

The unrelenting thematic - alternative energy and batteries

The US Presidential Election will soon be over

The markets have continued to be confused by the US Presidential election. The amount of airplay it is receiving has distracted the entire globe from the real issues, with commentary on the election being at saturation levels. No-one really believes that Trump will be successful. No-one seems to actually want Clinton, but enough people believe she would be better for stability than Trump. We will soon know the outcome.

So, gold has edged higher each time Trump's fortunes have improved. Does that mean it will fall if he loses the election? It probably will. If he wins, will the gold price spike? Probably. If history repeats itself the markets will continue within trends that were in place prior to the election campaign warming up, after some short term reaction that would be lucky to last more than a few days.

Will the market then be optimistic in the coming months or will it wallow with doubt? What will be the overriding themes? Will we have a few weeks of buoyant trading prior to Christmas, to make up for the absence of the normally vibrant October market?

There is nothing horribly wrong on the macro front that should drive markets lower. China is continuing to hold its own with growth of 6.5-7%. The US economy seems to be strong enough, but this could bring back into play market movements around interest rate rises. There hasn't been much talk of European banking issues lately, except for Deutsche's problems. Brexit continues to confuse the Brits. Commodity prices have clearly turned the corner, though each one tells its own story. There is no reason why the markets should be sold down.

Unrelenting thematic alternative energy & batteries

Perhaps the most important structural change to face industry and consumers right across the globe is the change in energy capture and storage. It started with fears of pollution, then global warming has been re-categorised as climate change. While the science has at times been questionable, and the real truth has been clouded by emotional debate, there is no denying that the enormous redirection of public funds and government subsidies in sympathy with the green movement has been a game changer. Momentum is such that there is no going back.

Alternative energy will only be a fanciful dream without dramatic improvements in battery storage both in respect of technology and capacity. Efficiency of methodology and the economics must improve. Fortunately, with so much money and focus being directed to these challenges, they are being successfully addressed. There is no single end game though, as it is a moving feast. We will see many iterations of the technology, for decades to come, just as we saw automobiles evolve in every decade since they were first commercialised. The next decade will see automobiles and batteries developing in tandem, with economies of scale really kicking in with batteries.

It is easy to be confused by the different battery types and their capabilities, but you must remember that there are many ways to skin the cat. It will come down to a trade-off between efficiency and cost, and those companies that are best able to organise the manufacturing processes and market themselves most successfully. Promoters will be telling you what they want you to believe, not what is actually going to happen. The best story tellers will get the best share price movements, at least in the beginning. Yet, there will be many years of market interest in this sector so if you are not awake to this space, it is time to get involved.

So what does it mean for the commodities that will be consumed in the battery space? Lithium and graphite are the first two that come to mind. They are the commodities which have already seen wild stock market speculation as the junior companies in particular have jumped on the bandwagon. The stock market gains will always be the greatest in the speculative stages so it is important to remember to trade - to take profits - as the reality of development and production are too tiresome to hold the attention of stock market punters.

Graphene is something that the market has flirted with, a little, but the lack of legitimate players at the early stage of this revolutionary material has been an impediment to a more broadly based stock market enthusiasm. Its day in the sunshine is yet to come.

Vanadium will be necessary for some battery types, but so far the market has been more correctly focused on the leading battery technology, lithium-ion, and its inputs.

That leads us to cobalt as the other essential lithium-ion battery commodity. There are plenty of punters out there looking for cobalt plays ahead of what is perceived to be a boom waiting for the starting gun, but the targets are few and far between. Even harder to find are those not tainted by jurisdictional issues.

However, there is a new, very legitimate cobalt company that is currently going to the public in an IPO this month - [Cobalt Blue Ltd](#). This is a spin-out from Broken Hill Prospecting (BPL). Recognising its potential, Far East Capital Ltd has agreed to be Lead Manager to the \$10m issue. Cobalt Blue's cobalt resource is a co-product with a pyrite resource just outside of Broken Hill in western NSW. As with almost every other cobalt resource in the world, a successful project needs the revenue from two or more primary products. Here, the second one is sulphur, either as sulphuric acid or elemental sulphur. Funds will be used to expand the resource and to conduct various scoping and feasibility studies. The prospectus has been lodged with ASIC and can be viewed on the following link.

<https://cobaltblueholdings.com/download-prospectus/>

Uranium has fallen to unprecedented levels

At a time when just about every other commodity price has recovered from cyclical lows, the uranium spot price has

been going down the plughole. During the week the UxC BAP spot price fell to US\$18.81/lb, a level not seen since 2004, 12 years ago. Looking at enriched uranium, the SWU (separative work units) prices have dropped to US\$49/lb, the lowest we have ever seen. Why? It's all about falling demand.

UxC calculates that total worldwide SWU demand forecast has dropped by 19% over the 10 year period from 2014-2023, largely as a result of the continued disruption in Japan's nuclear industry in the aftermath of Fukushima. Prior to Fukushima, in 2009 to 2011, utilities wrote many long term SWU contracts that satisfied their requirements for the following decade. There are now enormous quantities of EUP inventories sitting at licenced facilities around the world. SWU production capacity and secondary supplies now amount to 66 mill. SWU annually, well above the demand for 53 mill. SWU. SWU capacity is being used to "make uranium" through underfeeding, which lowers the uranium price.

It is interesting that the lower spot uranium price has not held back the share prices of a number of uranium hopefuls such as Bannerman (BMN), Berkeley (BKY) and Vimy (VMY), with pre-development uranium projects in Namibia, Spain and WA respectively. Either the market doesn't believe the uranium price will go any lower, or it is ignoring it. At the same time the share prices of two producers, Paladin Energy (PDN) and Peninsula Energy (PEN), have been under pressure. In the case of Peninsula it is insulated from the spot price due to the ability to deliver into long term contracts at prices of US\$55-60/lb, but Paladin has been selling into the spot market. In the September quarter it received only US\$25.19/lb. Fortunately it is achieving improved C-1 costs of US\$16.45/lb versus guidance of US\$20-22/lb.

Strangely, at the same time that we are observing the meltdown of the spot price, there is at least one newsletter which is calling the turnaround of uranium prices, and a doubling within two years. It based its enthusiasm on forecast growth of uranium demand by 61% over the next few years to 238 mill lbs. It points to 71 reactors under construction, 165 planned and 315 proposed. As they say, contrary opinions create markets.

Anova's drilling is delivering good gold results

During the week AWV released good results from its extensional drilling program at Big Springs, Nevada (recall

the notes I wrote after a field trip in September, still on the FEC web site). The best intercepts were 18.3m at 6.2 gpt and 4.6m at 9.6 gpt. As I frequently remind readers, individual intercepts shouldn't be viewed in isolation. They should be placed in perspective alongside many other holes that give information about grade, widths and geology. Read the text of the reports as well as the tables.

The holes reported by AWV were the first of a 12 month program. They focused on the South Sammy and Beadles Creek deposits - three holes on each. The above intercepts came from South Sammy where six mineralised horizons were intersected. The three deepest intercepts in hole AWV16-055 were outside the known mineralised horizons. That is very positive. However, the other two holes seemed to have missed the main targets due to some faulting that "moved the orebody". That is something to follow up on. Drilling at Beadles Creek returned varying results with the best intercept being 18.3m at 6.2 gpt, indicating strong continuity down dip. So far so good. There will be many more holes to report.

Pacific American Coal research note released

We have released some independent research on PAK that focuses on the coking coal. I say independent because it was written by Mike Harrowell, a well-respected institutional mining analyst who knows coal better than most - definitely better than me. Yes, it did cost FEC to have it written, but Mike had complete autonomy as to what he said and how he said it. The report will come under a separate email and can be viewed on the FEC website.

The bottom line is that everything I have been suggesting to you in recent weeks about the value of PAK's coal is validated by a competent third party. It is worth a multiple of the current share price. Have a read and you will see what I mean. As has been disclosed, FEC is managing an entitlement issue by PAK to raise \$1.8m. I will be taking up my full entitlement.

NB: I am currently travelling in the USA so I won't be able to update my hand drawn charts. Nevertheless, I will endeavour to provide the Weekly whilst travelling.















Sentiment Indicator: Sentiment continued to weaken as the number of stocks in downtrends increased. This week there were 31% (30%) of the charts in uptrend and 44% (39%) in downtrend.

Detailed Chart Comments








NB. Only the bold comments have been updated. Comments in grey type are from previous weeks and will be less relevant.

Indices	Code	Trend Comment	
All Ordinaries	XAO	testing uptrend	
Metals and Mining	XMM	rising again	
Energy	XEJ	strongly higher	
Stocks	Code	Trend Comment (updated comments in bold)	Main Interest
ABM Resources	ABU	holding longer term contract	gold
Aeon Metals	AML	ST downtrend	copper + cobalt
Alacer Gold	AQG	correcting lower	gold – production
Alkane Resources	ALK	new high	gold, zirconia
Acacia Resources	AJC	Sideways at the bottom	coal
Aguia Resources	AGR	down again	phosphate
Alicanto Minerals	AQI	heavy correction	gold exploration
Altech Chemicals	ATC	down	industrial minerals
Anova Metals	AWV	new high	gold
Antipa Minerals	AZY	testing downtrend	gold
Archer Exploration	AXE	downtrend	magnesite, graphite
Argent Minerals	ARD	testing downtrend	polymetallic
Aspire Mining	AKM	uptrend reversed	coal
Atrum Coal	ATU	heavy pullback	coal
Aurelia Metals	AMI	testing downtrend	gold + base metals
Auroch Minerals	AOU	rallied to meet resistance line	exploration
Aus Tin	ANW	breached uptrend	tin, cobalt
Australian Bauxite	ABX	turned down at resistance	bauxite
Australian Vanadium	AVL	downtrend	vanadium
Avanco Resources	AVB	hitting resistance line	copper
AWE	AWE	down again	oil and gas
Azure Minerals	AZS	hitting resistance line	silver
BHP	BHP	strongly higher	diversified
Base Resources	BSE	sideways to higher	mineral sands
Bathurst Resources	BRL	strongly higher	coal
Beach Energy	BPT	steeply rise	oil and gas
Beadell Resources	BDR	higher	gold
Berkeley Resources	BKY	new high	uranium
Blackham Resources	BLK	breached support line	gold
Broken Hill Prospect.	BPL	breaching downtrend	minerals sands, cobalt
Buru Energy	BRU	testing downtrend	oil
Canyon Resources	CAY	down	bauxite
Cardinal Resources	CDV	new high	gold exploration
Carnegie Wave	CWE	stronger	wave energy
Cassini Resources	CZI	continuing higher	nickel/Cu expl.
Chalice Gold	CHN	new high	gold
Crusader Resources	CAS	new low	gold/iron ore
Dacian Gold	DCN	testing uptrend	gold exploration
Danakali	DNK	breaching support	potash
De Grey	DEG	sideways	gold
Doray Minerals	DRM	down	gold
Duketon Mining	DKM	rallying	nickel
Eden Energy	EDE	falling again	carbon nanotubes in concrete
Energia Minerals	EMX	down	zinc
Evolution Mining	EVN	down heavily	gold

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Excelsior Gold	EXG		collapse	gold
Finders Resources	FND		strong uptrend	copper
First Australian	FAR		sideways	oil/gas
First Graphite	FGR		testing ST resistance line	graphite
Fortescue Metals	FMG		new high	iron ore
Galaxy Resources	GXY		heavy fall	lithium
Galilee Energy	GLL		breached downtrend	oil and gas, CBM
Gascoyne Resources	GCY		breaching support	gold
Geopacific Res. Resources	GPR		down	copper/gold exp.
Global Geoscience	GSC		heavy fall	lithium
Gold Road	GOR		breached uptrend	gold exploration
Goldphyre	GPH		short term down	potash,gold
Graphex Mining	GPX		breached downtrend	graphite
Herron Resources	HRR		breached uptrend	zinc
Highfield Resources	HFR		rallying	potash
Highlands Pacific	HIG		sideways around lows	copper, nickel
Hillgrove Resources	HGO		ST down	copper
Hot Chilli	HCH		testing downtrend	copper
Iluka Resources	ILU		falling	mineral sands
Image Resources	IMA		down	mineral sands
Independence	IGO		rallying	gold, nickel
Intrepid Mines	IAU		sideways - 7¢ capital return proposed	copper
Karoo Gas	KAR		rise from lows	gas
Kibaran Resources	KNL		breached support line	graphite
Kin Mining	KIN		higher	gold
Legend Mining	LEG		breach of gentle downtrend	exploration
Lithium Australia	LIT		downtrend	lithium
Lucapa Diamond	LOM		recapturing uptrend	diamonds
Macphersons Res.	MRP		sideways	silver
Manas Resources	MSR		rising	gold
Medusa Mining	MML		still in long term downtrend	gold
Metals of Africa	MTA		vertical rise	graphite
MetalsX	MLX		testing downtrend	tin, gold
Metro Mining	MMI		correcting within uptrend	bauxite
Mincor Resources	MCR		breached support line	nickel
Mineral Deposits	MDL		downtrend	mineral sands
Mustang Resources	MUS		at lows	diamonds, rubies
MZI Resources	MZI		still in downtrend	mineral sands
Northern Minerals	NTU		rising	REE
Northern Star Res.	NST		sell down	gold
Oceana Gold	OGC		down	gold
Oklo Resources	OKU		breached downtrend	gold expl.
OreCorp	ORR		on support line	gold development
Orinoco Gold	OGX		down	gold development
Orocobre	ORE		down	lithium
Oz Minerals	OZL		testing uptrend	copper
Paladin Energy	PDN		down again	uranium
Pacific American Coal	PAK		downtrend	coal, graphene
Pantoro	PNR		breached steepest uptrend	gold
Panoramic Res	PAN		rising	nickel
Paringa Resources	PNL		strong recovery	coal
Peel Mining	PEX		gentle uptrend	copper
Peninsula Energy	PEN		falling again	uranium
Perseus Mining	PRU		stronger	gold

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Pilbara Minerals	PLS		falling	lithium/tantalum
PNX Metals	PNX		strong surge	gold, silver, zinc
Potash West	PWN		falling	potash
Red River Resources	RVR		surge to new high	zinc
Regis Resources	RRL		testing uptrend	gold
Resolute Mining	RSG		breached support line	gold
Reward Minerals	RWD		strong rise	potash
Rex Minerals	RXM		back to lows	copper
RIO	RIO		still strong	diversified
RTG Mining	RTG		breached support line	copper/gold
Rum Jungle	RUM		sideways	quartz
Salt Lake Potash	SO4		steeply higher	potash
Saracen Minerals	SAR		down	gold
St Barbara	SBM		down	gold
Sandfire Resources	SFR		stronger	copper
Santana Minerals	SMI		down	silver
Santos	STO		bouncing	oil/gas
Sheffield Resources	SFX		down	mineral sands
Silver Lake Resources	SLR		breached downtrend	gold
Silver Mines	SVL		down	silver
Sino Gas & Energy	SEH		sideways to down	gas
Southern Gold	SAU		uptrend continuing	gold
Stanmore Coal	SMR		steeply higher	coal
Sundance Energy	SEA		new uptrend confirmed	oil/gas
Syrah Resources	SYR		heavy fall	graphite
Talga Resources	TLG		sideways	graphene
Tanami Gold	TAM		new high	gold
Teranga Gold	TGZ		testing uptrend	gold
Tiger Realm	TIG		surging higher	coal
Tiger Resources	TGS		back to lows	copper
TNG Resources	TNG		surge through resistance	titanium, vanadium
Torian Resources	TNR		down	gold expl'n
Toro Energy	TOE		downtrend	uranium
Troy Resources	TRY		secondary downtrend	gold
Tyranna Resources	TYX		pullback	gold exploration
Vimy Resources	VMY		down	uranium
West African Resources	WAF		rallying	gold
Westwits	WWI		breached ST downtrend	gold exploration/development
Western Areas	WSA		breached support	nickel
White Rock	WRM		down	silver
Whitehaven Coal	WHC		new high	coal
WPG Resources	WPG		improving following placement	gold
Wolf Minerals	WLF		continuing down	tungsten
Totals	31%	44	Uptrend	
	44%	62	Downtrend	
		141	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.

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- 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	34	24.1%	
Copper	14	9.9%	
Gold Exploration	11	7.8%	
Oil/Gas	9	6.4%	
Potash/Phosphate	7	5.0%	
Mineral Sands	7	5.0%	
Graphite	6	4.3%	
Zinc	5	3.5%	
Silver	6	4.3%	
Lithium	5	3.5%	
Nickel	5	3.5%	
Uranium	5	3.5%	
Coal	10	7.1%	
Tin	2	1.4%	
Bauxite	3	2.1%	
Iron Ore	1	0.7%	
Diamonds	2	1.4%	
Other	9		
Total	141		

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