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CAPTURING DEEP VALUE IN THE NUCLEAR AND METALS SECTORS

JANUARY 2025

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INTRODUCTION

This report explores the new global cycle of capital redistribution in the Nuclear, Metals and Mining (NMM) industries and outlines strategies for effectively protecting and growing capital.

We will not provide a detailed analysis of the current macroeconomic landscape, as issues such as central banks monetary expansion and global debt concerns are well-known. It is sufficient to note that these factors will significantly influence the next commodity market cycle. Our focus is on pinpointing the optimal timing and selecting the most promising financial instruments.

While the cycle affects a broad range of instruments in the NMM industries, we will prioritize those with the highest potential based on fundamental, technical, and cyclical analysis. The goal is to develop a strategy tailored to the specific dynamics of each market and instrument.

Our emphasis is on instruments that have completed the initial accumulation phase and are poised for substantial revaluation within the next 12 to 24 months.

The investment horizon for the main cycle **is 7 years.**

The main cycle is divided into three intermediate cycles of **2-3 years each.**

Each intermediate cycle consists of 3 phases: **accumulation, revaluation, and distribution/rebalancing.**

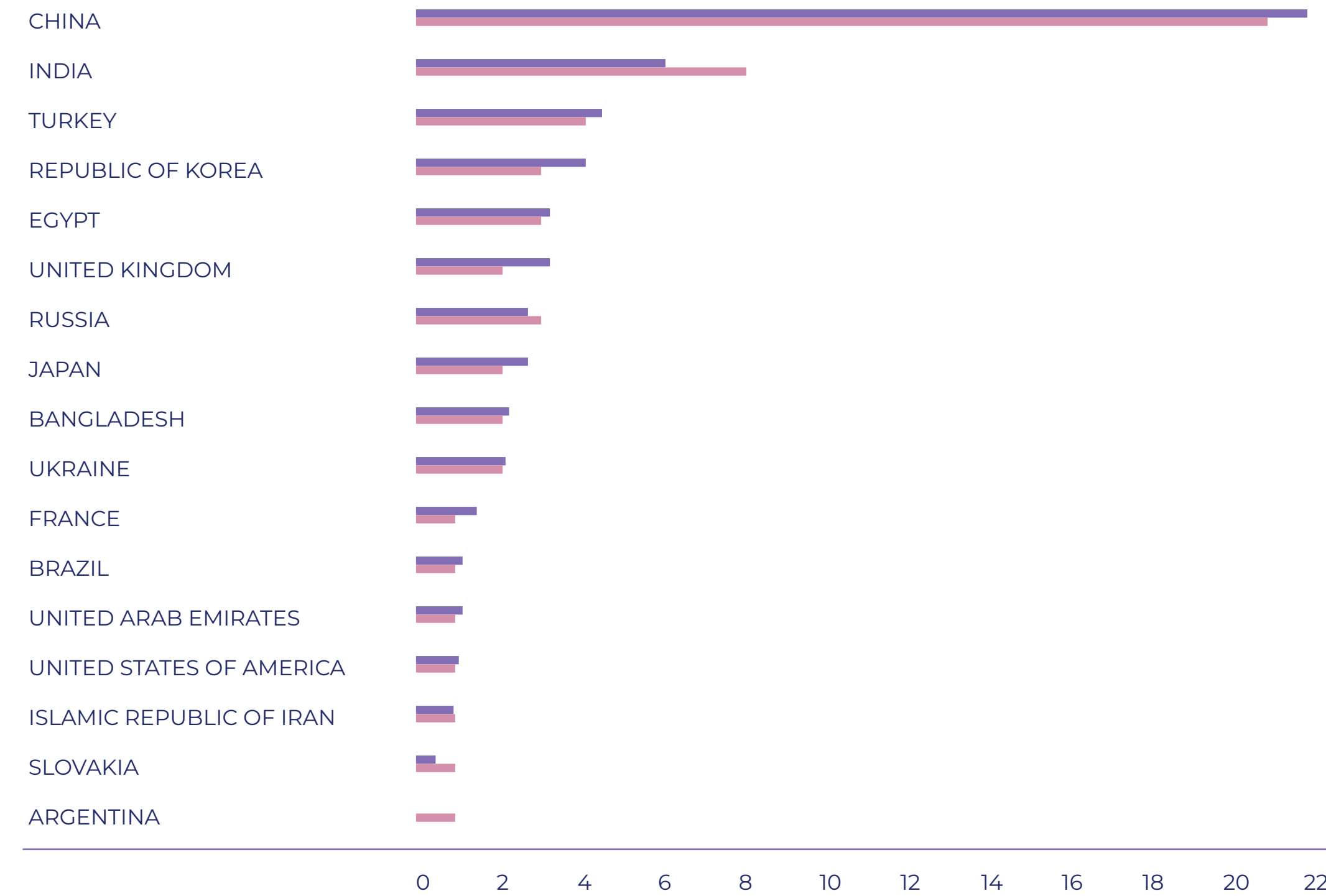
ONE OF THE MOST PROMISING MARKETS
FOR THE NEXT 10 YEARS

An excellent combination of technical and fundamental factors. The global community has grown weary of the “green agenda”, and it is now time to return to reality.

Over the past two years, nearly all countries have announced the need to revive their nuclear programs. The lifespans of existing reactors are being extended, and new reactors are being constructed. Within the coming years, the number of operating reactors is expected to double, heralding a nuclear renaissance.

The construction of new nuclear power plants is ongoing, and the list of countries with ambitions to develop nuclear energy is expanding almost daily. The number of nations involved in building nuclear facilities is anticipated to double. This is no longer just a story about China, it is becoming a global phenomenon.

REACTORS UNDER CONSTRUCTION



Source: International Atomic Energy Agency (IAEA)

Number of Reactors —
Net Electrical Capacity, GW(e) —

THE EU ACCELERATES DEVELOPMENT OF SMALL NUCLEAR REACTORS

The European Union is striving to accelerate the development of small nuclear reactors, which we will discuss separately a bit later. The European Commission has introduced a new industrial alliance for Small Modular Reactors (SMRs) to expand nuclear energy production.

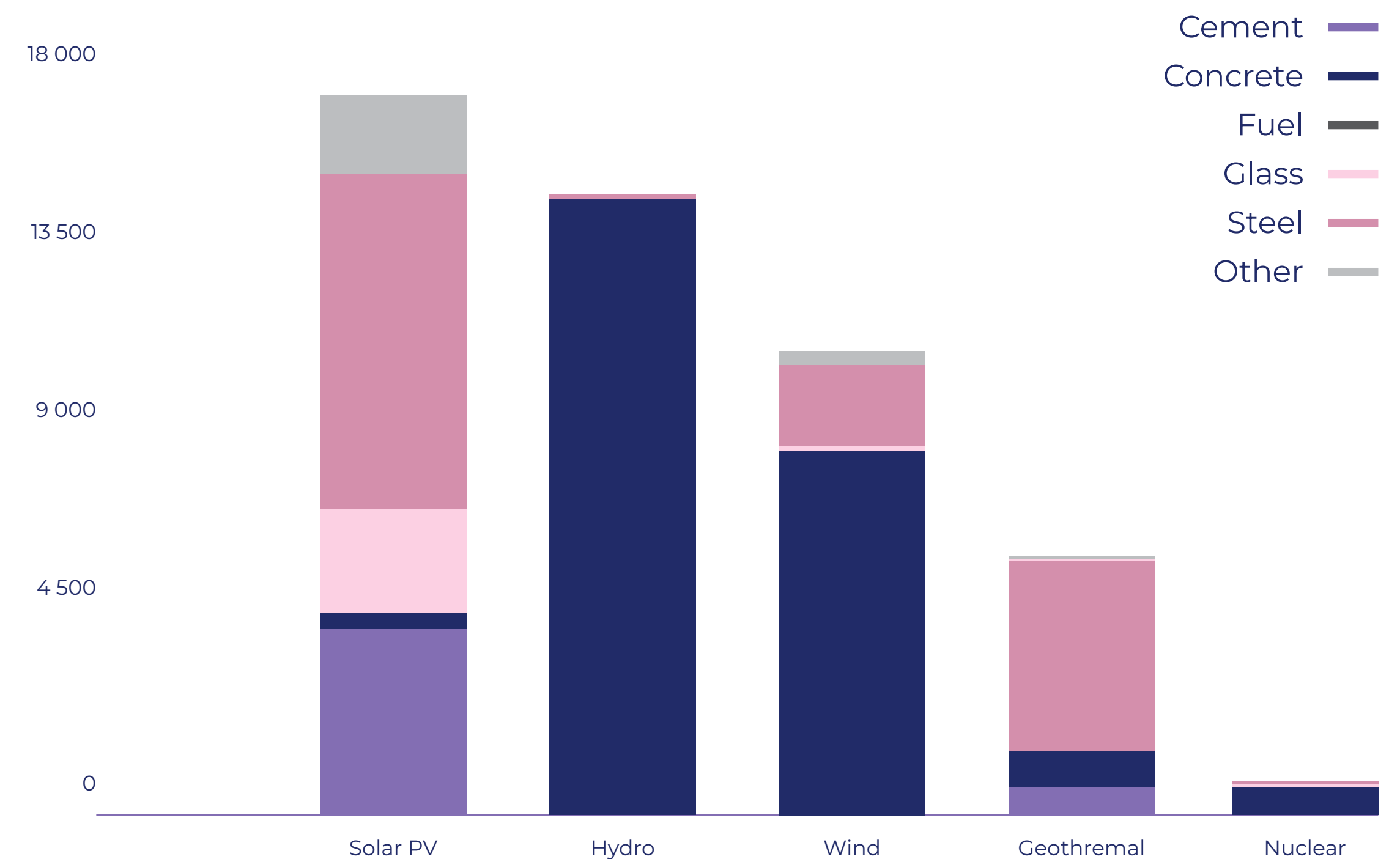
The global agenda is rapidly shifting toward recognizing that clean and sustainable energy is synonymous with nuclear energy.

A new global narrative is emerging: nuclear energy is clean energy.

Here is one of many charts that quantify material costs for construction and equipment associated with various energy sources, clearly illustrating the efficiency and sustainability of nuclear power.

MATERIALS THROUGHPUT BY TYPE OF ENERGY SOURCE

Mass of Materials
(tonnes/TWh)



Source: DOE Quadrennial Technology Review, Table 10. Murray, R.L. and Holbert, K.E. 2015. Nuclear energy: an introduction to the concepts, systems, and applications of nuclear processes (7th ed.), Elsevier.

NUCLEAR ENERGY

In addition to fundamental and technical factors, global sentiment, prevailing narratives, and mass psychology play a crucial role in expected revaluation. It is fitting to illustrate this new global narrative with examples. These examples are just a fraction of the broader trend.

- France

The country requires over 14 new nuclear power plants, according to its energy minister.

- Belgium

Abandons plans for the final shutdown of reactors in 2025, extending their operation by 10 years until 2035/2036.

- Sam Altman (OpenAI Founder)

Plans to build small nuclear reactors.

- India

The government is exploring options to expand its nuclear generating capacity.

- International Alliance

The US, Canada, France, the UK, Japan, South Korea, and the UAE are uniting to create an “International Nuclear Infrastructure Bank”.

- Citigroup

Declares that nuclear energy will grow “exponentially” in a low-carbon world.

- Sweden

The Minister of Climate and Environment announces plans to build 10 new nuclear reactor.

- US and Thailand

The US will assist Thailand in developing nuclear energy as part of a global clean energy initiative.

- Germany

The leader of Germany’s largest political party states that they will restart the country’s nuclear power plants.

- South Korea

A 180-degree shift as the government exports 10 nuclear power plants by 2030.

- Denmark

Announces its first consultations on nuclear energy.

- China vs. the US

How China became the king of new nuclear energy and how the US is trying to catch up.

- Czech Republic

The Prime Minister states that the country will need more nuclear reactors - up to four in the future - and significant investments will follow.

- Estonia

Supports the construction of the country’s first nuclear power plant.

- Global Support

Governments worldwide are increasingly interested in and supportive of nuclear energy. A total of 486 new reactors are planned, proposed, or under construction. Public support has also risen significantly.

- Japan

Reverses course with Takahama-2 becoming the 12th nuclear power plant to resume operations post-Fukushima. The government views reactors as a key element of its energy strategy.

ADVANCED REACTORS, SMALL MODULAR REACTORS, MICRO REACTORS

This is the foundation of the new global narrative. Every week, several new announcements highlight the rapid development of the industry. Nuclear energy is experiencing a renaissance, largely due to the emergence of groundbreaking technologies and new reactor types.

Advanced Reactors, Small Modular Reactors (SMRs), and Micro Reactors are the innovations driving global adoption and market growth. These technologies bring:

- **New levels of safety**
Enhanced designs that minimize risks.
- **Mobility and flexibility**
Reactors that can be deployed in diverse environments.
- **Simplicity and durability**
Easy-to-operate systems with extended operational lifespans.

An example of innovation is the mobile molten salt microreactor, designed for use almost anywhere. One notable player in this field is ATRC, one of seven companies awarded GAIN (Gateway for Accelerated Innovation in Nuclear) vouchers to develop advanced nuclear technologies.

These innovations are reshaping the nuclear energy landscape, making it more accessible, sustainable, and scalable for the future.



Source: Molten salt microreactor concept developed by Alpha Tech Research Corp. (ATRC)

This wooden block represents the volume of uranium fuel required to allow a marine liner to travel 454,000 nautical miles

**ENOUGH TO CIRCUMNAVIGATE
THE GLOBE MORE THAN
A DOZEN TIMES.**



ADVANCED REACTORS, SMALL MODULAR REACTORS, MICRO REACTORS

Rather than building large, centralized facilities, engineers have shifted their focus to designing smaller reactors that make nuclear energy more scalable and flexible than ever before. Examples of “Innovation in Action”:

The First U.S. Air Force Microreactor

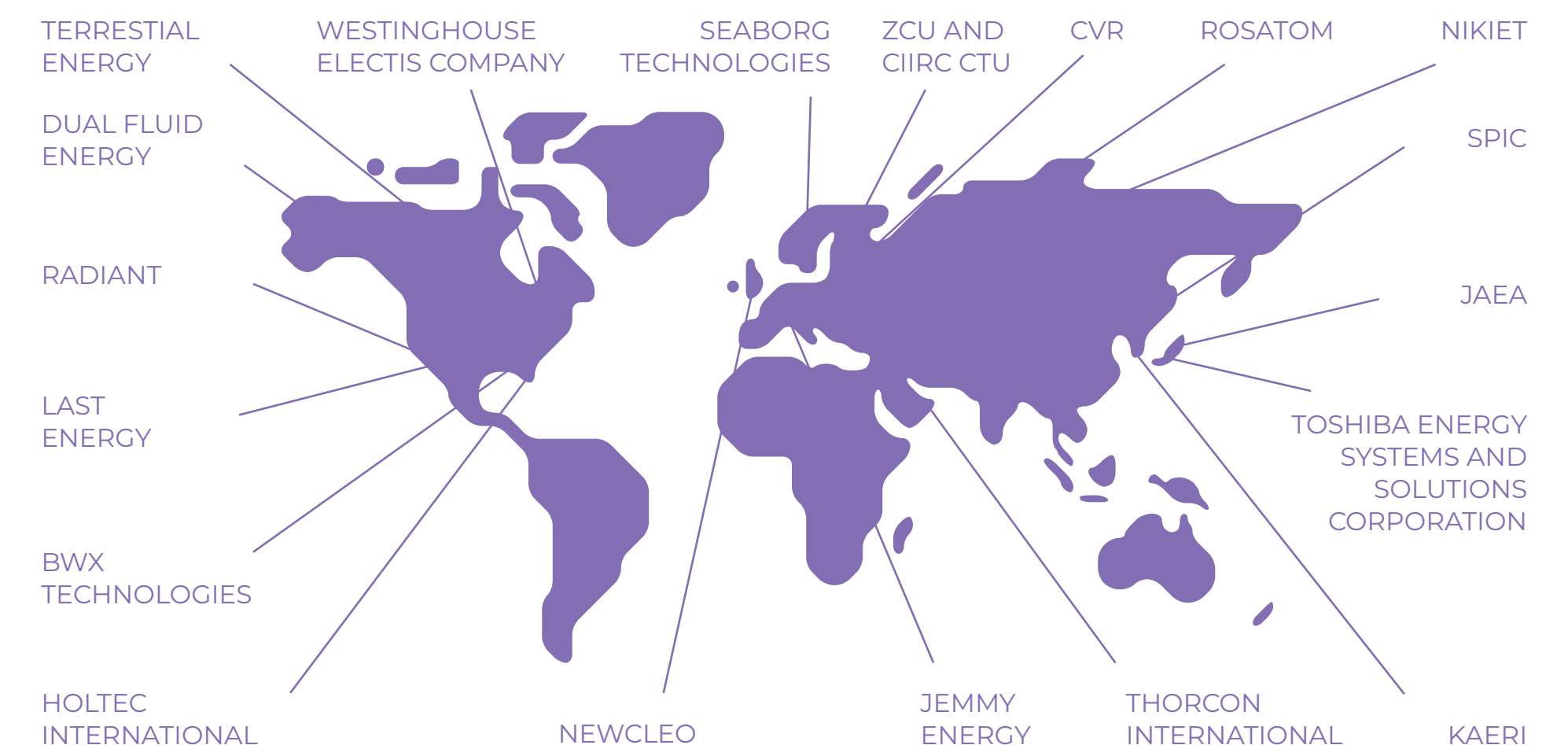
- This will be a fast reactor with a liquid-metal coolant, highlighting advancements in compact and efficient designs.
- Planned for deployment at Eielson Air Force Base in Alaska as part of the federal pilot program for nuclear microreactors.
- U.S. regulators are prepared to integrate next generation nuclear energy into critical infrastructure.

Europe's Commitment to SMRs

- Europe is demonstrating a “strong commitment” to Small Modular Reactors (SMRs).
- The next generation of nuclear power plants is poised to play a “significant role” in replacing fossil fuels.

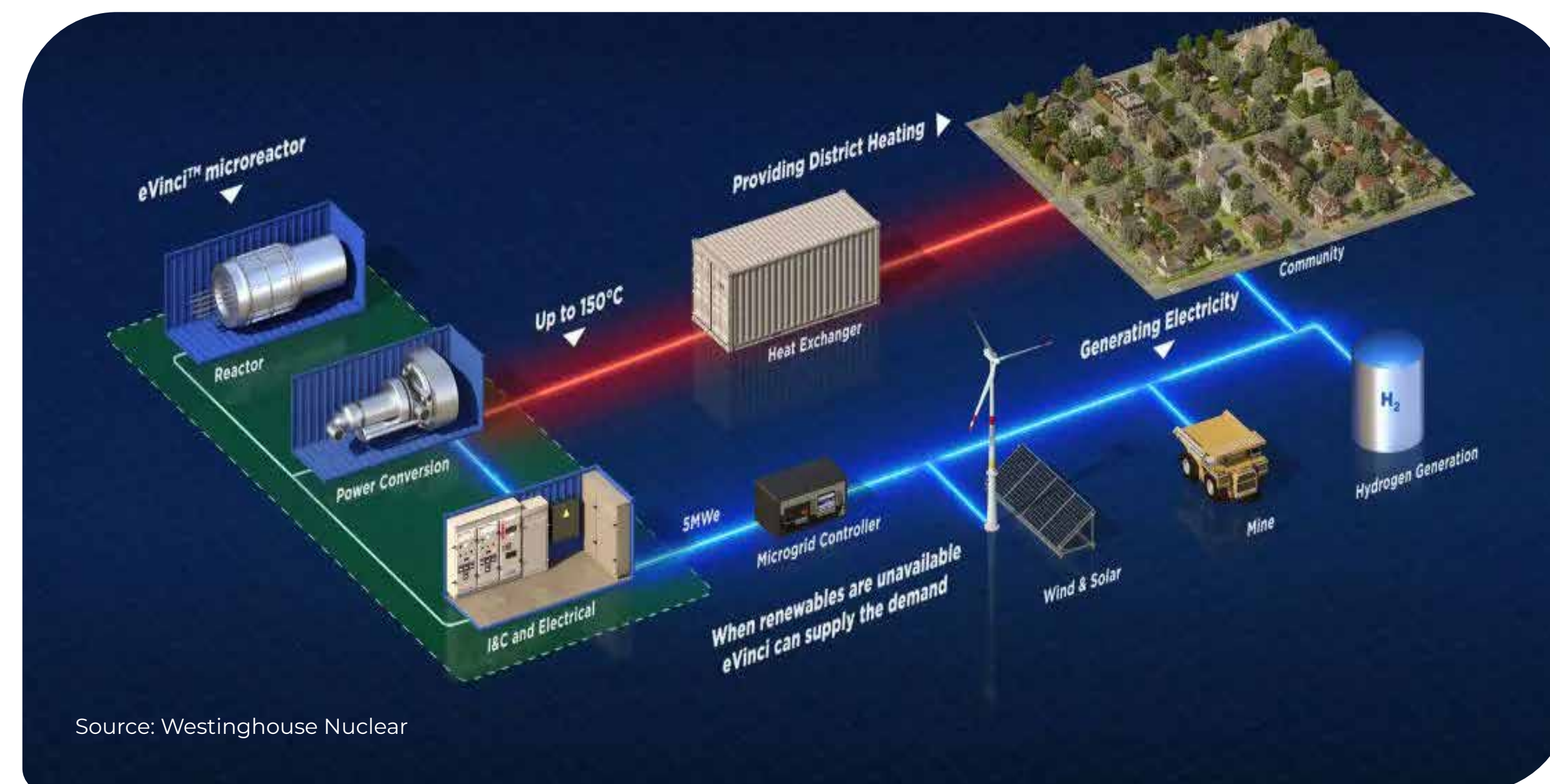
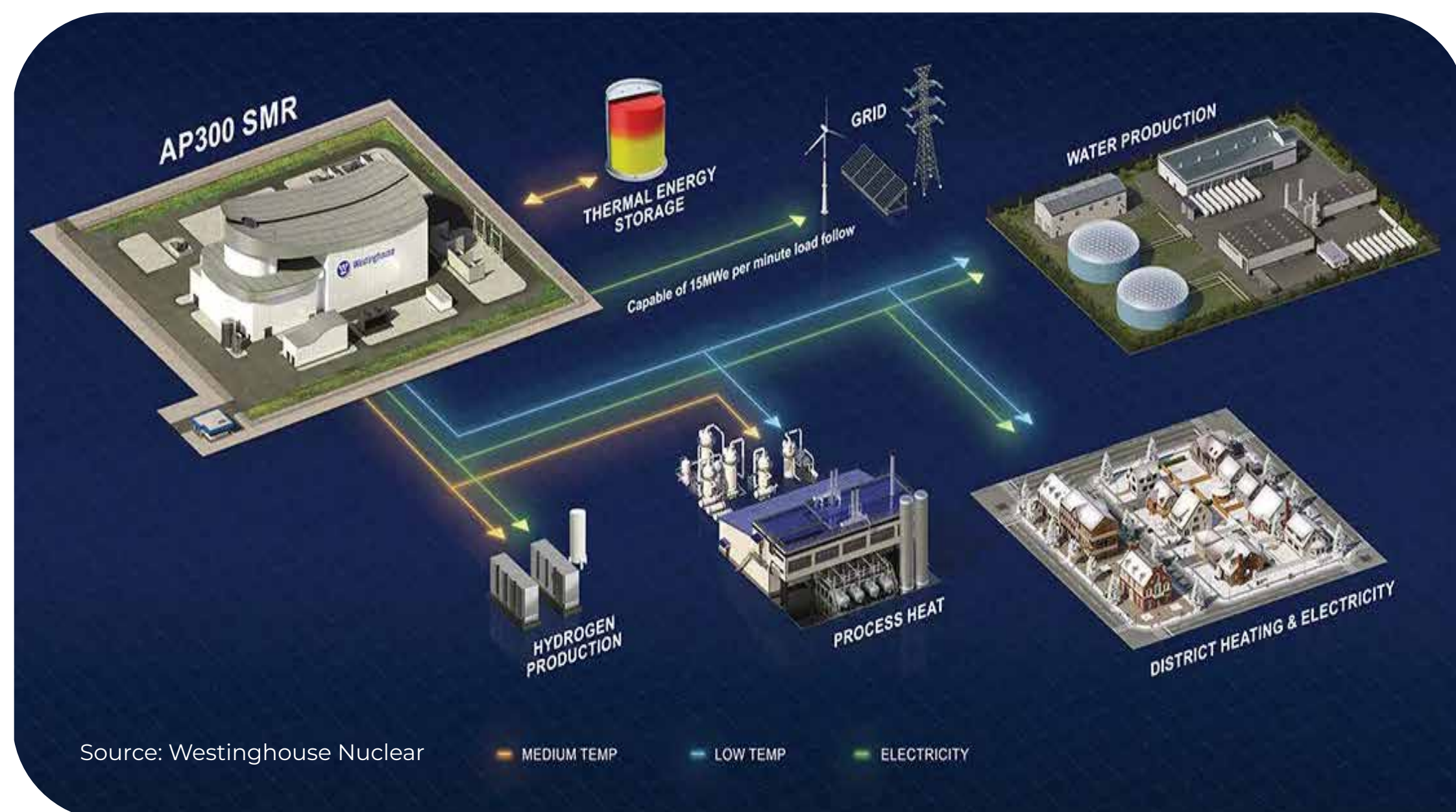
Commercial deployment is on the horizon, with **21 types of SMRs currently under development in 11 countries**.

These advanced reactors are expected to revolutionize energy systems, making nuclear power a critical solution for decarbonizing global energy and ensuring sustainable energy production.



ADVANCED REACTORS, SMALL MODULAR REACTORS, MICRO REACTORS

Another example: Westinghouse Nuclear is serious. The AP1000® plant can provide electricity to about 750,000 homes. The AP300™ SMR can provide electricity to about 195,000 homes. The eVinci™ microreactor can provide electricity to about 5,000 homes.



MICROREACTORS WILL BE SMALL ENOUGH TO BE TRANSPORTED BY TRUCKS.

They can help address energy issues in various areas, from remote commercial or residential sites to military bases.

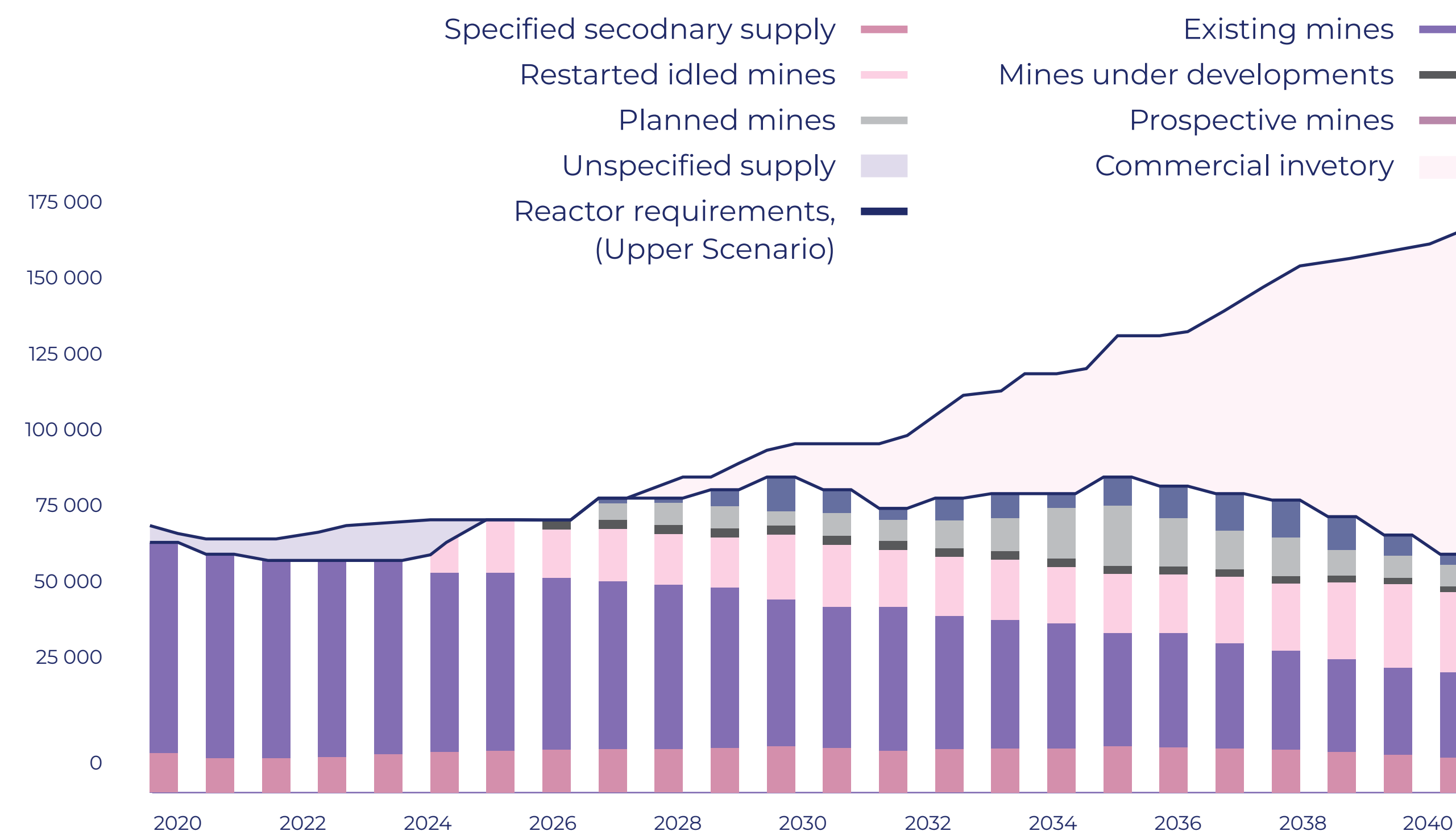


It is worth mentioning the overall structural deficit of uranium. It is coming regardless, but the situation is currently exacerbated by geopolitical instability and the restructuring of supply chains. Africa is unstable. Sanctions are imposed on Russian uranium. Kazakh uranium will mostly be redistributed between China and Russia.

AT THE SAME TIME, THE OVERALL DEMAND FOR URANIUM WILL ONLY CONTINUE TO GROW.

Upper scenario for uranium supply and demand, tU

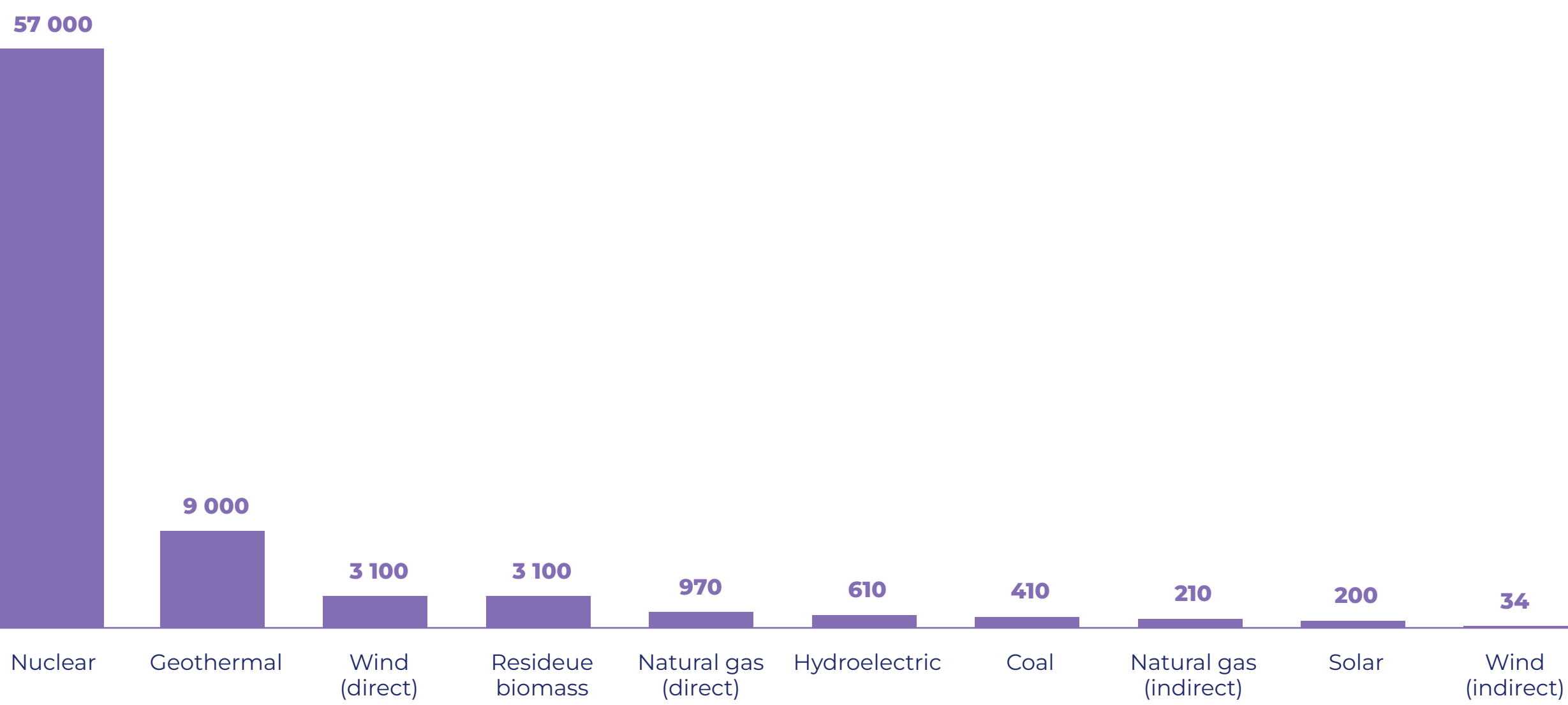
A BIT MORE
INFOGRAPHIC/INFORMATION



Source: World Nuclear Association

NUCLEAR ENERGY GENERATES 285 TIMES MORE ENERGY PER UNIT OF LAND AREA THAN SOLAR ENERGY.

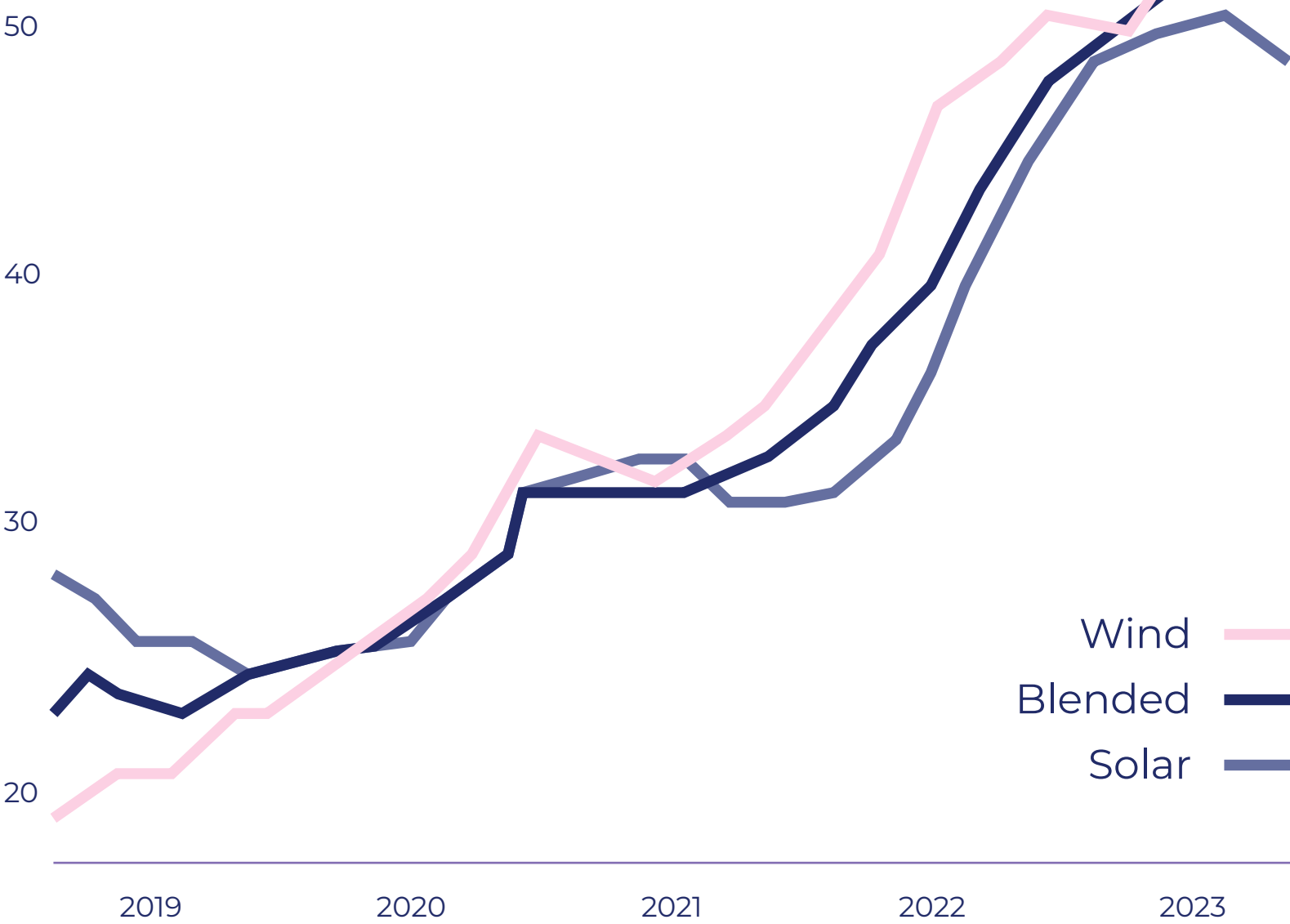
Land use efficiency of energy for different energy sources, MWh/year per acre, direct and indirect land use.



Source: National Climate Assessment. U.S.

It is widely assumed that the costs of renewable energy will continue to decline, but this is not the case. The price of wind and solar energy increased by 200% from 2019 to 2023 and rose by nearly 30% in 2022 alone.

This trend is expected to persist, further supporting the adoption of nuclear energy as the most reliable and sustainable energy source.

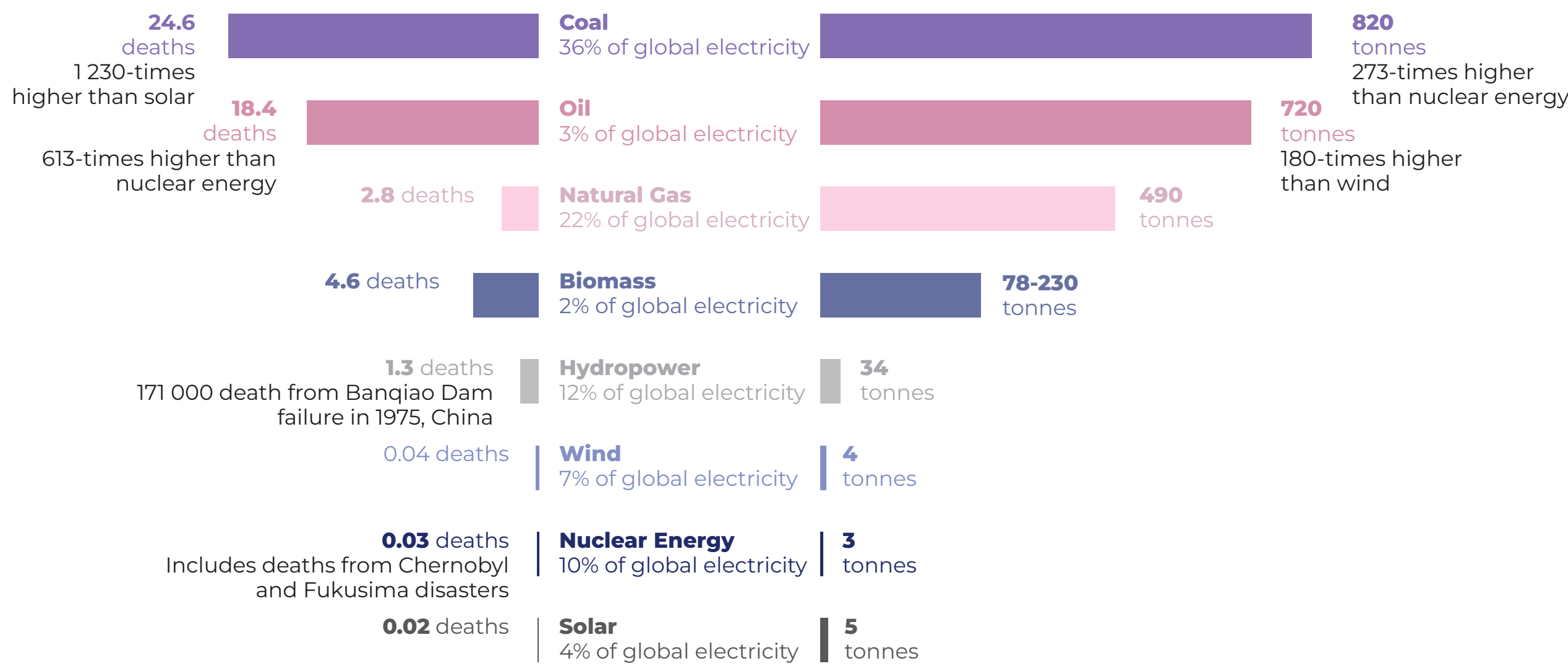


Source: LevelTen Energy

WHAT ARE THE SAFEST AND CLEANEST SOURCE OF ENERGY?

Death rate from accidents and air pollution
Measured as death per terawatt-hour of electricity production.
1 terawatt-hour is the annual electricity consumption of 1500 000 people in the EU.

Greenhouse gas emissions
Measured in emissions of CO₂-equivalents per gigawatt-hour of electricity over the lifecycle of the power plant. 1 gigawatt-hour is annual electricity consumption of 150 people in the EU.



Source: Markandya and Wilkinson (2007); UNSCEAR (2008, 2008); Sovacool et al. (2016); IPCC AR5 (2014); Pehl et al. (2017); Ember Energy (2021).

WHY NUCLEAR:
A CONCENTRATED FOOTPRINT

All the used nuclear fuel produced by the U.S. nuclear energy industry over the past 60 years could fit on a football field at a depth of **less than 10 yards.**



A CHART OF THE RATIO OF URANIUM TO GOLD.

If this chart is rising, it means uranium is growing faster than gold. The trend has already manifested; its development is just a matter of time.

A similar picture can be seen on the chart of uranium against the US dollar.



THIS SHOWS THE RATIO OF URANIUM FUTURES PRICES AGAINST THE S&P 500 INDEX.

After a long accumulation period, the time has come when uranium prices will significantly outpace the main American index.



CONCLUSION

The answer to many questions of the 21st century will lie in the concept of 'decentralization.' Many are familiar with this concept through the lens of financial decentralization. Cryptocurrencies in recent years have demonstrated the value and advantages of decentralization, and we will see this trend manifesting in other areas.

Next in line is decentralization in the energy sector. There is a likelihood that this will happen faster than we might initially think. Nuclear energy will become the foundation of this transformation. Right now, technical, fundamental, and psychological factors are converging at one point, initiating this process for the next 10 years.

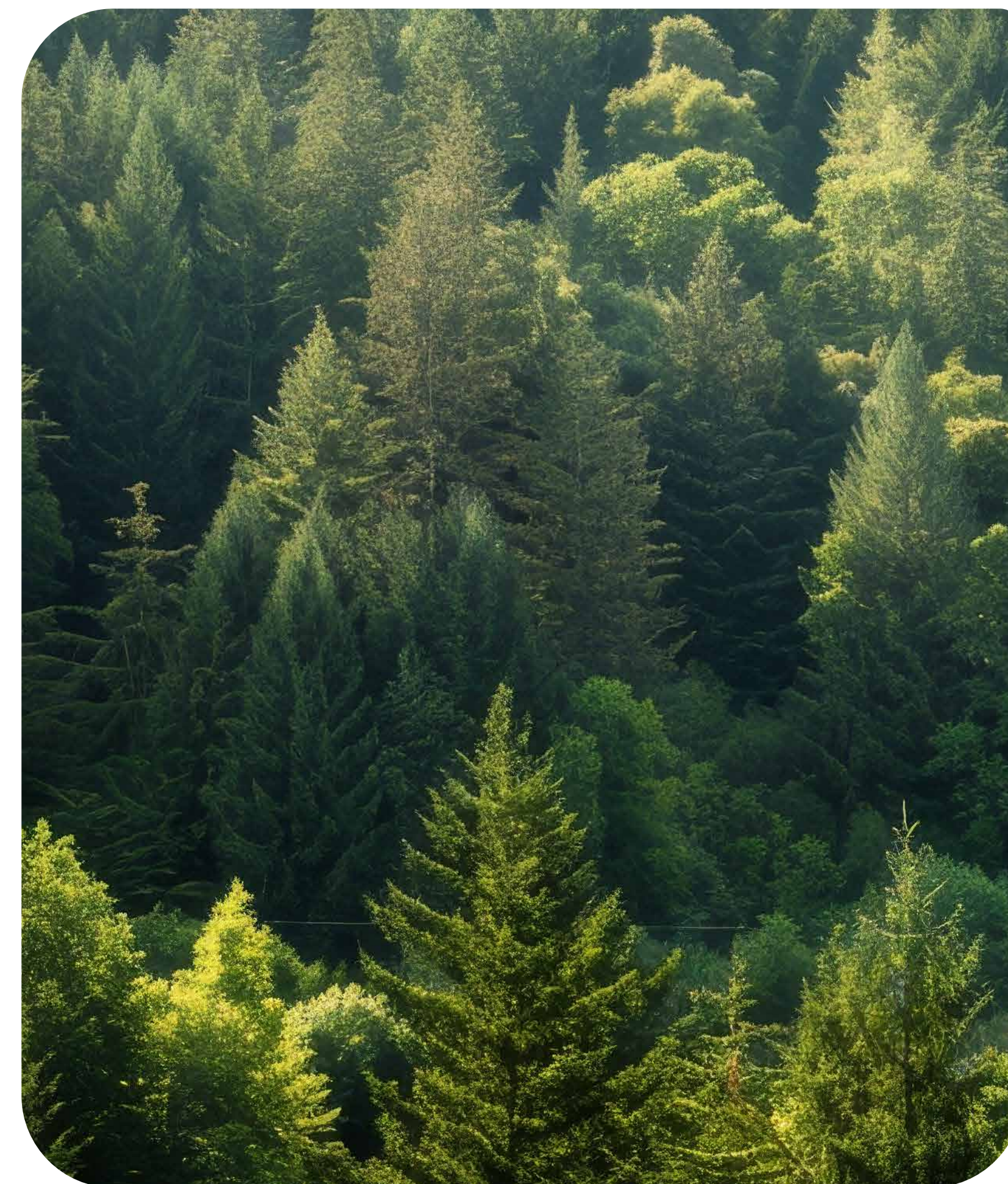


PRECIOUS AND INDUSTRIAL METALS

The global system of fiat currencies is expected to face very challenging times. The most effective way to navigate this transformation will be to use commodities markets and the metals markets as one of the primary tools. The sector is ready for a global fundamental revaluation. No additional arguments are needed here. The task boils down to proper portfolio management in terms of balancing metals and their producers. Different tools will have advantages at various stages of the revaluation cycle. At times, spot prices for the metals themselves will dominate, while at other times, young and relatively small producers may excel, and at other time large and established producers.

In this cycle, we will primarily focus on copper, silver, platinum, and gold, along with their producers worldwide, in different proportions at different times. Flexibility will be essential, and we must follow the market.

**NEXT, THERE WILL BE ONLY A VISUAL
DEMONSTRATION, PRESENTED CLEARLY
AND CONCISELY.**

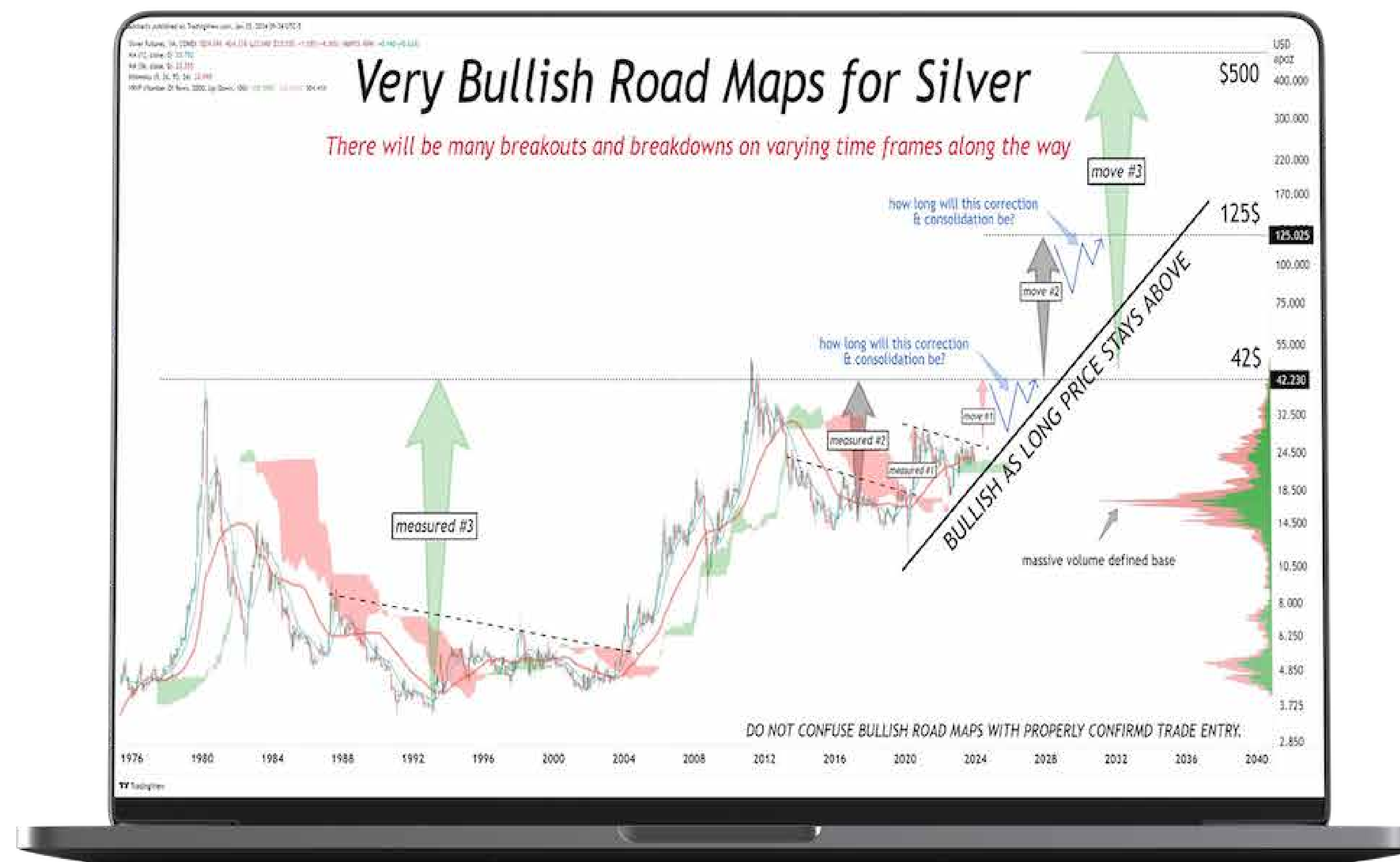


PRECIOUS AND INDUSTRIAL METALS

A FAIRLY SIMPLE DESCRIPTION OF THE LOCAL OUTLOOK FOR SILVER

This is just a model, but it provides a way to understand the technical state of the market with a certain degree of simplification.

In this case, such simplification is acceptable, as the charts of other metals and commodity markets as a whole do not contradict it.



PRECIOUS AND INDUSTRIAL METALS

SILVER: THE NEW BITCOIN

Drawing an analogy, the price chart of silver over the past 50 years resembles the structural pattern that Bitcoin (BTC) exhibited from 2014 to 2017.

During the realization of this structure, the BTC/USD pair experienced a remarkable 20x revaluation.



PRECIOUS AND INDUSTRIAL METALS

Silver-to-S&P 500: A Paradigm Shift in Asset Classes

This chart demonstrates a significant breakout for \$SILVER relative to the \$SPX (S&P 500 Index). We are witnessing the onset of a historic paradigm shift in asset class dynamics.



30 Years of Accumulation:

The silver-to-S&P ratio reflects three decades of consolidation and accumulation, laying the foundation for a major upward movement.



PRECIOUS AND INDUSTRIAL METALS

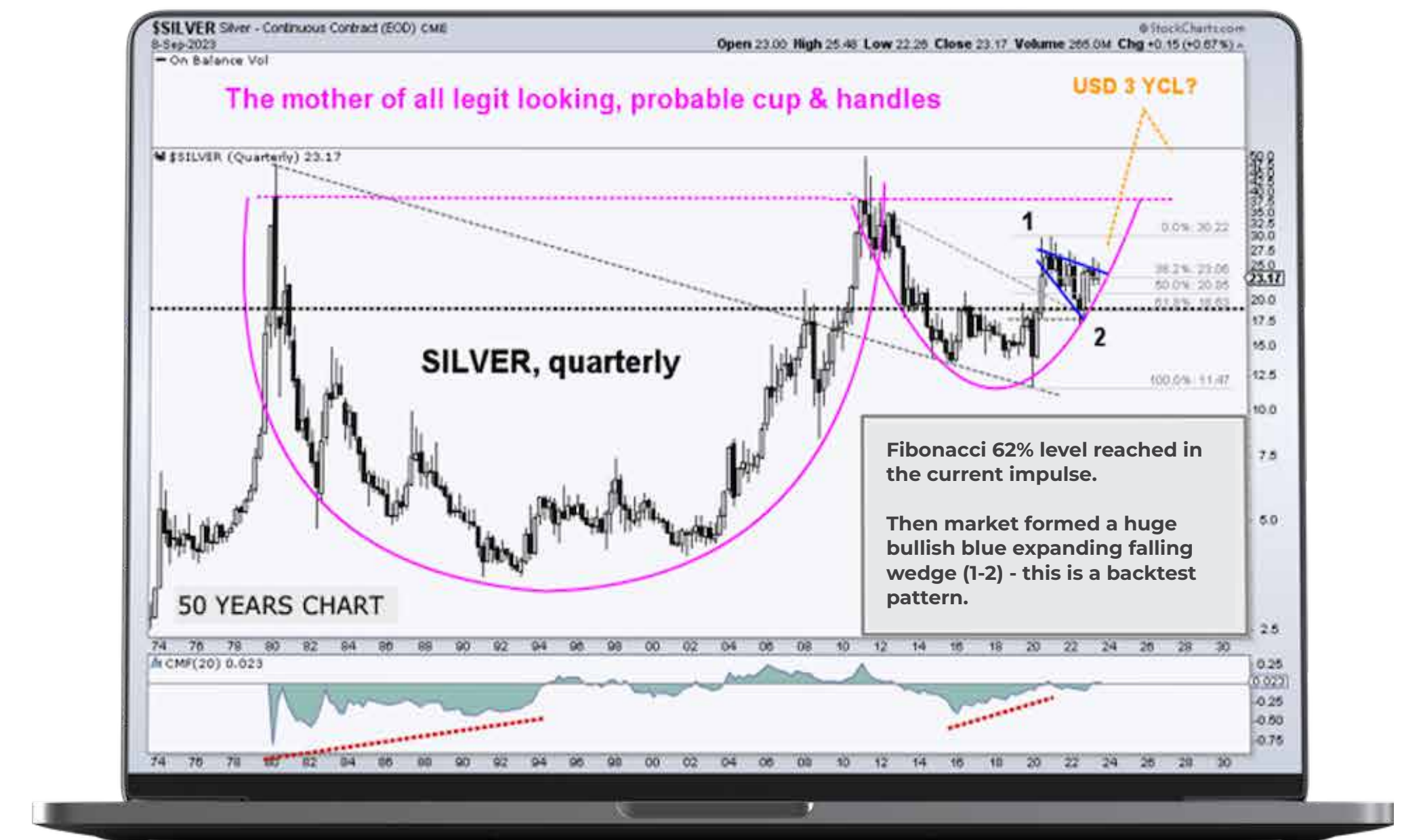
A generational opportunity is forming

The trend line of the blue 15-year megatriangle has received many hits, so it should soon give way. Note that a false breakout (FBO) has already occurred.



The bull market for commodities is in full swing

As has been mentioned repeatedly over the years, during downturns and consolidations, never lose sight of the bigger picture.



PRECIOUS AND INDUSTRIAL METALS

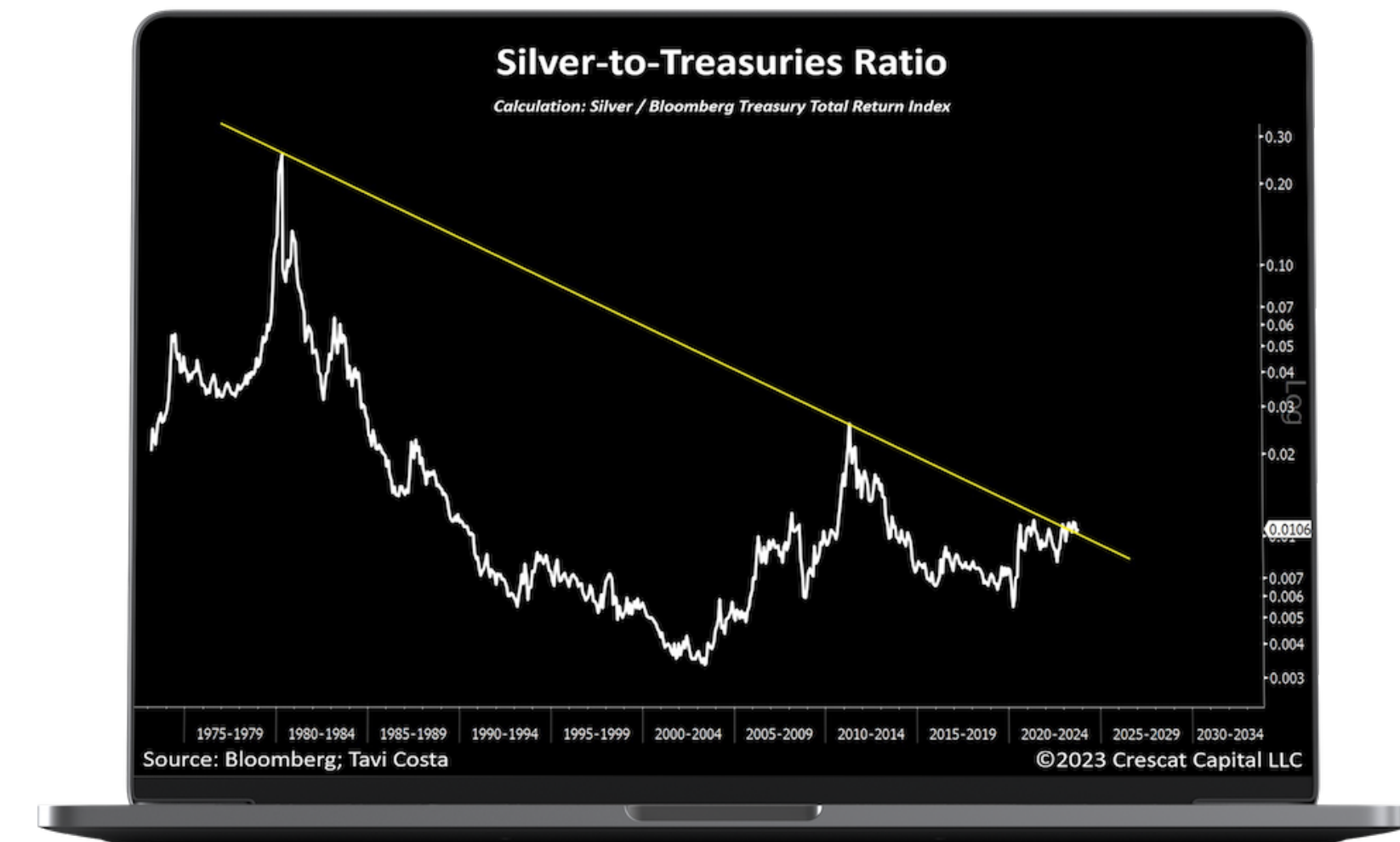
Silver

Back in 2008–2010, silver consolidated over a period of 30 months, after which it rose by 68% in 4 months and by 165% in 8 months, reaching nearly \$50. Currently, silver is consolidating in a similar pattern. My initial target for silver is \$41–43, which represents 75–85% of the current price level. This move could materialize within the next year.



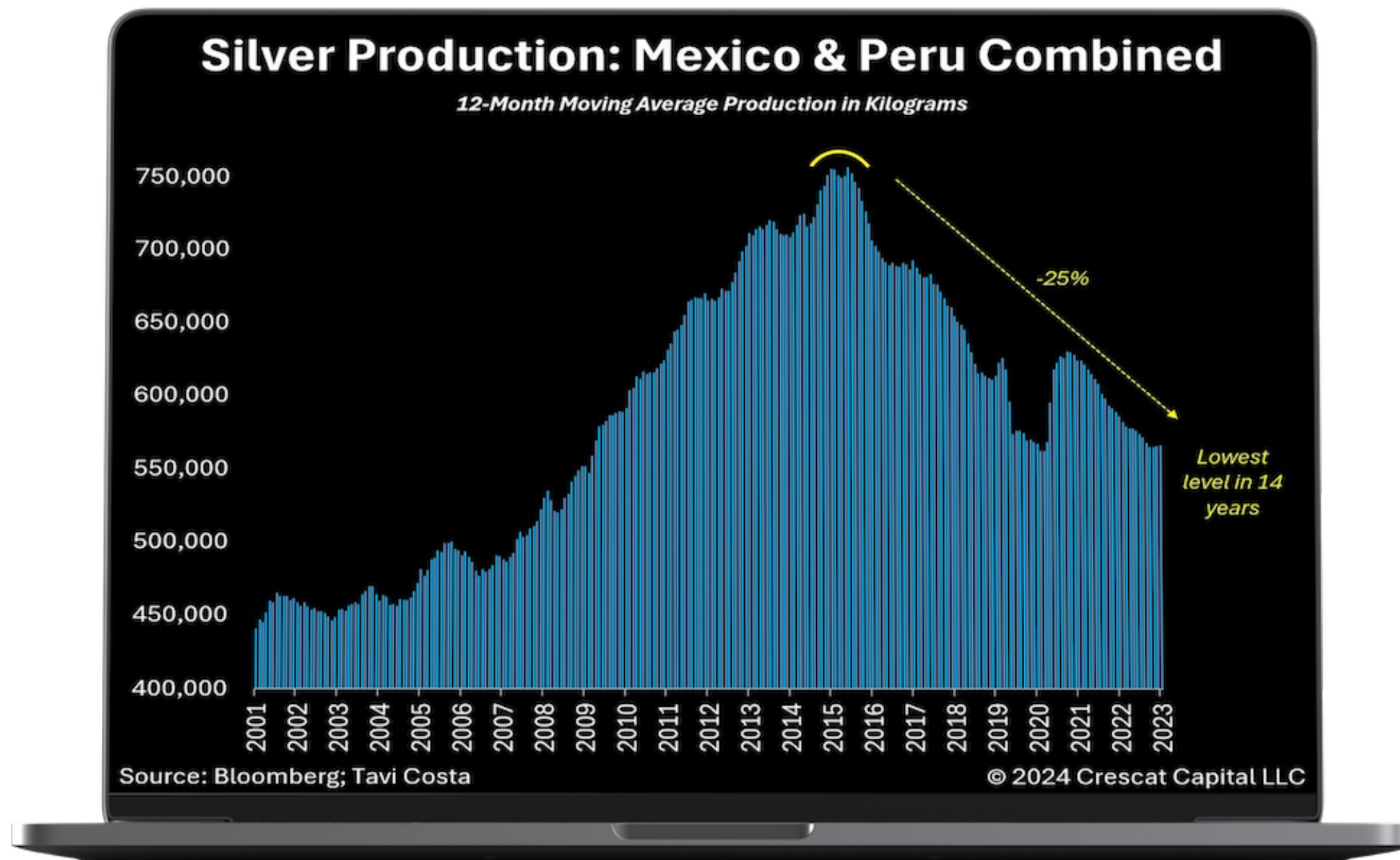
Silver to treasuries

The Silver-to-U.S. Treasury bond ratio has broken through multi-year resistance. Hard assets are now becoming increasingly attractive for investment strategies that, for the past 40 years, have had minimal exposure to commodities.

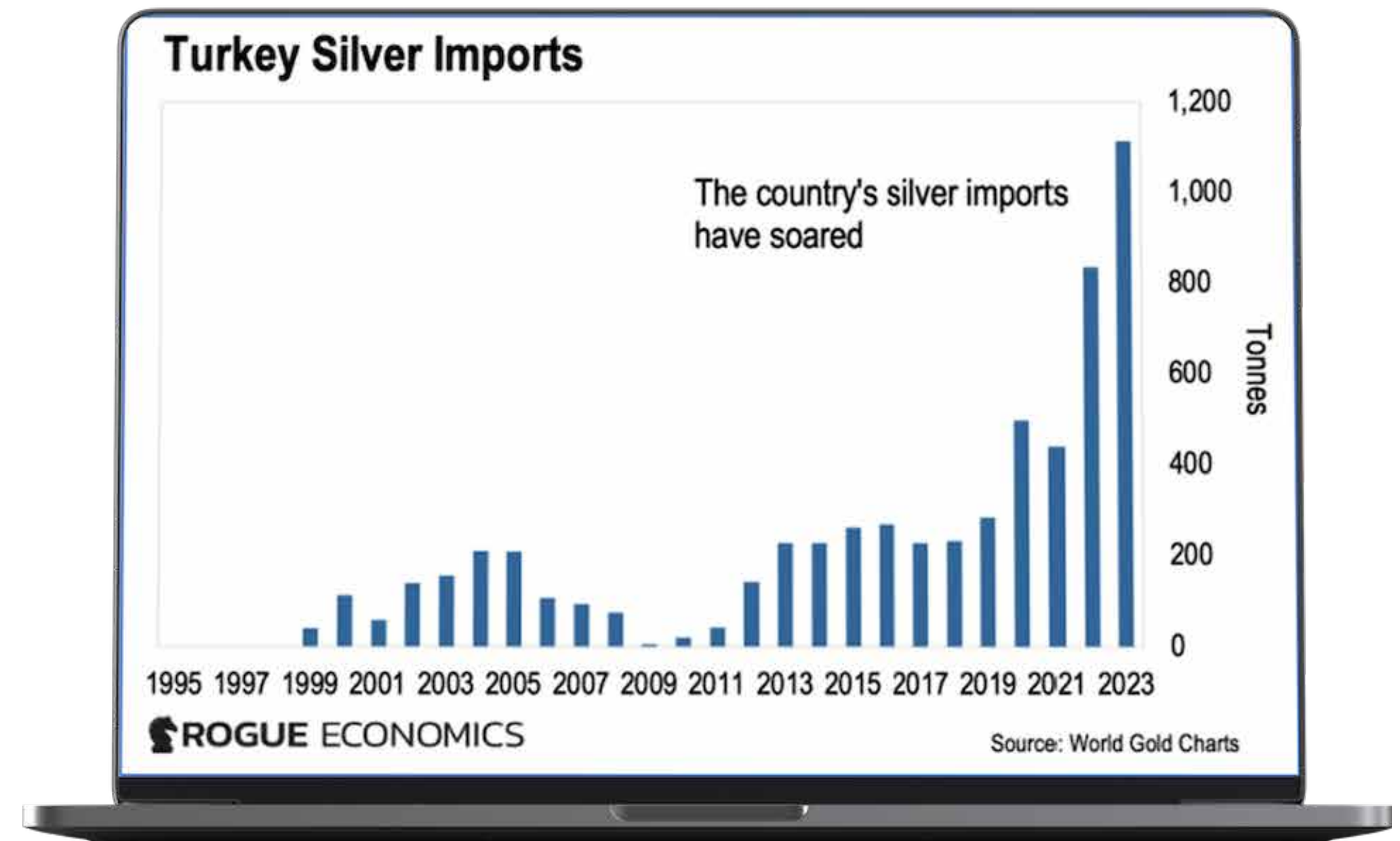


PRECIOUS AND INDUSTRIAL METALS

SILVER PRODUCTION: MEXICO AND PERU COMBINED



SILVER IMPORT: TURKEY



PRECIOUS AND INDUSTRIAL METALS

Lastly about silver, and we will gradually move on to gold.

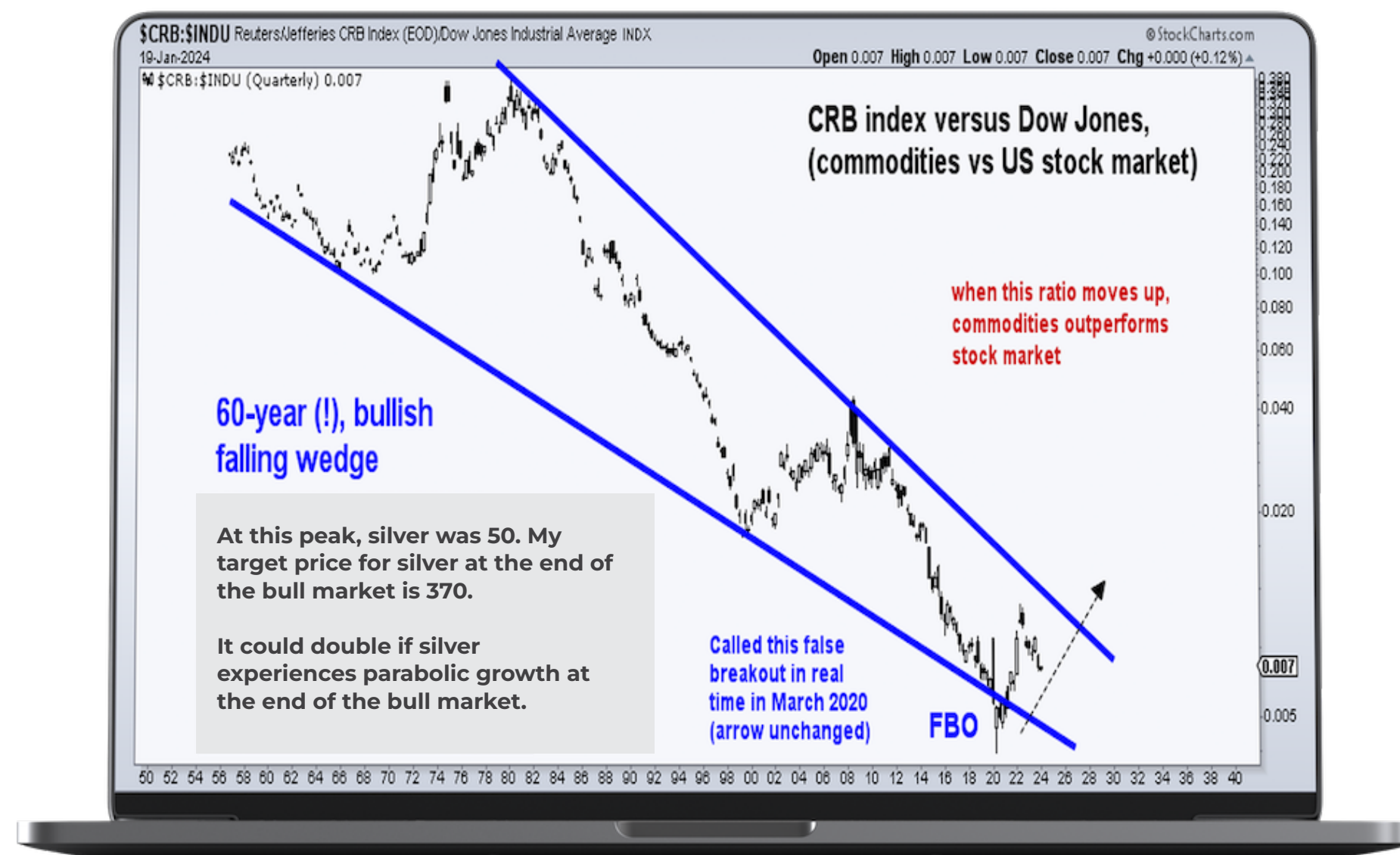
A very general picture: there is a huge difference between \$GOLD and \$SILVER. Right now, silver is weaker, just like at the beginning of previous cycles. There is a high likelihood that during the next revaluation, silver will replicate its successes.



PRECIOUS AND INDUSTRIAL METALS

This ratio demands adjustment - and it holds tremendous potential.

The ratio of the commodity market to the U.S. stock market. This is just the beginning. Corporate profits are starting to decline, and companies can no longer generate earnings at the same pace as before.



Observing the ratio of gold to tech sector stocks (NASDAQ), we see the same pattern once again!

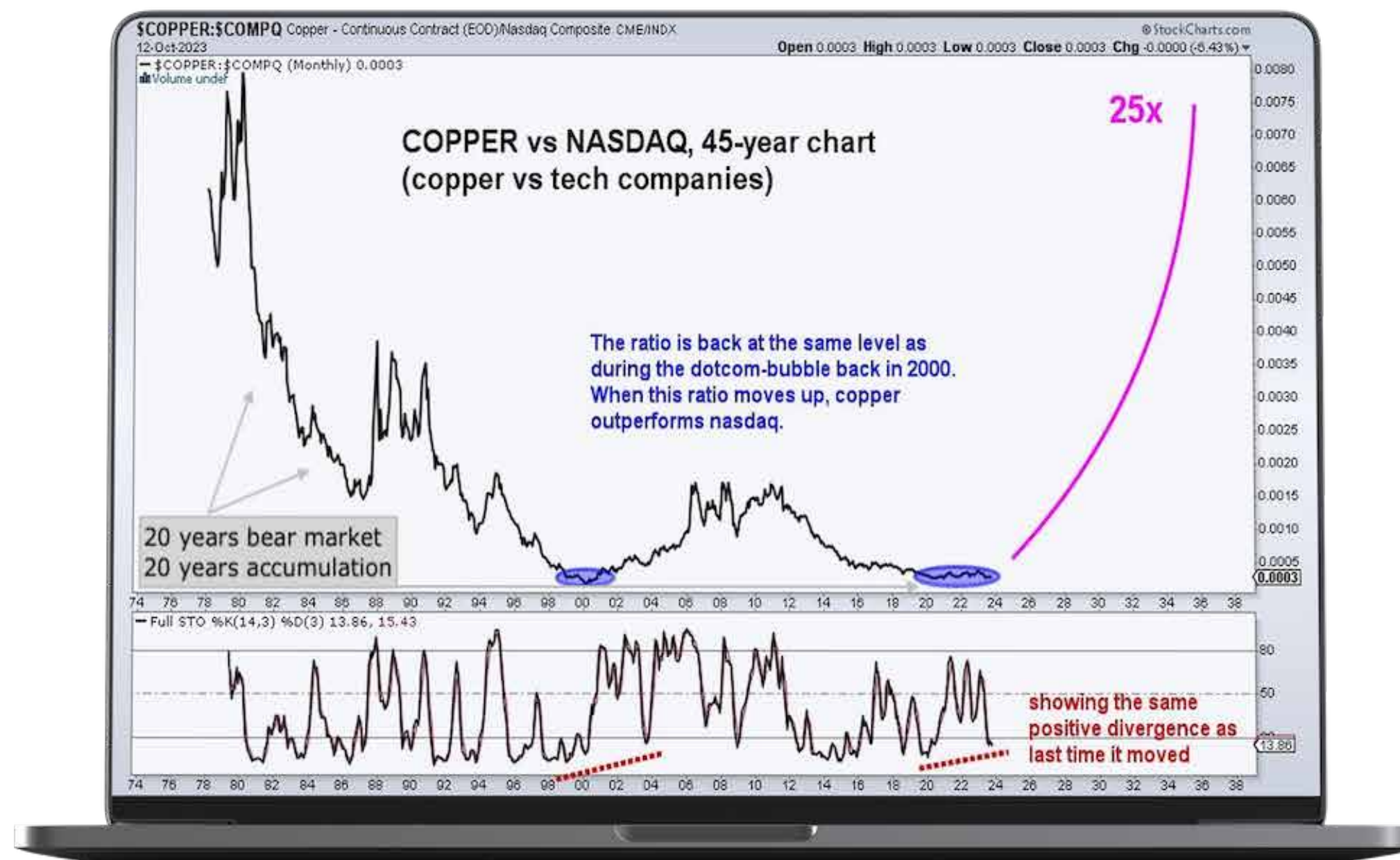
When viewed from a local perspective, the growth of the U.S. stock market in the last cycle was driven by the dominance of technology companies.



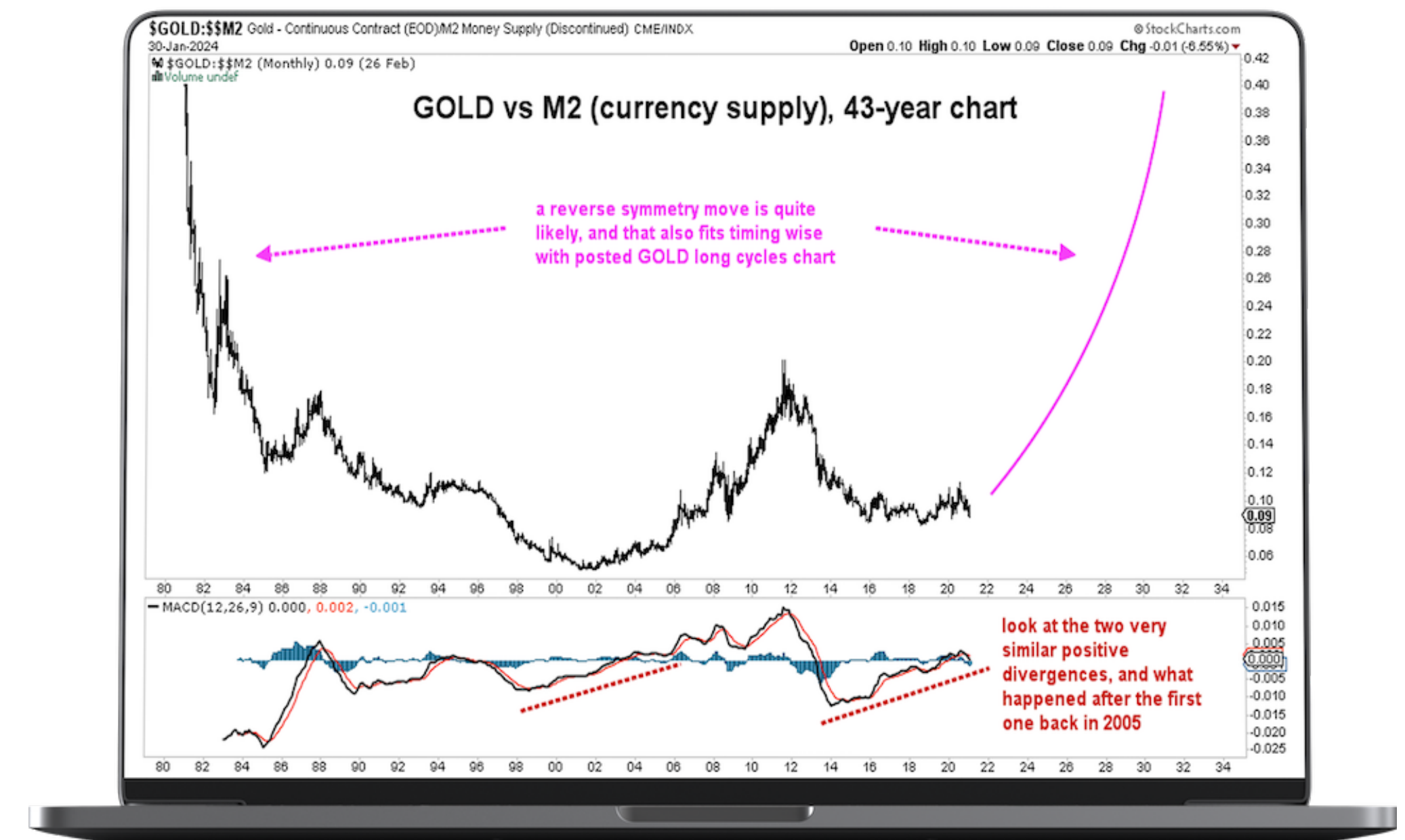
PRECIOUS AND INDUSTRIAL METALS

The groundwork for revaluation has been underway for 20 years.

Surprisingly, copper tells the same story.



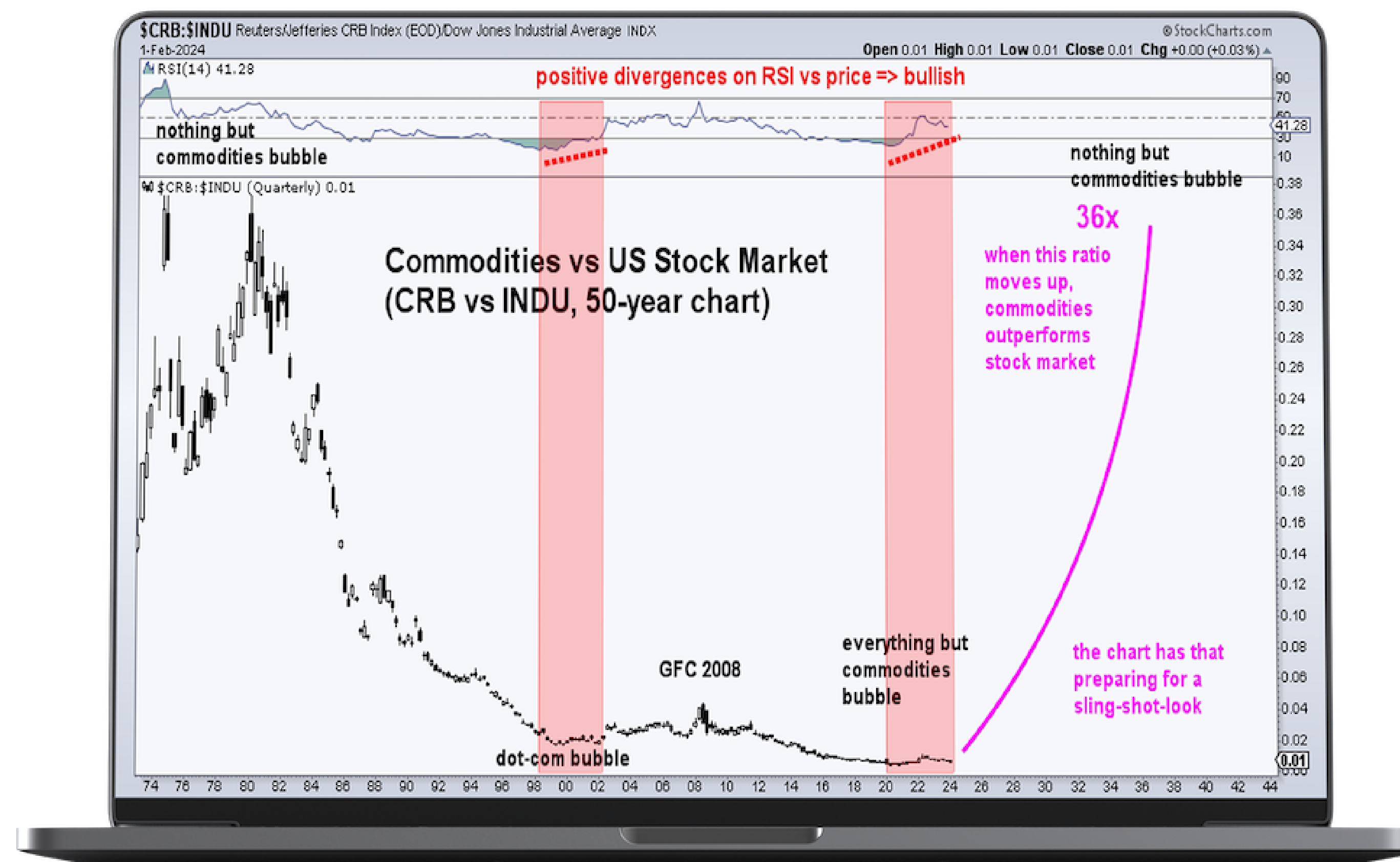
The gold-to-money supply ratio is poised to explode at any moment.



PRECIOUS AND INDUSTRIAL METALS

A global revaluation is inevitable and positioning in the right assets will be critical. The key is to align with the most promising assets.

This comparison could be extended endlessly, but let us focus on the ratio of commodity markets to the U.S. stock market.



Naturally, we must not overlook the cryptocurrency market.

There is plenty to discuss here as well. In the long term, we anticipate numerous opportunities to profit in this sector. We are closely monitoring all major narratives.

In 2025, cryptocurrency remains risky and uncertain, highlighting the importance of making strategic portfolio decisions and exploring emerging opportunities in the commodities markets.

FOR NOW, THE FOCUS SHOULD REMAIN ON THE COMMODITY MARKETS.

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The future is always about probabilities.

People want to know the future, but it's far more rational to learn how to act based on the current situation.

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