Grossmeister Uranium and Renewable Resources Portfolio – Quarterly Report 2024

As discussed in the previous "Outlook 2024" report, uranium continues to be in a severe supply/demand deficit, which we expect to continue for the next 3-5 years. After reaching a high of $106/lb. on 01 Feb 2024, the U spot price hit a low of $83.50 on 13 March, recovering to end the first quarter at $88.50. The spot price has consolidated at this level, as utilities have more or less accepted this new price level. A new leg up may begin if the spot price crosses $90/lb., as geo-political tension rise, and various government initiatives to boost uranium production start to take hold The first quarter of 2024 proved to be a very volatile one for the uranium sector, but at the end of the day we ended up largely where 2023 ended off, albeit modestly higher. The correction in the uranium price from its high of $106/lb. stimulated several analyst responses, as reported by Bloomberg [1]:

After a 22% decline over six weeks in the first quarter, industry experts and analysts say that the uranium market has likely set a new floor thanks to a strong demand outlook.

"We have reached a bottom," said Jonathan Hinze, president of UxC, a nuclear industry research firm.

"The fundamentals are still strong, with increased demand and supply that hasn't fully responded." Uranium futures are trading at $88.50 a pound [Editor's Note: as of the date of this article] in New York — down from the 16-year high reached in February, but still well above last year's average price of $66.60 a pound.

"There are indicators that uranium's new floor is at around current levels" (mid-80's), Cantor Fitzgerald analyst Mike Kozak said in an interview, predicting that fundamental buyers will come back into the market and drive-up prices again.

Bullish investors are betting on the long-term prospects of uranium due to a growing supply gap and increased demand as governments worldwide turn to nuclear power to counter climate change. Such demand comes as Canada's Cameco Corp. and Kazakhstan's Kazatomprom, which together account for half of global supply, warned of supply setbacks in the coming years. Kazatomprom, the No. 1 producer, said during its March 15 earnings call that it is projecting a 21 M lb. supply deficit in 2030 — a shortfall that would multiply to 147 million pounds by 2040."

I. Our Investment Strategy for 2024

The investment strategy of our Nuclear and Renewable Resources portfolio is that we take a global view of those stocks that are likely to fill the existing structural supply/demand gap in the uranium market that will hopefully be closed within the next 3-5 years. Currently, there is a supply/demand gap of around 40-50 M lbs. that cannot be made up using secondary supplies, utility inventories, spot price purchases, or carry trading. This gap can be closed only if significantly higher uranium prices incentivize new greenfield production capacity, or the restart of existing brownfield sites that have been shut down temporarily for economic reasons.

The current run-up in spot uranium prices from September 2023 to a high of $106/lb. for U3O8 in February 2024 has been led by the primary Tier 1 producers Cameco and Kazatomprom. We think the next leg up for the uranium market will be led by the Tier 2 vendors nearing production, and Tier 3 vendors, which are in the exploration/development phase. Thus, we have invested in promising vendors in the Athabasca Basin in Northern Saskatchewan, Canada, as well as in the US, Australia, and Africa. The portfolio typically holds around 20 positions and should be considered for the investor who has a long-term view who wishes to take

[1] https://www.bloomberg.com/news/articles/2024-03-21/uranium-s-22-price-plunge-is-bottoming-out-on-nuclear-future?embedded-checkout=true

advantage of the exciting and growing prospects of the uranium sector. The portfolio assets are invested globally in companies that have a direct link to the uranium mining, or provide materials and services to the development and implementation of the current and future generation of nuclear reactors. As an Actively Managed Certificate (AMC), we can also take appropriate hedging strategies to offer protection in the event of general market downturns that may carry the uranium sector with it.

We see uranium demand climbing higher in the coming years, due largely to the following:

1) Geo-political tensions in several global regions which impact uranium mining;
2) The growing number of lifetime extensions in the US, Europe, and Korea, of existing nuclear reactors, as well as restarts as in the Japanese case;
3) New reactor builds coming on line (primarily in China and India);
4) The impact of the growth of Artificial Intelligence data centers, which consume extraordinary amounts of electricity, offering the potential for dedicated electrical power from co-located Small Modular Reactors (SMRs);
5) The growing realization on the part of western utilities for the need to stockpile uranium for their depleting inventories;
6) Emerging new generation nuclear technologies, such as SMRs, whose uranium demand has not yet been incorporated into current demand models, and;
7) On top of the above demand drivers, we see several government policies that have been enacted in the US and the EU to stimulate capital investment for uranium enrichment and funding for the construction of the existing generation of nuclear reactors, as well as for future Generation-4 reactors. such as SMRs, and Molten Salt Reactors.

We will discuss these demand drivers in more detail in the section below.

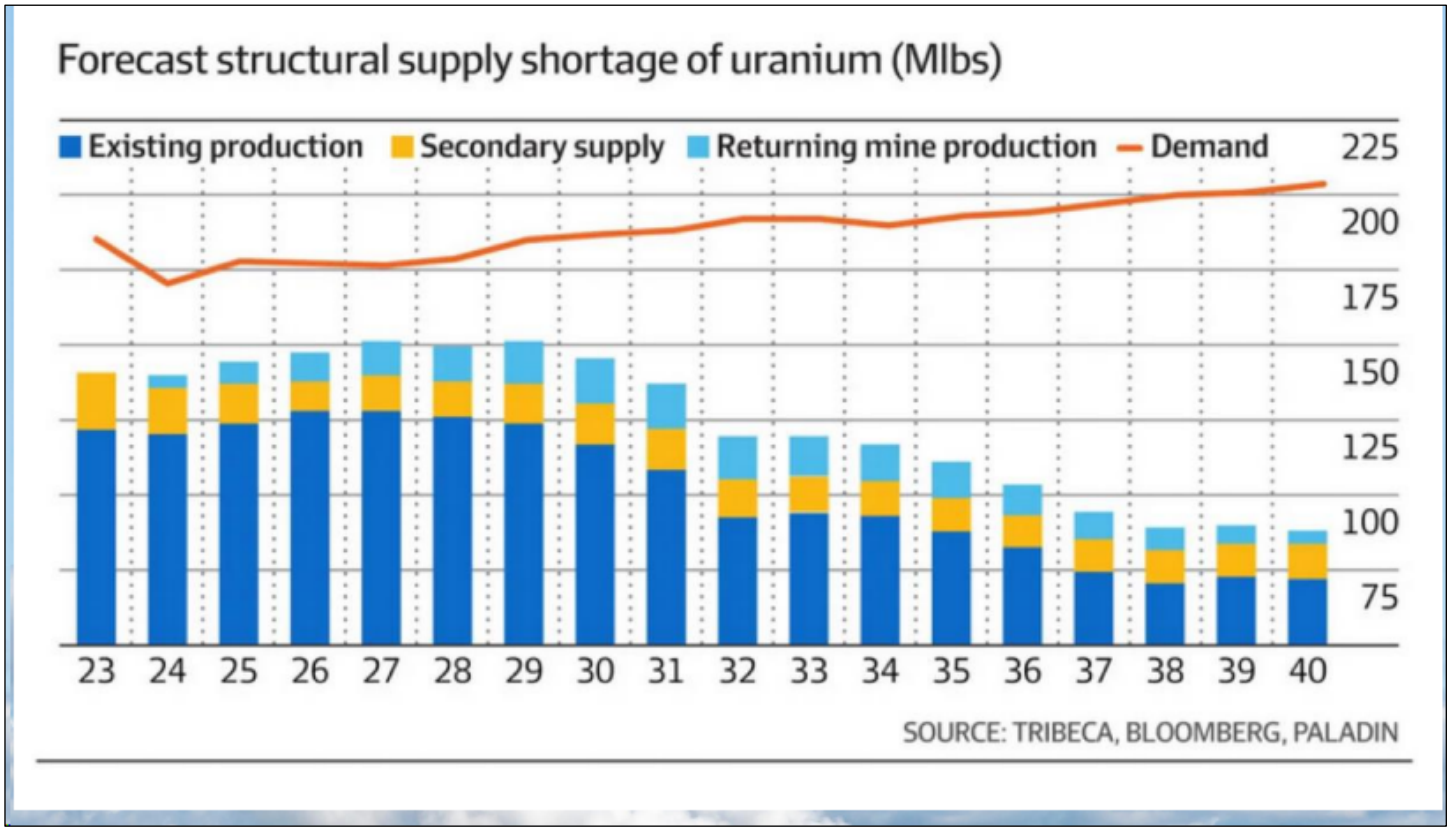
When we make projections for 2024 and beyond, it is important to note that uranium is still in a structural supply/demand deficit, which is expected to continue for at least 3-5 years or until new “greenfield” uranium mines come into production from vendors such as the NexGen and Denison mines. This supply deficit will fix some lower bound on uranium spot prices , as has been stated by some analysts in the mid-80’s level. Target prices for the high in uranium spot price have a wide range from analysts, as can be seen in the following:

1. Bank of America (BofA) considers the Uranium market to be undersupplied in the wake of several years of inventory drawdown that is compounding into an extended structural supply deficit. They now expect this deficit will last until the end of 2029. BofA forecasts a uranium price of $105 for 2024, $120 for 2025. And $135/lb. for 2026.
2. Goldman Sachs anticipates that the uranium spot price will average around $95/lbs. in 2024.
3. Cantor Fitzgerald has increased its uranium price forecast from its previously set at $90 – $120/lb. Of U3O8. The firm is now calling for prices to be in the range of $120 – $150 per pound, with this range estimated to hold through 2028 and beyond.

Although much attention has been focused on the uranium spot price for U3O8, the more important price is the long-term price—the price at which utilities contract with uranium suppliers for several years in the future. These contracts specify the price for delivering uranium to utilities over an extended period (8,10, or 12 years). The long-term price has remained fairly stable in contrast to the volatility of the spot price. For example, when the uranium spot price declined from $106 to $83/lb. the long-term price remained stable at $75 and actually increased to $80/lb. in the first quarter of 2024.

I. Demand Drivers for Uranium

The chart below shows Tribeca's forecast of uncovered uranium requirements, which considers secondary supply and restarts of previously producing mines . As can be seen in the chart, currently, there is about a 40M lbs. U3O8 supply deficit relative to uranium demand, which cannot be made up through spot purchases, carry trade, or utility inventories. Uranium supply has been historically slow to respond to increased demand, primarily due to the extremely duration from initial discovery to production, which in some cases takes up to 10 years. Over the past few years, the demand story for uranium has substantially changed for the positive. So, the demand that we had foreseen at 1% or 2% a year a few years ago is now around 4% to 6% a year going out for the next two to three decades. There is a huge amount of growth, with 60 reactors under construction globally. Of this amount, China has 21 reactors under construction, and aims to construct 6-8 reactors per year, leading to a 350 GW capacity by 2035. India is adding to their nuclear fleet with their own design of heavy water reactors. There are 37 operable reactors in Russia, with an additional three reactors under construction, and a demonstration lead-cooled fast reactor. There are a few countries that are holdouts, such as Germany and Spain. All this current and planned construction suggests that uranium prices will be under pressure for some time, and prices will need to go up.



The global primary producers, Cameco and Kazatomprom, are basically sold out for the next 4-5 years, and will not be able to meet expected demand. Second tier uranium miners, such as NexGen and Denison Mines, both have extraordinarily large high-grade "greenfield" deposits that have the potential to meaningfully close the supply gape. However, the best estimates for their uranium production are in the 2028–2029-time window. Restarts of previously producing uranium mine , called "Brownfield" sites, offer some added supply, but these

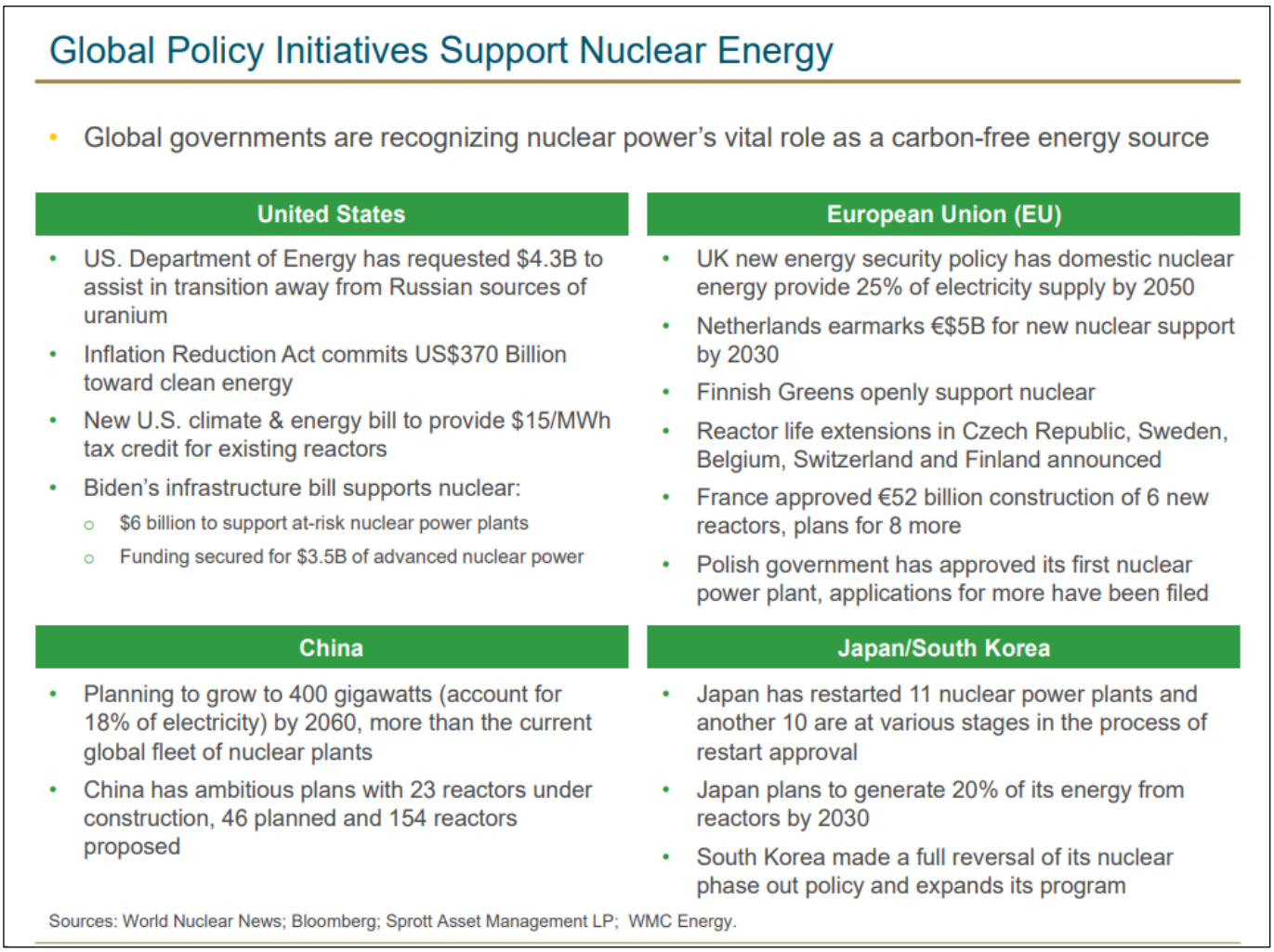
are relatively minor and add up to perhaps 5-10M lbs., hardly enough to significantly change the current and growing supply deficit.

II. Catalysts for Rising Uranium Prices

The major catalysts for continuing uranium price appreciation, in addition to the supply/deficit equation demonstrated above, are the following:

1. **Growing number of global policy initiatives supporting nuclear energy.**

   These global policy initiatives are shown in the slide below. The sources for this slide come from Bloomberg and World Nuclear News. [2]



With reference to the slide above, the following initiatives are described in more detail.

- UK investment of over £300M to support domestic production of fuel required for next generation nuclear reactors. This investment was made by the UK government to decrease dependence on Russian sourced enriched uranium fuel. The UK has the goal of adding an additional 24 GW of nuclear power capacity by 2050

[2] Bloomberg and World Nuclear News

- France announced that it would build 8 new EPR2 reactors (1650 GW each), in addition to the 6 already previously announced. This significantly increases the portion of electricity provided by nuclear from its current 70%.
- The US Emergency National Security Act of 2024 is a $2.7B package aiming to fund both conventional and advanced US uranium enrichment capabilities. The bill uses unspent infrastructure funds to expand production of both low-enriched uranium (LEU), as well as high-assay low-enriched uranium (HALEU) that is the fuel for several advanced reactor designs. The expenditure of these funds is contingent on the US Senate passing the H.R 1042 Bill described below.

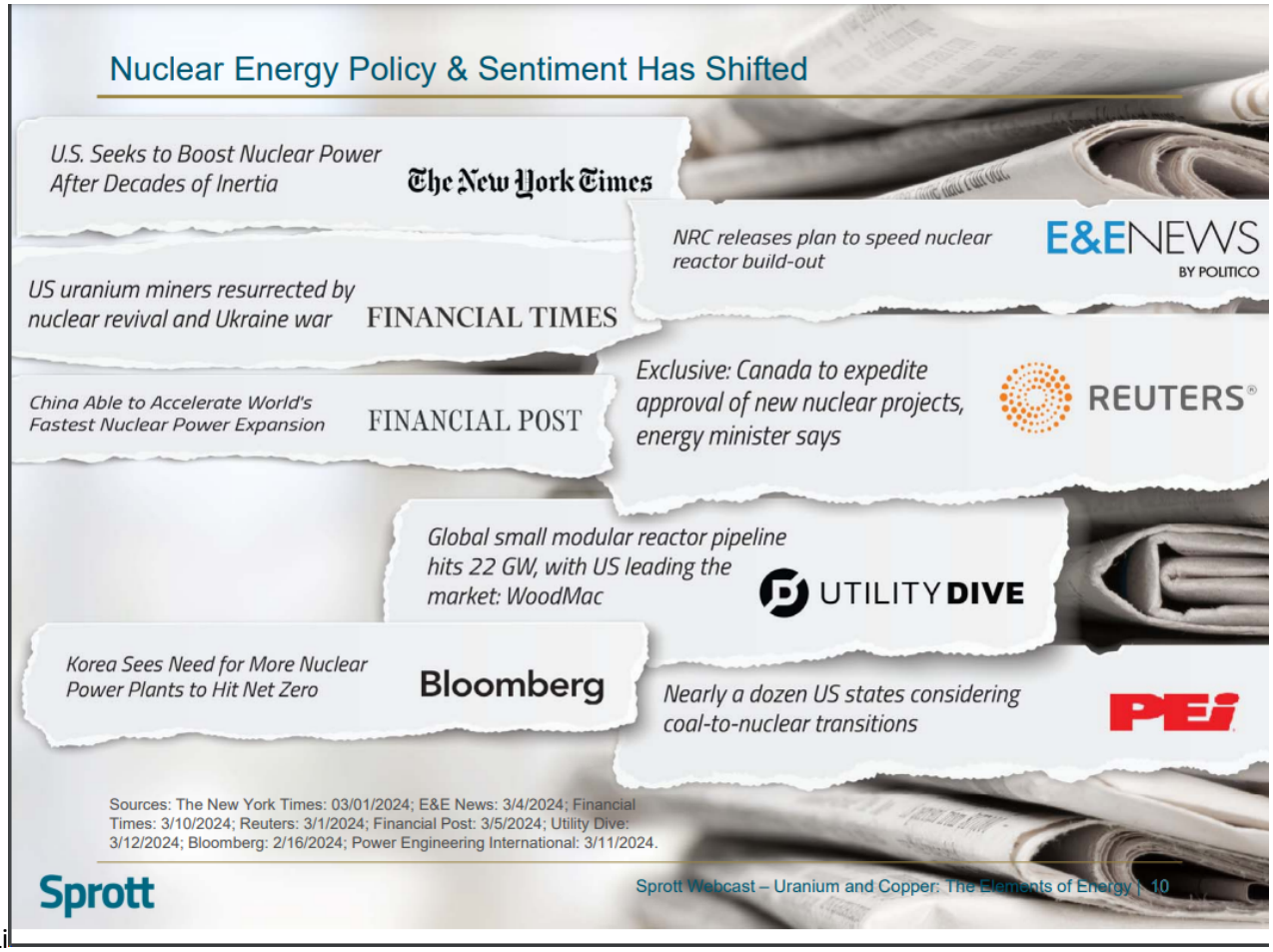
  This $2.7B Emergency Security Act funding is contingent on passing the H.R.1042 Bill to ban imported Russian uranium. The H.R.1042 Bill was passed by the US House on Dec. 11, 2023. This House bill contains waivers allowing the import of low-enriched uranium from Russia if the U.S. energy secretary determines there is no alternative source available for operation of a nuclear reactor or a U.S. nuclear energy company, or if the shipments are in the national interest. If the Bill is signed by the President in early 2024, it may cause the Russian government to retaliate and suspend any delivery of enrichment and conversion services to the US, thus significantly impacting uranium supply, and thus raising uranium prices. This bill is likely to pass, since the NEI (Nuclear Engineering Institute), the US nuclear fuels industry , and the bi-partisan Energy and Commerce Committee all support it. .

2. Growing Acceptance of Nuclear Power World-wide

In terms of acceptance, the most recent COP 28 conference held in Dubai resulted in a dramatic change in government attitudes towards the importance of nuclear power, with 22 nations signing a pledge to triple global nuclear capacity by 2050. Equally impactful is the fact that based upon polling, public attitudes have shifted measurably towards favoring the growth of nuclear power. This has held true even in Germany, which has been a stalwart opponent of nuclear power in the last few decades.

3. Favorable Uranium Sector Commentary and growing institutional interest

There have been more positive articles on nuclear energy appearing recently in the media. Among them was a December Wall Street Journal article entitled “Uranium Miners Can’t Keep Up with Demand”. In the article, UxC President Jonathan Hinze highlighted the current supply tightness: “Spot supplies appear to be extremely sparse these days.” In the same article, Treva Klingbiel from TradeTech (the other principal trade consultancy) was even more blunt: “Today, uranium market participants face an environment characterized by both rising spot and long-term prices, combined with a significant gap in the availability of material in the 2025–2028-time frame.”



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4. **Nuclear Lifetime Extension and Restarts**

Nuclear plant life extensions continue to be implemented in North America and Europe. As an example, EDF plans to extend the lifetime of 8 nuclear reactors in the UK. A lifetime extension generally means 20 to 40 years of additional plant operation, which will demand that much more nuclear fuel.

Nuclear plant restarts have been announced in Japan, with the Japanese government announcing the restart of 3 additional plants that were previously shutdown due to the Fukushima disaster. In the US, the Palisades reactor in Michigan, which was previously shutdown in 2022, has been given approval to restart. Each nuclear reactor restart requires a fresh nuclear fuel reload that is 2-3 times that of a normal fuel load for a conventional 1000 MW reactor, about 400K to 500K lbs. of U308. It is obvious that reactor restarts will contribute to increasing demand for uranium.

5. **Artificial Intelligence (AI) Data Center Growth is a Major Nuclear Tailwind**

As AI and other new technologies continue to be in high demand worldwide, the data centers that facilitate this growth will double their electricity consumption in just two years. The International Energy Agency (IEA) has forecast energy demand between 2024 and 2026. The findings are that while global electricity demand rose considerably in 2023, it is set to grow at a much faster pace in the next two years. The ARM CEO, Rene Haas, indicated that without improved energy efficiency, artificial

intelligence (AI) data centers could consume as much as 20% to 25% of US power requirements by 2030. Today, AI data centers consume only about 4%. [3]

All AI models, including OpenAI's ChatGPT, require substantial electricity. A single interaction with ChatGPT uses nearly 10 times the electricity of an average Google search. This can be seen by the amount of electricity required for a ChatGPT request, which is 10x the electricity for a typical Google search. The surge in electricity demand for the growing number of AI centers has created an opportunity for Small Modular Reactor (SMR) market. SMRs hold significant potential for powering AI data centers because of the following:

1) Compact size and on-site deployment
2) Dedicated energy supply for the AI data center, if co-located
3) Reliability and clean energy

Already, major technology companies, such as Amazan, Microsoft, and Google, are investigating the implementation of SMRs to provide dedicated electric to their AI data centers

SMRs represent a promising technology, with various innovative designs in development worldwide. The heightened uranium demand from SMRs is anticipated to grow toward the end of the decade and intensify into the 2030s. The World Nuclear Association (WNA) projects that SMRs might constitute up to 5% of the global nuclear capacity by 2040.

III. Possible Negatives for the Growth of Uranium Mining

1. Catastrophic Accidents.

The most obvious negative for nuclear that we can foresee is a catastrophic incident on the order of Fukushima or Chernobyl. This would set back the nuclear industry and by extension, the uranium price and the stock price of uranium miners, for several years. Of course, such a catastrophic incident is impossible to predict. And, considering today's improved reliability and safety of today's Gen III conventional reactors (as opposed to previous generation reactors which had the catastrophic incidents) , the risk of such an accident has diminished considerably. In addition, the next generation of advanced reactors, the so-called Gen IV, prioritize active and passive systems that are designed to render the most severe accidents physically impossible.

2. Unforeseen Discoveries of new large "Greenfield" Uranium Sites.

New "greenfield" uranium deposits, undeveloped or previously unexplored areas where uranium resources may exist, are exceedingly hard to find. This is especially true of greenfield deposits containing uranium ore with a potential production rate greater than 10M lbs. of U3O8 per year, that may have a chance to close the supply/demand deficit. Currently, the three largest greenfield uranium deposits are: 1) NexGen, with its Arrow project in the Athabasca Basin in Northern Saskatchewan; 2) Denison Mines, with its high-grade Phoenix and Gryphon mines, also in the Athabasca basin, and;

[3] Benzinga.com, April 9, 2024

Global Atomic, with its Dasa Uranium Project in Niger (which is currently being disrupted by the military coup in Niger). Aside from these three large deposits, to date no other large greenfield uranium deposit has been discovered. Therefore, the probability of discovering a new large greenfield deposit the size of NexGen's Arrow deposit, or Kazatomprom's deposit in Kazakhstan, is exceedingly slim.

3. **New Sources of Uranium using Enrichment of Depleted Uranium**

Depleted uranium is a by-product of the current enrichment process by which natural uranium ore containing 0.7% U235 is enriched to 3-5% U235 for fuel required by today's conventional reactors. Advanced enrichment technologies, such as the laser isotope separation process developed by Silex Technologies in Australia, may have the potential to re-enrich depleted uranium to bring it to its natural state of 0.7% U235. The re-enriched uranium can then be enriched once again in existing enrichment facilities in the US, UK, Europe and elsewhere to the enrichment levels required by today's conventional reactors. On a commercial scale, this would be equivalent of opening up a new uranium mine, and would thus alleviate the supply problem. However, currently, advanced enrichment technologies are still much in the R&D phase, and have not been proven at commercial scale. However, prototype demonstrations thus far have been promising. The US Department of Energy is funding some projects to demonstrate commercial feasibility of re-enriching depleted uranium. But this will take some time, and it appears that any large production of uranium using this tnology is still years away.

IV. Conclusion

We believe our long-term uranium demand thesis is still intact and well supported by the positive demand drivers discussed in earlier sections of this document. Ultimately, the demand for uranium and nuclear energy is a natural outcome for the need for electricity. According to a September International Energy Agency (IEA) report, global electricity demand may grow 164.66% by 2050, relative to 2022.[4] Electricity demand is expanding with population growth and as developing nations modernize and urbanize.

Furthermore, there is a growing global demand for clean energy. There are 97 countries representing 79.3% of global greenhouse gas emissions that have communicated a 2050 net-zero emissions target[5]. In order to fulfill these commitments and decarbonize, committed nations will have to transition their energy supply to low-emissions electricity, for which nuclear energy is the best candidate to provide. This means decarbonizing industrial and heating processes, as well as transport and technology data centers. Considering other positive factors, like technological advancements, enables us to believe that the demand for electricity produced by nuclear power will likely be well supported for decades.

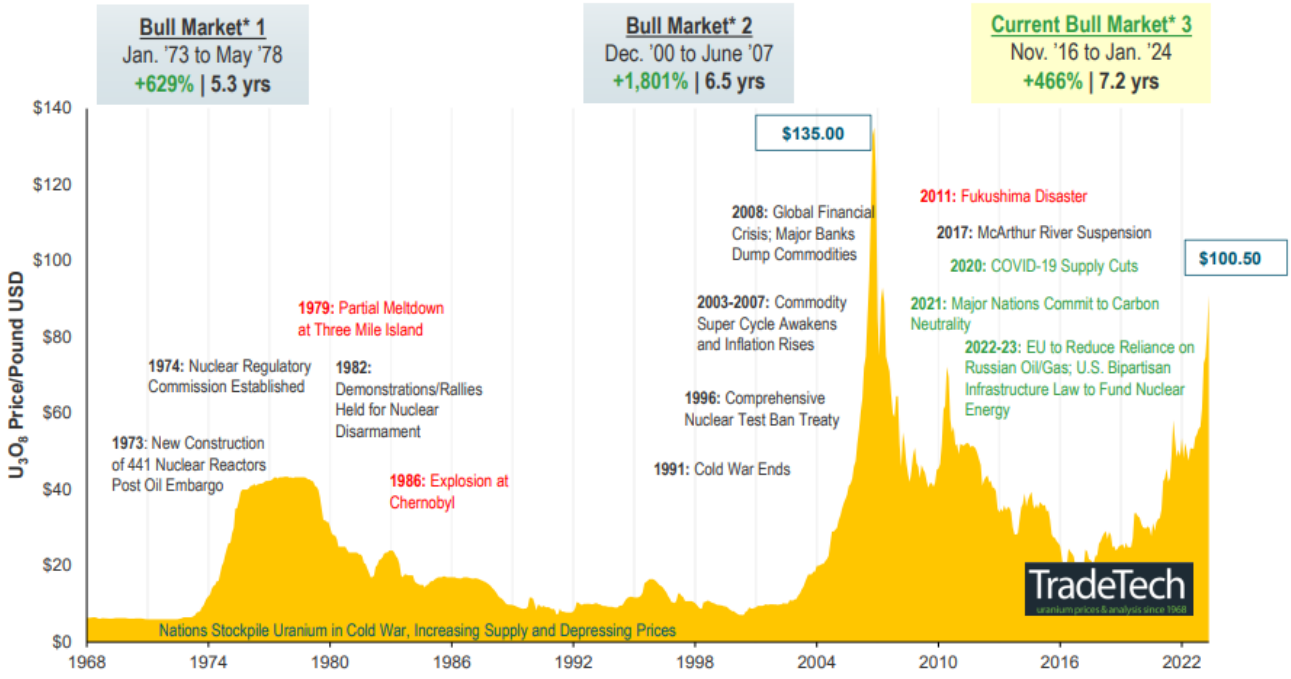
The TradeTech graphic below shows how the current bull market looks, and how far uranium can potentially run when compared to previous bull markets. If we take the last uranium price peak at $135/lb. and adjust it for inflation, we arrive at a price of around $300/lb. in today's dollars. Therefore, we can see how much further the current uranium bull run may travel.

[4] Source: Climatewatchdata.org at https://www.climatewatchdata.org/net-zero-tracker as of 8/2/2023.

[5] Source: Climatewatchdata.org at https://www.climatewatchdata.org/net-zero-tracker as of 8/2/2023.

New Uranium Bull Market is Underway Potentially with Room to Run

- Growing production/demand imbalance and future utility contracting are providing the primary support for uranium prices



* A "bull market" refers to a financial markets condition when prices are generally rising. A "bear market" refers to financial market conditions when prices are generally falling.

Source: TradeTech LLC. **Uranium spot price data** as of 1/31/2024. TradeTech is the leading independent provider of uranium prices and nuclear fuel market information. The uranium prices in this chart dating back to 1968 is sourced exclusively from TradeTech; visit https://www.uranium.info/.

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