

GLOBAL X

by Mirae Asset

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## Global X Uranium ETF (URA)

# URA: Uranium ETF

URA invests in companies involved in uranium mining and the production of nuclear components.



**Targeted Exposure**  
URA is a targeted play on uranium mining and the production of nuclear components.



**ETF Efficiency**  
In a single trade, URA delivers efficient access to a basket of companies involved in the mining uranium and producing nuclear components.



**Emerging Energy Opportunity**  
Nuclear power emits zero direct emissions during operations.<sup>1</sup> As governments pledge to reduce fossil fuel reliance, nuclear could be a viable bridge while more renewable capacity is built.

Key Facts	Inception Date: 11/04/10	Stats & Fees	Total Expense Ratio: 0.69%
	Ticker: URA		Number of Stock Holdings: 52 <sup>2</sup>
	Tracking-Index: Solactive Global Uranium & Nuclear Components Total Return Index		

**URA SECTOR BREAKDOWN<sup>3</sup>**

- Energy
- Industrials
- Other
- Materials
- Financials
- Utilities

**URA TOP 10 HOLDINGS<sup>3</sup>**

Name	Ticker	Weight %
Cameco Corp	CCO	21.10%
Sprott Physical Uranium Trust	U-U	8.92%
NAC Kazatomprom JSC	KAP	6.28%
NexGen Energy Ltd	NXE	6.12%
Uranium Energy Corp	UEC	4.33%
Paladin Energy Ltd	PDN	4.27%
Energy Fuels Inc/Canada	EFR	3.28%
Denison Mines Corp	DML	3.20%
Yellow Cake PLC	YCA	2.64%
Rio Tinto PLC	RIO	2.38%

1. Energy Information Administration, Dec 2021. 2. Source: Global X Website as of 12/31/2023 3. Source: Global X ETFs, as of 12/31/2022. "Other" classifies a company as one that does not primarily fit into any of the other sectors. It can include companies with diverse range of business activities or not primarily focused on a specific industry. "Other" may also include cash positions and/or allocations outside of equities such as currency positions. Holding are subject to change.

# URA: Uranium ETF

## Different ways to access Uranium:

### 1 Physical Ownership/Physical Uranium Trust

- Uranium, unlike other commodities does not trade directly on the spot market
- Investing in a trust in the form of units, is the best way to gain direct spot exposure

### 2 Options and Futures

- Historically closely tracks spot prices in Uranium but can be susceptible to contango<sup>1</sup>

### 3 Uranium Mining Companies

- Leveraged plays on Uranium prices, owing to the high fixed costs of extracting the metal
- Indirect exposure to Uranium given that miners can have revenues from other metals

### 4 Uranium Mining ETF

- Invests in a diverse basket of companies involved in Uranium Industry
- Indirect exposure to Uranium given that miners can have revenues from other metals

## Index Methodology – Solactive Global Uranium & Nuclear Components Total Return Index

### 1 Index Selection

- The index is designed to track the performance of companies that have or are expected to have business operations or exposure in the uranium industry.
- Each company is classified as follows according to the extent to which it generates revenues from operations in the **Uranium industry**:
  - **Pure-Play**: Has primary business operations that are related to the uranium industry, in particular, uranium mining, exploration for uranium, and physical uranium.
  - **Non-Pure Play**: Has business operations that are related to the uranium industry, and in which it generates large revenues.
- **Nuclear Component Producer** companies will be added to the list of index constituents.

### 2 Selection Pool

Eligible companies must have:

- **Free Float Market Capitalization** of at least \$50M if they are not current constituents and at least \$30M if they are current constituents.
- **Average Daily Trading Volume** of at least \$100k over the last three months if they are not current constituents and \$50k for existing constituents.
- **Listing** on a regulated stock exchange in the form of shares is tradable for foreign investors without restrictions.
- **Controversial Weapons Exclusionary Screen**:
  - Companies involved in the production development or maintenance any weapon or key components for these weapons, which violate humanitarian principles through normal use. Companies that produce or develop key and dedicated components for controversial weapons.
  - Companies that hold  $\geq 20\%$  stake in a company that is involved in controversial weapons.
  - Companies currently  $\geq 50\%$  owned by a company that is involved in controversial weapons.

### 3 Weighting Scheme

Index components are weighted according to the lesser of their Free Float Market Capitalization and the Average Daily Trading Value multiplied by 2000:

- Non-pure Play and Nuclear Component Producer companies will be capped at 2%.
- The maximum weight of a Pure-Play company is 22.5%.
- The aggregate weight of the index constituents structured as Investments trusts, which provide exposure to physical uranium, is capped at 10%.
- The aggregate number of **Non-pure Play** companies and Nuclear Component Producer companies will be capped at 15.

### 4 Rebalances/Reviews

The index follows a **quarterly rebalancing schedule**, made on the last business day in January, April, July, and October each year, at the close of business.

1. Contango is when the spot price of a commodity trades below its future price.

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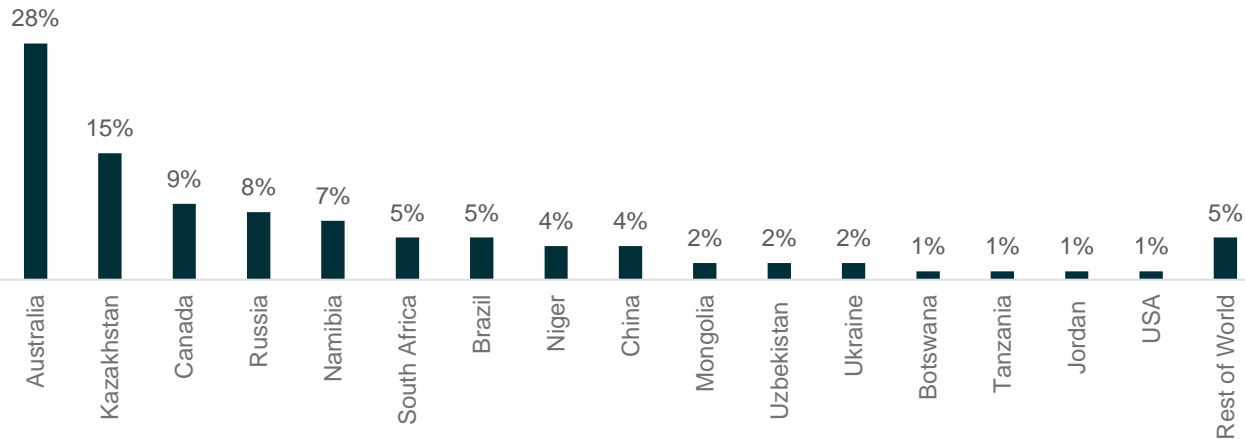
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# Exploring the Uranium Market

# Uranium: Nuclear Becoming Key on Transition to Green

Uranium is a heavy, dense, and radioactive metal, making it a potent source of concentrated energy. Uranium fuel enables nuclear power plants to generate electricity.

## Percentage of Uranium Availability Worldwide



Sources: World Nuclear Association, 2022.

## Recovery Methods of Uranium

METHOD	SURFACE AREA	COST COMPARISON	WASTAGE	REMEDIATION
Open Pit Mining	Large	Middle	Large amounts of waste rock	Extremely expensive
Underground Mining	Medium	Most expensive	Medium amount of waste rock	Expensive
In-situ Leach (ISL) Mining	Small	Least expensive	Minimum amounts of waste rock	Least expensive

Sources: New Mexico Bureau of Geology & Mineral Resources, 2022.

## How is Uranium Used to generate electricity?

- Nuclear power is one of the few sources of electricity that combines large-scale power output and low greenhouse gas emissions, with costs comparable to those of traditional fossil fuel power stations.
- Nuclear reactors generate electricity by producing immense heat, by splitting uranium-235 atoms in the process of nuclear fission.
- Ongoing fuel costs for nuclear power plants tend to be quite low, given the minimal amount of uranium needed to power the plant.

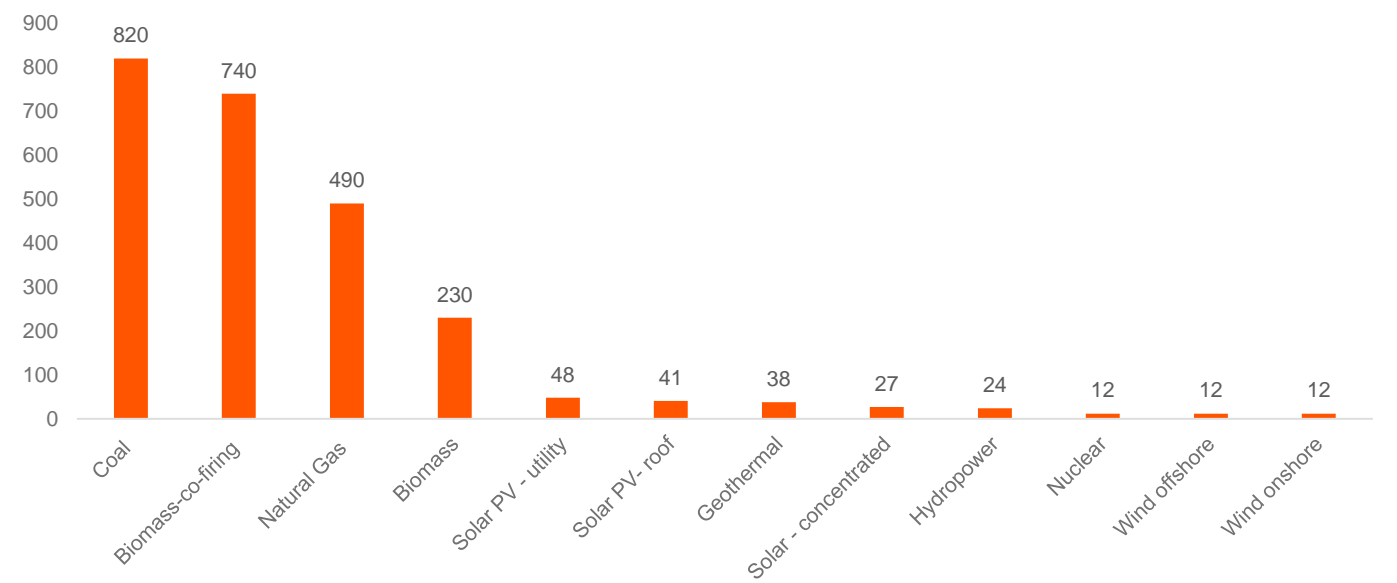
## Advantages of nuclear power that uses Uranium

- Fuel costs are low, given the minimal amount of uranium needed to power the plant.
- Nuclear is also among the cleanest methods of producing electricity in terms of greenhouse gas emissions.

# Uranium: Fossil Fuel Reductions Set to Keep Uranium Demand High

Nuclear power, as a low carbon emissions energy option, is the biggest source of uranium demand globally. Nuclear power emits far less carbon dioxide than traditional fossil fuels, with emissions of just 12 grams of CO2 per kW/h – the same as offshore wind energy.

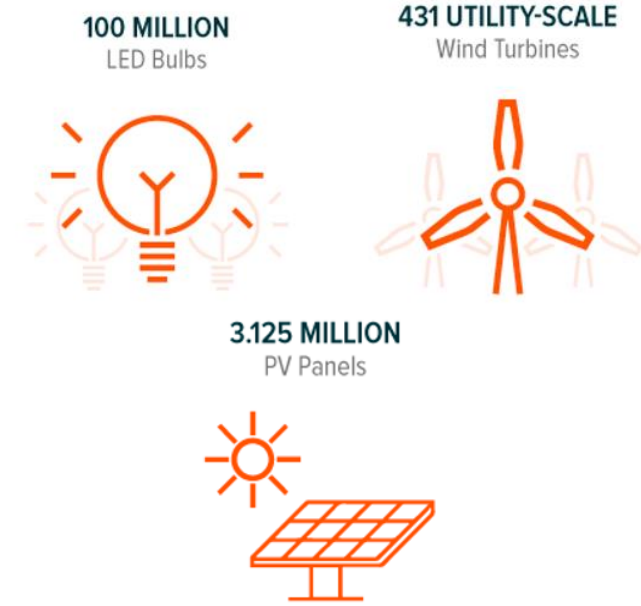
## Carbon Dioxide Emissions by Energy Source (KW/h)



Sources: World Nuclear Association, 2022.

## How much power does a nuclear reactor produce?

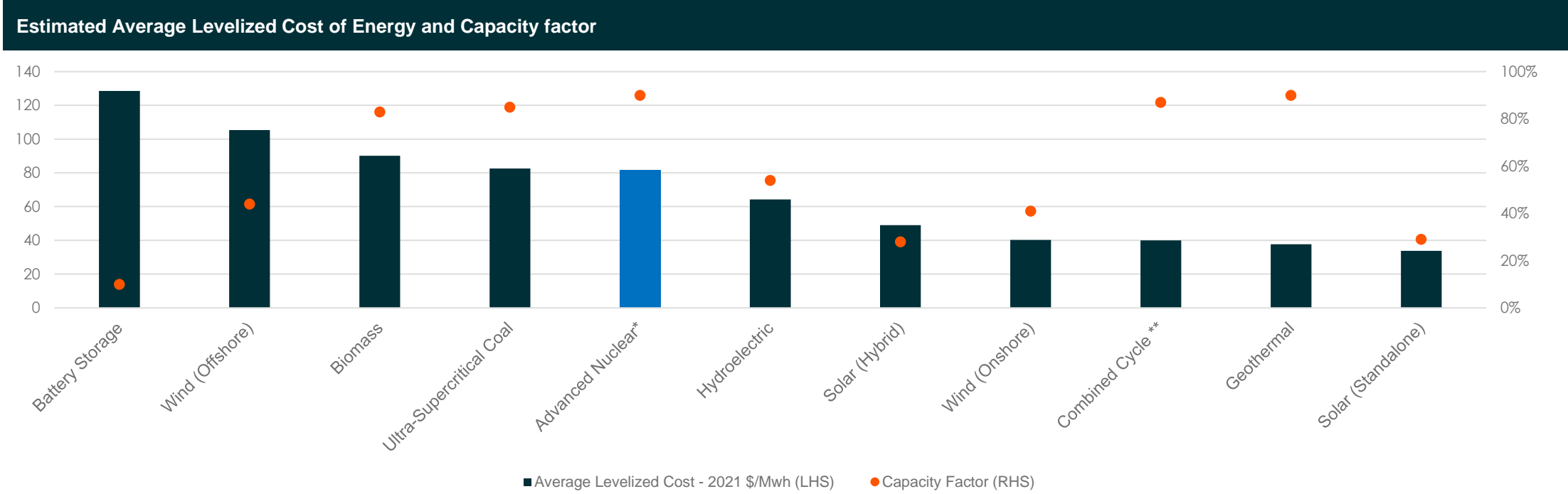
A typical reactor produces around 1 Gigawatt of power or the same amount of power as:



Sources: Office of Nuclear Energy, 2022.

# Uranium: Nuclear as a Reliable and Cost-Effective Source of Energy

Nuclear is a highly dependable source of energy as it operates at full capacity more than 90% of the time. From a cost perspective, the average levelized cost of battery storage is 57% more expensive than nuclear, particularly notable given that nuclear plants achieve almost 3 times greater reliability than wind and solar plants.



Source: EIA, 2022.

\*Advanced Nuclear: light water reactors (power reactors moderated and cooled by water) and small modular reactors.

\*\*Combined Cycle: An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines.

## Uranium: Government Support for Nuclear Energy

For a second successive year, the International Atomic Energy Agency (IAEA) has revised up its projections of the potential growth of nuclear power capacity for electricity generation during the coming decades. <sup>1</sup> The increased IAEA projects show that nuclear power should continue to play an indispensable role in low carbon production, the tables below highlights a few of the key investments and policies changes from governments across the globe.

### United States

The Inflation Reduction Act, signed into law in August 2022, includes tax credits for existing nuclear power plants and incentivizes advanced nuclear power deployment.<sup>2</sup>

The Infrastructure Investment and Jobs Act, signed into law in November 2021, includes a \$6 billion in funding towards a program to preserve the existing U.S. fleet of nuclear power reactors.<sup>3</sup>

### China

China is aiming to construct at least 150 new reactors in the next 15 years, which would be more than the rest of the world has built in the past 35 years. The colossal plan is estimated to cost at least \$440 billion.<sup>4</sup>

### European Union

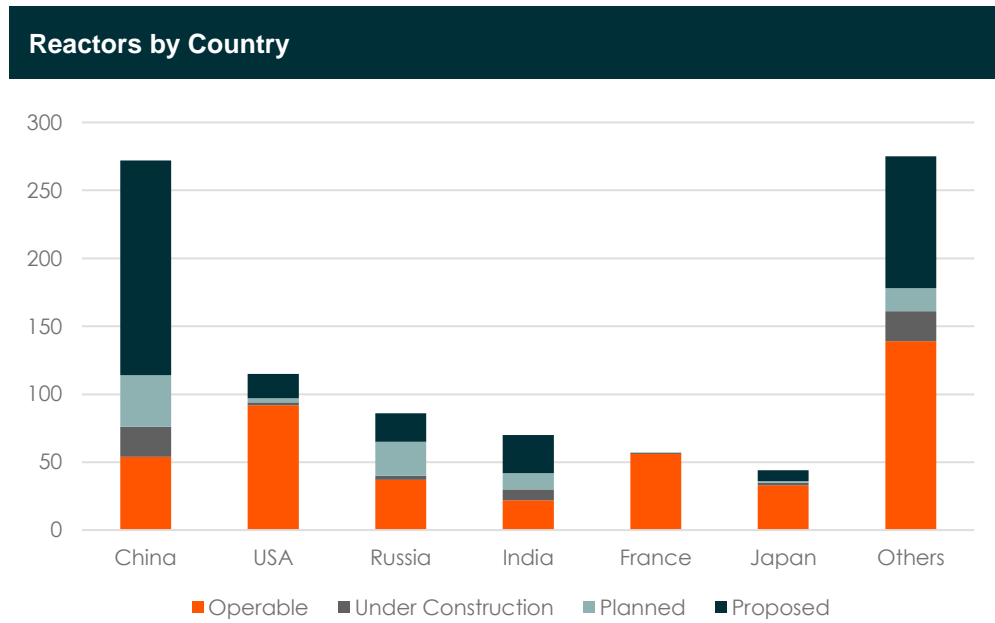
In Europe, nuclear technologies are “transition activities” under the EU Green Taxonomy, a classification that should improve investor confidence in uranium. In July 2022, the European Parliament didn’t object to the Commission’s Taxonomy Complementary Delegated Act, which, therefore will be in effect starting in 2023.<sup>5</sup>

Sources:1. IAEA, September 2022. ; 2. Office of Nuclear Energy, September 2022. ; 3. DOE, February 2022. ; 4. Bloomberg, November 2021. ; 5. European Commission, July 2022.

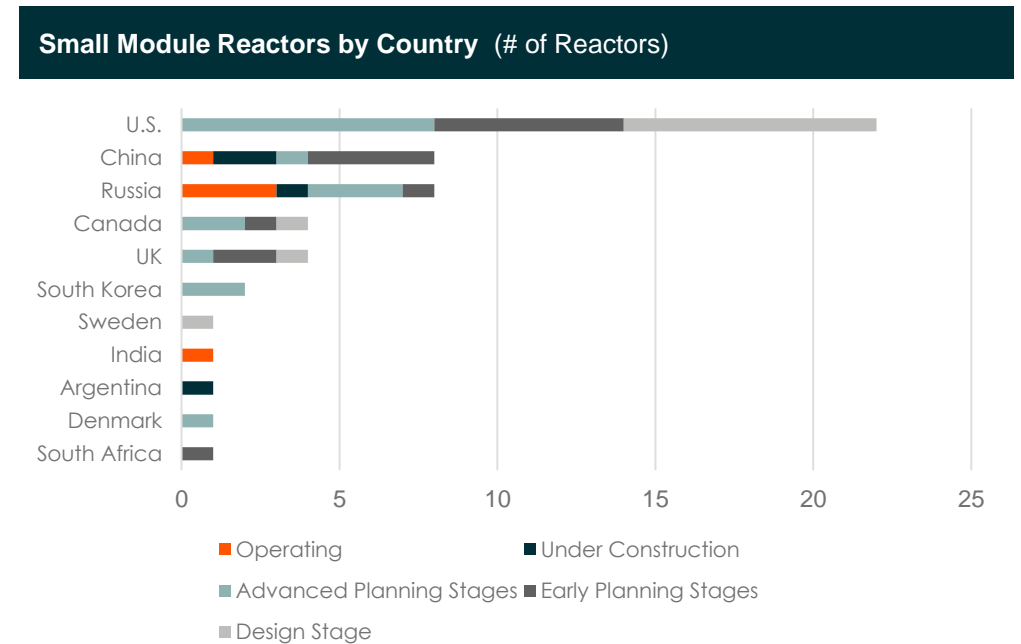


# Uranium: New Nuclear Reactors as a Proxy for Uranium Demand

- The number of nuclear reactors under construction represents a proxy for future geographical demand increases. Globally, there are 436 operable reactors and 60 reactors under construction. The pro-nuclear energy sentiment is the strongest in developing countries such as China, India and South Korea.
- New reactors such as small module reactors (SMRs) come with enhanced safety features helping shed the stigma attached to nuclear plants. More than 70 SMR reactors are under construction or in the licensing stage in Argentina, Canada, China, Russia, South Korea and the United States.



Source: World Nuclear Association, September 2022.



Source: World Nuclear Association, May 2022.

# Global X ETFs

Additional insights can be found online at: [www.globalxetfs.com/research/](http://www.globalxetfs.com/research/), or on Twitter: [@RReddy\\_gx](https://twitter.com/RReddy_gx)

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**GLOBAL X ETFs RESEARCH**

## Uranium, Explained

**Authorized by:**  
Rohan Reddy  
Director of Research

Date: June 12, 2022  
Topic: Commodities

**Related ETFs**

URUM - Global X Uranium ETF

**CURRENT STATUS OF NUCLEAR POWER GENERATION**

Source: Global X based on information derived from Power Reactor Information System (2022, April 18), Unit capacity factor, International Atomic Energy Association, World Nuclear Association (2022, March), Plans for new reactors worldwide.

3rd	Largest Source of Global Low Carbon Electricity
442	Nuclear Power Reactors Operating
55	Nuclear Power Reactors Under Construction
393	Global Total Net Installed Capacity
669	Global 2050 Projected Nuclear Capacity

**Key Questions Answered Here**

1. What is uranium?
2. How is uranium extracted?
3. How is uranium used to generate electricity?
4. What are the advantages of uranium?
5. What is the outlook for uranium demand?
6. What is the status of the uranium supply?
7. Are uranium prices expected to recover?
8. How can you invest in uranium?

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## Important Information

Investing involves risk, including the possible loss of principal. International investments, including emerging markets, may involve risk of capital loss from unfavorable fluctuation in currency values, from differences in generally accepted accounting principles, or from economic or political instability in other nations. Emerging markets involve heightened risks related to the same factors as well as increased volatility and lower trading volume. Narrowly focused investments may be subject to higher volatility. There are additional risks associated with investing in Uranium and the Uranium mining industry. URA is non-diversified.

Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the Fund. Brokerage commissions will reduce returns.

***Carefully consider the fund's investment objectives, risks, and charges and expenses before investing. This and other information can be found in the fund's full or summary prospectuses, which may be obtained at [globalxetfs.com](http://globalxetfs.com). Please read the prospectus carefully before investing.***

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## Appendix - Sources

### URA: Uranium ETF

- Energy Information Administration, Dec 2021.
- Global X ETFs, as of 12/31/2022. "Other" classifies a company as one that does not primarily fit into any of the other sectors. It can include companies with diverse range of business activities or not primarily focused on a specific industry, "Other" may also include cash positions and/or allocations outside of equities such as currency positions.

### URA: Uranium ETF (II)

- Contango is when the spot price of a commodity trades below its future price.

### Uranium: Nuclear Becoming Key on Transition to Green

- World Nuclear Association.(2022,June) Uranium availability, Uranium resources by country in 2019: Identified resources recoverable (reasonably assured resources plus inferred resources), to \$130/kg U, 1/1/19, from OECD NEA & IAEA, Uranium 2020: Resources, Production and Demand ('Red Book'). The total recoverable identified resources to \$260/kg U is 8.070 million tonnes U.
- New Mexico Bureau of Geology & Mineral Resources.(2022, May 04). Uranium — How Is It Mined?

### Uranium: Fossil Fuel Reductions Set to Keep Uranium Demand High

- World Nuclear Association.(2021,November) Climate Change- The Science. Sources, residence and sinks. Average life-cycle carbon dioxide-equivalent emissions for different electricity generators. IPCC.
- Office of Nuclear Energy. (2022, July) Infographic: How Much Power Does A Nuclear Reactor Produce? March 31, 2021.

### Uranium: Nuclear as a Reliable and Cost-Effective Source of Energy

- U.S. Energy Information Administration.(2022,March).Levelized Costs of New Generation Resources in the Annual Energy Outlook 2022. Table 1b. Estimated unweighted levelized cost of electricity (LCOE) and levelized cost of storage (LCOS) for new resources entering service in 2027 (2021 dollars per megawatt hour).

### Uranium: Government Support for Nuclear Energy

- IAEA.(2022, September 26) IAEA Projections for Nuclear Power Growth Increase for Second Year Amid Climate, Energy Security Concerns.
- Office of Nuclear Energy. (2022, September 8) Inflation Reduction Act Keeps Momentum Building for Nuclear Power .
- DOE. (2022, February 11) DOE Establishes \$6 Billion Program to Preserve America's Clean Nuclear Energy Infrastructure.
- Bloomberg. (2021, November 2).China's Climate Goals Hinge on a \$440 Billion Nuclear Buildout.
- European Commission.(2022,July 11) EU taxonomy: Complementary Climate Delegated Act to accelerate decarbonization.

### Uranium: New Nuclear Reactors as a Proxy for Uranium Demand

- World Nuclear Association. ( 2022, September) World Nuclear Power Reactors & Uranium Requirements.
- World Nuclear Association. ( 2022, May) Small Nuclear Power Reactors.