ATHA ENERGY CORP.

TSXV : **SASK** FRA : **X5U** OTCQB : **SASKF**

Nuclear in the New Industrial Revolution

www.athaenergy.com

Nuclear in the New Industrial Revolution

Nuclear energy is being embraced internationally as the cornerstone of a carbon-free energy future

Climate Change & Decarbonization Goals

UNITED STATES — Dec 2023
U.S. leads coalition to **triple nuclear power** by 2050 in effort to address climate change[1]

CHINA — Aug 2024
China approves 11 new nuclear rectors for total **investment of US$31 billion**[4]

INDIA — Jun 2024
India to **increase nuclear power generation capacity by 70%** in the next 5 years[7]

Increasing Importance of Energy Security

CANADA — Feb 2023
Canada announces **small modular reactor program** to help fund development[2]

JAPAN — Feb 2023
Japan Cabinet approves policy to **extend operation of current reactors a construct new reactors**[5]

SWEDEN — Nov 2023
Sweden unveils roadmap for up to **10 new large-scale reactors** by 2045[8]

Positive Shift in Public Perception

UNITED KINGDOM — Jan 2024
UK government set out the **biggest expansion of nuclear power** to support energy security[3]

SOUTH KOREA — Sep 2024
President Yoon Suk Yeol **reverses previous nuclear policy** and increases role of nuclear to cut emissions[6]

FRANCE — Feb 2022
Macron announces **major nuclear power program** to build 14 new reactors and fleet of smaller rectors[9]

[1] U.S. leads coalition to triple nuclear power by 2050 in effort to address climate change; CNBC
[2] Canada Launches New Small Modular Reactor Funding Program; Government of Canda
[3] Biggest expansion of nuclear power for 70 years to create jobs, reduce bills and strengthen Britain's energy security; Gov.uk
[4] China Makes $31 Billion Nuclear Push With Record Approvals; BNN
[5] Cabinet approves change in Japanese nuclear policy; WNN
[6] In New Nuclear Push, South Korea Revives Plans to Build Two Reactors·Time Magazine
[7] June 25, 2024 Press Release; Department of Atomic Energy
[8] Sweden plans 'massive' expansion of nuclear energy; WNN
[9] France Announces Major Nuclear Power Buildup; New York Times

New Paradigm for Nuclear Energy

Nuclear Power Investment

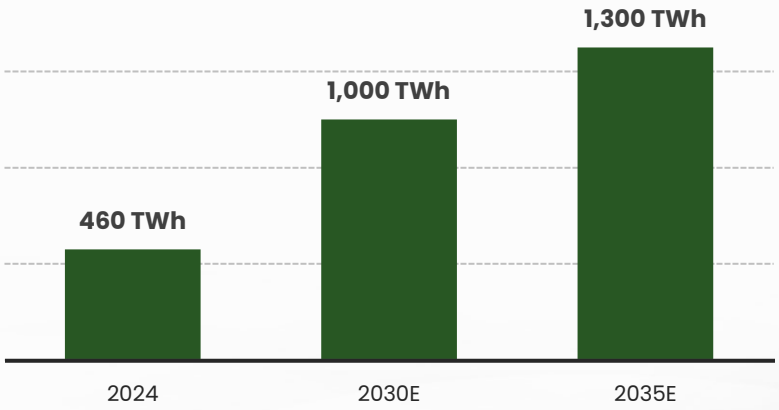
Surging capital inflows signal strong conviction in the future of nuclear power and further need to strengthen supply

June 2024	NVIDIA	Participation in: US$650M	**Investment in TerraPower** Nvidia's venture-capital arm NVentures participated in a $650 million funding round for TerraPower, a nuclear startup founded by Bill Gates
June 2024	Meta	20-year Power Purchase Agreements	**Nuclear Power Purchase Agreement** Meta signed a 20-year power purchase agreement (PPA) with Constellation to purchase the clean energy attributes from the Clinton Clean Energy Center, a 1,121 MW nuclear power plant in Illinois
September 2024	ORACLE	3 SMRs	**SMR Buildout** Oracle is designing a new data center model requiring over 1 GW of power, with permits in place for three SMR's to power the first location.
September 2024	Microsoft	US$100B US$1.6B	**Microsoft & Blackrock Partnership** Microsoft and BlackRock partner to mobilize US$100B for AI infrastructure and nuclear energy. **Three Mile Island Restart** Microsoft to invest US$1.6B to restart a unit of Three Mile Island nuclear plant to power data centers.
October 2024	Google	7 SMRs	**Google's Nuclear Fleet** Google signed the world's first corporate agreement to buy power from multiple SMR's, beginning with the purchase of 500 MW of power from up to 7 reactors.
October 2024	amazon	US$500M	**Net Zero Data Center Strategy** Amazon has agreed to invest US$500M in three nuclear power projects in Virginia and Washington State, as part of its plans to ultimately invest US$35 billion by 2040.

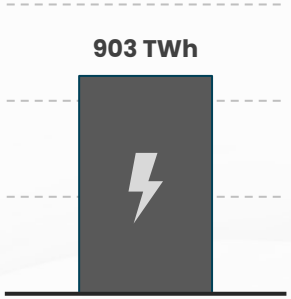
The AI Electricity Demand Shock

Artificial intelligence is a major shock to global electricity demand

AI Electricity Requirement Comparison



Global electricity requirement from **data centers**[1]

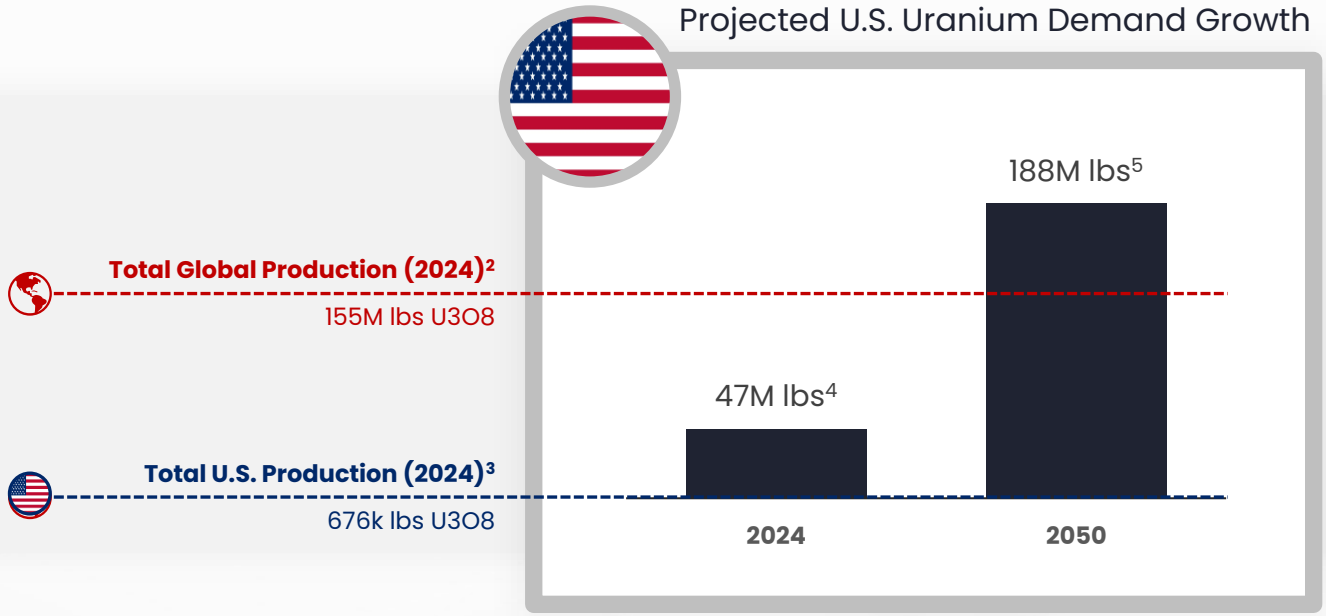


Japan's Total Electricity Consumption (2023)

[1] Energy supply for AI; International Energy Agency
[2] Select Country / Region Overview; U.S. Energy Information Administration; 2023

The U.S. Needs Uranium

The White House has established policy aimed to **quadruple nuclear capacity by 2050**, driven by extensions, expansions, and SMRs[1]



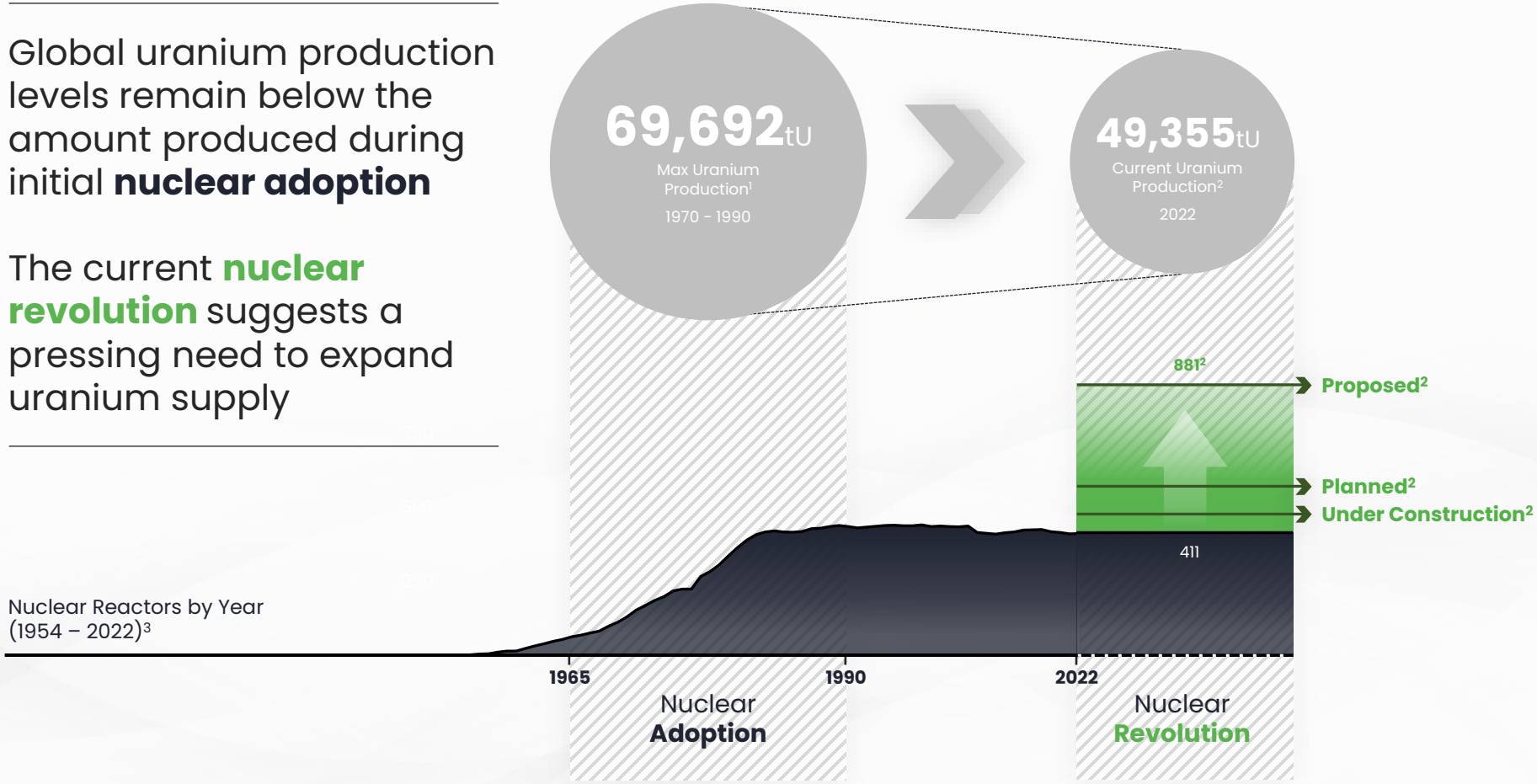
The U.S. needs to source nearly 141M lbs of **additional annual supply** by 2050

[1] Ordering the Reform of the Nuclear Regulatory Commission; White House Executive Order; May 2025
[2] UxC Market Outlook; Q1 2024
[3] Domestic Uranium Production Report Fourth-Quarter 2024; U.S. Energy Information Administration
[4] EIA Monthly Energy Review; January 2025
[5] Linear extrapolation assuming nuclear capacity quadruples with no additional efficiency

A Multigenerational Inflection Point

Global uranium production levels remain below the amount produced during initial **nuclear adoption**

The current **nuclear revolution** suggests a pressing need to expand uranium supply



[1] Forty Years of Uranium Resources, Production and Demand in Perspective; The Red Book Retrospective; Nuclear Energy Agency
[2] World Nuclear Association; Proposed, Planned, and Under Construction added to 411 current reactors
[3] Nuclear Power Reactors in the World; IAEA

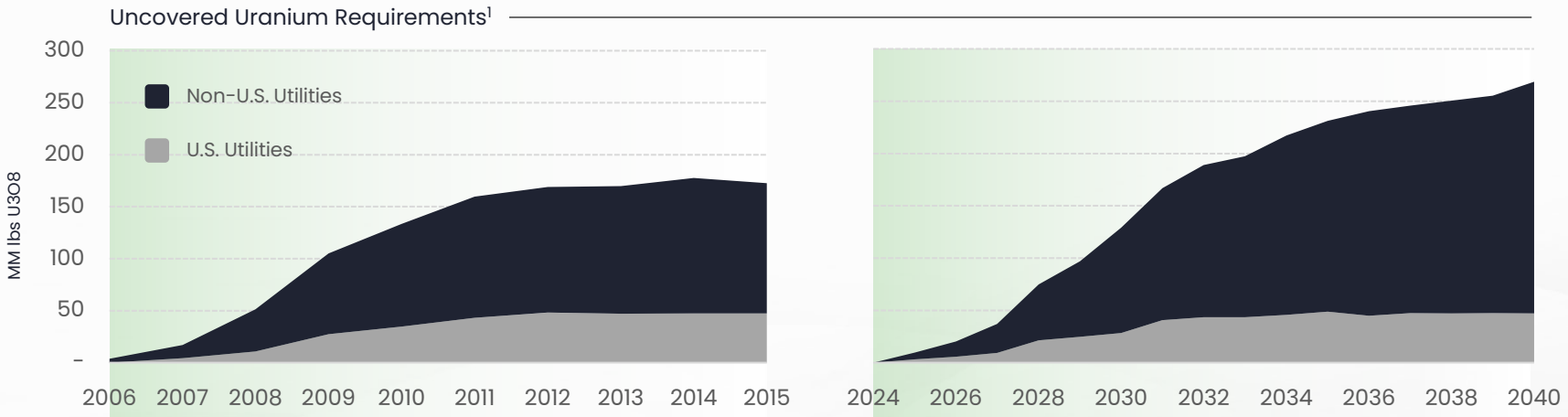
Upcoming Contracting Cycle

Nuclear **Adoption**

2006 Contracting Cycle

Nuclear **Revolution**

2024 Contracting Cycle



263%

Price appreciation to subsequent 2-year high

TBD

Price appreciation to subsequent 2-year high

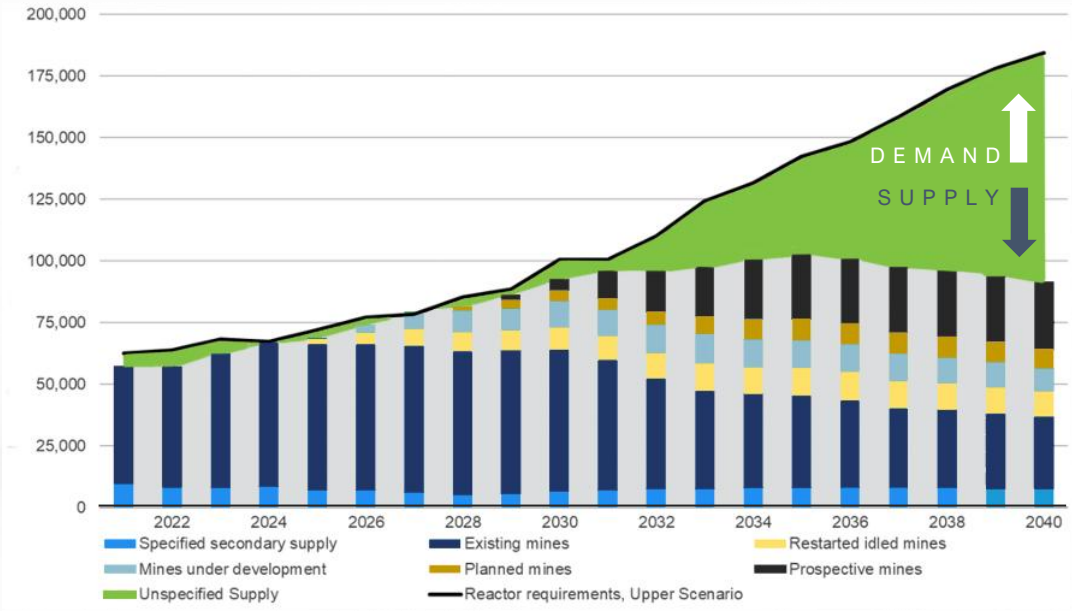
[1] The Uranium Market Outlook, Executive Summary; UxC

Supply & Demand Profile

Growing supply deficit calls for 5 new Rook I sized projects to be found, permitted, financed, and constructed over the next 20 years

Current mine supply has never been more fragile

Projected Supply and Demand of Uranium (tU)[1]



Demand for uranium is expected to rise by

127% by 2030

and

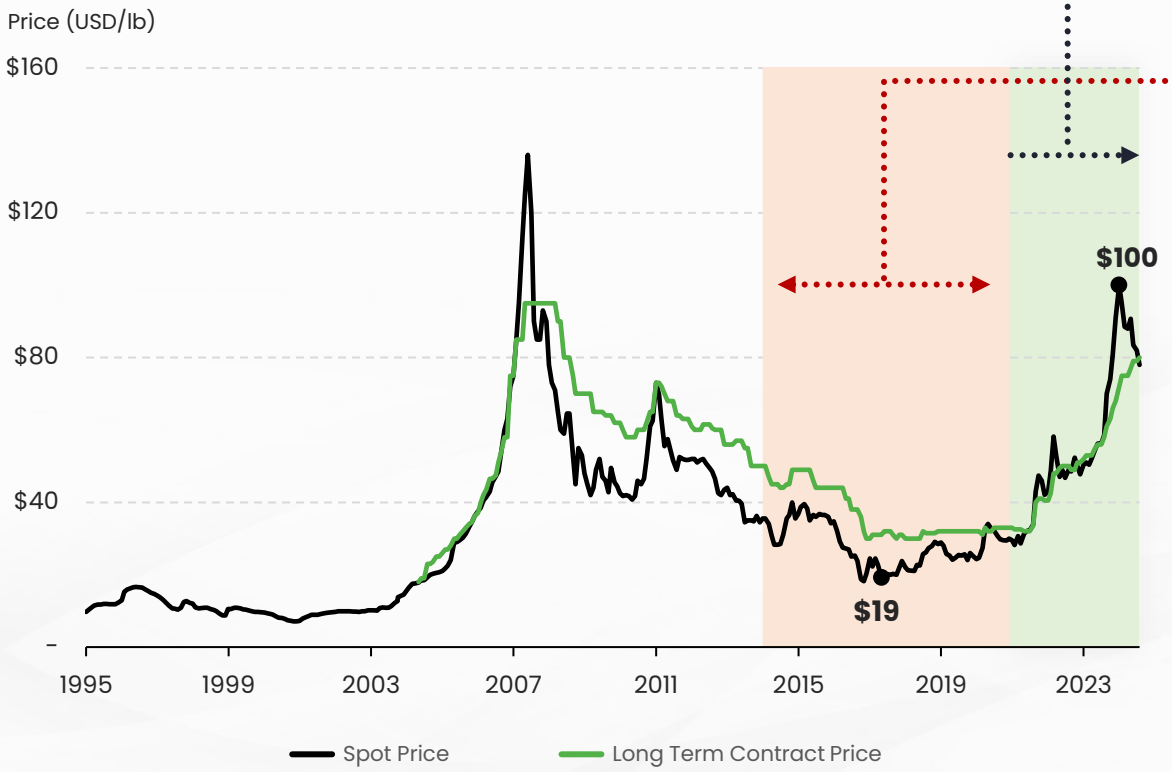
200% by 2040

Creating a ~240M lbs deficit in 2040 that will continue to widen[1]

[1] The World Nuclear Fuel Report
[2] OECD Uranium 2022, Resources, Production, Demand

Uranium Price Environment

Uranium Price History[1]



Economic investment into supply growth

Major underinvestment in new uranium supply

- Uranium mine development can take over 10 years[2]
- Uranium is a small portion of overall reactor operating cost
- Utilities are prioritizing supply over pricing as a driving metric

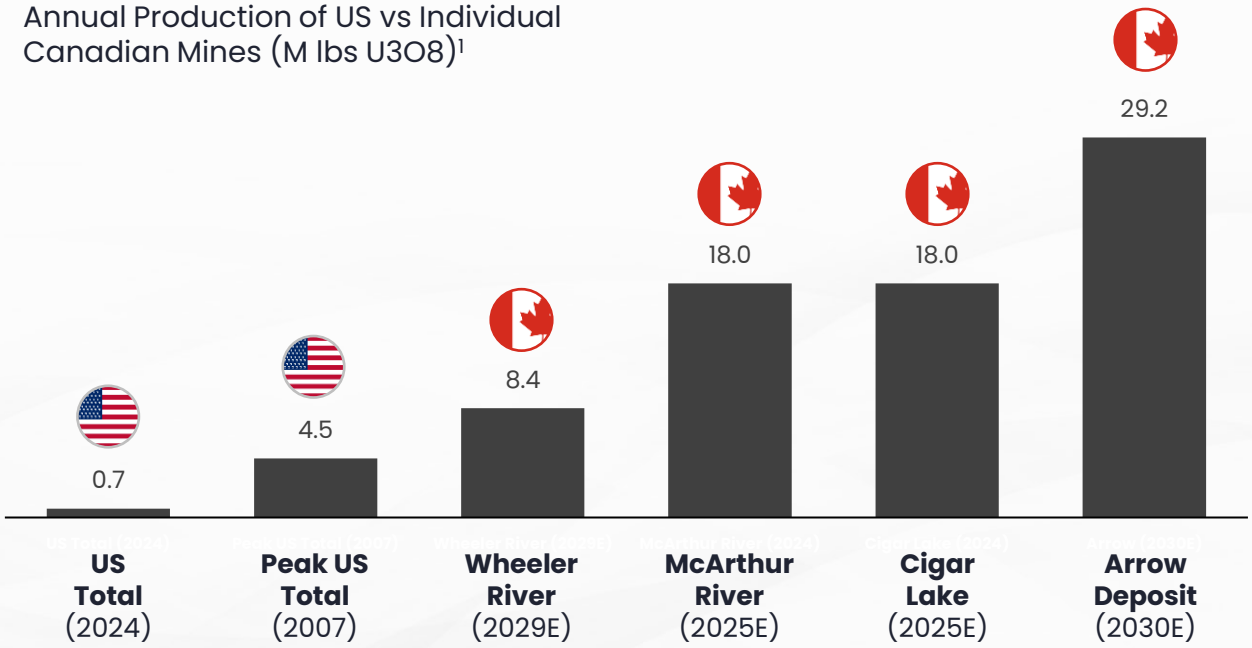
[1] Historical U3O8 pricing; UxC
[2] URAM–2018: Ebb and Flow — the Economics of Uranium Mining; IAEA

Canada: A Proven Uranium Jurisdiction

Canada is the clear solution to pursue North America's next nuclear fuel source

Canada Has Proven History of Major Mine Operations

Annual Production of US vs Individual Canadian Mines (M lbs U3O8)[1]



US Total (2024) | **Peak US Total** (2007) | **Wheeler River** (2029E) | **McArthur River** (2025E) | **Cigar Lake** (2025E) | **Arrow Deposit** (2030E)

[1] Public company reports

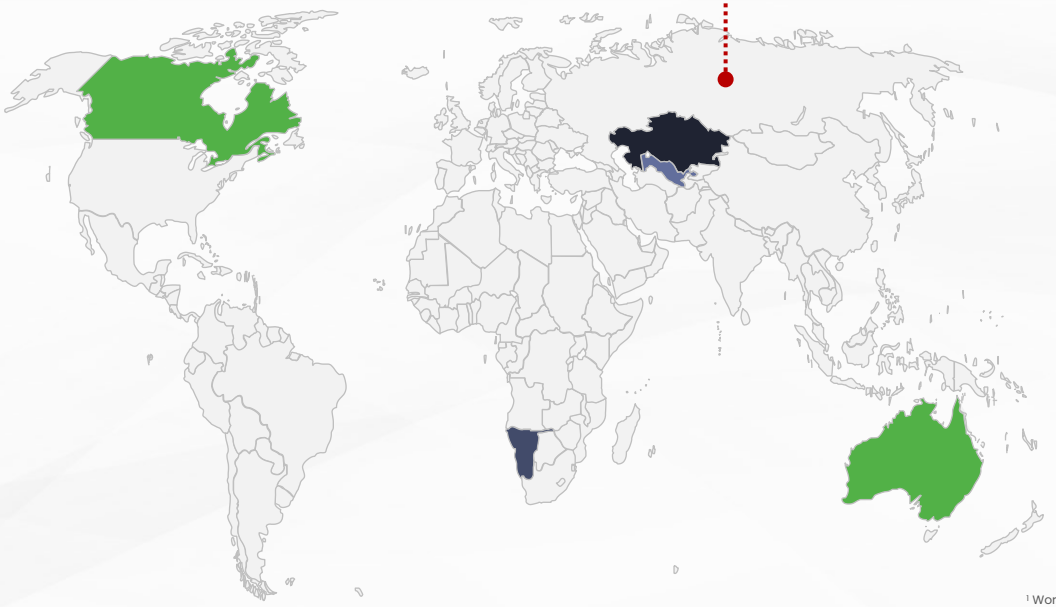
Production Overview By Country

Uranium market bifurcation has prompted supply chains to focus on securing domestic supply

Russia's invasion of Ukraine has exposed fragility in the uranium supply chain[2]

Top 5 Uranium Producers Globally (tonnes U)[1]

2022 PRODUCTION 3,300 Uzbekistan	2022 PRODUCTION 4,553 Australia	2022 PRODUCTION 5,613 Namibia	2022 PRODUCTION 7,351 Canada	2022 PRODUCTION 21,227 Kazakhstan
Other 7%	9%	11%	15%	43%

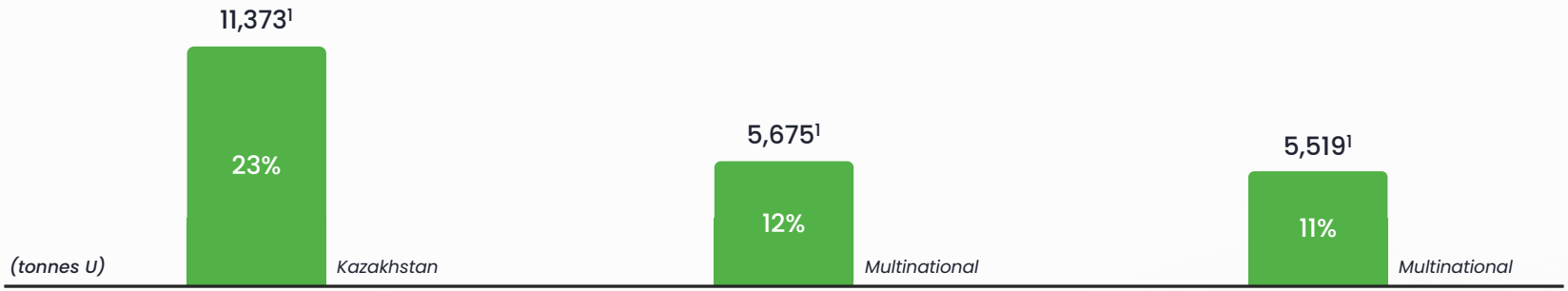


- **5 countries comprise 85%** of the world uranium production[1]
- **50%+** of supply is embedded with significant geopolitical risk[1]
- The U.S. is the **largest consumer of uranium** and has less than 0.2% of global production[1]

[1] World Nuclear Association
[2] U.S. Rethinks Uranium Supply for Nuclear Plants After Russia's Invasion of Ukraine; The Wall Street Journal

Production Overview By Producer

The **top 3 global producers** account for nearly half of global production and are facing production challenges



KAZATOMPROM
NATIONAL ATOMIC COMPANY

2024 PRODUCTION GUIDENCE CUT[2]
Announced a 14% cut to production guidance for 2024
February 1, 2024

2025 PRODUCTION GUIDENCE CUT[3]
Announced a 17% cut to production guidance for 2025
August 23, 2024

Cameco

2023 PRODUCTION MISS[4]
Announced 2023 production volumes (17.6M lbs) fell short of guidance (20.3M lbs), citing mine restart issues
February 8, 2024

KEY LAKE OPERATIONAL CHALLENGES[5]
Announced lowered guidance due to lack of skilled personnel and supply chain issues
September 5, 2023

orano

NIGER MINE LICENSE REVOKED[6]
Following a 2023 political coup in Niger, the local government evicted Orano from one of its largest global uranium deposits
June 22, 2024

INTERNATIONAL COST CHALLENGES[7]
Increased uranium mineral extraction taxes in Kazakhstan target increased production and are raising costs on low-cost production options
July 10, 2024

[1] World Nuclear Association; Uranium production by company 2022
[2] Kazatomprom 4Q23 Operations and Trading Update; February 1, 2024
[3] Kazatomprom 1H24 Financial Results and 2025 Production Plan Update; August 23, 2024
[4] Cameco Annual Report 2023
[5] Cameco Production and Market Update; September 5, 2023
[6] Le Monde; Niger's junta evicts French multinational Orano from one of its largest uranium deposits; June 22, 2024
[7] Kazatomprom corporate release; July 10, 2024

Growing International Supply Competition

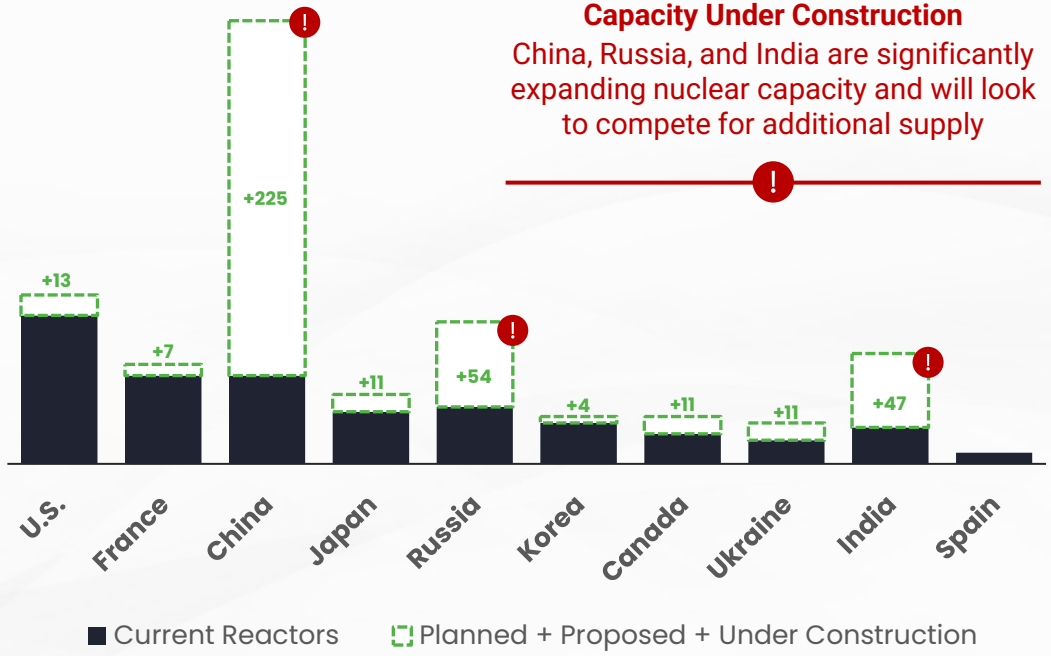
The U.S. relies heavily on international markets for uranium supply but securing supply may become increasingly difficult

Nuclear Reactors by Country[1]

Nuclear capacity by country (Reactors)

The **U.S.** Is the largest global uranium consumer but accounts for less than 0.2% of global uranium production[2]

Susceptible to supply shocks

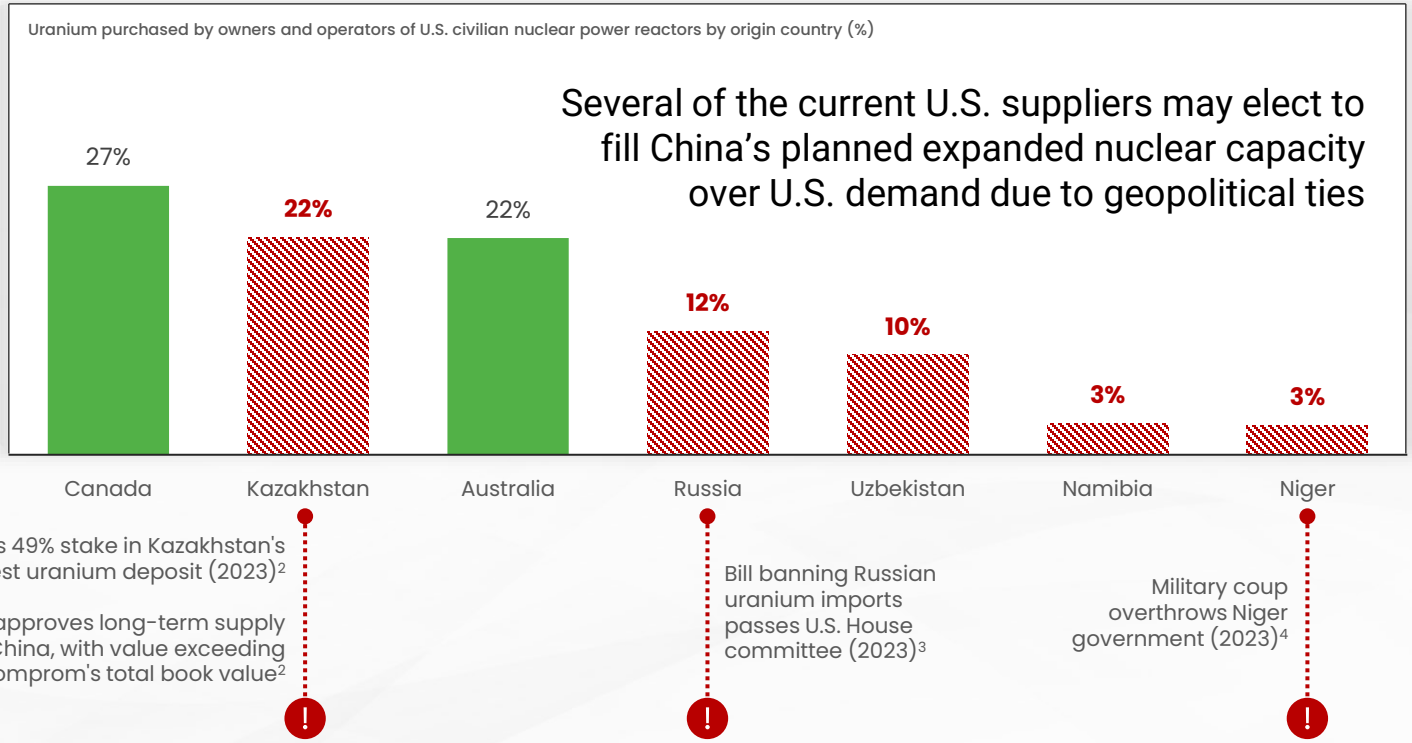


[1] International Atomic Energy Agency, Power Reactor Information System
[2] World Nuclear Association

U.S. Supply Dynamics

Over 50% of U.S. supply is sourced from countries with significant geopolitical and supply chain risks

U.S. Uranium Imports by Country[1]



[1] U.S. Energy Information Administration; Uranium Marketing Annual Report; 2023 data
[2] Uranium: Kazatomprom's Major Deals With CNNC and Rosatom; Energy Intelligence; 2023
[3] Bill banning uranium imports from Russia passes US House subcommittee; Reuters
[4] Niger arrests politicians after coup, other juntas voice support; Reuters

The Future is Nuclear

Energy of the future will be clean, scalable, baseload capable, and secure

Emission-Free

As the lowest CO_2 energy option, nuclear is the best choice for governments looking to achieve their stated climate objectives.[1]

Mass Scale

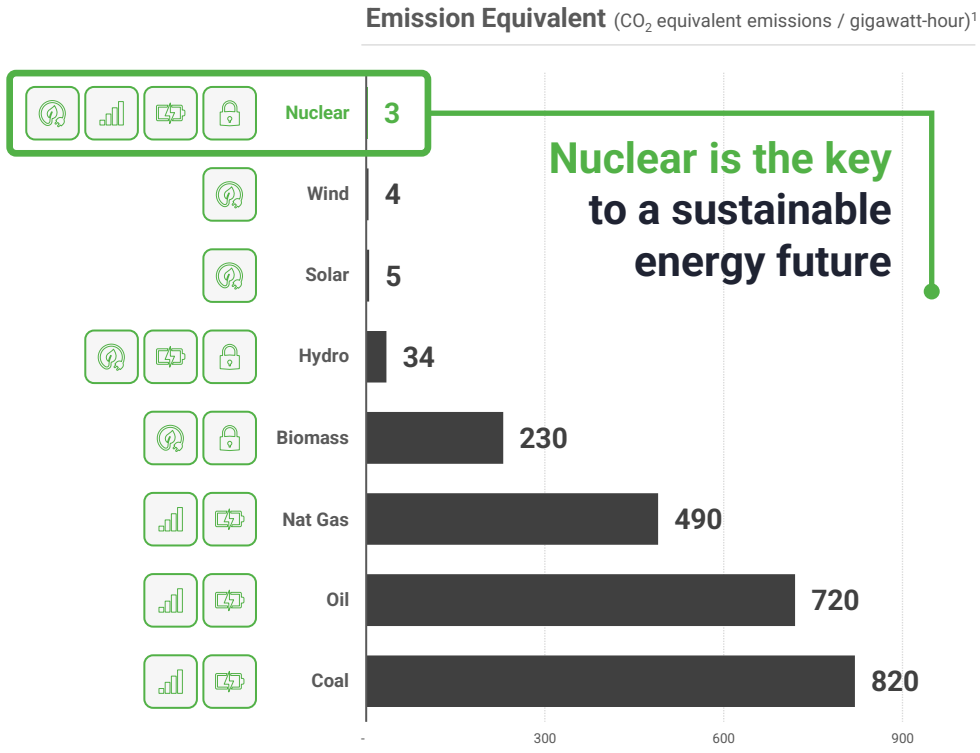
Uranium's unmatched energy density allows nuclear energy production to provide primary energy production with minimal footprint.[2]

Baseload Capacity

Nuclear is the only clean energy source capable of providing reliable baseload electricity to supplement intermittency of renewables.[2]

Stable Supply

Uranium accounts for a minor proportion of total generating costs, insulating countries from major price swings or supply disruptions.[3]

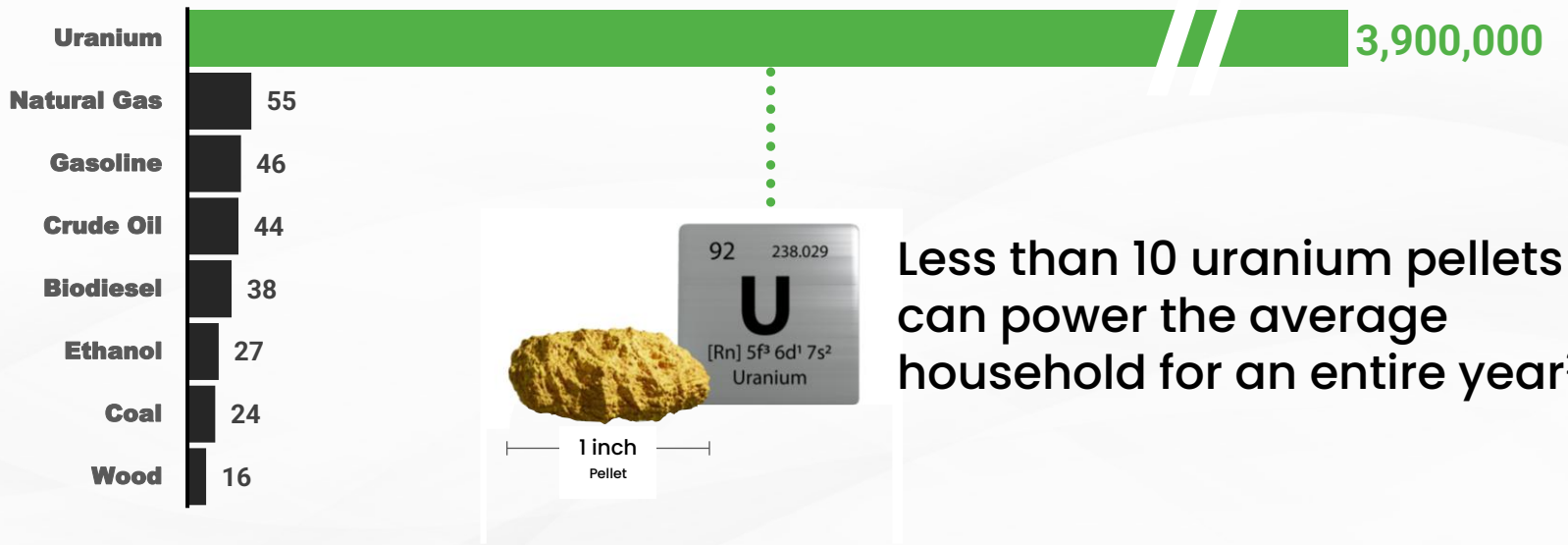


[1] Our World in Data; U.S. Department of Energy
[2] The Nuclear Fuel Report; 2021
[3] World Nuclear Association

Uranium's Energy Density

Uranium's unique energy density enables nuclear power to generate vast amounts of electricity with relatively small quantities of fuel, reducing the logistical and environmental burden compared to fossil fuels

Energy Density by Fuel Source (MJ/kg)[1]



Less than 10 uranium pellets can power the average household for an entire year[2]

[1] I. Hore-Lacy, "Future Energy Demand and Supply," in Nuclear Energy in the 21st Century, 2nd ed., London, UK: WNUP, 2011, ch.1, sec.6, pp.9
[2] Mining.com; The power of a uranium pellet

Additional Resources

U.S. Department of Energy

- Restoring America's Competitive Nuclear Energy Advantage

International Atomic Energy Agency

- Energy, Electricity and Nuclear Power Estimates for the Period up to 2050

U.S. Energy Information Administration

- 2023 Uranium Marketing Annual Report

Fundamental Supply Factors

Supply Deficits

- Underinvestment in exploration and mine development during 2014-2020[1]
- Strategic reserve and mine depletion
- Secondary supply drawn down
- Bottlenecks in fuel services
- Idled mines face challenged restarts

Geopolitical Risk

- Geopolitical Risk
- Prohibiting Russian Uranium Imports Act
- Nationalization
- Unprecedented conflict
- Highly concentrated supply chains
- Trade and logistic challenges
- Bifurcating markets

Supply Landscape

- Supply Landscape
- U3O8 supply ~130M lbs./yr[1]
- Structural primary deficit ~60M lbs./yr[2]
- Mobility of supply issues
- Producers contracted for 5+ years, limiting access
- Uranium supply will need to triple by 2050[3] to meet the growing demand

[1] 2023. Q2 Goehring and Rozencwajg Market Commentary / World Nuclear Association / TradeTech / UxC
[2] WNA - World Nuclear Fuel Report 2023 – Upper Case scenario
[3] OECD Uranium 2022, Resources, Production, Demand

Fundamental Demand Factors

Demand Shocks

- Extensions / Refurbishments
- Closure U-turns
- Capacity Increases
- Physical Trusts
- Small Modular Reactors
- Procurement of uranium, LEU and HALEU for strategic reserves

Government Policies

- COP28 - triple nuclear capacity pledge by 2050
- EU Net Zero Industry Act & Great British Nuclear
- ADVANCE Act
- Japanese Green Transformation
- China 5-year Plan

Industry Growth

- U3O8 Demand ~190M lbs./yr[1]
- ~60 reactors are under construction, an additional 110 planned[2]
- Doubling of nuclear capacity expected by 2050[3]
- Conversion of coal facilities to nuclear
- AI development & Electrification

[1] 2023. Q2 Goehring and Rozencwajg Market Commentary / World Nuclear Association / TradeTech / UxC
[2] WNA - World Nuclear Fuel Report 2023 – Upper Case scenario
[3] OECD Uranium 2022, Resources, Production, Demand