

Western Uranium up 107% in July on successful hearing results and a stronger uranium price

Uranium has had an interesting 2020 so far. Apart from a surge higher in April/March 2020 owing to the market reacting to the COVID restrictions impacting uranium mines on a global basis and as the US Gov. stepped in to support the sector, uranium prices have been range bound. This is likely to continue in the short term, which means the next gains for the uranium miners will come from production gains rather than price gains. Today I look at one US uranium miner who has done the preparation to put their uranium mines in ready to go status in advance of the proposed US\$150 million U.S. uranium reserve program.

This is what George Glasier, CEO of Western Uranium & Vanadium Corp., said on March 10, 2020 in an interview with InvestorIntel: *"We opened the mines and got them ready this summer. We are ready to go into production. As soon as the market turns a little bit we will be in production..."*

The uranium spot price has risen 31% since Western Uranium & Vanadium CEO George Glasier's March 10, 2020 comment to restart the mine "as soon as the market turns"



Source: Trading Economics

Western Uranium & Vanadium Corp. (CSE: WUC | OTCQX: WSTRF) is a uranium and vanadium 'production ready' miner with fully permitted mines in western Colorado and eastern Utah, USA. Their flagship project is The Sunday Mine Complex that contains 5 mines. The Company purchased the mine complex when uranium prices were very low. Due to excellent grades and existing infrastructure the Sunday Mine complex can achieve a low OpEx with only ongoing CapEx now required.

Western Uranium & Vanadium Corp.'s stock price spiked from C\$0.53 to C\$0.79 the past 2 weeks on news that the Company was successful in their hearing that affirmed their existing 5 permits at the Sunday Mine Complex. The mining permit hearing was held before the state of Colorado's Mined Land Reclamation Board (MLRB) on July 22, 2020.

The successful hearing and a stronger uranium price now at USD 32.30/lb paves the way for Western Uranium & Vanadium to restart their Sunday Mine Complex. The restart plan began back in 2019 when the Sunday Mine Complex was reopened with

development drilling and ore mining, with ore stockpiled underground. During the 3rd and 4th Quarters of 2019, the project focus was shifted to surface infrastructure projects. In February 2020, the last of these projects, the construction of the ore storage pads were completed.

Western Uranium & Vanadium Sunday Mine Complex ready to go with high grade uranium and vanadium

Sunday Mine Complex: Re-opening 2019



SUNDAY MINE COMPLEX

- Five underground conventional mines
- Uranium and vanadium production by Union Carbide and Denison (2009)

High Grades

- U^3O^8 grades (~0.25% to 0.36%)
- V^2O^5 grades (~1.49% to 2.16%)



Source: Company investor presentation

Western Uranium & Vanadium is one of the largest U.S. Uranium and Vanadium in-situ resource holders. Grades are good with historic resources (formerly JORC) and NI 43-101 of:

- Total uranium resource ~53,000,000 lbs
- Total vanadium resource ~35,000,000 lbs

Closing remarks

Western Uranium & Vanadium is now set to go, with their Sunday Mine Complex production ready and permits now fully approved. The Company is awaiting U.S. Government follow through on the US\$150m pa proposed for the next 10 years for the purpose of building up a US uranium reserve that is much needed to protect key electricity producing nuclear power as well as key military uranium needs.

Western Uranium & Vanadium has already done the hard work to prepare their mines as uranium price levels increase and for U.S. government purchase opportunities. Investors can watch the Company or buy now in anticipation. The current market cap is still very cheap at only C\$23m. I expect a good H2 2020 for the Company.

Trump allocates \$150 million per annum to establish U.S. uranium reserve

In breaking news the US Government has just released its FY2021 budget document to go forward for approval to the US Congress.

It appears that the Nuclear Fuel Working Group's (NFWG) recommendations to support the US uranium industry have been supported, at least to the tune of a US uranium reserve per annum of US\$150 million over 10 years: a \$1.5 billion plan to establish a U.S. uranium reserve.

Some key points from the FY2021 US budget document are quoted below from pages 45-47:

- “Nuclear energy is also critical to the Nation’s energy mix and the Budget supports an array of programs to advance nuclear energy technologies. This portfolio promotes revitalization of the domestic industry and the ability of domestic technologies to compete abroad. The Budget provides \$1.2 billion for R&D and other important nuclear energy programs, including nearly \$300 million for the construction of the Versatile Test reactor—a first of its kind fast reactor that would help the private sector develop and demonstrate new technologies.
- **Supports Nuclear Fuel Cycle Capabilities.** On July 12, 2019, the President determined that “...the United States uranium industry faces significant challenges in producing uranium domestically and that this is an issue of national security.” **The Budget establishes a Uranium reserve for the United States to provide additional assurances of availability of uranium in the event of a market disruption.”**

Furthermore, the uranium reserve amounts are shown below, with US\$150 million pa allocated for a “uranium reserve” for “purchase of uranium” each year from 2021 to 2030, as well as other discretionary funds.

TABLE 25-1. FEDERAL BUDGET BY AGENCY AND ACCOUNT, FY2021 PRESIDENT'S BUDGET POLICY
(In millions of dollars)

| Account and Subfunction Code | 2019 | | Estimate | | | | | | | | | | |
|--------------------------------|--------|-----|----------|------|------|------|------|------|------|------|------|------|------|
| | Actual | | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| Uranium Reserve (019-20-2296): | | | | | | | | | | | | | |
| Appropriations, discretionary | 271 BA | --- | --- | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |
| Outlays, discretionary | O | --- | --- | 45 | 90 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 |

Source: Page 127

Detailed view for FY 2021 US uranium reserve funding budget

URANIUM RESERVE

For Department of Energy expenses necessary for Uranium Reserve activities to carry out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), \$150,000,000, to remain available until expended.

Program and Financing (in millions of dollars)

| Identification code 089-2296-0-1-271 | 2019 actual | 2020 est. | 2021 est. |
|--|-------------|-----------|-----------|
| Obligations by program activity: | | | |
| 0001 Purchase of uranium | | | 150 |
| 0900 Total new obligations, unexpired accounts (object class 25.2) | | | 150 |
| Budgetary resources: | | | |
| Budget authority: | | | |
| Appropriations, discretionary: | | | |
| 1100 Appropriation | | | 150 |
| 1930 Total budgetary resources available | | | 150 |
| Change in obligated balance: | | | |
| Unpaid obligations: | | | |
| 3010 New obligations, unexpired accounts | | | 150 |
| 3020 Outlays (gross) | | | -45 |
| 3050 Unpaid obligations, end of year | | | 105 |
| Memorandum (non-add) entries: | | | |
| 3200 Obligated balance, end of year | | | 105 |
| Budget authority and outlays, net: | | | |
| Discretionary: | | | |
| 4000 Budget authority, gross | | | 150 |
| Outlays, gross: | | | |
| 4010 Outlays from new discretionary authority | | | 45 |
| 4180 Budget authority, net (total) | | | 150 |
| 4190 Outlays, net (total) | | | 45 |

Establishing a Uranium Reserve provides assurance of availability of uranium in the event of a market disruption and supports strategic U.S. fuel cycle capabilities. This action addresses immediate challenges to the production of domestic uranium and reflects the Administration's Nuclear Fuel Working Group (NFWG) priorities. The NFWG will continue to evaluate issues related to uranium supply chain and fuel supply.

Source: Page 397

A response from the Department of Energy's Office of Nuclear Energy to the uranium reserve proposal

The Office of Nuclear Energy (NE) stated:

*“NE is asking for \$150 million to set up a uranium reserve to further protect the nation’s energy security interests. **The new program will help to reestablish the nation’s nuclear fuel supply chain through the domestic production and conversion of uranium. The reserve is expected to support the operation of at least two U.S. uranium mines** and will ensure there is a backup supply of uranium in the event of a significant market disruption that prevents entities from acquiring fuel. NE would begin the procurement process for the reserve in FY21.”*

The “at least two US uranium mines” would suggest the two that brought forward the original Section 232 petition – Energy Fuels Inc. (TSX: EFR | NYSE American: UUUU) and Ur-Energy Inc. (NYSE: URG | TSX: URE).

Ur-Energy Inc.’s Chairman, President and CEO Jeff Klenda added: “After years of sounding the alarm, Ur-Energy is pleased the Trump Administration has recognized the national security implications of ceding the nuclear fuel cycle to our geopolitical rivals and is now taking definitive action to shore up the domestic industry by establishing a national uranium reserve that will be supplied by domestically-mined uranium. The President’s proposed budget includes up to \$150M per year from 2021 through 2030 to purchase domestic uranium. According to today’s issue of *The Energy Daily* DOE Undersecretary Mark Menezes commented on Monday that, “This is the beginning of a long process” to address the nuclear fuel cycle. “It won’t stop with the creation of the uranium reserve.”

Curtis Moore, VP Marketing and Corp Development from Energy Fuels Inc. (NYSE American: UUUU | TSX: EFR) commented: “Now that we’ve had a day or so to digest yesterday’s budget news, we are increasingly optimistic about what it all means for Energy Fuels. The Office of Nuclear Energy within the U.S. Department of Energy stated that this money is ‘expected to support the operation of at least two U.S. uranium mines ...’ There are currently only three or four uranium facilities

operating in the U.S. right now, that have the current capability to supply a U.S. uranium reserve, including Energy Fuels' White Mesa Mill in Utah and our Nichols Ranch ISR Facility in Wyoming. So, at the very least, we think this money should go toward supporting these existing, proven, low-cost facilities and saving existing jobs and expertise.

In addition, Energy Secretary Dan Brouillette and others have stated that the Nuclear Fuel Working Group will announce more recommendations in the coming weeks. It is our belief that yesterday's announcement will support sustainable domestic uranium production of about 2-2.5 million pounds per year. However, if the U.S. wants to have an industry capable of supplying 5-10 million pounds per year, additional actions are required. The U.S. consumes about 48 million of uranium per year, not including military requirements. So, 2-2.5 million pounds only represents a tiny fraction of total U.S. demand; even 5-10 million pounds isn't much. So, we are interested to see what else the government has in mind. Indeed, government officials, including Wyoming Senator John Barrasso, who has been a staunch defender of President Trump, are calling for the government to do more. And, as an American, I'd like to see the government do more.

Finally, yesterday's announcements clearly indicate that nuclear fuel has become a major priority for the U.S. government. It is our belief that no matter which political party leads the U.S. government, this program alone has the strong potential provide Energy Fuels and perhaps a couple of other companies with a nice baseline of production and revenue, enabling us to save jobs and uranium production capacity. The alternative is to become massively dependent on Russian uranium and nuclear fuel, which nobody in the U.S. wants to see.

There's still more work to do – in particular, how to implement this program to ensure its success. However, we believe yesterday's announcement was a huge step in the right

direction.”

Western Uranium & Vanadium Corp.’s (CSE: WUC | OTCQX: WSTRF) Founder and CEO George Glasier commented: “We are very pleased that President Trump provided for a national uranium reserve and acknowledged that the domestic production of uranium is a national security issue in his Fiscal Year 2021 – A Budget for America’s Future. The multi-year efforts of the President, Nuclear Fuel Working Group, and Department of Commerce were ground-breaking for addressing domestic critical and strategic mineral requirements and initializing the rebuilding of America’s nuclear fuel cycle. We look forward to the release of additional recommendations from the Nuclear Fuel Working Group report. In the short-term supporting domestic mining will reinvigorate hardworking mining communities, but in the end the result will be the advancement of national defense, nuclear infrastructure, and energy independence goals.”

Closing comments

The budget document is a positive response by the Trump administration to the NFWG’s recommendations to support the domestic uranium industry. At this stage it is still too early to know any details on terms – what price will the uranium be bought etc., we will provide updates as we secure them.

WUC’s Glasier provides updates on the Sunday Mine and debunks myths on the

vanadium market

“Early next year we will open the Sunday Mine, which was operated in 2009. The mine is ready to go. We will open it in early 2019, get it ready for production in the second half of 2019. The mine is virtually ready. We are going to go in and assess the high-grade vanadium that we know is in there and then lay out the mining plan to start mining in the second half.” States George Glasier, President, CEO and Director of Western Uranium & Vanadium Corp. (CSE: WUC | OTCQX: WSTRF), in an interview with InvestorIntel Corp. CEO Tracy Weslosky.

Tracy Weslosky: George it is a real pleasure to have this opportunity to speak to you, it is my understanding your planning on becoming North America’s number one source of vanadium. Is that correct?

George Glasier: The Sunday Mine Complex is one of the best, if not the best mine in North America for vanadium. It is a series of 5 mines with very, very high-grade vanadium.

Tracy Weslosky: You just put out some very big news. On November 28th you put out a news report on how you are planning to provide a Sunday Mine Complex reopening update. Can you talk to us a little bit about this news release?

George Glasier: That is right. Early next year we will open the Sunday Mine, which was operated in 2009. The mine is ready to go. We will open it in early 2019, get it ready for production in the second half of 2019. The mine is virtually ready. We are going to go in and assess the high-grade vanadium that we know is in there and then lay out the mining plan to start mining in the second half.

Tracy Weslosky: We are getting a lot of Twitter action, a lot of tweets about you. One of the potential investors out there

sent me an email asking about how you are planning on sending your ore overseas for processing. Could you address that?

George Glasier: Vanadium ore can be shipped anywhere in the world. You have got to have an export license, which is not difficult to get. The U.S. exports all kinds of commodities including a lot of coal. The vanadium ore will be exported much like we export other commodities. Of course it will be in a container, but we are going to ship this overseas for processing. There is a big demand for the vanadium. Processing plants are already ready to go with no feedstock. That is our plan at least for the first couple of years moving into building a new vanadium plant in the U.S., which will take a few years, a couple of years.

Tracy Weslosky: Of course George with vanadium prices absolutely surging and such an incredible demand globally right now there is a lot of misinformation out there. One person was tweeting about how your ore may potentially be radioactive. Can you talk to us a little bit about that because that obviously is incorrect?

George Glasier: Our vanadium ore or the vanadium standalone in the Sunday Mine is no more radioactive than the coal we ship. The United States coal mines have a little radioactivity. Radioactivity is everywhere in very low quantities. That is a bit of what the vanadium has and it is very low radioactivity. There are no restrictions on shipping that kind of stuff. If not we would not be shipping coal around the world.

Tracy Weslosky: George thank you for addressing that particular misinformation. There is a lot of misinformation about the real demand for vanadium there. Is there a real shortage or not?...to access the complete interview, [click here](#)

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Glasier on how vanadium is “now the primary product for production” at Western Uranium

George Glasier, President, CEO and Director of Western Uranium Corp. (CSE: WUC | OTCQX: WSTRF) (“Western Uranium”), a mining company focused on low cost near-term production of uranium and vanadium; in an interview with InvestorIntel Director Kelly Bird discuss the current critical material market. Kelly comments on the “new-found spark of optimism in the uranium market” and George responds to this and then goes on to explain how the increased interest in vanadium this year was an opportunity to remind shareholders of Western Uranium’s vanadium resource. George comments that their “at a level now where the vanadium in our (Western Uranium) properties in some of these mines actually exceeds a value of the uranium...in the past vanadium has been a secondary product, but it is almost now the primary product for production out of these mines.”...to access the complete interview, [click here](#)

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Western Uranium's patented technology making both uranium and vanadium production more cost effective

"A patented technology that basically reduces the overall cost of producing uranium and vanadium, removing the case or any mineral that coats a sand grain, secondary mineral deposit. It's a pretty simple process..." – George Glasier on Western Uranium's patented ablation

George Glasier, President, CEO and Director of Western Uranium Corp. (CSE: WUC | OTCQX: WSTRF), in an interview with InvestorIntel CEO Tracy Weslosky, discuss Western Uranium's patented ablation technology. This technology, which will reduce the production cost for both the uranium and vanadium at Western Uranium is also, as George points out – licensable to the global market. Ready to produce as the market rebounds, Tracy and George discuss the overall market demand, supply and prices for the uranium market and issues around sustainability as Western Uranium's properties are located in North America – Utah and Colorado, USA... to access the complete interview, [click here](#)

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Western Uranium to double dip in the vanadium rush and U.S. nuclear renaissance

It seems appropriate that as 2017 looks like it's shaping up to be the "Year of the Infrastructure Metals" that we look at one of the metals that is a key alloy metal used in construction steels. While we could rhapsodize about Vanadium's potential use in large scale or massive batteries it's in the infrastructure context that Vanadium strengthened steel is going to make the most difference in the short term.

In the past we have written extensively on Largo Resources Ltd. (TSX: LGO | OTCQB: LGORF), the Vanadium miner in Brazil and mentioned the massive Vanadium resource that Energizer Resources Corp. (TSX: EGZ | OTCQB: ENZR) has as their "back-up asset". However the most recent focus of our Vanadium attentions has been Western Uranium Corporation (CSE: WUC | OTCQX: WSTRF), which because of its position on the Uravan mineral belt in the western US, it gets to double dip in both the current Vanadium rush and the potential uranium recovery. This metal is a key co-product at the Sunday Mine complex and at most of its other properties in the Uravan Mineral Belt. Below can be seen a high-grade Vanadium seam at the Sunday Mine Complex.



In this piece we shall look at the Vanadium dynamics of the moment and also how Western Uranium can potentially harvest the mooted infrastructure push in the US.

Vanadium

Vanadium has its scientific roots in Latin America as it was originally discovered by Andrés Manuel del Río, a Spanish-born Mexican mineralogist, in 1801. Del Río extracted the element from a sample of a Mexican “brown lead” ore, later named vanadinite.

In 1831, the Swedish chemist Nils Gabriel Sefström rediscovered the element in a new oxide he found while working with iron ores. He named the new element Vanadium after Old Norse Vanadís. Vanadium has the atomic number 23. It is a hard, silvery gray, ductile and malleable transition metal. The formation of an oxide layer stabilizes the metal against oxidation. The element is found only in chemically combined form in nature.

The isolation of vanadium metal proved difficult. Henry Enfield Roscoe eventually produced the metal in 1867 by reduction of vanadium(II) chloride, VCl_2 , with hydrogen. In 1927, pure vanadium was produced by reducing vanadium pentoxide with calcium.

Usage

The first large scale industrial use of vanadium in steels was found in the chassis of the Ford Model T, inspired by French race cars. Vanadium steel allowed for reduced weight while simultaneously increasing tensile strength. At the moment, Vanadium is used mainly as an alloy in a wide range of specialty steels and titanium alloys to provide greater strength, toughness, and wear-resistance. It is for this reason that Vanadium consumption should rise in an infrastructure boom scenario.

Vanadium has been used as a steel additive since the late 1800s when "vanadium steel" was used to armour the hull of battleships making them impenetrable to explosive shells. Only a small amount of Vanadium significantly increases the strength, hardness, and high temperature stability of steel. Its electron deficient structure lends itself well to the formation of more stable nitrides and carbides when added to iron and as such Vanadium has been referred to as the "electric metal". Vanadium high-carbon steel alloys contain 0.15% to 0.25% vanadium, and high-speed tool steels (HSS) have a Vanadium content of 1% to 5%.

In recent times the incremental demand for Vanadium has been driven by increased steel production primarily in China, India and the developing world. At the same time, various economic and legislative factors are increasing the use of vanadium in the steel industry, like stronger rebar to reduce catastrophic destruction in earthquake prone regions as well as providing the necessary strength demanded by cutting edge architectural design. Some estimates suggest the demand for Vanadium might

grow at 7% per annum from 2010 to 2025 based on the steel applications alone.

Sources – Primary and otherwise

The element occurs naturally in about 65 different minerals and in fossil fuel deposits and is the 17th most common element in the earth's crust. The important thing to note is that, beyond recycling from steel slag) the sources of Vanadium are either mineral deposits or, rather uniquely, as an oil by-product.

Vanadium occurs in deposits of phosphate rock, titaniferous magnetite, and uraniferous sandstone and siltstone, in which it usually constitutes less than 2% of the host rock. Significant amounts are also present in bauxite and carboniferous materials, such as coal, crude oil, oil shale, and tar sands. Amongst the major deposits are the titaniferous magnetites of China, Russia, South Africa, Western Australia and New Zealand, as well as the oil-related deposits of Venezuela, Alberta (Canada), the Middle East and Queensland (Australia), in addition to ore and clay deposits in the USA.

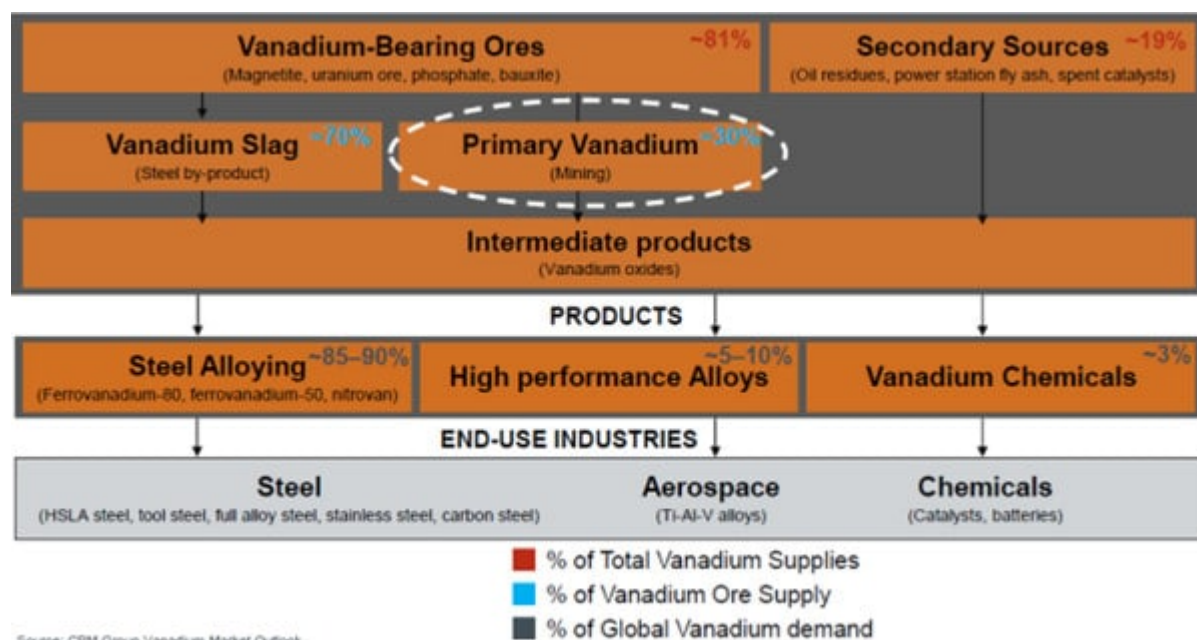
| Commercially Exploitable Reserves & Reserve Base | | | |
|---|---|--|----------|
| | Commercially Exploitable reserves (10.2 mn t.) | Reserve Base (31.094 mn t.) | |
| | % | | % |
| Australia | 1.6 | | 7.7 |
| China | 19.6 | | 9.6 |
| Russia | 48.9 | | 22.5 |
| South Africa | 29.4 | | 40.2 |
| U.S.A | - | | 12.9 |
| Others | 0.5 | | 7.1 |

The table above shows the state of resources according to Vanitec, a Vanadium producer/user association. We suspect it is somewhat outdated as several new sources (such as

Madagascar) have become apparent over recent years. In particular the Australian share should be lifted and Brazil is worthy of being considered a potential player of consequence. The USGS in its latest survey on the metal said that world resources of Vanadium exceed 63 million tons.

Dynamics

The dynamics of the Vanadium supply chain are interesting. In some ways we might compare the metal's supply chain to that of Lead, where the chief source is recycling. The chart below (from the consultants CPM) shows that much of the current Western supply is sourced primarily from steel scrap, then mining followed by secondary sources (which are also recycling in nature).

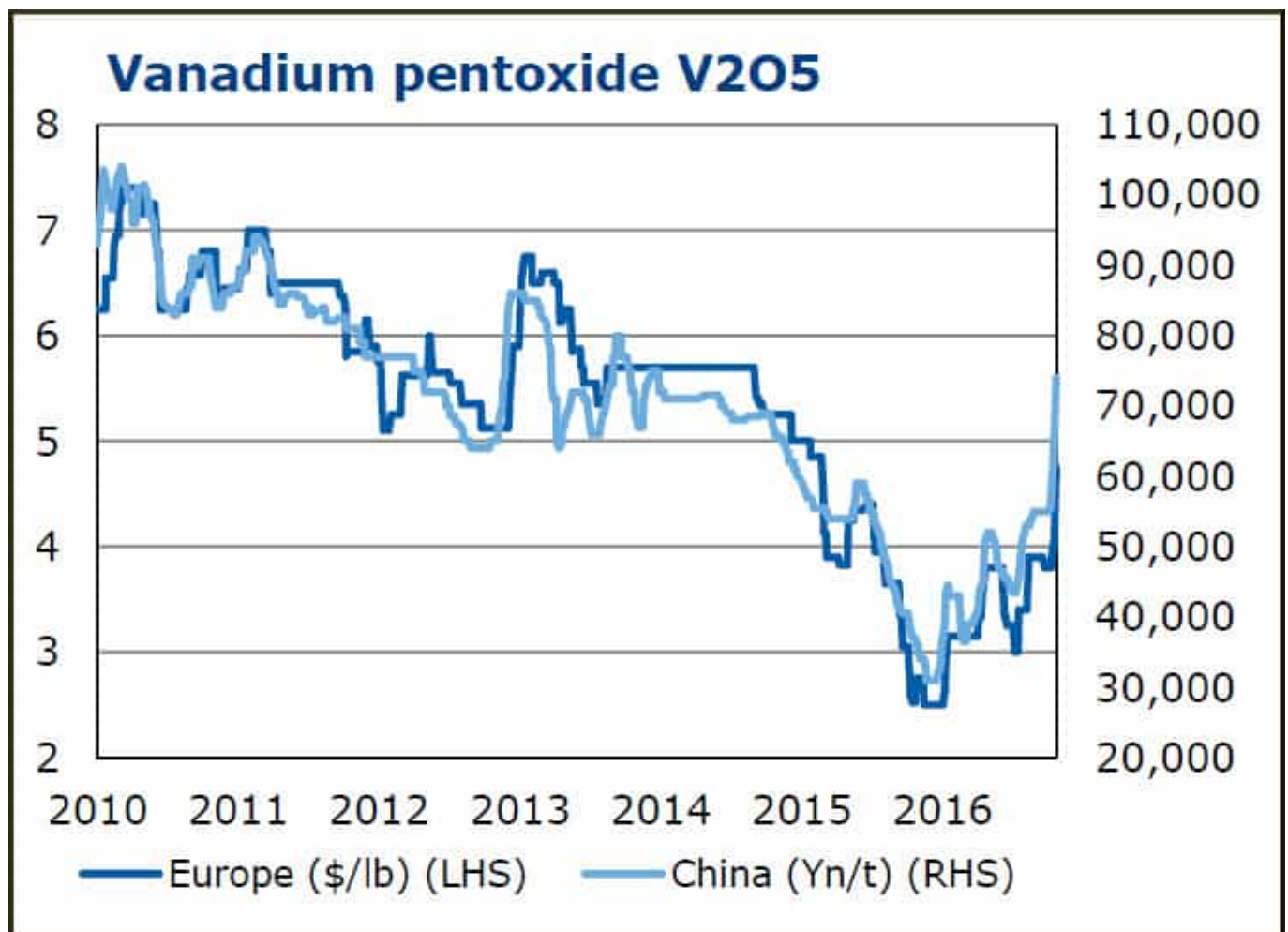


Vanadium is produced in China and Russia from steel smelter slag; other countries produce it either from the flue dust of heavy oil, or as a byproduct of uranium mining. It is mainly used to produce specialty steel alloys such as high speed tool steels. The most important industrial vanadium compound, Vanadium Pentoxide, is used as a catalyst for the production of sulfuric acid.

The metal is recovered as V_2O_5 contained in an intermediate

slag which is formed between iron-making and steel-making in integrated steelworks (eg Panzhihua in China, Highveld in South Africa and Nzhny Tagil in Russia). At these steel plants the Vanadium contained in the iron ore is taken into solution in the iron during the ironmaking process. The hot metal is then oxidised and a slag, which contains between 10% and 25% V_2O_5 , is formed and removed before the hot metal is passed on for final steelmaking. The slag containing 10-25% V_2O_5 is then treated in a roast/leach process, the end product of which is Vanadates or Vanadium oxides.

The Vanadium Pentoxide prices have been soaring of late (Europe up 88.1%, China up 100% YoY):



Strategically Speaking

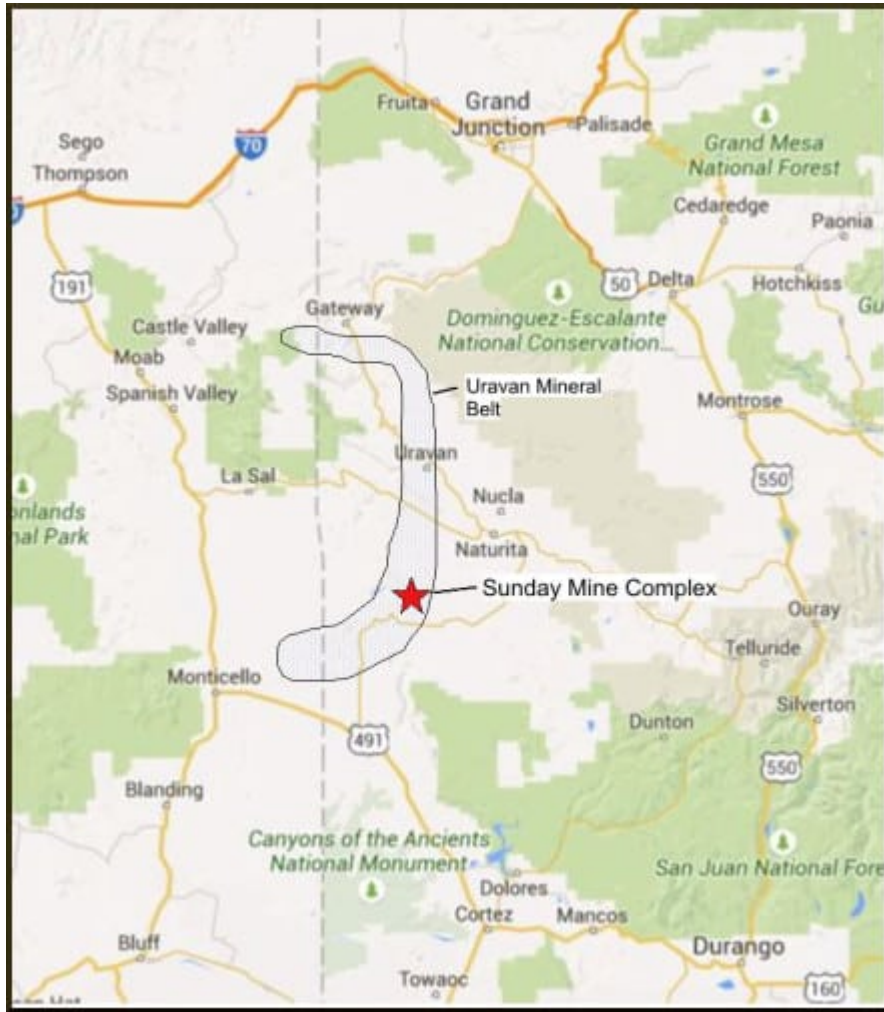
As the bulk of Vanadium production is concentrated in China, Russia and South Africa, where supply disruptions have

occurred, one cannot be entirely sanguine about Vanadium's future accessibility. Those three countries account for around 90% of global supplies. Interestingly, the most recent British Geological Survey Risk List on Criticality of Supply (for 2015) had lifted Vanadium to number five on the list whereas just a few years before it has ranked a lowly 33 out of 45 metals.

Speaking of US access to Vanadium the USGS commented, "While domestic resources and secondary recovery are adequate to supply a large portion of domestic needs, a substantial part of U.S. demand is currently met by foreign material".

The Uravan Mineral Belt

The Uravan Mineral Belt (outlined in the map below) has a long history of exploration and mining for Vanadium and Uranium. The deposits have been well studied by public and private entities.



Deposits containing uranium, vanadium and radium were first discovered in the Roc Creek area, about 22 miles north of the Sunday Mine Complex, intensive mining of these ores did not begin in the Plateau region until 1911 when radium was the primary element of interest. This ceased after the Belgian Congo pitchblende deposits were discovered in 1923. Plateau mining resumed in about 1937, when vanadium became of interest and then since the early 1940's when uranium became ascendant. Except for two minor periods of activity, one in the 1990's and the other in the mid-2000's, the Urapan mineral belt has been fairly quiet.

The relation between (some) Uranium production and Vanadium supplies is worth mentioning in the context of the Urapan Mineral Belt (and thus Western Uranium). The production of U_3O_8 from carnotite ores creates a Vanadium-bearing waste solution that must be neutralized to have the heavy metals fixed before

waste disposal. An alternative treatment is a circuit which extracts vanadium and produces V_2O_5 . For example, Denison Mines' White Mesa uranium processing mill near Blanding, Utah processes feed from that company's mine properties on the Colorado Plateau as well as uranium/vanadium ores purchased from independent miners. For every 0.45 kg of U_3O_8 (yellowcake) produced, White Mesa's Vanadium co-product recovery circuit produced approximately 1.8 kg of Vanadium in the form of V_2O_5 .

The Sunday Mine

The Sunday Mine Complex covers 3,748 acres (1,517 ha). It is located on public lands administered by the BLM.

The Sunday Mine Complex has significant drilling and production history. Mining and drilling occurred contemporaneously from the 1950's through the mid 1980's. From the 1980's to the present, mining and drilling occurred only sporadically, typically when uranium or vanadium prices were high. The last mining interval was from 2006 to 2009, and based on the available records, only in 2009 did any drilling take place since mid-1980.

The mines have had a number of owners and operators. Prior to WUC's acquisition of the complex in April 2014 the ownership was a miscellany of well-known names: Matterhorn Mining (1950's-1960's, Climax Uranium 1960's, Union Carbide Corporation (UCC) 1970's-1980's, Atlas Minerals (1980's), Energy Fuels Nuclear (early 1990's), International Uranium Corp. (1990's-2000's), Denison Mines (2000's), and Energy Fuels (2010's).

The NI43-101 report prepared by Anthony Adkins in July 2015 stated that the Sunday Mine Complex, based on historical records, appeared to have "very good to excellent potential" to host in excess of 3,000,000 pounds of Uranium-Vanadium resources with characteristics suitable for underground mining. The table below shows the Vanadium (and Uranium)

resource estimate for all the Vanadium containing deposits of WUC.

| PROJECTS | MEASURED & INDICATED | | | | INFERRED | | | |
|------------------|----------------------|-----------|----------------|-----------|---------------|-----------|----------------|-----------|
| | Uranium (lbs) | Grade (%) | Vanadium (lbs) | Grade (%) | Uranium (lbs) | Grade (%) | Vanadium (lbs) | Grade (%) |
| Sunday Complex** | 1,007,833 | 0.25 | 6,047,000 | 1.49 | 1,906,081 | 0.36 | 11,436,484 | 2.16 |
| San Rafael | 1,700,000 | 0.22 | 4,596,000 | 0.3 | 1,860,000 | 0.21 | 2,510,000 | 0.28 |
| Sage | 459,640 | 0.23 | 3,350,000 | 1.67 | 122,265 | 0.15 | 1,485,233 | 1.8 |
| Dunn | 360,716 | 0.13 | 2,885,731 | 1.04 | 200,815 | 0.14 | 1,606,518 | 1.16 |
| Farmer Girl | 74,215 | 0.32 | 371,076 | 1.61 | 0 | 0 | 0 | 0 |

Uranium and vanadium occur frequently together in the Uravan Belt with ratios that range from 1:5 to 1:10. An Energy Fuels internal document from 2013 shows that the U:V ratio of the Sunday Mine Complex is 1:5.36. Maps prepared by Denison Mines show a uniform 1:6 ratio. Twenty randomly selected drill holes with vanadium values and shown on the 1980's era maps were taken from over the expanse of the property. Only holes with intervals >1 ft and with U₃O₈ values >0.1% were selected. The results show U:V ratios that vary from 1:3.63 to 1:14, with a weighted average of 1:7.42. This thus implies that if Vanadium prices are sound then they alone can carry a Vanadium/Uranium mining and processing operation even if Uranium remains the underperformer that it has been of late.

Conclusion

So unlike your average Uranium company, that finds itself beached like a whale during the current ebttide in Uranium prices, Western Uranium is actually, depending what prism one is looking at it through, more of a Vanadium company than a Uranium company and probably needs a name change to reflect that new reality.

Being a uranium bull anyway I suspect that this company will be firing on two cylinders within a couple of years rather than just one. Its Ablation Mining technology works irrespective for sandstone-hosted Vanadium or Uranium (or both) so now it needs to get its Piñon Ridge Mill moving

forward so that it can harvest the upsurge in Vanadium. If Uranium had been the only string in its bow we would have rated that challenge as an uphill struggle but now with the tailwind of soaring Vanadium prices, combined with Vanadium being a prime “Infrastructure Metal” in Trumplandia and the prospect of “onshore” Vanadium production in the US make the WUC story so much more than just a uranium prospect.

Uranium – Waiting for Godot or Forging Ahead?

The long-held theory during the prolonged mining sector slump was that Uranium as an energy metal could potentially break away irrespective of the rest of the metals space. How true they were, but not in the way they intended, for just as the mining space has broken out of its swoon the Uranium price has not only been left behind but has gone into reverse. This is truly dismaying for the trigger for a uranium rebound was supposed to be the Japanese nuclear restart and yet it has had zero effect and indeed maybe has somehow (though the logic escapes us) resulted in a lower price.

Admittedly the cheap seats never understood that the Japanese kept taking uranium under their contracts all through the closure period so now that plants are reopening they did not need to go on a buying binge. If anything, they did not need to change one iota what they were acquiring. And also they were acquiring under contracts, not in the spot market, which is notorious for its divergence from the long-term price paid by the big players for guaranteed supplies.

Vague Stirrings

The yellow mineral had made fools and liars of many in recent years, including ourselves. That said, every dog has its day and some of the things that weighed on the uranium price (most notably the Japanese plant shutdown) are retreating as issues. At the risk of being made to look foolish again, we think the tide has turned for Uranium and would not be surprised to see it close to \$40 per lb by year end and break through \$50 per lb by the end of next year. This is scarcely the stuff of which booms are made but players in the uranium space need the price going consistently in one direction to restore confidence. As we have seen before the WORST thing is a spike because it inevitably presages a plunge.



This is a mineral that needs a consolidation and a slow build NOT another pump and dump.

The Tale of Three Processors

Rather than focus on miners or even explorers, we thought it might be useful to look at the provision of processing facilities. After all hard rock mining or ISL/ISR extraction of Uranium from the ground is not enormously complicated or costly. The key part of the process is owning a processing facility and whether one builds it from scratch or buys an existing one then the permitting and environmental approvals are a key component of the equation.

In recent times we have come across two up-and-coming US-focused "millers" (Peninsula Energy and Western Uranium while last year we looked at Anfield Resources).

Peninsula Energy (PEN.ax) is Australian-listed but operates mainly in the US (though it has some Uranium assets in South Africa). It's not correct of us to call Peninsula's Lance facility in Wyoming a mill as it is not grinding anything. It attracts our attention though because we have long ago tired of all the sound and fury of UEC's promotional efforts on their ISL activities in Texas and found Peninsula refreshing in the way they have "just got on with it".

Production at Lance commenced in December 2015 with construction on-schedule and on-budget building to 2.3mn lbs of U308 per annum. Peninsula wants to acquire a satellite deposit (as its plant capacity is licensed for 3mn lbs p.a.).

- Stage 1 (equity funded) production rate of up to 700,000 lbs p.a. of U308 over 2H15 to 1H17
- Stage 2 development plan based on debt funding and construction in H1 2017 with additional production of 500,000 lbs p.a. of U308 over 2H17 to 2019 (1,200,000lbs)
- Stage 3 development plan based on debt funding and construction in 2018 -19 with additional production of 1,100,000 lbs p.a. of U308 2H19 onwards (2,300,000lbs)

The ISL plant is state of the art and up and running. Here is

the osmosis facility.



Western Uranium (WUC.cx) was created by a transaction between Homeland Uranium Inc. and Pinon Ridge Mining LLC. following the acquisition of Pinon Ridge Mining LLC at \$3.00 per share (post consolidation price) and the name change to the current designation. Confusingly its website is www.blackrangeminerals.com which has the potential to muddle matters with the company that had originally tried to buy the mill that Anfield Resources acquired.

In any case, In August 2014, WUC acquired its mining assets from Energy Fuels and in September 2015 acquired additional properties from Black Range Minerals. The most interesting part if the milling ambitions but it is worth mentioning that it claims to have is the second largest uranium resource holder in the United States with assets totaling over 100mn pounds of U308 and 35mn pounds of vanadium at its Sunday Mine Complex is fully permitted and production at the project is slated to commence later in 2016

It plans to build the licensed and permitted Piñon Ridge Mill

site near Nucla, Colorado. This mill project was part of a package, sold in August 2014 by Energy Fuels, including historic uranium production sites and uranium exploration projects (including the Sunday Complex, the Willhunt and San Rafael projects, the Sage and Van 4 mines, and the Farmer Girl, Dunn and Yellow Cat projects) to a private investor group led by Baobab Asset Management and former Energy Fuels president George Glasier, who now heads WUC.

The mining assets are located along the Colorado-Utah border. Energy Fuels retained a 1% production royalty on all of the properties. Energy Fuels had acquired Piñon Ridge in 2007, and had been looking to build a 500 ton per day mill there and first received a licence in 2011. The company subsequently acquired the already operational 2,000 ton per day White Mesa mill in Utah, meaning it no longer needed to construct a mill at Piñon Ridge. WUC's goal is that production should begin in 2017

Western also holds an exclusive license to use ablation mining technology, a technology that improves the efficiency of the sandstone hosted uranium mining process

As for **Anfield Resources (ARY.v)** it has been relatively quiet of late. In mid-August of 2015 the company made its move into uranium, but not much has happened since. At that time, it entered into a definitive agreements with the Russian energy materials group, Uranium One, to acquire the Shootaring Canyon uranium mill located in Garfield County, Utah, and a portfolio of conventional uranium assets containing a historical estimate of U_3O_8 resource of 6.8 million pounds of U308. The deal, which was valued at around US\$5mn, is to be settled over a period of up to four years with a combination of cash and shares.

The Shootaring Canyon mill is a small conventional acid--leach facility that is permitted to process up to 750 tonnes of ore

per day, with a capacity to process up to 1,000 tonnes per day. The mill was built in 1980 and during its period of operation it produced and sold 27,825 pounds of U308 (with recoveries of 90%). In an oft-heard story, the mill ceased operations in 1982 due to the depressed price of uranium, and has since been kept on care and maintenance, and apparently is in "good" condition. It also has at its disposal some surface stockpiles at the facility with a historical estimate of 250,000 pounds of U308 at an average grade of 0.13% U308. Maybe of most importance though is that the Shootaring Canyon Mill is one of only three licensed uranium mills in the United States.



Going back one sees that this asset was sold by Uranium One only in November 2014 to the aforementioned Australian company, Black Range Minerals (ASX: BLR) who were going to pay \$10mn for the mill. Anfield clearly been profited from being the buyer on the rebound when that deal came to grief. Whether

it will actually get the mill into operation again remains the question at this point.

Supply Crunch

Hard core Uranium bulls know how Moses felt when he was destined to wander forty years in the desert and never get to see the Promised Land. The great hope had been that the Japanese reopening would help matters and yet it hasn't (at least not yet). The second hope (quite a vain one) was that the Germans would see the light on their unilateral closure actions (and they have not). The one consolation being that everyone else in Europe regards the Germans as crazy for taking the action they did while still mouthing platitudes to low carbon emissions and ramping up coal-fired power at the same time!

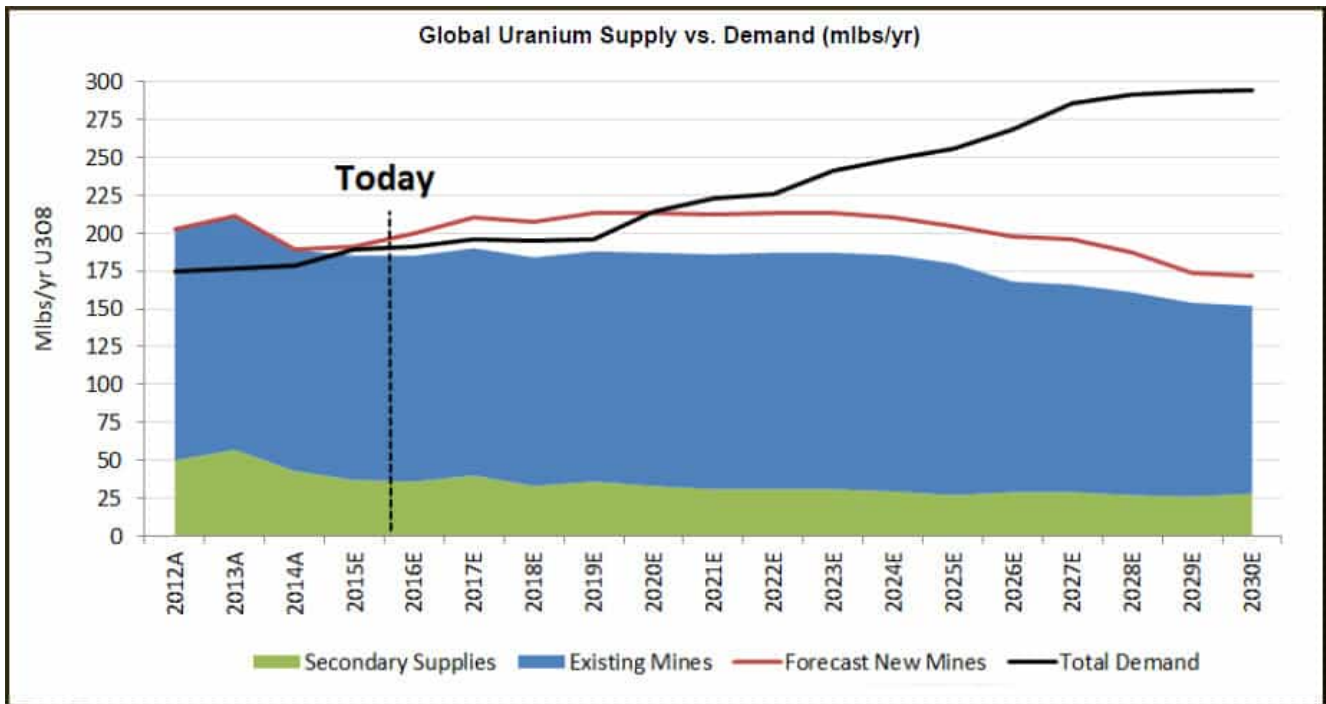
| COUNTRY | NUCLEAR ELECTRICITY GENERATION 2014 | | REACTORS OPERABLE (1 Dec 2015) | | REACTORS UNDER CONSTRUCTION (1 Dec 2015) | | REACTORS PLANNED (1 Dec 2015) | | REACTORS PROPOSED (1 Dec 2015) | |
|--------------|-------------------------------------|---------------|--------------------------------|----------------|--|---------------|-------------------------------|----------------|--------------------------------|----------------|
| | Billion kWh | % e | No. | MWe net | No. | MWe gross | No. | MWe gross | No. | MWe gross |
| China | 123.8 | 2.4 | 30 | 26,849 | 21 | 23,483 | 43 | 49,990 | 136 | 153,000 |
| India | 33.2 | 3.5 | 21 | 5,302 | 6 | 4,300 | 22 | 21,300 | 35 | 40,000 |
| Japan | 0 | 0 | 43 | 40,480 | 3 | 3,036 | 9 | 12,947 | 3 | 4,145 |
| Russia | 169.1 | 18.6 | 34 | 25,264 | 9 | 7,968 | 25 | 27,755 | 23 | 22,800 |
| WORLD | 2411 | c 11.5 | 439 | 382,248 | 64 | 67,797 | 159 | 180,015 | 329 | 374,020 |

Source: *Western Uranium*

Probably all one needs to know is encompassed in the preceding table, which says more than any number of price charts. There is massive future demand baked into construction schedules that, with the amounts of money expended, will not be derailed.

Current production (and even planned production below) is not

even vaguely able to meet this demand.



Source: Peninsula Energy

Conclusion

Is there a trend in the uranium space beyond the ever lower spot price? We believe that, yes, there is. Quite clearly exploration (anywhere, but the Athabasca) is for the birds. The market won't fund it and investors won't give credit for whatever you find. Paradoxically though, we have stumbled on these two examples of companies that are moving rapidly to production with nary a mention of the type of bloated budgets and phone-book thick PFS/BFS underpinnings that keep Uranium wannabes and their investors in a state of permanent expectation/disappointment/trepidation.

Hopefully this will be the start of a trend. Heavyweight investors (whether they be Resource Capital at Peninsula or Baobab Asset Management at Western Uranium) are clearly not fazed by the current flaccid spot price or the torpid Germans and are looking for the payday when the post-Fukushima phase comes to its inevitable end.