Far From The Crowd

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Nuclear Renaissance 2.0

Summary

- ➜ The nuclear sector is expanding
- ➜ This underpins uranium's long-term bullishness
- ➜ Since Jul'10, many uranium stocks broke base resistance - a revival is at hand
- ➜ Watch to buy on future setbacks

Nuclear Renaissance 1.0

During 2002-2007, uranium spot prices surged from a lowly US$8/lb to a stratospheric US$136/lb (Figure 1). This frenzy was fuelled by a combination of:

(i) Extremely depressed prices
(ii) Rising demand
(iii) Hoarding, and
(iv) Rampant financial speculation

The last factor was crucial in propelling prices to unsustainable heights. In 2002, spot market for uranium barely existed. A few years later, speculators were trading the yellow cake among themselves. Predictably, financial institutions rushed into the sector. When, for example, administrators combed through Lehman Brothers' books, they found the failed investment bank owning **450,000** lb of U_3O_8. Weblink.

Lured by potentially huge gains, oceans of capital flooded into the sector. **Cameco**, the unloved uranium stock for years, soared during 2003-2008 by 1,150% (Figure 2). During the same period, more than 400 junior mining firms formed and prospected for uranium globally. Slick executives touted themselves as 'uranium experts'; some firms even tagged 'uranium' to the company name to boost stock prices - an eerie reminiscence of the 'dot-com' boom. Well, we all know how that bubbly episode ended. The Nuclear Renaissance 1.0 was no different.

The Lehman crisis dragged uranium prices to a more sensible level. Many leveraged players, such as hedge funds, were brutally forced out. Speculative mining companies either exited the business, merged, or stopped mining for a period of time. Amidst the spectacular deleveraging, most uranium stocks collapsed; many 90% from their peaks. **Uranium One**, for instance, dived from $18.6 to $0.65 (Figure 3). Investors were badly stung.

Yet, after such a major washout, the fundamentals of the uranium market remain strong. It is the *FFTC* thesis that the second phase of the Nuclear Renaissance has begun.

Figure 1: **2003-8 Uranium soared 17x**

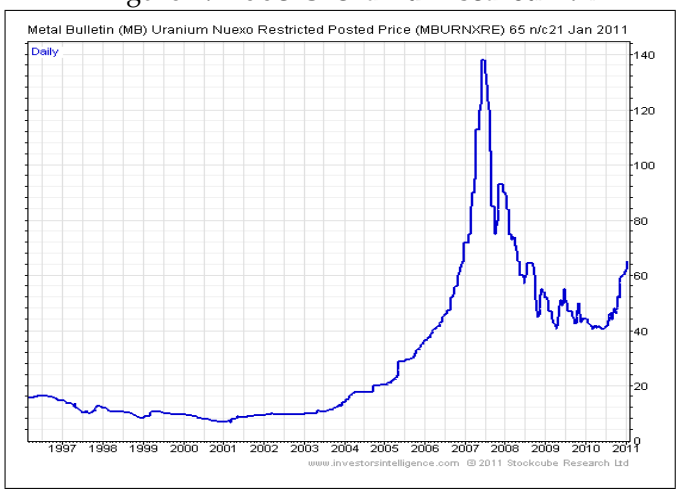


Figure 2: **2003-7 Cameco up 12.5x!**

Figure 3: **Uranium One Crashed 96%!**

Bullish On Uranium

Uranium, like many other commodities, is in a secular bull cycle. This bullishness is derived from a number of factors:

1. **Rising Supply-Demand Imbalance** - Do you know that the global uranium output in 2009 was barely higher than in 1959, 50 years ago? Since 1985, there was a wholesale collapse in uranium mine output (Figure 4). The nuclear market survived only because of the "Megatons to Megawatts" agreement - whereby USA and Russia released huge stockpiles of uranium into the market by dismantling 12,000 warheads (Figure 5).

   This agreement, however, is set to expire in 2013. Russia may not renew this agreement because of its own growing domestic nuclear demand, thus removing significant uranium supplies from the market.

   According to the World Nuclear Association (WNA), the world's 442 nuclear reactors require per year about 68,000 tonnes of uranium. Weblink This amount is set to increase to about 90,000 tonnes in 2015. Meanwhile, the total uranium mining output is about 50,500-55,000 tonnes. To make up this shortfall, new mines are crucial.

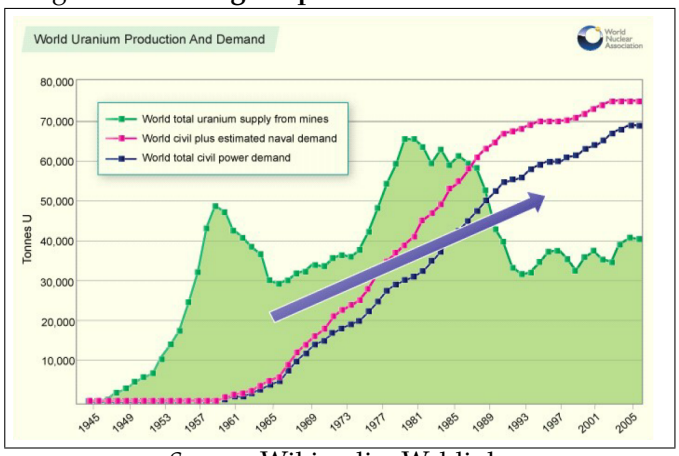
   However, new uranium production takes time and huge up-front capital expenditure. During 2003-2009, US$5.75 billion was spent on exploration and deposit delineation. But it yielded only a 15,006 tonne increase in new uranium output. Also worth mentioning is that **older uranium mines are struggling to increase production**. Canada, for example, saw its output stagnated during 2003-9, and underproduced Kazakhstan in 2009 by about 40%! (Figure 6) Similarly, Australia's uranium output now is only marginally higher than six years ago. Ergo, the world is now depending on countries like Namibia, Niger, and Uzbekistan to satisfy the increasing uranium demand.

   Currently, only Canada, South-Africa, and Russia are uranium self-sufficient. Western Europe imports nearly all its uranium, as do Japan, Korea, and a host of other countries. Swiss scientist Michael Dittmar, who wrote a four-part, must-read essay on the uranium crisis, predicted that:

   > "*All existing data indicate that drawdown of the civilian inventories, practiced during the past 10 years, has reduced the civilian uranium stocks to roughly 50000 tons. With an expected further yearly drawdown of up to 10000 tons and without access to the military stocks, the civilian western uranium stocks will be exhausted by 2013.*" Weblink MD

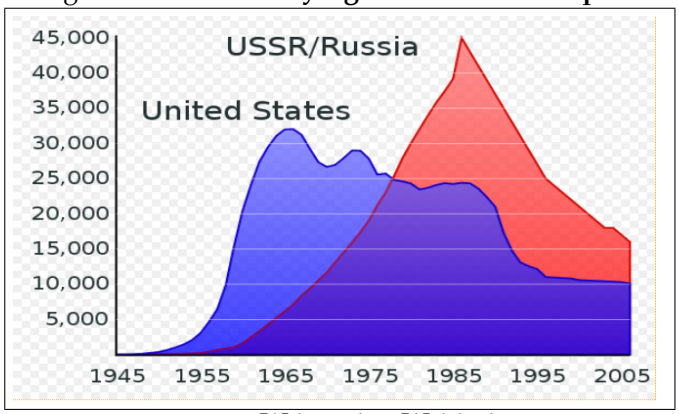
   In sum, a challenging period lies ahead in developing new uranium output. A shortfall may develop.

Figure 4: **Mining output still below 1970s levels**



Source: Wikipedia, Weblink

Figure 5: **Market relying on nuclear stockpiles**



Source: Wikipedia, Weblink

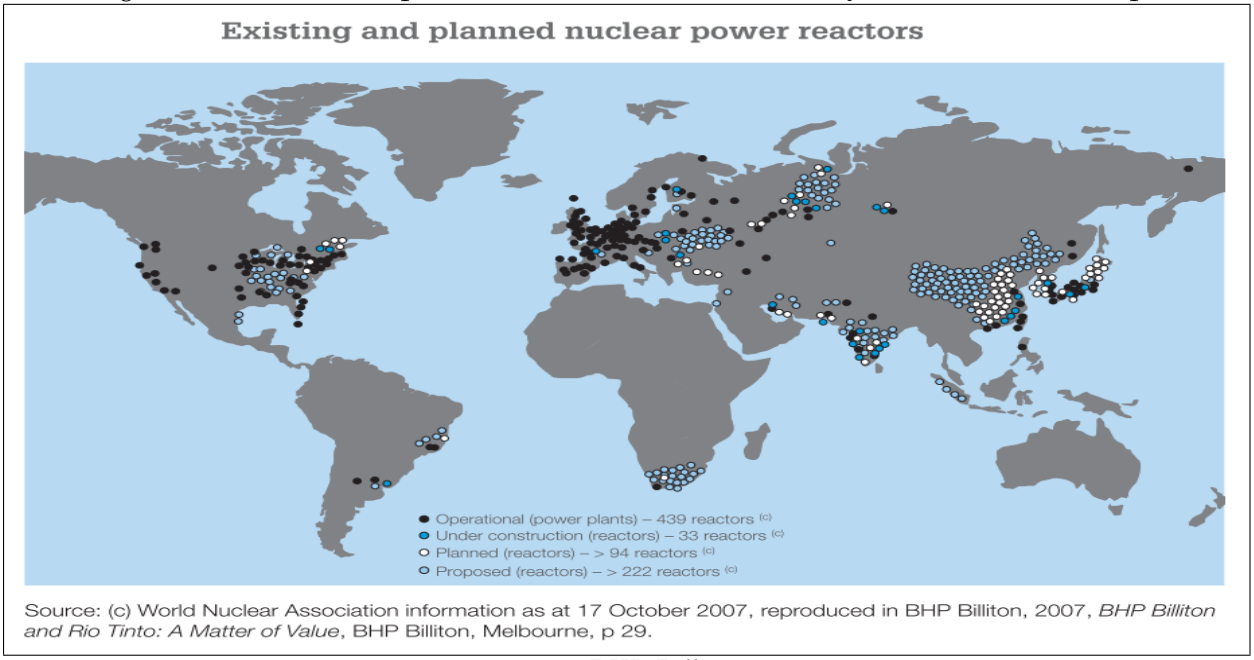
Figure 6: **Kazakhstan, the uranium powerhouse**

Production from mines (tonnes U)

Country	2003	2004	2005	2006	2007	2008	2009
Kazakhstan	3300	3719	4357	5279	6637	8521	14 020
Canada	10457	11597	11628	9862	9476	9000	10173
Australia	7572	8982	9516	7593	8611	8430	7982
Namibia	2036	3038	3147	3067	2879	4366	4626
Russia	3150	3200	3431	3262	3413	3521	3564
Niger	3143	3282	3093	3434	3153	3032	3243
Uzbekistan	1598	2016	2300	2260	2320	2338	2429
USA	779	878	1039	1672	1654	1430	1453
Ukraine (est)	800	800	800	800	846	800	840
China (est)	750	750	750	750	712	769	750
South Africa	758	755	674	534	539	655	563
Brazil	310	300	110	190	299	330	345
India (est)	230	230	230	177	270	271	290
Czech Repub.	452	412	408	359	306	263	258
Malawi							104
Romania (est)	90	90	90	90	77	77	75
Pakistan (est)	45	45	45	45	45	45	50
France	0	7	7	5	4	5	8
Germany	104	77	94	65	41	0	0
total world	**35 574**	**40 178**	**41 719**	**39 444**	**41 282**	**43 853**	**50 772**
tonnes U_3O_8	41 944	47 382	49 199	46 516	48 683	51 716	59 875
percentage of world demand			65%	63%	64%	68%	76%

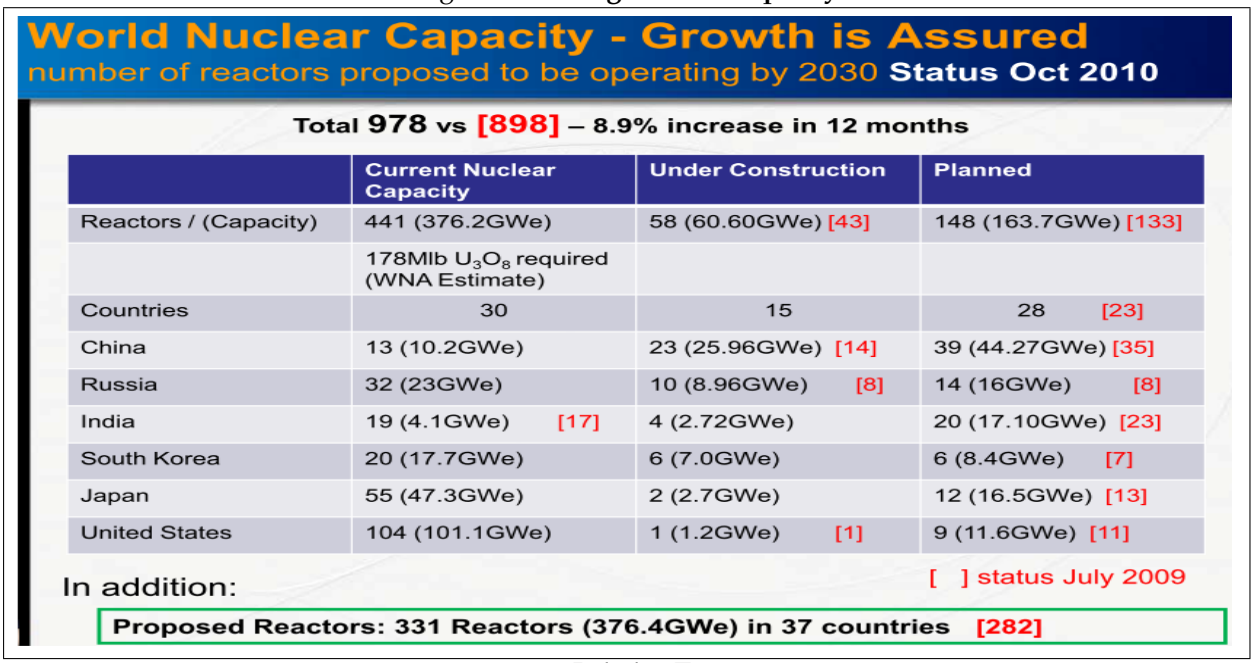
WNA Market Report data

Figure 7: **More nuclear plants around the world, driven by Asia and East Europe**



Source: BHP Billiton

Figure 8: **Rising nuclear capacity**



Source: Paladin Energy

2. **Increasing Energy Usage** - Hydrocarbon is the lifeblood of modern societies. But these compounds are becoming more expensive - a testament to the 'Peaked Oil' effect. Understandably, there is a growing shift towards using non-hydrocarbon energy in recent years, including nuclear. According to one estimate, nuclear currently contributes less than **2.5%** of the world's end energy mix! Arguably, there is plenty of scope for nuclear generated electricity. (see Weblink MD, above)

   What is more, nuclear-generated electricity is known to be the *cheapest* (Figure 9); and, produces the *lowest* carbon emission. Due to such benefits, many newly industrialising countries are leapfrogging the current infrastructure and head directly into the 'nuclear age'. For instance, Eastern European and Asian countries are ramping up their nuclear capability (Figure 7 and Figure 8). China alone is currently constructing 26 new reactors to satisfy its 8% annual growth in electricity consumption. Vietnam, too, is striving to build nuclear reactors despite its economic problems. Weblink Meanwhile, many Eastern European countries are promoting nuclear-generated electricity. Lithunia, Slovakia, Ukraine, Armenia, Hungary, and Bulgaria - all of which already have more than a third of their electricity generated by nuclear reactors (Figure 10). Czech republic is striving to build two more nuclear reactors in a bid to raise the technological standard of the country. Weblink Even oil-rich middle east is moving towards nuclear power, such as UAE. Weblink

   In developed regions, the nuclear revival is relatively slower. Still, some progress were

achieved. Germany, for example, has delayed the phase-out of nuclear plants by 14 years. Chancellor Merkel cited 'affordable electricity' as the main reason for the policy change. Weblink Even in Australia, there are calls to develop its own nuclear reactors. Weblink

Overall, nuclear-generated electricity is becoming an essential component to future economic plans. As industrialising countries build more nuclear reactors, demand for U_3O_8 will increase substantially.

3. **Energy Security** - Major oil fields are increasingly harder to find, tougher to extract favourable concessions, and more costly to operate. But to maintain a secured energy supply chain, countries need to have an ample stockpile of raw materials. Due to its vast needs, China is actively such a strategy. It had in the past stockpiled raw commodities like copper. With a number of new nuclear reactors coming on-stream soon, the government has directed various chinese utility firms to stockpile uranium, *from whatever sources they can obtain*. Weblink

   For example, since last June, China has signed various off-take agreements, supply, joint ventures with Cameco, Areva, U3O8, and Paladin. In addition, China is also buying and operating uranium mines overseas, such as the Azelik mine, which started production for the first time last year. Weblink

   No doubt, other nuclear nations like India will be forced to follow the dragon's blazing trail as these materials are scooped off the market *forever*. Belatedly, they are also realising that the later they participate in the game, the bigger premium they have to pay to secure the commodity. Therefore, energy security will be a hugely positive factor for uranium prices and uranium stocks.

4. **Favourable Technicals** - Uranium price has maintained the pattern of rising reaction lows since 2002. The severe correction in 2008 found support at the round number US$40 - a level still far higher than the 2003 low. This confirms that uranium remains in a secular bull market.

   What is more, as the pain of the last meltdown fades, investor sentiment will improve. Investors who missed out the '*first step above the base*' in uranium miners recently may now be eager to buy on a setback, providing additional support for stock prices.

   Not to forget is that uranium stocks have underperformed the general market for some time, and, especially against precious metals miners. There could be a *sector rotation* into uranium miners as the upside potential there is perceived greater.

   Meanwhile, there is much liquidity in the market, buoying speculative securities like uranium miners and producers. QE2 has set fire under many risky assets. Who knows, QE3 may be initiated should the US economy sag again in 2011.

   Lastly, financials like hedge funds may enter the uranium market once more, following a three-year convalescence. Speculative demand usually pushes prices far above the fundamentals. Until uranium prices are back to the 2007 highs, there is little to suggest the presence of such 'irrational exuberance'.

Bottom line: Supply-demand imbalance, rising energy usage, energy security, and favourable technicals are all providing a bullish cushion for uranium.

Figure 9: **Nuclear is the cheapest**

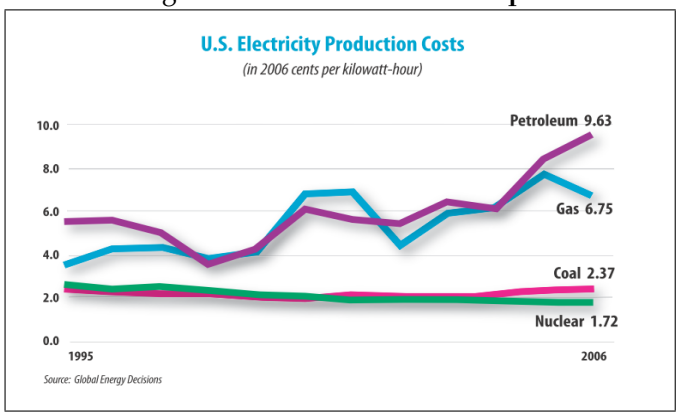


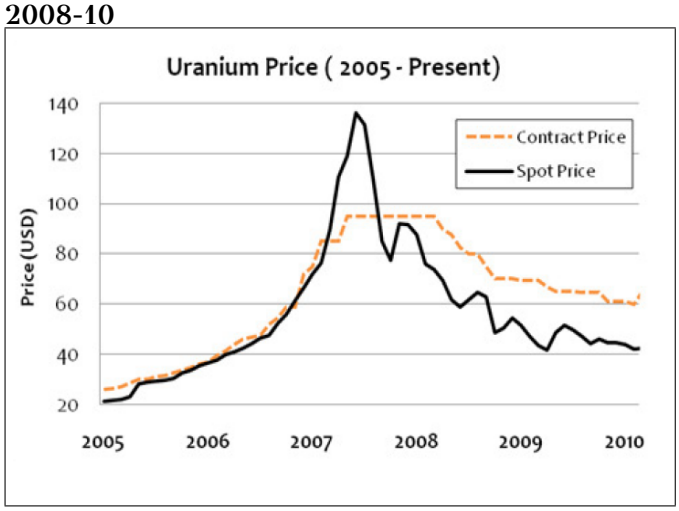
Figure 10: **But nuclear generates only 14% of all electricity**

Nuclear power plants provided 14 percent of the world's electricity production in 2009. In total, 16 countries relied on nuclear energy to supply at least one-quarter of their total electricity. Countries generating the largest percentage of their electricity in 2009 from nuclear energy were:

Country	Percent
Lithuania*	76.2
France	75.2
Slovakia	53.5
Belgium	51.7
Ukraine	48.6
Armenia	45.0
Hungary	43.0
Switzerland	39.5
Slovenia	37.8
Sweden	37.4
Bulgaria	35.9
Korea, Rep.	34.8

* Lithuania's last operating unit was shutdown in 2009.

Figure 11: **Uranium term price steady throughout 2008-10**



Investing In The Sector

There are several ways to invest in the nuclear-uranium sector, including:

(I) **Uranium Producers**
(II) **Uranium Exploration**
(III) **Nuclear Infrastructure**
(IV) **Uranium fund**

Stocks that operate in the nuclear sector can range from conservative, to speculative, to highly speculative. I discuss briefly each subgroup below, starting with the conservative picks.

Uranium infrastructure - Conservative

Countries building new nuclear reactors typically rely on foreign firms, who have the proven expertise. Two candidates that immediately spring to mind are Westinghouse (now owned by Toshiba Plant) and Areva.

Chartwise, we like **Toshiba Plant & Systems** (1983 JP) and **Shaw Group** (SHAW US). The former remains on a long-term uptrend; and has outperformed the Nikkei225 Index since 2000 - a rare feat! (Figure 12)

Meanwhile, Shaw Group, the original engineer/constructor for 17 U.S. nuclear power plants, is consolidating around US$30-40 band. It has earnings and is poised for a bullish breakout at $40 (Figure 13).

Of course, there are other players like the Koreans, who wrestled successfully the four UAE nuclear projects from under the noses of the French and Japanese. However, **Kepco**'s chart (015760 KS) does not look inspiring. Perhaps when its share price declines some more would we buy some (Figure 14). Currently it is underperforming KOSPI significantly.

In time, I expect chinese construction firms to start competing for nuclear reactors projects overseas once they master the techniques. Keep this in mind!

Uranium producers - Conservative

After two lean decades, uranium production has amalgamated into the hands of a few corporations. In 2009, the top 10 firms produced 89% of the world's uranium (Figure 15).

And, not all of them are traded in the market. KazAtomProm, ARMZ, and Navoi are the national operators of the Republic of Kazakhstan, Russia, and Uzbekistan respectively. What is left on the list are Cameco, Rio, BHP, Uranium One, and Paladin. Even Uranium One has recently fallen into the hands of the Russians. (To find out more about uranium mines, see this link. Weblink)

Rio and BHP are two global mining conglomerates. Therefore, uranium only makes up a minor percentage of their total revenue. Their gearing to uranium is small. A more preferable play on the sector thus falls to **Cameco** (CCO CN) and **Paladin** (PDN AU).

Figure 12: **Toshiba Plant Outperforms!**

Figure 13: **Shaw Group - Long-term uptrend**

Figure 14: **Kepco: Towards potential buy zone**

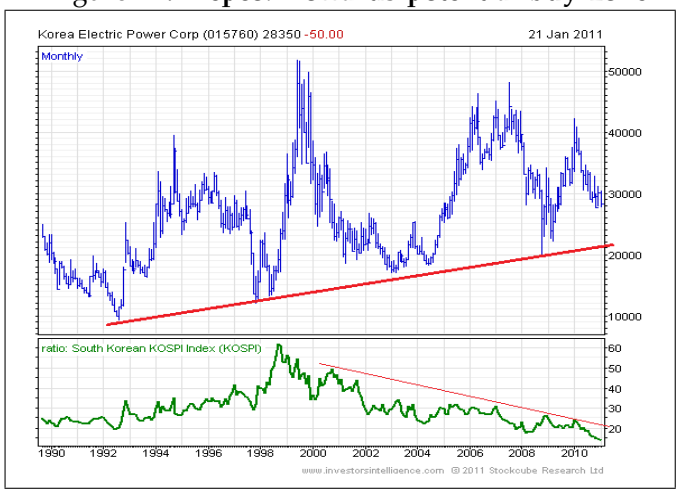


Figure 15: **Uranium production concentrated in a few**

Company	tonnes U	%
Areva	8623	17
Cameco	8000	16
Rio Tinto	7963	16
KazAtomProm	7467	15
ARMZ	4624	9
BHP Billiton	2955	6
Navoi	2429	5
Uranium One	1368	3
Paladin	1210	2
GA/Heathgate	583	1
Other	5550	11
Total	**50,772**	**100%**

Cameco is the undisputed *sector leader* - a bellweather on the industry. Having rallied significantly from the low-twenties, the stock is now encountering resistance at C$40, the round number resistance. Technically, we expect the stock to move into the $40-50 band, although resistance here will be great as this was the former highs (Figure 16). Accumulate on setbacks.

For Paladin, it is currently trading at an attractive level. While resistance is evident at $6, any consolidation to below $5 will be buy opportunities. Being a uranium producer, it may not be a laggard for long.

One may also take a look at Uranium One, which is forming a major base (Figure 3). But because it is now majority-owned by the Russian ARMZ, there could be added uncertainties.

A more speculative uranium producer is **Uranium Resources** (URRE US). It has uranium production in the Texas mine, and according to its brochure, the firm is selling them to Itochu (Japanese) and UG USA (Areva). Technically, the stock had a healthy multi-year base breakout last year; any decline to near $2 would be a good entry point. (Figure 18)

Uranium explorers and new producers - Speculative

Moving onto a more speculative area: the uranium explorers and newer producers in the market. Many look attractive. In this subgroup, I highlight **Uranium Energy** (UEC US), **Denison Mines** (DML CN), **Uranerz** (URZ US), **UEX** (UEX CN) and **Mega Uranium** (MGA CN).

Uranium Energy had a significant rally in 2H of 2010. Prices more than tripled (Figure 19). Judging from its proximity to the 2007 highs, it may well be one of the first uranium stocks to surpass the prior peak! Technically, we see $4-5 as good entry points for buys.

Uranerz, too, had a tremendous advance since last June. Prices increased 4-fold, from $1 to $5 (Figure 20). In fact, URZ's upward momentum is so strong that one may need to buy some *now* to get a foot on the runaway train. The next consolidation may take place at a far higher level.

Turning to Denison Mines, the stock had a major base breakout last year, above the C$3 level (Figure 21). Whilst its stock is currently pinned by the round number resistance at $4, the base formation will eventually force through that level. Accumulate.

UEX had the same pattern. The stock cracked the C$1.8 ceiling late last year on high volume (Figure 22). It is currently consolidating at this resistance-turned-support level, trying to accumulate strength for the next leg up. A further rally is thus a distinct possibility.

Figure 16: **Cameco, the pure uranium play**

Figure 17: **Paladin Energy broke downtrend**

Figure 18: **Uranium Resources consolidating breakout; accumulate**

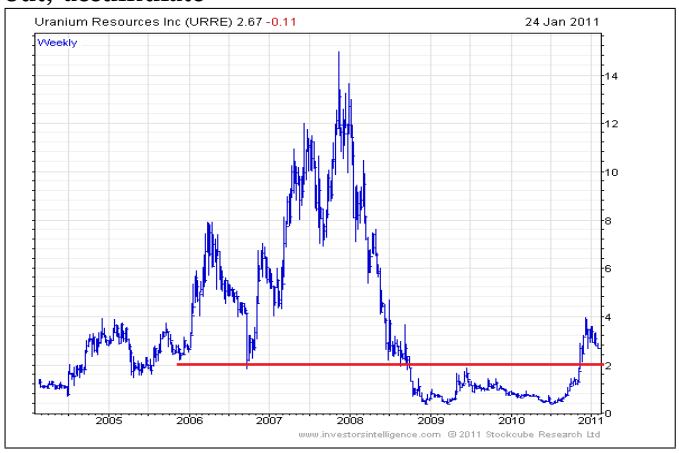


Figure 19: **Uranium Energy Corp surged to test prior cycle highs**

Meanwhile, Mega Uranium is just recovering from the three-year bear market. It had a spectacular blow-out during 2007-2010, where price collapse almost 97%! (Figure 23) It had the first leg up since testing the major support at $0.35; and prices are digesting the gains at C$1. Given the rising bullish sentiment on the sector, a test of the downtrend resistance - near $1.5 - is not to be ruled out. Try to buy below $1.

Junior uranium explorers - Highly Speculative

Next, we turn to the most speculative area: junior uranium explorers. In this group, several stocks look outstanding, including **Laramide Resources** (LAM CN), **Rockgate** (RGT CN), **Titan Uranium** (TUE CN), **Mawson** (MAW CN) and **Strathmore Minerals** (STM CN). Many had already rebounded significantly since last July.

Laramide Resources, for example, has rallied to the major base resistance at C$2.2 (Figure 24). Given the length of the base, a bullish breakout, once materialised, may propel prices towards $4 swiftly. Overweight.

Rockgate had a powerful rally in 4Q of 2010. Its stock price tripled in a short period of time, suggesting immense pent-up demand (Figure 25). However, some resistance is noted at C$3. A setback is anticipated; but watch to accumulate at round number levels, eg., $2.

Next, Titan Uranium is on the brink of breaking the multi-year base pattern (Figure 26). Given that the next major resistance is at C$1, a breakout is expected. Buy at around $0.50.

Mawson's advance last year was hugely impressive. Prices soared nearly 6x from the June lows; and are now consolidating the advance around the C$2 area (Figure 27). Watch to buy near $1.5, the lower side of the range.

For Strathmore, the stock is gathering impetus to breakout of the resistance at C$1.3, the former support-turned-resistance (Figure 28). Watch to buy near the psychological C$1.

Uranium

Lastly, another way to gain exposure to the bullish uranium market is to buy vehicles that are administering the commodity. One such security is **Uranium Participation Corporation** (U CN). According to its website, it "*is an investment holding company which invests substantially all of its assets in uranium, either in the form of uranium oxide in concentrates or uranium hexafluoride, with the primary investment objective of achieving appreciation in the value of its uranium holdings.*

Technically, its chart looks bullish, having found firm support at C$6 to break the downtrend (Figure 29). Another 20% rally to $10 is likely. Overweight.

Figure 20: **Uranerz Racing back to the highs**

Figure 21: **Denison developing 'first step above the base'**

Figure 22: **UEX broke out, now consolidating**

Figure 23: **Mega Uranium challenging base resistance**

Figure 24: **Laramide testing resistance**

Figure 25: **Rockgate; Up it went**

Figure 26: **Titan angling for a breakout; target C$1**

Figure 27: **Mawson's impressive rally**

Figure 28: **Strathmore - try to buy below C$1**

Figure 29: **Uranium Participation Corp. bullish**

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