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FAR EAST CAPITAL

The Mining Investment Experts

Weekly Commentary

2 April 2022 *Chart comments as at Friday's close* Analyst : Warwick Grigor

AnteoTech is winning the silicon anode race

AnteoTech is leading the silicon anode race

Yesterday AnteoTech (ADO) released a presentation that it was giving at the Orlando International Battery Seminar, covering its progress in development of silicon anodes. Of all the anode companies that I have been looking at in recent months, this one appears to be a standout.

Recall that silicon anodes have the potential to store up to 4,200 mAh/g, which is 10x the capacity of standard graphite anodes. There is a problem though, that stems from the 300% expansion and contraction in size of the silicon in a lithiation cycle, eventually causing the destruction of the anode. So far no-one else has managed to achieve more than 200 cycles and this is well short of the 800 cycles generally seen as the minimum life for commercialisation.

Other companies have used a High Purity Alumina (HPA) coating to extend the life of the anode and graphene has frequently been nominated as a solution to the problem in combination with other materials, but ADO is coming from a different angle and it seems to be making excellent progress. It is using cross-linker additives to make advanced binder solutions for silicon dominant anode designs. It believes that its technology will enable cheaper, smaller and lighter lithium ion batteries.

ADO has focused on the binders that are used to contain the components of silicon-based anodes to address the problem of premature disintegration. These binders facilitate particle dispersion, provide electrode homogenuity and give structural integrity to the conductive network. It believes that its advanced binders hold the key to the solution.

Self repairing bonds are the key to the technology

Conventional binders are typically linear synthetic organic or natural polymers with covalent bonding providing weak physical attractive forces. ADO is using advanced-type binders that utilise coordinating complexes to bind anode components together and provide the structural integrity. However, the key to the better performance is that the inorganic binder accommodates the swelling and shrinking by allowing for breakage of bonds as the anode expands, followed by rebonding as it shrinks i.e. it is self-repairing.

Three aspects to the new technology

ADO is improving battery anode performance on three levels;

i) a better performing binder that provides a 20-30% improvement in anode performance

ii) a composite anode containing 20-40% silicon, and

iii) a high silicon content anode with up to 70% silicon.

ADO is finding that the higher the binder content in the anode, the better the cycle performance. Using its AnteoX 8% LiPPA it is now achieving 70% capacity retention after 200 cycles in its 1000mAh/g prototype anode. It is continuing to work on a number of parameters, including volume expansion reduction and anode coating adhesion, to optimise the performance.

It has achieved 300 cycles at 80% capacity retention on a micro-silicon anode and its next target is 500 cycles, lifting the silicon content to 70%.

So, what does it all mean?

In simple terms ADO is solving the problem by making a better performing self-repairing "glue" based on more advanced, chemically engineered binders. The binders themselves actively promote the efficiency of the anode. The ADO test results so far are much better than anything else I have seen regarding performance of silicon anodes. If it continues to progress along this path it will be able to legitimately claim to be the world leader and it would have little difficulty in attracting powerful industry partners to set up a pilot plant in 2023/24.

Why has the share price collapsed in recent weeks?

The share price has fallen from 41.5¢ in January, to the closing price of 11¢ yesterday. The initial fall from grace came with the news that its Rapid Diagnostic Test failed to achieve TGA approval in Australia. More recently it fell in a straight line from 20¢ to a low of 9.2¢ on 21/3/22, reportedly as a reaction to a presentation made to investors that didn't hit the mark. Today the market capitalisation is still a healthy $228m, with $14m in the bank.

While the Company has a great battery technology, it is better known for its activities in biotechnology and Point of Care diagnostic testing including a Covid Rapid Antigen Test (RAT). It has a combination test for Covid/Flu A/Flu B that is well progressed and a test for Sepsis closely following. As this is starting to get well outside my analytical capabilities it would not be proper for me to comment too much on these businesses, other than to note that they exist. Having said that, I will say that the market reaction to the TGA news appears to have been excessive. The much larger European and Asian markets will still be open to ADO, and FDA approval is planned for the USA. The Company believes that its Covid test is in the top four of its type in the world and it expects to earn significant revenue once all of the regulatory hurdles have been overcome.

So, given some adverse news that relates more to timing than being a solid showstopper, and a poorly received presentation to the market, the share price has been severely beaten up. The bad news is all out in the market and in all likelihood the shares have been dramatically oversold. That is why I was happy to wade into the market to do some bottom fishing last week.

The Company has announced it is looking for a new Chairman and CEO, and these appointees will be charged with the job of restoring market credibility, amongst other things.

Disclosure: Interests associated with the author own shares in AnteoTech

Geopolitics is dramatically changing the commodity outlook and providing a once in a generation opportunity

As horrible as the Ukraine War has been, we can still take some encouragement when looking at the big picture. The leadership coming from the Ukraine President has been brilliant and the courage and patriotism of the Ukraine people has been truly inspirational. We are seeing how united the World can be in standing up to the thuggery of one of the most evil men on the planet.

The Chinese President will be observing what is happening with great interest. If Ukraine had fallen over in a few days and the global community had stood limply by, he would have been doing a little jig with glee as it would have suggested an easy path to moving on Taiwan. However, that is definitely not the case now. He can see the amount of pushback that is likely to happen, not just from Taiwan, the USA and its allies, but from the whole world. Attacking Taiwan would be no walk in the park. It would threaten the entire global trading world.

Russian politics is all about Putin and the stranglehold he has on the country. Nothing else matters but his power. China is different. While Xi is a powerful leader, he still has to deal with factions within the Chinese Community Party.

The Russian people, as a population, are more cowed than are the Chinese. The enormous number of Chinese entrepreneurs that have emerged over the last 20 years have much more influence and aspiration than the downtrodden Russians. The CCP is much more concerned about internal rebellion than Putin.

Given that China is so dependent on the rest of the world for essential resources, trade sanctions like those imposed on Russia would have a more rapid and savage impact on China, internally. The trouble is that so many countries rely on sales to China of raw materials, whilst also depending on China for finished products. Does anyone really want to go down the path of mutual destruction in a full on trade war on top of a physical war? We might find that suddenly the real threat to our existence is not climate change but it is rogue human behaviour from ruthless autocrats who have not evolved from the days of Hitler, Mao and Stalin.

Geopolitics is accelerating the renewed swing to nuclear power

At last we are seeing the return of the ever so rare common sense coming back into our power mix, courtesy of the awakening to the threat that Russia presents to security of energy. Nuclear power is returning to favour with France aiming to construct six new plants in order to achieve total energy independence. Britain has announced that it will build a new generation of nuclear reactors. The winds are blowing in the right direction for the recently revived uranium sector, and Russia's position as a major supplier of nuclear fuel to the world is making those stronger.

Nuclear power has always been the elephant in the room in the quest for reduced carbon emissions. Greenies and governments have aggressively pushed solar and wind power as they have strived for cleaner energy but they have conveniently overlooked both the science and economics of their preferred power sources. We have been misled by deceitful people and the press that has been happy to tell us only half of the story about the true numbers. Capturing energy from the sun and the wind and storing it in batteries is truely a wonderful endeavour, but these technologies come with their own carbon costs.

Nuclear power always has and always will be the only "carbon free" source of long term base load power supplies. Nuclear power companies have been saying for decades that the only way the world can escape from coal is to embrace nuclear. It is a well established fact that a coal fired power station emits more radiation than a nuclear power plant. Acid rain is still a problem with coal fired power, though no-one talks abut it any more. Now that geopolitical realities are starting to bite, we can be more optimistic about a nuclear revival that is being supported at governmental level.

Considering this emerging new trend and placing it in perspective with the economics of uranium companies requires a little more finesse than just jumping on the bandwagon. There are still many companies and projects that rode the uranium price hard in the noughties to no satisfactory outcome. They have been zombies for more than 10 years, but suddenly they are all coming back into favour. Don't be fooled though. The vast majority of these projects would be uneconomic even at uranium prices of US$100/lb. There is still plenty of shut-in capacity to come back on stream and Canada in particular has a pipeline of high grade projects that will be developed in priority.

There will always be money made on companies that don't have economic projects but it will be made in the stock market rather than operationally. Studies and spreadsheets will fire the enthusiasm of punters and traders. Momentum of money coming into the sector should underwrite profitable trading … until such point that the realities start to bite. These observations should be common knowledge for experienced traders so maybe it is stating the obvious, but going in with eyes wide open is a necessary disposition. Nevertheless, the wind will be in the sails on the uranium industry for the foreseeable future.

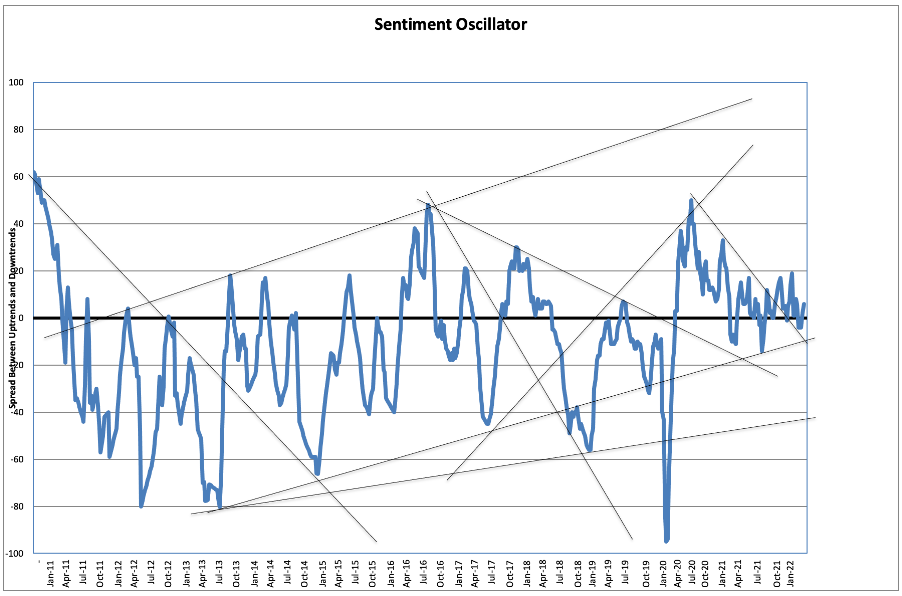
Turmoil will continue on commodity markets

We are seeing a perfect storm developing in commodity markets, whether it is in the traditional base metals, alternative energy inputs or fossil fuels. Winds will be blowing from many directions. On the geopolitical front we will see pressures from over-reliance on Russia and a rush for geographic alternative sources. There will be supply disruptions as this realignment can't happen overnight. We will see that the swing towards EV cars and alternative energy will be constrained by shortages of metals. All of the modern ideals promoted by lefties and liberals will have to take a backseat as practical realities dictate what is realistically possible.

As we change our energy and commodity mix in the coming years, the irony is that there could be enormous trading profits to be made on those commodities being phased out. Reduced investment will constrain capacity and there could be serious mismatching of supply and demand even as we try and wean ourselves off the the less popular commodities. Thermal coal is a perfect example today, with the price having catapulted to record highs even as we talk the future of the commodity down. Traders in pursuit of profits should not allow themselves to be too religious about ESG factors unless they are happy to leave money on the table for less morally constrained players.

Australia is in a beautiful position

Australia is well positioned with a vast, untapped base of resource projects waiting for the right economics to come along. Hundreds of ASX-listed companies will benefit because of their depth of projects not just in Australia, but globally. As I said a few weeks back, we can expect exciting times ahead as global fund managers direct money Downunder to capitalise on a wide range of opportunities. This will be the sequel to Geoffrey Blainey's famous book, "*The Rush that Never Ended*".



Sentiment Oscillator: Sentiment has improved over the last three weeks. There were 35% (34%) of the charts in uptrend and 29% (38%) in downtrend on Friday's close.

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		much stronger	
Metals and Mining	XMM		new high	
Energy	XEJ		punched higher, above uptrend channel	
Information Technology	XIJ		new uptrend	
Stocks	**Code**		**Trend Comment (updated comments in bold)**	**Main Interest**
Alpha HPA	A4N		pullback	HPA
Adriatic Resources	ADT		testing downtrend	zinc, polymetallic
Alkane Resources	ALK		testing downtrend	gold
Alicanto Minerals	AQI		sideways through downtrend	base metals, silver, gold
Altech Chemical	ATC		at apex of wedge	HPA, anodes
Alto Metals	AME		sideways	gold exploration
American Rare Earths (was BPL)	ARR		off its highs	rare earths
Antilles Gold	AAU		still down	gold
Arafura Resources	ARU		rising	rare earths

Ardea Resources	ARL		strongly higher	nickel
Aurelia Metals	AMI		new uptrend	gold + base metals
Australian Potash	APC		breached steepest downtrend	potash
Australian Rare Earths	AR3		down	rare earths
Auteco Minerals	AUT		rallying	gold exploration
Azure Minerals	AZS		breached support line	nickel exploration
BHP	BHP		stronger	diversified, iron ore
Beach Energy	BPT		new uptrend confirmed	oil and gas
Bellevue Gold	BGL		testing downtrend	gold exploration
Benz Mining	BNZ		testing downtrend	gold
Blue Star Helium	BNL		down	gas, helium
BMG Resources	BMG		new low	gold exploration
Boab Metals	BML		breached downtrend	silver/lead
Breaker Resources	BRB		heavy fall from highs	gold exploration
Buru Energy	BRU		testing uptrend	oil
Calidus Resources	CAI		surged higher	gold
Capricorn Metals	CMM		surge to new high	gold
Caravel Minerals	CVV		slump	copper
Celsius Resources	CLA		rallying	copper
Chalice Mining	CHN		down	nickel, copper, PGMs, gold exploration
Chesser Resources	CHZ		rallied off lows	gold exploration
Cobalt Blue	COB		surge to new high	cobalt
Cyprium Metals	CYM		breached downtrend	copper
Danakali	DNK		downtrend accelerating	potash
De Grey	DEG		on support line	gold
E2 Metals	E2M		down	gold exploration
Ecograf	EGR		down	graphite
Element 25	E25		down	manganese
Emerald Resources	EMR		recovered to highs	gold
Empire Energy	EEG		breached uptrend	gas
Euro Manganese	EMN		down	manganese
Evolution Mining	EVN		resumed uptrend	gold
Firefinch	FFX		regained uptrend	gold
First Graphene	FGR		testing uptrend	graphene
Fortescue Metals	FMG		rallying after heavy fall	iron ore
FYI Resources	FYI		down	HPA
Galena Mining	G1A		still down	lead
Galilee Energy	GLL		down	oil and gas, CBM
Genesis Minerals	GMD		raleighing	gold
Genmin	GEN		new uptrend breached	iron ore
Global Energy Ventures	GEV		testing downtrend	hydrogen
Gold Road	GOR		rising	gold
Great Boulder Resources	GBR		sideways	gold exploration
Hastings Technology Metals	HAS		testing uptrend	rare earths

Hazer Group	HZR		testing downtrend	hydrogen
Highfield Resources	HFR		back to resistance line	potash
Hillgrove Resources	HGO		long term uptrend	copper
Iluka Resources	ILU		breached downtrend, back to highs	mineral sands
Image Resources	IMA		new uptrend	mineral sands
Independence Group	IGO		new high	gold
ioneer (was Global Geoscience)	INR		rallying	lithium
Ionic Rare Earths (Oro Verde)	IXR		new high	rare earths
Jervois Mining	JVR		shallower uptrend	nickel/cobalt
Jindalee Resources	JRL		strong rally	lithium
Kingston Resources	KSN		sideways	gold
Kingwest Resources	KWR		breached uptrend sideways	gold
Legend Mining	LEG		sideways	nickel exploration
Lepidico	LPD		testing steepest uptrend	lithium
Lindian Resources	LIN		surge higher	bauxite
Lion One Metals	LLO		spike higher	gold
Los Cerros	LCL		rallied to hit resistance line	gold exploration
Lotus Resources	LOT		holding long term uptrend	uranium
Lucapa Diamond	LOM		shallow downtrend	diamonds
Lynas Corp.	LYC		sharp pullback	rare earths
Magnetic Resources	MAU		shallow downtrend	gold exploration
Mako Gold	MKG		breaching support	gold exploration
Marmota	MEU		sideways	gold exploration
Marvel Gold	MVL		breached uptrend	gold exploration
Matador Mining	MZZ		rallied to hit resistance line	gold exploration
Mayur Resources	MRL		slump to new low	renewables, cement
Meeka Gold	MEK		strong rise but still LT downtrend	gold
Megado Gold	MEG		rallying	gold exploration
Meteoric Resources	MEI		still falling	gold exploration
MetalsX	MLX		new high	tin, nickel
Metro Mining	MMI		new uptrend confirmed	bauxite
Mincor Resources	MCR		new high	gold/nickel
Mithril Resources	MTH		down	gold/silver
Musgrave Minerals	MGV		testing downtrend	gold exploration
Neometals	NMT		new high	lithium
Northern Minerals	NTU		rising	REE
Northern Star Res.	NST		breached downtrend	gold
Nova Minerals	NVA		rallied to meet resistance	gold exploration
Oceana Gold	OGC		rising	gold
Oklo Resources	OKU		down	gold expl.
Orecorp	ORR		down	gold development
Oz Minerals	OZL		back to support line	copper
Pacific American	PAK		back to lows	coking coal
Pantoro	PNR		surge higher	gold

Panoramic Res	PAN		on support line	nickel
Peak Minerals	PUA		new low	copper exploration
Peak Resources	PEK		broken down through support line, but rebound	rare earths
Peel Mining	PEX		down	copper
Peninsula Energy	PEN		on support line	uranium
Poseidon Nickel	POS		sideways	nickel
Perseus Mining	PRU		good bounce	gold
PVW Resources	PVW		testing uptrend	rare earths
Queensland Pacific Metals	QPM		testing downtrend	nickel/cobalt/HPA
Red River Resources	RVR		breached downtrend	zinc
Regis Resources	RRL		rising	gold
Renergen	RLT		new high	gas, helium
RIO	RIO		new uptrend	diversified, iron ore
Rumble Resources	RTR		breached downtrend	gold exploration
S2 Resources	S2R		consolidating after steep rise	gold exploration
St Barbara	SBM		testing downtrend	gold
Sandfire Resources	SFR		breached uptrend	copper
Santos	STO		breached downtrend	oil/gas
Saturn Metals	STN		sideways	gold exploration
Silex Systems	SLX		sideways through downtrend	uranium enrichment technology
Silver Mines	SVL		sideways	silver
South Harz Potash	SHP		rising	potash
Stanmore Coal	SMR		new high	coal
Strandline Resources	STA		surge to new high	mineral sands
Sunstone Metals	STM		downtrend	exploration
Talga Resources	TLG		still down	graphite
Technology Metals	TMT		down	vanadium
Tesoro Resources	TSO		spiked through downtrend	gold exploration
Theta Gold Mines	TGM		down	gold
Thor Mining	THR		spiked higher	gold exploration
Tietto Minerals	TIE		breached uptrend on placement	gold
Titan Minerals	TTM		breached downtrend	gold
Turaco Gold	TCG		downtrend	gold exploration
Vanadium Resources	VR8		back to highs	vanadium
West African Resources	WAF		new high	gold
Westgold Resources	WGX		new uptrend being tested	gold
West Wits Mining	WWI		risen to meet resistance line	gold
Whitehaven Coal	WHC		secondary uptrend	coal
Wiluna Mining	WMC		breached uptrend	gold
Yandal Resources	YRL		breached uptrend	gold exploration
Zenith Minerals	ZNC		surge to new high	gold exploration
Zinc Mines of Ireland	ZMI		sideways	zinc
Totals	35%	48	Uptrend	
	28%	39	Downtrend	

		139	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	31	22.3%	
Gold Exploration	24	17.3%	
Nickel	11	7.9%	
Copper	10	7.2%	
Rare Earths	9	6.5%	
Oil/Gas	7	5.0%	
Iron Ore/Manganese	6	4.3%	
Lithium	4	2.9%	
Potash/Phosphate	5	3.6%	
Graphite/graphene	4	2.9%	
Uranium	3	2.2%	
Zinc/Lead	4	2.9%	
Mineral Sands	3	2.2%	
Silver	3	2.2%	
Coal	3	2.2%	
Bauxite	2	1.4%	
Cobalt	1	0.7%	
Tin	1	0.7%	

Diamonds	**1**	**0.7%**	
Other	**7**		
Total	**139**		

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