

Nuclear Power is Back

Nuclear Energy has become a hot (no pun intended) topic in the investment community.

Russia’s invasion of Ukraine and the vulnerability of Europe with its dependence on Russia, further emphasized the need for energy independence to maintain security.

Computers and data centers that run and store information used by artificial intelligence algorithms require vast amounts of energy prompting big tech companies to enter contracts for energy supply. Examples:

- Microsoft agreed to purchase from Constellation Energy, to reopen Three Mile Island
- Google agreed to buy power from seven reactors built by nuclear energy startup Kairos Power to meet electricity demand for artificial intelligence targeting the addition of 500 MW of nuclear power by 2030
- Amazon bought a nuclear-powered data center from Talen Energy

Operating Nuclear Reactors (with 67 under construction globally)

United States	93	Ga Power 2 new reactors – 1 st new commerical operation in 30 years
Europe	167	(France – 56)
China	56	(25 under construction)
India	22	(8 under construction)
Russia	37	(4 under construction)
South America	9	(2 uner construction)

Small Modular Reactors

Generally, SMR plants are generating 300 megawatts versus 1,000-1,400 megawatts by large plants, with an objective of simpler design, modular construction and reduced maintenance and operation. Developers and suppliers include Westinghouse, GE Hitachi, Rolls-Royce, NuScale, Holtec and BWX Technologies.

GE Hitachi, received a commitment to build the first unit with Ontario Power Generation in Canada in 2030. Tennessee Valley Authority and Poland have also expressed interest in SMR’s.

Uranium

Uranium, the fuel for nuclear power, is mined from the earth. Once mined, a uranium mill purifies the ore and changes it to a chemical form Yellowcake U_3O_8 which is enriched for reactor use as U-235. Higher grade refining is required for weapons which convert to a metallic form.

Russia supplies approximately 45% of enriched uranium worldwide. The U.S has banned its nuclear utilities from using enriched uranium supplied by Russia. Demand

About 44,000 pounds of Yellowcake (U_3O_8) is required to keep a large (1000 MWe) nuclear power reactor generating electricity for one year.

In contrast, a coal power station of equivalent size requires more 5,511,500,000 pounds of coal to produce as much electricity.

Supply

Kazakhstan the world's leading supplier of mined uranium with 13 mines has state-owned Kazatomprom owning 3 outright and 10 as joint ventures with foreign companies.

Annual production in Tonnes of Elemental Uranium (1 tonne = 2,204.6 pounds)

2020	19,477 due to the impact of the coronavirus pandemic.
2023	21,112
2024	21,000-22,500
2025	Reduced Production targets from 31,000 to 26,000

The Inkai Region produces the majority of Kazakhstan's production. Inkai 1a joint venture with Cameco (Canada) who holds a 40% stake, is estimated to hold 148,000 tonnes of uranium.

Inkai Areas 2 and 3 are in the exploration stage. Inkai 3 is estimated to hold 83,100 tonnes.

Investment Thesis

Governments across the globe are seeking to reduce reliance on oil due to Geopolitical stress and climate change.

Electricity use is increasing as populations grow and AI becomes an increasing consumer.

Uranium demand is expected to exceed short-term production, creating price pressure.

Companies and governments, including the U.S. are focusing on new nuclear technology and advanced reactor designs.

Given the growing need for Uranium due to expanded use and supply shortages, we added Cameco (CCJ) to our Blend Portfolio for the following reasons:

Cameco (CCJ)

- A premier global uranium mining operator
- 485 million lbs. of proven & probable uranium reserves
- Owns 69.8% of McArthur River, the World's Largest high-grade mine - 265.6 million lbs. (Proven & Probable reserves) 2024 est. production of 18.0 million lbs.
- Owns 54.5% of Cigar Lake (Northern Saskatchewan), World's 2nd largest uranium deposit and highest grade. Proven & Probable reserves of 113.8 million lbs. 2024 est. production of 18.0 million lbs.
- Owns 40% of Inkai deposit with Kazatomprom with total resources of 148,000 tonnes
- Cameco facilities in Ontario – a refinery at Blind River and a conversion facility at Port Hope convert uranium into the gaseous form - uranium hexafluoride (UF₆) - for export to other countries for enrichment
- Owns 49% of Westinghouse the leading designer, manufacturer, construction and Nuclear Plant servicer in the world
- Only profitable western world uranium company
- Attractive valuation at 33x 2025 estimated earnings
- Projects deliveries of 32-34 million lbs. in 2024 an increase of 1.5% coupled with rising prices should show increased profits
- Total return of 271% since our initial purchase 2/4/2021

In addition to Cameco, we have identified other opportunities in the Utility, Mining and Equipment manufacturing sectors that will benefit from this theme.

Gary Soura, CFA

Senior Portfolio Manager, 30+ years' experience, MBA, St. Joseph's, BS, Finance, Penn State University

Brad Stanley, CFA

Chief Investment Officer-Stanley-Laman Group. Designer of SLG's proprietary Ad-Star® System. BS in Computer Science, Carnegie Mellon University; Chartered Financial Analyst Charterholder.

Disclosure: The preceding represents the opinions of The Stanley-Laman Group, Ltd., a Registered Investment Advisor, and is not intended to be used as investment recommendations. All strategies outlined and the views expressed herein offer the risk of loss of principal and are not suitable for all investors. Investors are advised to consult with qualified investment professionals relative to their individual circumstance and objectives.