The world is taking the nuclear option

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Key Takeaways

- The US announcement to quadruple nuclear capacity by 2050 got markets excited last year.
- China's rapid expansion of nuclear capacity has created a blueprint for other countries.
- Many energy importers, including Japan, are building nuclear capacity to improve energy independence.

In November 2025, a few days before I'm due to head to Stockholm to meet investors, my Swedish colleague reaches out to share the news of his country lifting the ban on uranium mining that had been in effect since 2018. He also mentions Sweden's plans to build small modular reactors (SMRs). Nuclear energy is at the top of the agenda when we see investors. No wonder he is energised by the news. So am I.

While Sweden may not be the first country on people's radars when talking about nuclear energy, this decision is still very consequential for two key reasons. First, it symbolises how countries around the world are embracing nuclear energy after having shunned it for many years. Sweden has six operable reactors providing 30% of its electricity. It has, to date, shut down seven and currently has zero under construction. In June 2023, Sweden replaced its energy target of '100% renewable' electricity by 2040 with '100% fossil-free' electricity to pave the way for new nuclear plants[1].

Second, Sweden has 27% of Europe's known uranium within its bedrock, making the commercial impact of this decision meaningful for both Sweden and uranium mining[2]. Uranium, the fuel for nuclear energy, is expected to be in tight supply relative to demand, incentivising more mining activity as prices go up.

Sweden is clearly not alone. In the face of rapidly rising energy needs from industries like artificial intelligence, countries are increasingly turning towards nuclear as a core baseload form of energy that can provide uninterrupted, emissions-free power at scale. Moreover, the war in Iran has further reinforced the need for countries to reduce their dependence on fossil fuels, not only for environmental reasons but also to reduce their exposure to geopolitical shocks and improve energy security. Nuclear energy, while not free of geopolitical risks like any industry with global supply chains, still offers a viable alternative. Its case, alongside other alternatives like renewable energy, has been further reinforced.

How WisdomTree Uranium and Nuclear Energy UCITS ETF (NCLR) aims to capture the opportunity

The WisdomTree Uranium and Nuclear Energy UCITS ETF aims to provide investors with access to the growth of uranium and nuclear energy.

Value chain approach:

The exchange-traded fund (ETF) targets the most value-accretive segments of the uranium and nuclear value chain, including those that may benefit from growth as nuclear energy adoption accelerates. This value chain consists of:

- Upstream activities (60% weight): Uranium mining and the production of other raw materials for nuclear reactors.
- Midstream activities (25% weight): Companies involved in uranium conversion, enrichment, fuel fabrication, and storage, as well as those supplying critical infrastructure, equipment, and services to the nuclear industry.
- Innovators (15% weight): Developing advanced technologies such as small modular reactors and conducting research and development in fusion technology.

By investing across the nuclear value chain, investors gain exposure to established sectors like uranium mining and midstream companies that play a critical role in making uranium ready for reactors. The strategy also includes innovators driving next-generation nuclear technologies, such as small modular reactors and fusion research, both poised for significant growth.

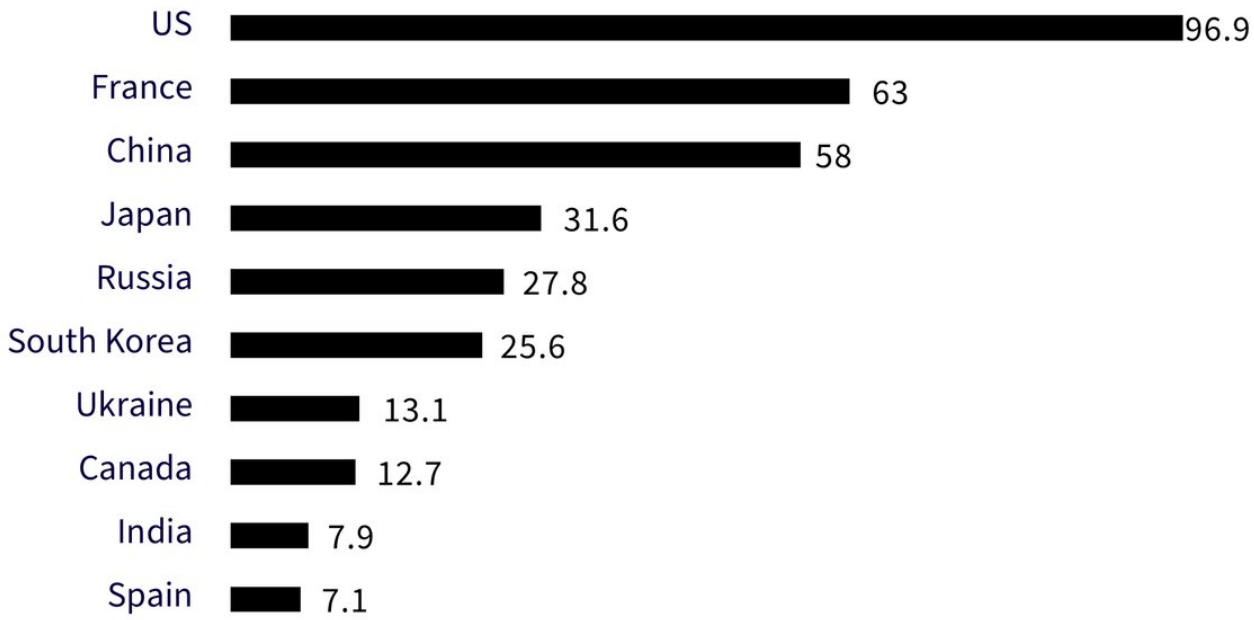
Focus on purity:

Stock selection and weighting are based on revenue exposure to the uranium and nuclear energy value chain. Upstream companies must derive at least 50% of their revenue from the theme, while midstream companies require a minimum of 10%. This threshold accounts for their strategic role in the value chain while acknowledging their diversified business models. Weightings are adjusted in favour of companies with higher revenue exposure, subject to caps and liquidity requirements.

What got everyone excited last year

While markets have been paying attention to the nuclear theme since 2024, when hyperscalers started announcing large nuclear energy deals to power their data centres, the big catalyst for the theme came in May 2025 when President Trump announced a series of executive orders aimed at quadrupling US nuclear capacity by 2050. Quadrupling the capacity of the world's largest producer in just 25 years is something markets found difficult to ignore. The executive orders further outlined that this will be achieved by building new large reactors, reopening or extending the lives of existing reactors, facilitating a more conducive regulatory environment, and investing in new technologies like SMRs.

Figure 1: Total operable reactor net capacity (MWe)



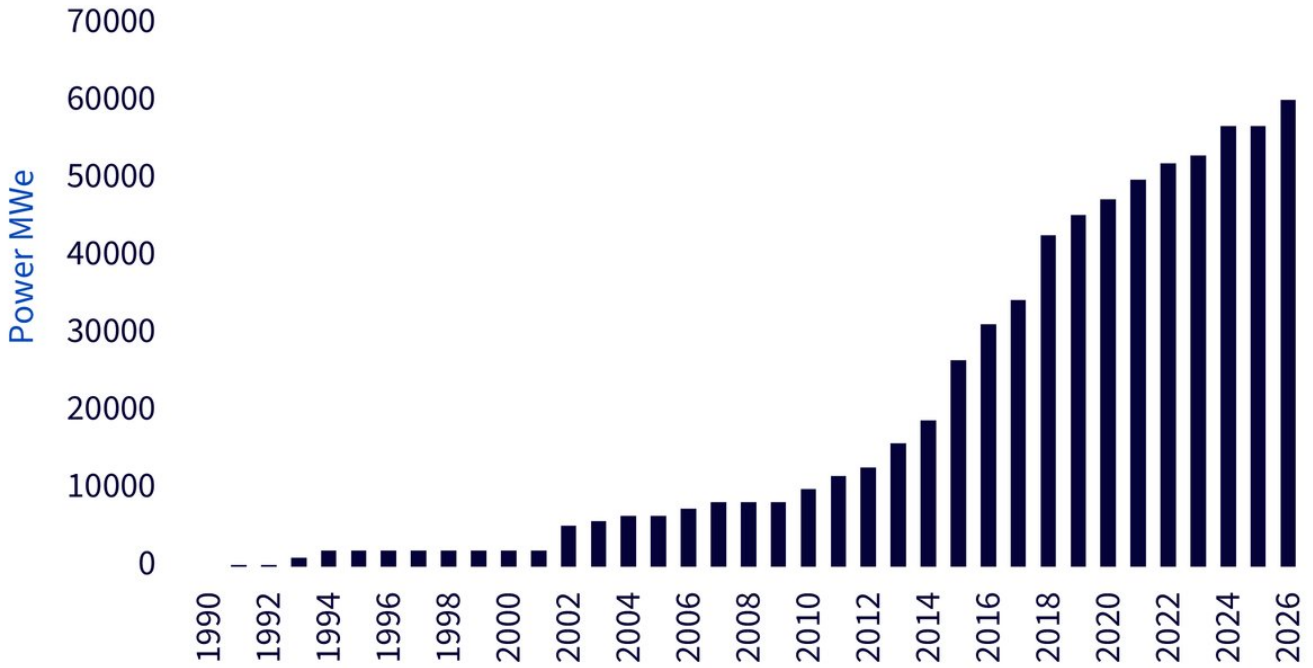
Source: World Nuclear Association, March 2026. MWe stands for megawatt electric.

The US is already making progress in returning to nuclear power. In April 2023, a new reactor, Vogtle 3, was connected to the grid, followed by Unit 4 in March 2024. Microsoft's deal with Constellation Energy to reopen Three Mile Island, the site of the 1979 accident which eventually shut down operations in 2019, is considered a symbol of the rebirth of nuclear energy. With hyperscalers investing heavily in artificial intelligence (AI) data centres in the US, nuclear energy is increasingly linked to the accompanying theme poised to grow.

The China effect

Technology companies have clearly played an important role by identifying nuclear energy as a solution for their power-hungry data centres. But the political will to take the nuclear option also seems to have been influenced by the realisation that China is doing something which the US seems to be ignoring.

Figure 2: China's operable nuclear capacity has increased 5x in 15 years



Source: World Nuclear Association, March 2026. MWe stands for megawatt electric.

Over the last 15 years, while the rest of the world has been switching its reactors off, China has been busy building new reactors, aggressively (see Figure 2). The country now operates 61 reactors, has 38 under construction (out of a total of 78 under construction globally), and has, to date, not shut down even one reactor[3].

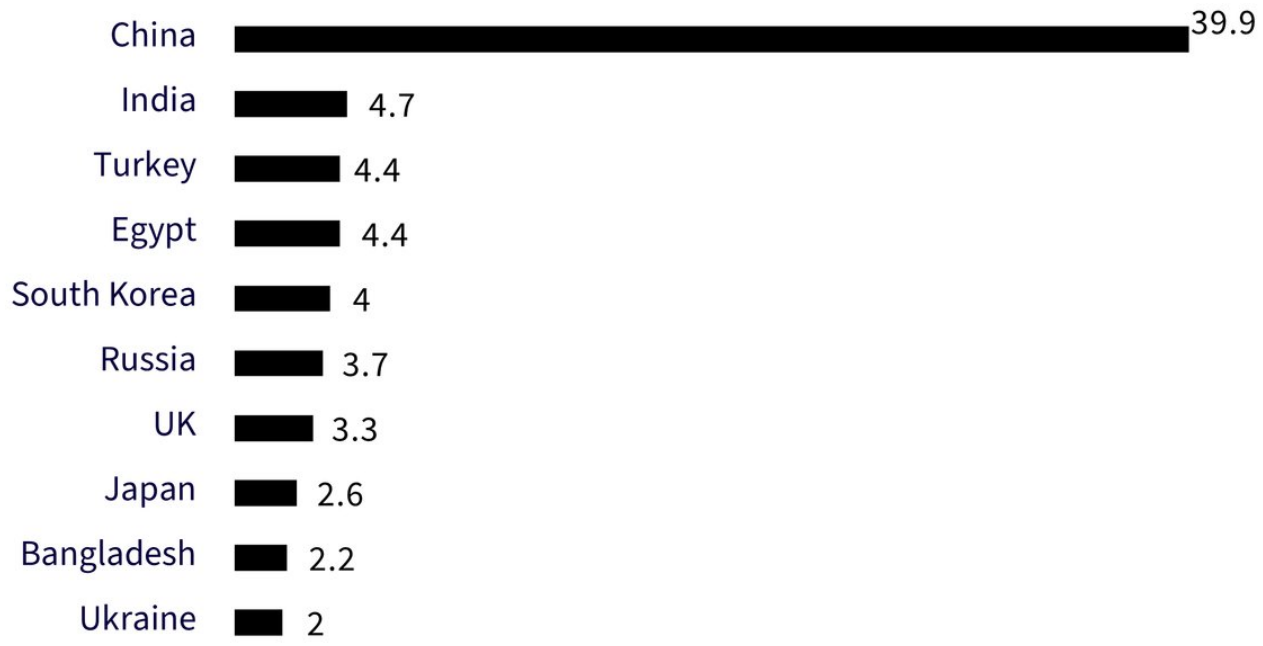
China has taken a manufacturing approach to nuclear energy. While other countries have often treated each project individually, resulting in delays and cost overruns, China has standardised designs, built domestic supply chains and built at scale. This production line approach, not just to the power plants but to the entire value chain, from the supply of fuel to components, is what has enabled such unprecedented acceleration in China's nuclear industry.

It has created a blueprint for other countries to follow. For the US, it has created a 'they're doing it and we aren't' moment.

It's not just about the US and China

The US and China clearly matter, however there are other players worth mentioning as well. If we look at the top 10 countries with the biggest pipelines for adding nuclear capacity, we see several Asian countries dependent on the import of oil and gas for power. Nuclear seems like the way forward to improve energy security and protect the environment.

Figure 3: Reactor capacity under construction (MWe)



Source: World Nuclear Association, March 2026. MWe stands for megawatt electric.

Among the top 10 is Japan. Japan seeing nuclear energy favourably again is significant because the 2011 Fukushima accident not only caused Japan to turn away from nuclear, it caused the rest of the world to do so as well. Up until 2011, Japan was generating 30% of its electricity from nuclear. The plan, back then, was for this to reach 40% by 2017. But with reactors being shut down, this target was abandoned. This is now changing again. The new target is at least 20% of electricity from nuclear by 2030. Japan has restarted 15 reactors, and a further 10 are in the process of getting approvals to resume operations. Two new reactors are under construction as well[4].

This has clearly encouraged the world to pay attention. If Japan can return to nuclear energy, others can too.

Why this matters

Investors rightly ask, after a year like 2025 when stocks across the nuclear energy value chain did phenomenally well, whether the growth is already priced in. Have they missed the opportunity? At WisdomTree, we believe the roadmap for the world to triple its capacity (as already agreed by 38 countries[5]), or for the US to quadruple its capacity by 2050, simply cannot be priced in. The current pipeline, as shown in Figure 3, doesn't get us anywhere near tripling global capacity. This means the pipeline will expand. It also means that a lot remains uncertain in terms of which companies will be involved in which projects.

What we do know, however, is that capacity expansion at such scale will create opportunities across the value chain, from upstream uranium producers, to midstream providers of products and services to the nuclear industry, to innovators developing advanced technologies like SMRs.

Investors may consider exposure across the value chain and be on the lookout for attractive entry points, such as the one presented by recent market volatility. The case for nuclear continues to strengthen, supported by ongoing capacity buildout and growing policy backing. As countries increasingly incorporate nuclear into their energy mix, investors may wish to consider how this theme fits within their portfolios.

Nuclear energy investments are subject to risks including commodity price volatility, regulatory and policy changes, project execution risk and shifting public sentiment. As with all thematic investments, outcomes depend on a range of economic and geopolitical factors.

[1] World Nuclear Association, March 2026.
[2] World Nuclear News, November 2025.
[3] World Nuclear Association, March 2026.
[4] World Nuclear Association, March 2026.
[5] Global declaration to triple nuclear capacity, United Nations, March 2026.

Important Risks Related to this Article

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