

Uranium Back in Focus: What's Driving the Nuclear Comeback?

KEY TAKEAWAYS

- After a post-Fukushima downturn, uranium is back in focus as nuclear power is increasingly seen as a solution for rising electricity demand, energy security and lower-emissions generation. As reactor restarts and nuclear capacity growth continue, the outlook for uranium has improved alongside the outlook for nuclear itself.
- Momentum is building across the nuclear industry through reactor construction, restarts, uranium supply agreements, enrichment investment and support for small modular reactors (SMRs). Activity in Canada, the U.S., China, India, the U.K. and Kazakhstan reflects a broader global push to expand nuclear capacity.
- AI and data-centre growth are lifting long-term electricity demand expectations, while uranium supply faces constraints from mine depletion, long lead times and shrinking secondary supply. That backdrop is increasing attention on opportunities across the nuclear value chain, from uranium miners to reactor and component manufacturers.

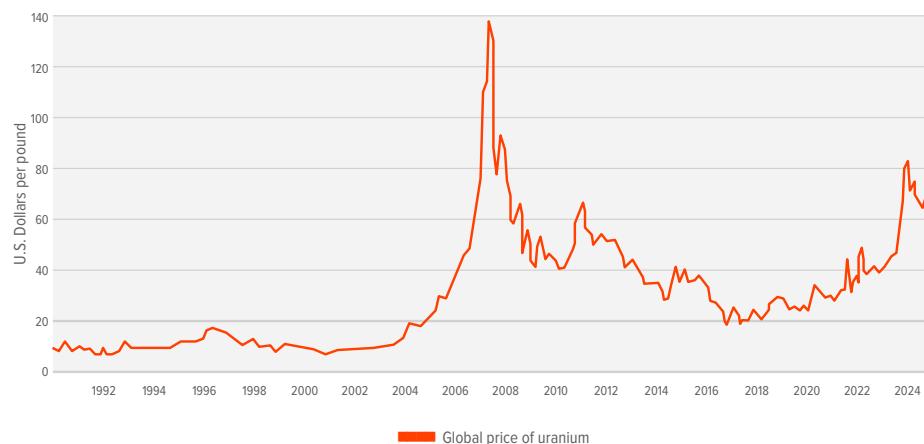
Uranium has moved back into focus as improving nuclear sentiment, rising policy support, and growing electricity demand reshape the outlook. This piece looks at the nuclear comeback, industry momentum across key markets, the role of AI and data centres in power demand, tightening uranium supply, and where opportunities may emerge across the nuclear value chain.

Uranium Returns to the Spotlight

The uranium market has always been cyclical, but few commodities are as sensitive to public policy and investor sentiment. After the Fukushima disaster in 2011, nuclear development slowed sharply, uranium prices fell, and producers shut mines as demand expectations weakened.

GLOBAL PRICE OF URANIUM (1990-2025)

Source : International Monetary Fund via FRED®, Federal Reserve Bank of St Louis.



The **slump in uranium market** prices from 2011 to 2021, coupled with uncertainty around nuclear power development in some countries, led to reduced uranium demand, depressed prices, and a slowdown in mine production and development.

It isn't just resource sites that take a long time to develop: it takes a **decade or more** to actually build a nuclear power plant. However, with nuclear power increasingly viewed as part of the solution to rising power demand, energy security concerns and lower-emissions generation, the outlook for uranium has started to improve alongside the outlook for nuclear itself.

"The rally in the price of uranium that we have seen recently, from 2021, although it has been a strong rally, pales in comparison to the rally from 2002 to 2007. From this perspective, we are still in the early stages of the uranium rally, which could potentially go much higher.

The problem with the decline of uranium prices is that it made uranium mining companies pull back on expansion plans. Prices can correct higher in the short-term, as they have done recently, but planning and building a greenfield uranium mine can take ten to fifteen years."



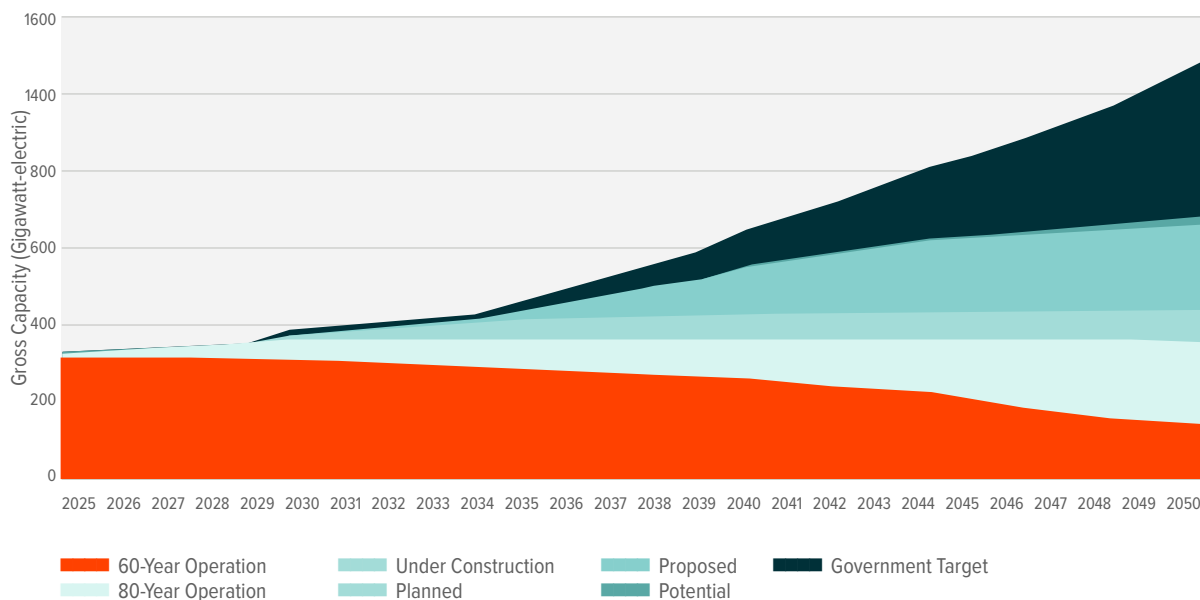
Brooke Thackray | Research Analyst

Nuclear Comeback

Global nuclear power output **reached a record** in 2025 and is **expected to continue rising** through 2050 as governments and companies seek to meet growing demand for reliable electricity. **More than 40 countries** now include nuclear energy in their strategies and are taking steps to develop new projects.

GLOBAL NUCLEAR CAPACITY 2025-2050

Source: World Nuclear Association as at January 20, 2026.



Note: Gigawatt-electric shows gross electrical power capacity of nuclear reactors, equal to one billion watts.

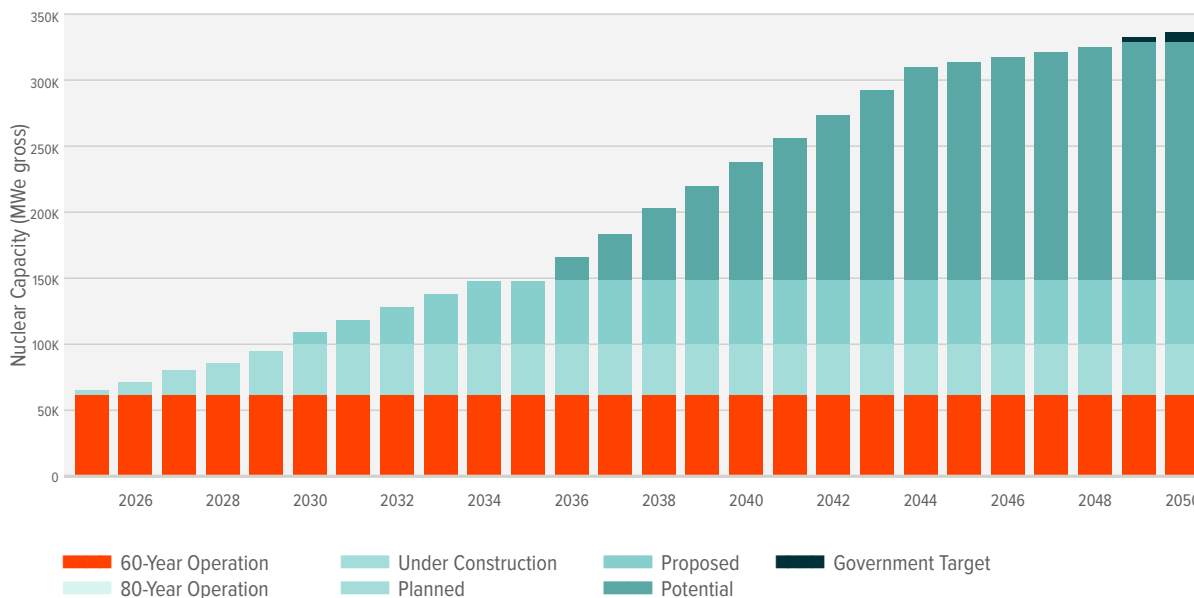
Investment is also rising across both traditional large-scale plants and newer technologies such as SMRs. In addition to reactor restarts, particularly in Japan, **more than 70 gigawatts** of new nuclear capacity are under construction, one of the highest levels seen in 30 years, while Microsoft and Constellation Energy in the U.S. plan to **restart a mothballed nuclear** plant at Pennsylvania's Three Mile Island.

China is leading much of the buildout in net-new nuclear capacity. According to data from the World Nuclear Association, China is building 46% of the world’s nuclear power plants that are currently under construction, making it the country developing nuclear power **at the fastest rate** and is on track to become the **world’s largest nuclear power operator** by around 2030.

Including these and other developments, global nuclear power capacity is projected to increase **by at least one-third** by 2035.

PROJECTION OF FUTURE NUCLEAR CAPACITY IN CHINA

Source: World Nuclear Association as at January 19, 2026.



Note: Megawatts electric (MWe) refers to the electricity output capability of a power plant.

Industry Momentum

Saskatoon-based Cameco **signed a \$2.6 billion deal** with India to supply 22 million pounds of uranium over nine years to help fuel the country’s 24 nuclear reactors.

Cameco sources its uranium from two mines in northern Saskatchewan: **Cigar Lake** and **McArthur River/Key Lake**.

Denison Mines Corp. is also moving ahead with the **construction of a proposed uranium mine** in northern Saskatchewan, which could potentially be the first uranium mine to be built in Canada in a generation.

In the United States, recent policy developments are also helping revive the industry after nearly three decades of limited construction.

As part of efforts to restart domestic production and reduce reliance on Russian supplies, the U.S. moved ahead

with **establishing at least two more** domestic nuclear fuel enrichment facilities. The U.S. **was a leading uranium producer** from the 1960’s to the 1980’s.

Russia **supplies over 40%** of global uranium enrichment services and 20-30% of the enriched nuclear fuel used in the U.S. and Europe.

NVIDIA and the Idaho National Laboratory **have entered into a partnership** to advance nuclear research and development using Artificial Intelligence (AI), while California **is reconsidering its ban** on nuclear power expansion.

META agreed to **unlock a combined 6.6 gigawatts** of nuclear power with providers, while the Province of Ontario **agreed to share SMR** technology with the State of New York.

Elsewhere, the U.S. Department of Energy **awarded \$2.7 billion** in task orders to expand domestic uranium enrichment capacity and **announced \$800 million in grants** to support the development of SMRs.

Internationally, momentum has continued to build as well. Kazatomprom, the world’s largest uranium producer, **signed an agreement to sell a significant portion** of its supply to India.

The U.K. government is overhauling nuclear regulation to

speed up projects. The nation **relies on natural gas for one-third** of its energy and the volatility in energy markets following the Iran conflict has highlighted the U.K.’s exposure to geopolitical shocks and global energy price swings.

“In the last few years, the U.K. government has committed to greater amounts of energy sourced from nuclear power as nuclear power has been classified as a source of “green” energy,” Thackray adds.

AI And Data Centres Drive Demand

Part of the renewed interest in nuclear power comes down to two broad forces: energy security and rising electricity demand.

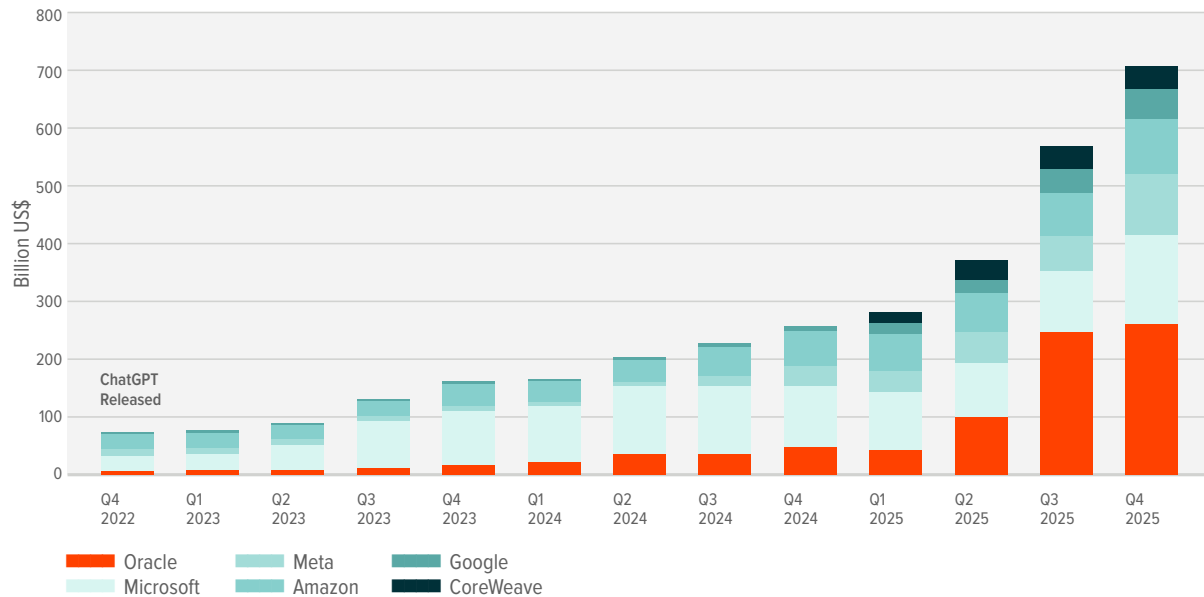
Energy security has moved back up the political agenda, and nuclear power offers a source of low-emissions baseload electricity that can support a more secure and diversified electricity mix.

At the same time, AI-driven infrastructure growth is adding to expectations that power demand could remain elevated for decades.

FUTURE DATA CENTRE LEASES TOP US\$700 BILLION

Tech giants are on the hook for significant future costs

Source: Bloomberg News as at March 12, 2026.



Moody’s Ratings estimates that **at least US\$3 trillion** will flow into data centre-related investments over the next five years. Major U.S. technology firms including Microsoft, Amazon, Alphabet, Oracle, Meta Platforms and CoreWeave **invested U\$700 billion on data centres** in the fourth quarter of 2025.

“As AI has ramped up over the last few years, demand for electricity has also ramped up, putting greater strain on the electrical grid. Nuclear power is being seen as a significant base load provider of electricity in the future to power AI.”

Supply Situation

The deficit between mined uranium and global reactor demand is **expected to grow**. Output from today’s mines is expected to halve between 2030 and 2040 as existing mines are depleted. Kazakhstan currently holds the title of **world’s leading supplier of uranium**, supplying 40% of the world’s uranium needs in 2025.

The U.S. Nuclear Energy Agency estimates that if demand for nuclear energy grows, current uranium deposits will be **depleted by 2080**.

Meanwhile, deficits are expected to rise, hampered by long lead times on new mines and shrinking secondary supply, just as a new wave of reactor-driven uranium demand is expected to hit the grid.

URANIUM SUPPLY & DEMAND OUTLOOK

Source: UxC Market Outlook Q4 2025, World Nuclear Association.

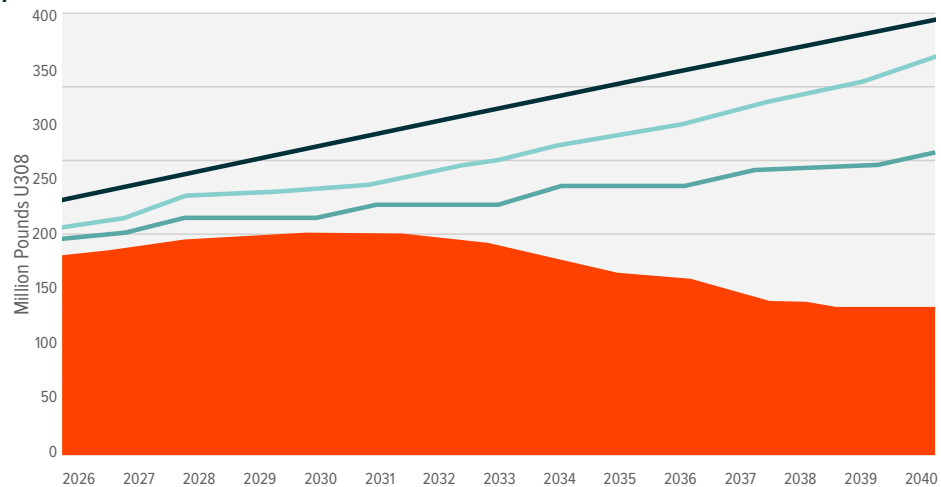
Projected Production Gap¹

Cumulative-Base Demand and Production Case

- 2026–2027 is ~ 49 M lbs
- 2026–2036 is ~ 379M lbs
- 2026–2040 is ~ 840M lbs
- 2026–2045 is ~ 1.7 Blbs

U.S. utilities and the world’s largest consumer of uranium with current demand of 47 M lbs/yr²

Global Production and Demand¹



- Projected Production
- Demand-Base Case
- Demand-High Case
- Demand-Call to triple global nuclear capacity by 2050 by 30+ countries

Association. Note: Uranium required to meet future U.S. Naval requirements are not reflected in these demand projects.

Value Chain Opportunity

This opportunity spans the entire nuclear value chain, from miners and uranium suppliers to advanced reactor developers and industrial companies producing reactor components.

Ways to Gain Exposure

For investors looking to gain exposure to this theme, there are different ways to approach it depending on where they see the potential opportunity.

The [Global X Uranium Index ETF \(HURA\)](#) provides exposure to companies that are primarily involved in the uranium mining and exploration industry and to the price of the underlying commodity.

HURA seeks to replicate, to the extent possible, the performance of the [Solactive Global Uranium Pure-Play Index](#). This index is designed to provide exposure to the performance of a group of global exchange-listed companies involved in uranium mining and exploration or in some cases, invest and participate directly in the physical price of uranium.

Additionally, the [Global X Artificial Intelligence Infrastructure Index ETF \(MTRX\)](#) provides exposure to companies involved in AI infrastructure, diversifying exposure to electric utilities, data center equipment manufacturing, and energy commodities like uranium and copper, aligned with themes related to long-term growth in AI's backbone.

Taken together, these developments suggest nuclear power is moving back into the global energy conversation. Rising electricity demand, stronger policy support and renewed investment across the nuclear value chain are contributing to renewed attention on both nuclear power and uranium.

Related ETFs

[Global X Uranium Index ETF \(HURA\)](#)

[Global X Artificial Intelligence Infrastructure Index ETF \(MTRX\)](#)

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