels more comfortable dealing with people that have less perfect historical information. Past sins are less obvious in a new playing field where there may be less scrutiny.

GMG's main claim to fame has been a graphene aluminium ion battery. Yes, yet another battery technology, but one that claims to deliver a battery life three times longer and chargeability rates 70x faster. The speed at which this new development has been progressing has been astounding, given how long every other type of battery has taken, so some scepticism is warranted. Doing a deal with RIO (announced 13/11/23 by GMG, but not by RIO), whereby RIO will contribute \$6m in exchange for preferential access rights, is certainly an eye opener, but why is RIO entering this field? It can't be because of synergy with existing operations. It doesn't add up, in my view.

In its latest release (20/12/23) GMG announced the commissioning of a "cutting-edge" natural gas to graphene production plant in Queensland. Using plasma technology it can split natural gas into hydrogen and graphene.

However, there are a few listed companies making similar claims, though with slight variations. The biggest challenge will be for GMG to achieve scale-up of the plasma process. With any emerging battery company it is important not to become too excited based on the claims made in the promotional campaign. We need to see industry adoption of the technology, after an extended qualification period, before it becomes a fate accompli.

Anteotech and Talga shares are going different directions

When we mentioned Anteotech a couple of weeks ago, we said some European car makers were very interested in its projects with silicon-based anodes. To be more precise, we have heard from market sources that BMW and Mercedes Benz are the companies expressing interest. By the middle of the new year we should have definitive news as to whether they will be adopting the next generation of anodes, going beyond standard graphite anodes.

Another company that is relevant to this market sector is Talga Group (TLG). Talga initially promoted the idea of building an anode factory in Germany, but the focus seems to have switched to Sweden now. We still don't know how competitive its anodes will be, with a different business model to that of Anteotech.

So, which company displays the highest risk - the one that is building its own factory, or the one that will feed into existing facilities owned by customers? What is the most flexible path to making money and is the least dilutive for shareholders? Common sense can answer this question.

It is strange that Talga's share price has been falling so heavily in December, straight after securing a \$31m environmental bond facility for the Swedish graphite project that is intended to supply a new anode factory. Is there something we don't know, or is the market just showing its skepticism after such a long lead time? At the recent close 72.5¢ the market capitalisation is still a hefty \$275m, leaving room for further falls.

On a general note, the market is still showing an inability to discern amongst the battery anode stocks. Much of this relates to insufficient disclosure by the companies themselves. The thematic sounded good for a while, but where is the delivery?

Disclosure: Interests associated with the author owns shares in Anteotech.

Sarytogan has produced spheroidized granite

Although a relatively late entrant to the graphite space, Sarytogan seems to be making good progress in test work on its graphite material from its deposit in Kazakhstan. At

an in-situ grade of 29.9% TGC, this 229 Mt Indicated and Inferred resource is the highest grade of any ASX listed company.

A few weeks ago Saryogan announced that it achieved a spheroidization yield of 54% in a mechano-chemical mill. This is an improvement on the 35-50% yield typical in China.

Further, thermal purification has achieved 99.998% carbon, at a temperature of 2,700°C, much better than the typical grade used in lithium-ion batteries. Another way of looking at this, quoted by the Company, is to say that there is only 20 ppm of impurities compared to 500 ppm in the standard battery.

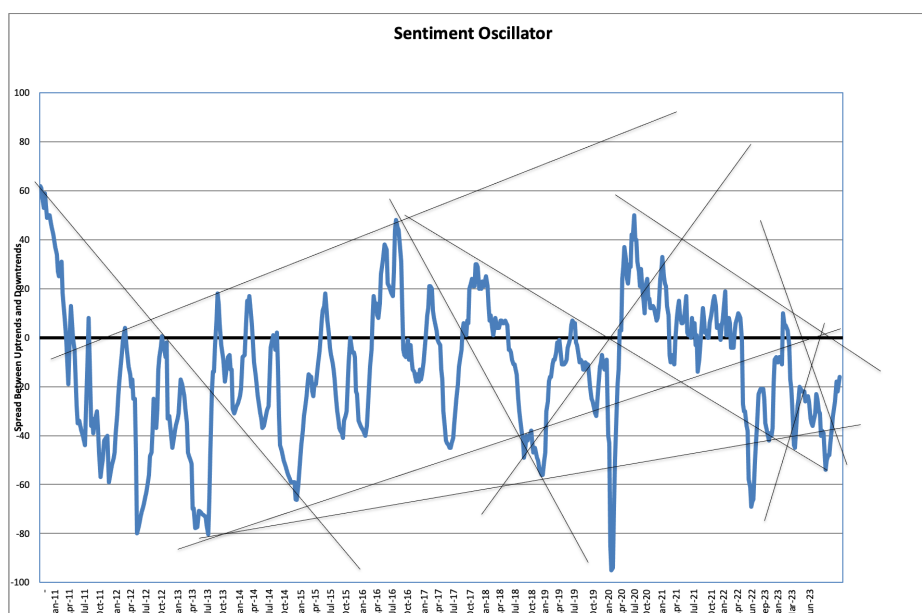
The share price of Saryogan is still near its lows, indicating that the market is still unsure of what to make of the news flow. The market capitalisation of \$30m is quite modest given the possibilities, but it is still in the early stages of its life. The future share price will depend upon how well its product stacks up against competitors, and how quickly it can catch up and perhaps overtake those promoting their

own version of anodes and anode inputs. It is worth keeping an eye on.

Strandline - a case in point re commissioning

Here is yet another company that has failed to satisfactorily progress through the commissioning phase of a mining operation. This time it is mineral sands. The shares peaked at 50¢ in September 2022, and bottomed out at 7.8¢ last October, prior to going into a suspension that is continuing. There has been a raft of management changes at the Coburn Minerals Sands Project in WA, and the Managing Director resigned in September. Production problems relate to mechanical issues with the plant and tailings constraints. These have obviously created financial constraints.

It is too messy to go into the detail of what went wrong or to speculate as to whether the Company will survive. We just mention it as yet another example of risk being amplified when a company transitions from an explorer to a developer. Commissioning risk is always a clear and present danger to shareholders' wealth.



Sentiment Oscillator: Sentiment improved slightly There were 28% (27%) of stocks in uptrend and 44% (46%) in downtrend at the close of the week.

Detailed Chart Comments

NB. Only the bold comments have been updated. Comments in grey type are from previous weeks and will be less relevant. Please note that this list is a cross section of the market. It IS NOT a list of recommendations.

Indices	Code	Trend Comment
All Ordinaries	XAO	strongly higher
Metals and Mining	XMM	breached downtrend
Energy	XEJ	rising
Information Technology	XIJ	breaching downtrend

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Stocks	Code	Trend Comment (updated comments in bold)	Main Interest
5EA Advanced Materials	5EA	another new low	boron
92 Energy	92E	rising	uranium
Adriatic Resources	ADT	new high	zinc, polymetallic
Advance Metals (was Pacific American)	AVM	back to lows	coal, gold exploration
Aguia Resources	AGR	new uptrend	phosphate, copper exploration
Alkane Resources	ALK	down	gold
Alicanto Minerals	AQI	back to lows	base metals, silver, gold
Alligator Energy	AGE	testing uptrend	uranium
Almonty Industries	All	breached downtrend	tungsten
Alpha HPA	A4N	strong recovery	HPA
Altech Chemical	ATC	sideways	HPA, anodes
Alto Metals	AME	at lows with a placement	gold exploration
American Rare Earths	ARR	sideways	rare earths
Anax Metals	ANX	breached downtrend	copper
Anteotech	ADO	new low on placement	silicon anodes, biotech
Antilles Gold	AAU	new low	gold and copper expl.
Arafura Resources	ARU	new low	rare earths
Ardea Resources	ARL	secondary downtrend	nickel
Arizona Lithium	AZL	breached downtrend	lithium
Astral Resources	AAR	rising	gold
Averina	AEV	sideways	phosphate
Aurora Energy Metals	1AE	rising	uranium
Aurelia Metals	AMI	breaching downtrend	gold + base metals
Australian Rare Earths	AR3	new low	rare earths
Australian Strategic Materials	ASM	continuing lower	rare earths
Azure Minerals	AZS	another surge higher then pullback	nickel exploration
BHP	BHP	surge higher	diversified, iron ore
Barton Gold	BGD	rising	gold exploration
Beach Energy	BPT	breached uptrend	oil and gas
Bellevue Gold	BGL	new high	gold exploration
Besra Gold	BEZ	recovering from lows	gold
Black Cat Syndicate	BC8	steep rally	gold
BMG Resources	BMG	down	gold exploration
Boab Metals	BML	rising	silver/lead
Cadoux (was FYI)	CCM	testing steepest downtrend	HPA
Calidus Resources	CAI	new uptrend	gold
Caravel Minerals	CVV	strong rally	copper
Carnaby Resources	CNB	breached downtrend	copper
Castile Resources	CST	back to lows	gold/copper/cobalt
Cazaly Resources	CAZ	back to downtrend	rare earths
Celsius Resources	CLA	sideways	copper
Cobalt Blue	COB	down again	cobalt
Cyprium Metals	CYM	forming a base	copper

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Dateline	DTR		down	rare earths
Ecograf	EGR		turning down at resistance line	graphite
Emerald Resources	EMR		rising, new high	gold
Empire Energy	EEG		rising	gas
EQ Resources	EQR		breached uptrend	tungsten
Euro Manganese	EMN		testing downtrend	manganese
Evolution Energy	EV1		new low	graphite
Evolution Mining	EVN		rising again	gold
First Graphene	FGR		breached uptrend	graphene
Fortescue Metals	FMG		new high	iron ore
Galena Mining	G1A		new low	lead
Genesis Minerals	GMD		new high	gold
Genmin	GEN		suspended	iron ore
Gold 50	G50		sideways through downtrend	gold exploration + gallium
Great Boulder Resources	GBR		new low	gold exploration
Group 6 Metals	G6M		down	tungsten
Hamelin Gold	HMG		new low	gold exploration
Hastings Technology Metals	HAS		back to lows	rare earths
Hazer Group	HZR		breached steepest downtrend	hydrogen
Heavy Minerals	HVY		down	garnet
Hillgrove Resources	HGO		rising gently	copper
Iluka Resources	ILU		heavy fall	mineral sands
ioneer (was Global Geoscience)	INR		down	lithium
Ionic Rare Earths	IXR		breached downtrend	rare earths
Jervois Mining	JVR		rising	nickel/cobalt
Jindalee Lithium	JLL		breached downtrend	lithium
Kaiser Reef	KAU		new low	gold
Krakatoa Resources	KTA		surge on lithium drilling	rare earths
Kingfisher Mining	KFM		breached downtrend	rare earths
Lepidico	LPD		new low	lithium
Lindian Resources	LIN		testing downtrend	rare earths + bauxite
Lion One Metals	LLO		surge out of downtrend	gold
Li-S Energy	LIS		new low	Lithium sulphur battery technology
LCL Resources	LCL		back to lows	gold exploration
Lotus Resources	LOT		rising	uranium
Lucapa Diamond	LOM		sideways	diamonds
Lunnon Metals	LM8		new low	nickel
Lynas Corp.	LYC		still down	rare earths
Marmota	MEU		surged higher	gold exploration
Matador Mining	MZZ		breached downtrend	gold exploration
Mayur Resources	MRL		back in uptrend	renewables, cement
Meeka Gold	MEK		down	gold
MetalsX	MLX		down	tin, nickel
Meteoric Resources	MEI		off its high	rare earths

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Metro Mining	MMI		sideways	bauxite
Midas Minerals	MM1		slump	lithium
Nagambie Resources	NAG		breached downtrend	gold, antimony
Neometals	NMT		new low	lithium
Newfield Resources	NWF		down	diamonds
Nexgen Energy	NXG		rising	uranium
Northern Star Res.	NST		rising	gold
Nova Minerals	NVA		spiked higher	gold exploration
Pacific Gold	PGO		breached short term uptrend	gold exploration
Paladin Energy	PDN		sideways through downtrend	uranium
Pantoro	PNR		breached downtrend	gold
Patriot Battery Metals	PMT		breached uptrend	lithium
Peak Resources	PEK		new low	rare earths
Peninsula Energy	PEN		collapse on \$60m raising	uranium
Perseus Mining	PRU		rising again	gold
Poseidon Nickel	POS		collapse	nickel
Provaris Energy	PV1		down	hydrogen
QMines	QML		new low	copper
Queensland Pacific Metals	QPM		long term down	nickel/cobalt/HPA
RareX	REE		breached downtrend	rare earths, phosphate
Regis Resources	RRL		rising	gold
Regergen	RLT		breaching downtrend	gas, helium
Richmond Vanadium	RVT		heavy fall on release of escrowed shares	vanadium
RIO	RIO		rising again	diversified, iron ore
Rumble Resources	RTR		secondary downtrend	gold exploration
S2 Resources	S2R		sideways	gold exploration
Sandfire Resources	SFR		rising again	copper
Santos	STO		weaker	oil/gas
Sarama Resources	SRR		at rock bottom	gold exploration
Sarytogan Graphite	SGA		new low	graphite
Siren Gold	SNG		new low	gold exploration
South Harz Potash	SHP		testing downtrend	potash
Southern Cross Gold	SXG		surge higher	gold exploration
Southern Palladium	SPD		breached downtrend	PGMs
Stanmore Coal	SMR		new high	coal
Strandline Resources	STA		suspended	mineral sands
Sunstone Metals	STM		meeting resistance line	gold/copper exploration
Suvo Strategic Minerals	SUV		sideways	kaolin
Talga Resources	TLG		heavy fall	graphite
Tamboran Resources	TBN		rising	gas
Technology Metals	TMT		down	vanadium
Theta Gold Mines	TGM		sideways	gold
Thor Energy	THR		back into downtrend	uranium
Tietto Minerals	TIE		surge on takeover approach	gold

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Vanadium Resources	VR8	■	drifting lower	vanadium
Venture Minerals	VMS	■	down	tin, tungsten
Vintage Energy	VEN	■	breached downtrend	gas
Voltaic Strategic Resources	VSR	■	new low	REO + lithium
West Cobar	WC1	■	spike, but then a pullback	rare earth + lithium
Westgold Resources	WGX	■	new high	gold
West Wits Mining	WWI	■	sideways	gold
Whitehaven Coal	WHC	■	breached downtrend	coal
Xantippe Resources	XTC	■	suspended	lithium
Zenith Minerals	ZNC	■	strong rise	gold exploration
Totals	28%	39	Uptrend	
	44%	62	Downtrend	
		140	Total	

Guides to Chart Interpretations

- Charts usually go pass from one trend (up or down) into the other via a period of indecision and uncertainty during which the trend can either recover or change. This period is signified by the orange colour. The orange represent both the greatest risk and greatest reward possibilities.
- Once a chart is in confirmed up or downtrends it is not uncommon for 10-20% of that trend to have already transpired.
- There are trends within trends. The focus of this chart review is the immediate trend that affects the sentiment i.e. it can be a downtrend within a long-term uptrend.
- Not every chart warrants a new comment every week. The new comments are in bold type. Grey type comments may be dated.
- Individual charts provide a single view. It is valuable to look at charts of other companies in similar commodities, and the overall sentiment is also very valuable. Not many stocks can swim against the tide.
- We periodically add or delete charts, some times for obscure reasons. If a chart consistent gives poor signals or is very erratic, we may delete it. Sometimes we add a chart because we want to see what all the fuss is about. We do have a preference for charting stocks that we cover in our research as well.
- Errors and omissions may occur from time to time, especially in fast moving markets.

Amber Lights in Tables: Just a reminder if when the amber light is used in the table – it is when the charts are ambiguous or when there is a change of trend taking place. If a chart is breaching a downtrend it can either be a positive sign or a trap. Only once it has done more work can it be confirmed as a new uptrend. Maybe it is a new uptrend (or conversely a new downtrend); the risk takers can decide to jump on board early (or sell). They will maximise their profits (or minimise their losses if indeed it is the start of the new uptrend (downtrend). More risk-averse investors should wait a little longer, being prepared to give up some of the gains in return for greater certainty.

Weightings of Sectors Represented in the Company Charts

Sector	No. of Companies	Weighting
Gold Exploration	19	13.6%
Gold	19	13.6%
Rare Earths	15	10.7%
Lithium	10	7.1%
Copper	9	6.4%
Uranium	9	6.4%
Oil/Gas	8	5.7%

Nickel	6	4.3%	
Iron Ore/Manganese	5	3.6%	
Graphite/graphene	5	3.6%	
Silver	4	44.4%	
Tungsten	3	2.1%	
Mineral Sands	2	1.4%	
Vanadium	3	33.3%	
Zinc/Lead	2	1.4%	
Coal	2	1.4%	
Potash/Phosphate	3	2.1%	
Bauxite	2	1.4%	
Tin	2	1.4%	
Cobalt	1	0.7%	
Diamonds	2	1.4%	
Other	9		
Total	140		

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