The Disruptive Discoveries Journal

June 15, 2015

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Confronting Dislocation in the Graphite Market

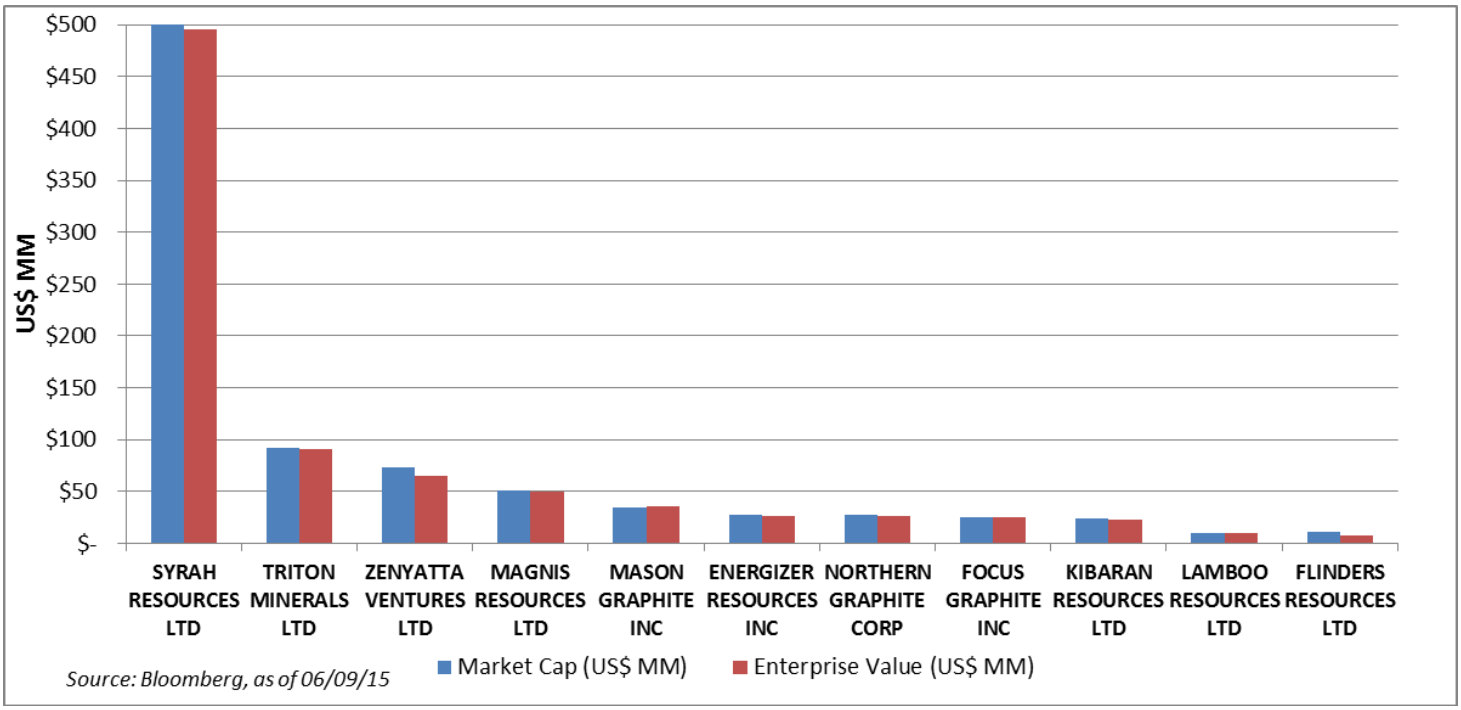
It's been awhile since I've commented on the graphite capital markets. Financing difficulties, slack demand, economic uncertainty, and investor apathy (issues facing much of the commodity complex) are also at play in the graphite space. Nevertheless, graphite will remain an important piece of current and next generation supply chains and so a sober look at the sector is warranted.

In order to take a "deeper" analytical dive, I've asked Jonathan Lee, an institutional mining analyst and President of JGL Partners, to assist with this piece. Investors have shied away from the niche products like graphite due to opaque pricing and the transactional nature of the business. With no futures market, price discovery is tantamount to guess work unless you are in the business. This is generally true across the value chain from juniors to integrated producers.

That said, a producer ought to have a higher valuation than aspiring entrants. After all, the proverbial "boxes" have been ticked; permitting, sufficient infrastructure, customer base, real producing assets (as opposed to highly speculative land with evidence of graphite), revenue, and operating cash flow. These "boxes" offer greater certainty on future cash flows for which one can derive a valuation for the company. In the graphite space, much like other businesses, we believe there is significant value in the distribution network, and knowledge of customers' needs. Additionally, the more de-risked a company is and the less potential future dilution, the higher the market cap ought to be, at least in theory. We recently decided to test this thesis and look at the crop of graphite junior mining plays with at least a preliminary economic assessment (PEA) completed.

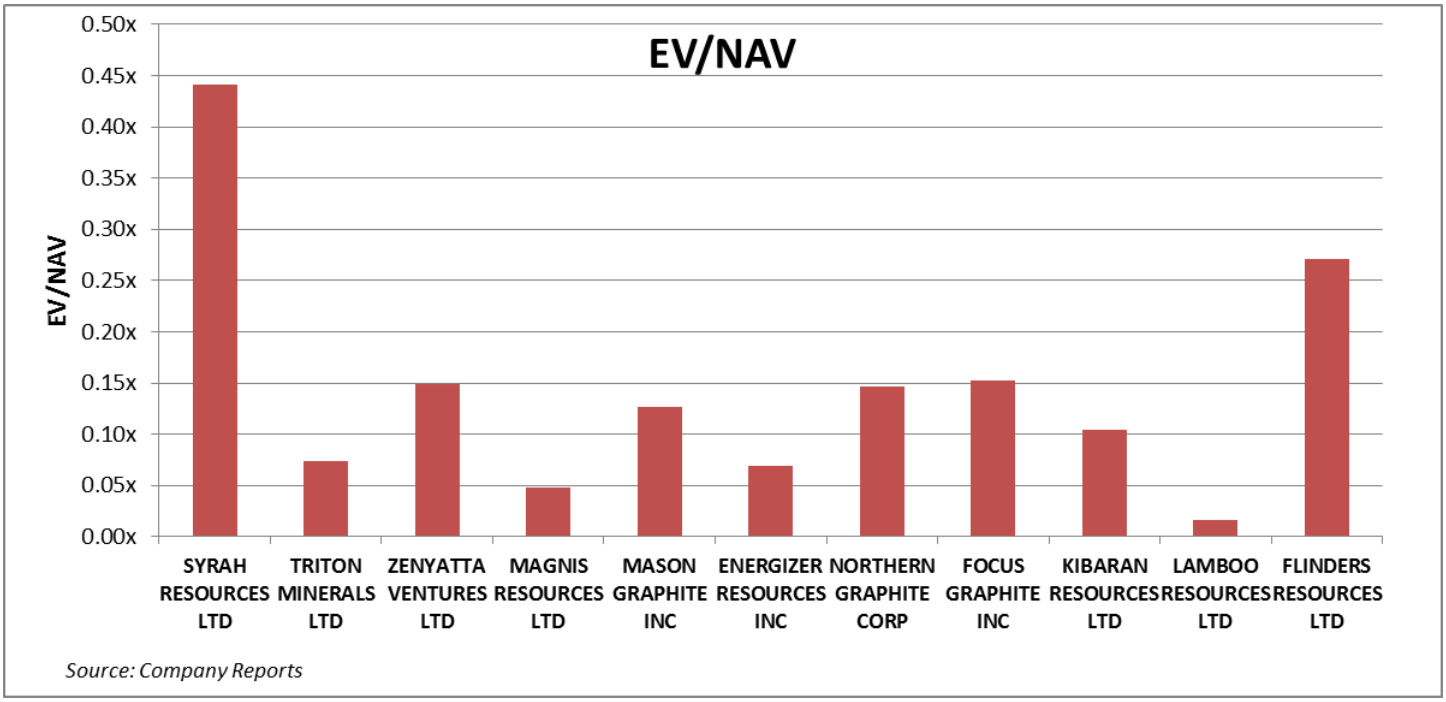
Our assumptions about de-risked and producing companies having a higher market cap were wide of the mark to be sure and have produced some interesting results – hence the title of this note referring to dislocation in the market.

First, market capitalization and enterprise value (in USD and as of June 9th, all data derived from Bloomberg and company documentation):



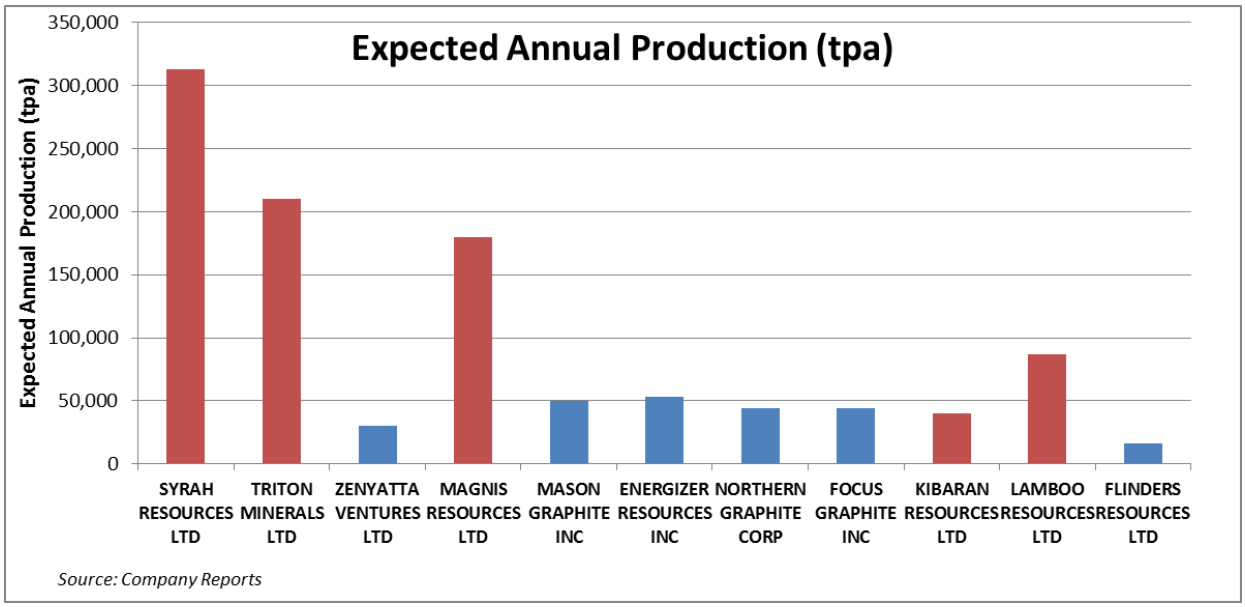
Of note here, is the fact that the lone producer in the chart has the ***lowest*** enterprise value: Flinders Resources (FDR:TSXV, FLNXF:OTCBB).

While market capitalization was not related to development of the project, we looked at EV/NAV. The most advanced development companies are trading at the highest multiple, with FDR in production while SYR, NGC and FMS have completed a FS.

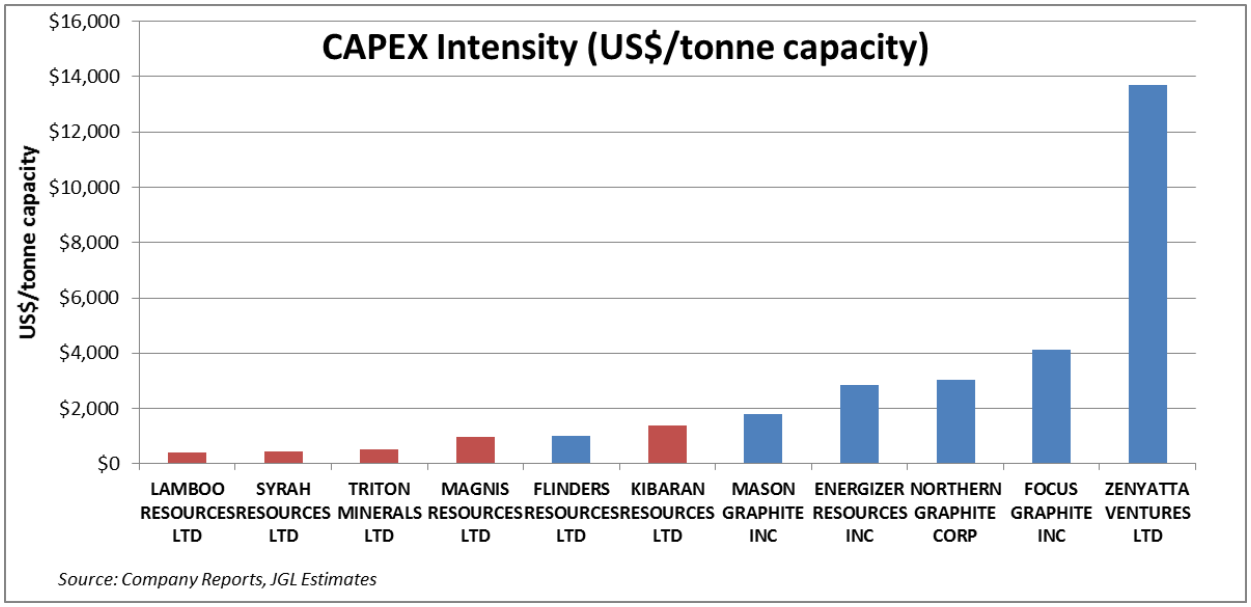


However, how realistic are the published NAVs of the companies? We asked this question because of three important findings:

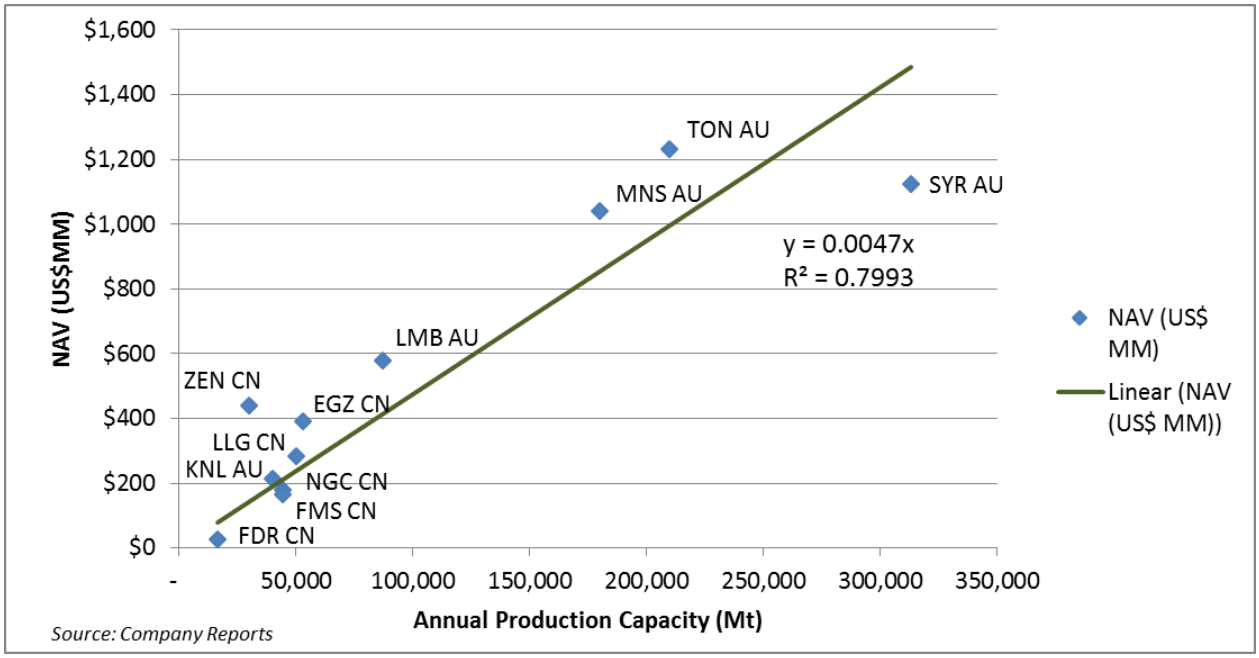
1. It appears that the Australian-listed juniors have much more grandiose intentions than their Canadian cousins (Blue is Canadian listed, Red is Australian listed).



2. The CAPEX intensity (US$/tonne capacity) of ASX listed companies is drastically lower versus Canadian listed companies. Perhaps all of the better graphite projects are listed on the ASX or maybe they have better engineers? (this last question is sarcasm)

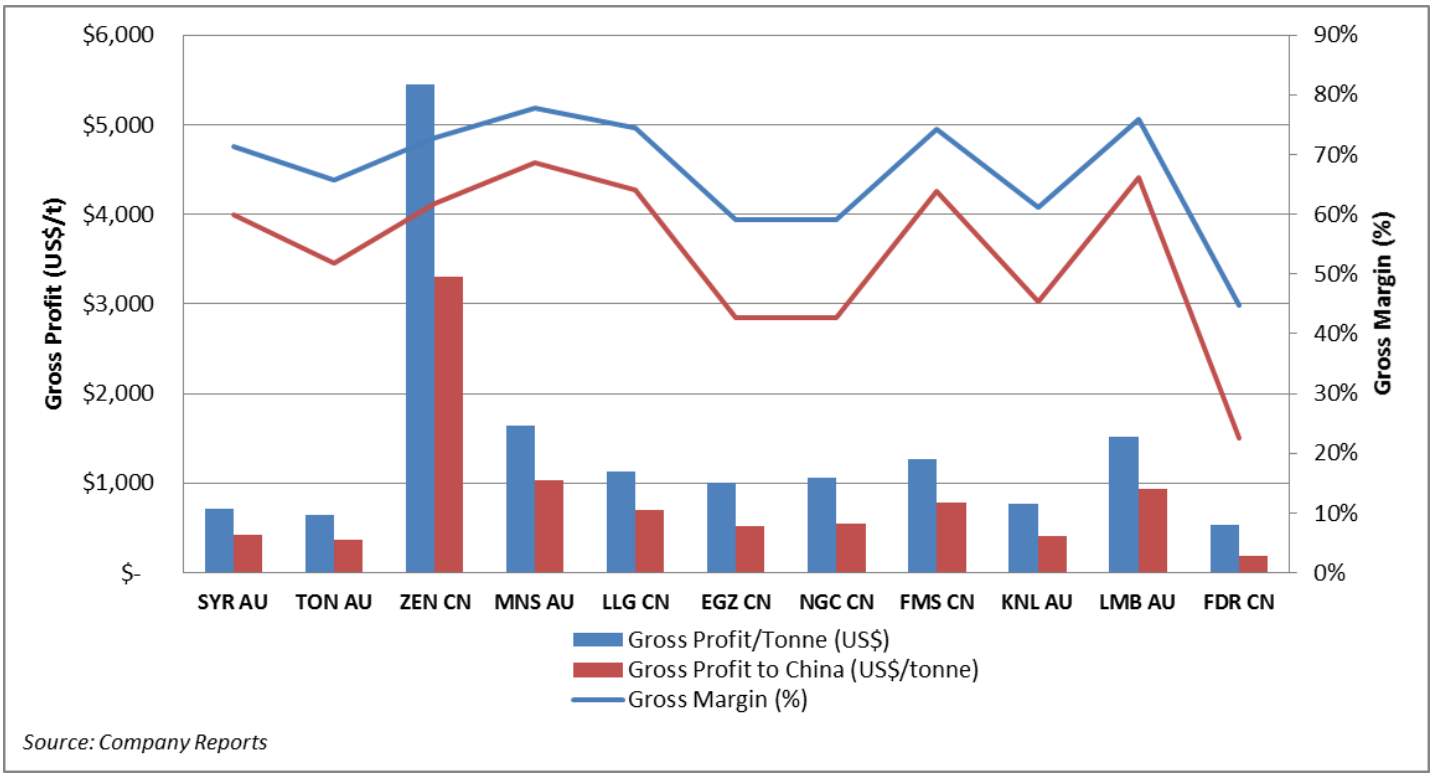


3. Company NPVs appear to be highly correlated to assumed production and have less to do with other aspects of the project.



Through this work, we determined that (at least for economic study results), bigger is better. Most of these companies have massive amounts of graphite in-situ to ramp up production (and furthers our thesis that graphite will not be in short supply). We believe that the economic studies are for naught because the value of the graphite companies comes not from asset size or production, but from being able to sell all the graphite. This is an absolutely crucial distinction and is true for other metals as well. From this analysis, we get back to the basics of what makes a business: making stuff and the ability to sell that stuff at a healthy profit.

That brings us to our next analysis. What are these companies planning to sell and for how much? Below is a summary of the assumed gross margins and gross profit of these potential mines. All projects we analyzed are fantastic with potential gross margins of over 40% and most over 60%! As we said above, selling price is opaque and tantamount to guesswork. As investors looking from the outside, it is difficult to get a handle on current pricing and how all of this additional supply will affect future pricing. However, what we do know is that selling to Chinese customers will generate much less unit revenue than selling outside of China. Prices outside of China have already been exposed to an export duty and a VAT tax of 20% and 17%, respectively. This is not taken into consideration with respect to economic study pricing and should be if one is expecting to sell into the Chinese market. Margins and gross profit come down a fair amount as shown below:



Why Point this Out?

The point of this note is not to pick winners or make companies look bad, but rather to point out some of the inexplicable dislocations in the graphite space. How can FDR, a graphite producer, have the lowest market capitalization and enterprise value of its peers? Regardless of the industry, shouldn't a company generating revenues be more valuable than one that isn't? Even an established graphite producer such as AMG Advanced Metallurgical Group NV (AMG:AMS) has a market capitalization of €226M – much larger than all but one in the emerging graphite producer group. Additionally, the margins are not as wide as are those predicted in the economics studies for the junior mining aspirants – AMG's 2014 gross margin in its mining business was 20.1%. Further to this, late last year, AMG announced the sale of a 40% equity stake in its graphite business and a 10.33% stake in Bogala Graphite (which AMG owns 80% of) for $38 million. We believe the inference here is that even established commodity producers are repositioning for higher margin activities going forward.

To be fair, these are diversified businesses, making an apples-to-apples comparison challenging, but the yawning gap in valuation is so far apart that clearly the market mechanisms for determining fair value have malfunctioned.

So given this brief look at the numbers, here are the questions which we think are relevant:

Is FDR cheap, or are its peers overvalued?

Or perhaps a better question is why is FDR cheap relative to its peers?

Why have the Australian-listed graphite plays been more successful in procuring off-take agreements than their Canadian counterparts?

The production numbers are higher and cap ex numbers slightly lower for ASX-listed companies. Why? Were there any different assumptions made by various engineering firms?

How much do we know about the Chinese off-take partners? What does their capacity profile look like? How about the debt load (if applicable) on their balance sheets?

What are the true production costs in China? After all, these junior graphite companies aren't competing against each other, they're competing against Chinese producers.

Are Chinese graphite off-take partners using the juniors as a hedge in case they run out of stock or get shut down in an environmental cleanup effort in China?

Are these valuation disparities telling us something about the state of the global economy or perhaps steel demand? It's no secret that steel demand in China continues to fall. Could this, coupled with sluggish global growth, be telegraphing lower graphite prices and lower valuations across the graphite sector?

The Takeaway

The rationale for this note was to point out the wide disparities in perceived value in the graphite space and potential opportunities. No other metal or mineral we could find is currently so dislocated as is graphite. We concede that while it isn't optimal to compare a project at the PEA stage with one through bankable feasibility, the uncertainty in valuation allows us the latitude to compare and contrast projects. However, you can rest assured that the economics of a given project will change markedly as it's de-risked. Graphite price volatility may return as well.

This is why margin capture is essential. Graphite is not any different from any other energy metal in this way. Building a unique value chain and knowing your customers' needs will be crucial. While you can't control price, you can control your cost structure. In a commodity market driven by the realities of excess capacity, lowest cost production and multiple revenue streams from value chain integration is a must.

Despite the many uncertainties, the long slow drive towards a higher quality of life coupled with progress seems to point towards graphite remaining in demand. Determining true relative value is a challenge that will remain no matter what the macro environment.