CIO Vantage Point

The Nuclear Renaissance

Global Nuclear Resurgence

Countries worldwide are scaling up nuclear to secure energy and cut emissions. Amid this surge, the US is reasserting leadership – investing in advanced reactors, strengthening supply chains, and reducing reliance on rivals.

Nuclear: Near Perfect and Indispensable

Nuclear is one of the safest, most reliable, and cleanest energy sources. Modern designs, especially small modular reactors, counter old misconceptions and offer scalable, low-emission power for the energy transition.

AI, Quantum & the Paradox of Power Demand

Efficiency from AI and quantum computing may amplify, rather than reduce, power demand. Nuclear is well-positioned to meet the exponential energy needs of these emerging technologies.

Investing Across the Nuclear Value Chain

Opportunities span uranium, miners, utilities, and manufacturers. The greatest potential lies in early-stage private firms innovating Generation IV reactors and small modular reactors, which could unlock a tipping point in global nuclear adoption.

DBS

FOREWORD

For all the technological, legislative, and social advancements that we've made, the world remains a highly inefficient place.

Facts and evidence are ignored in favour of biases, emotions, and inertia, often to negative outcomes. History is full of such examples. In the 19th Century, physician Ignaz Semmelweis presented evidence for the benefits of healthcare workers disinfecting their hands and was roundly rejected by the medical community.

Today, we have nuclear energy. For all the benefits it can bring, nuclear power is still approached with fear and suspicion. After all, when they split the atom, they first built bombs before building the nuclear power plant. The bad press that followed in the decades didn't help: Chernobyl, then Fukushima 25 years later.

But if we look at the facts and numbers, the picture changes somewhat. The damage caused by Chernobyl was more an indictment of the failures of the Soviet system; while Fukushima only resulted in one radiation-related death, four years after the incident. In fact, nuclear energy is one of the safest among energy sources – 0.03 fatalities per terawatt hour (TWh) of electricity produced. For context, coal and oil stands at 24.6 and 18.4 respectively. Other positives for nuclear energy include its low-cost, high-energy return on investment, and climate-friendliness.

That said, there is no contest that nuclear energy comes with significant downsides. Fears of weapon proliferation, accidents, and the risks of radioactive waste disposal are all well-founded.

However, the argument for nuclear energy is not simply about who is right – but what direction the world is pushing lawmakers and corporations towards. These include a growing need to diversify from fossil fuels as geopolitical strife stifles supply chains, and as climate concerns loom.

No one is banning steel just because it can be used to make guns. Regardless of public opinion, the world moves forward; and I hope that this report gives valuable insight on how nuclear energy might enable this.

Hou Wey Fook, CFA
Chief Investment Officer

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THE APPROACHING NUCLEAR RENAISSANCE

Prometheus' atomic flame. If there was ever one human technology that blurs the lines between science-fiction and reality, it is the manipulation of nuclear power – the liberation of stored energy between protons and neutrons by the splitting of atoms to produce sustainable energy for all mankind – the closest that humanity has to a clean-energy abundant utopia. Yet despite its obvious merits, adoption continues to grow at a glacial pace, owing mainly to challenges arising from (i) negative public perception concerning the risks of nuclear accidents and waste disposal or the (ii) perceived dangers of accelerating the "doomsday clock" through the enablement of nuclear weapons proliferation around the globe. As such, pessimism continues to crowd out its virtues. Would this alternative solution to a fossil-fuel free, abundant-energy future be relegated to the footnotes in the annals of human invention?

We think not. On the contrary, we believe that nuclear energy is at the cusp of a new renaissance, due to the interaction of several crosscurrents that are converging around the same point of time, producing a perfect storm of opportunity to those attentive enough to heed the winds of change. These currents include:

"Nuclear power is not a perfect solution, but it is a necessary one."

- John McCain

A. **Rising importance of energy security**. Shifting geopolitical alliances arising from hot wars in Europe and the Middle East make it increasingly untenable to be overly reliant on fossil fuels as the primary source of domestic energy needs, especially when production is controlled by energy cartels or at narrow routes of trade that can be disrupted by military blockades. The nuclear energy supply chain, while far from perfect, still represents a viable avenue for energy diversification.

B. **Climate change**. There is a growing consensus regarding the unsustainable rate of greenhouse gas production, raising the urgency for governments to coordinate action to decarbonise through energy transitions away from fossil fuels – likely with monetary incentives or disincentives. Carbon taxation would eventually hit the bottom lines of companies, shifting energy demand towards more sustainable forms of power generation i.e. nuclear power.

C. **AI and the growing demand for processing power**. The digitalisation of services and the rise of artificial intelligence (AI) will accelerate demand for energy at an exponential scale. With commodity trade increasingly encumbered by protectionism, one way to mitigate the inflationary consequence of such demand would be to introduce feasible substitutes; nuclear power being a clear option.

D. **Technological breakthrough with SMRs**. The emergence of small modular reactors (SMR) has given access to nuclear energy at lower startup costs and can be developed on locations previously deemed unsuitable for larger nuclear power plants.

Irradiating the nuclear thematic. With such a confluence of tailwinds behind the rise of nuclear energy, this piece aims to separate fact from myth, elaborate on the macro drivers of the theme, and propose investment expressions that forward-looking investors can capitalise on at the dawn of the nuclear renaissance.

URANIUM

The heavenly atom. At the beating core of the nuclear power revolution lies a single, tiny (but heavy) atom – uranium. Scientists have proposed that Earth's uranium was produced in one or more supernovae (the catastrophic implosion of a star) or the merger of two neutron stars, each possessing the intense gravitational forces necessary to produce large amounts of heavy elements, including much-adored precious metals like gold and platinum. Its name is a derivative of Uranus – the Greek god of the sky – perhaps a tip of the hat to its extraterrestrial origins.

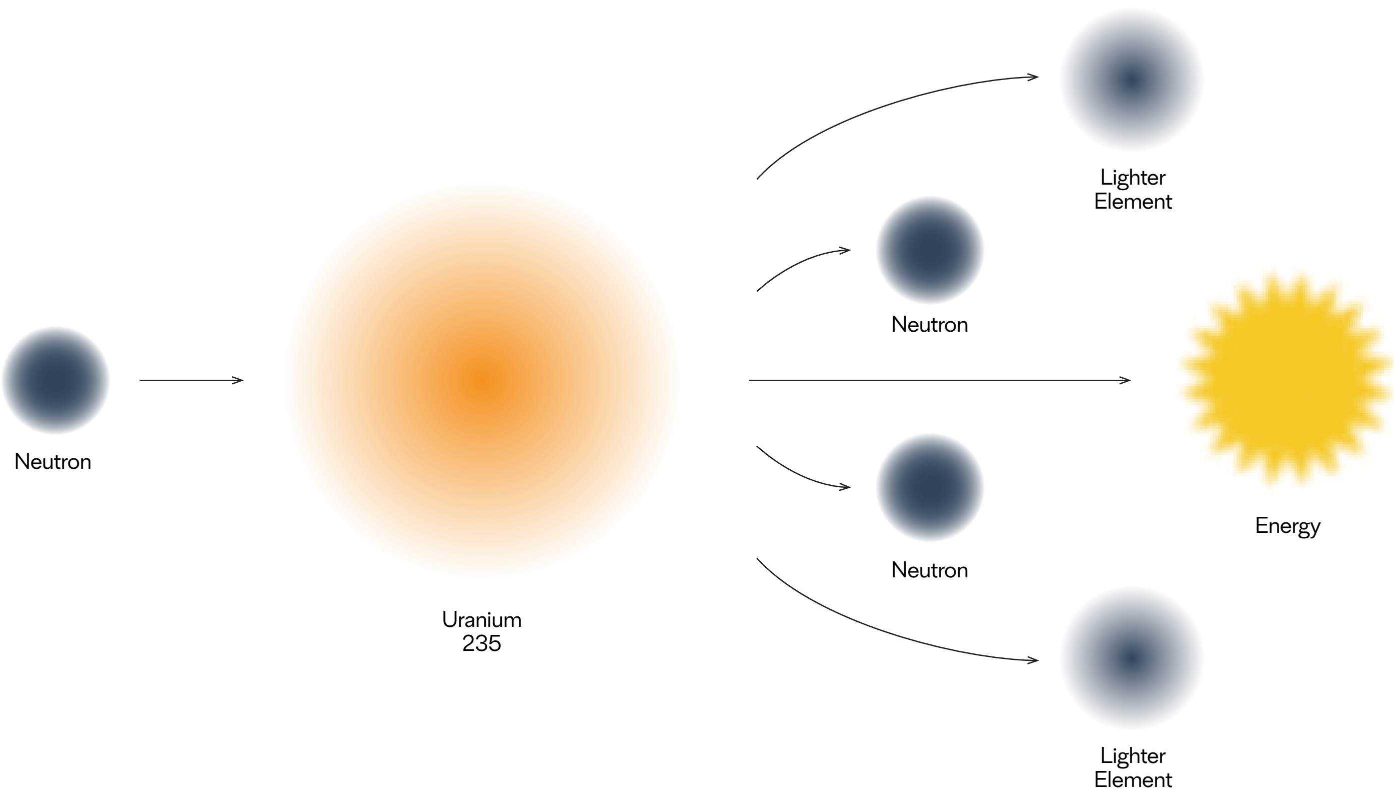
Good energy sources are good energy stores. The cosmic formation of the uranium atom reveals an obvious truism for all sources of energy to be practical for human use – they must be concentrated repositories of energy.

Fossil fuels have been the most dominant source of energy for centuries because they comprise of energy in biological matter being concentrated by heat and pressure over millions of years under the earth's crust. Hydroelectric dams tap into the stored potential energy of large bodies of water accumulated by rain and channelled through narrow tributaries. Nuclear power takes it one step further – employing the intense gravitational forces of collapsing celestial bodies to compact stores of atomic energy, to be released only through nuclear fission. In each of the above instances, forces of nature were responsible for concentrating these forms of energy – creating "natural batteries" for mankind to tap into.

"Nuclear has actually been safer than any other source of [power] generation. You know, coal plants, coal particulate, natural gas pipelines blowing up. The deaths per unit of power on these other approaches are far higher."

- Bill Gates

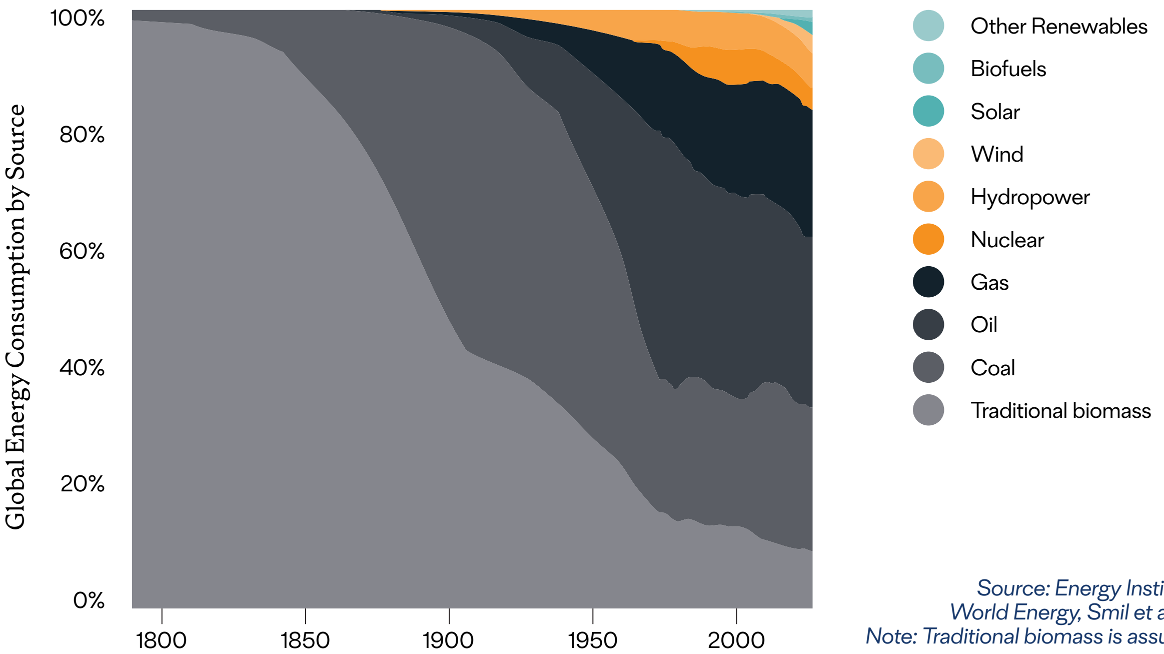
Energy generation from splitting the uranium atom



Source: National Energy Education Development Project, DBS

Renewables rely on human intervention. On the flipside, most renewable energy solutions of today rely on human endeavor to concentrate the energy "manually", such as the deployment of fields of solar panels to absorb energy from the sun, or the capturing of wind energy by acres of large turbines – which is undoubtedly less efficient. Such renewable alternatives alone are therefore insufficient to cater for the growing demand for energy; even with significant advancements in battery technology, renewables are likely to remain a marginal supplier in the global market for energy consumption in the foreseeable future.

Fossil fuels continue to dominate global energy consumption

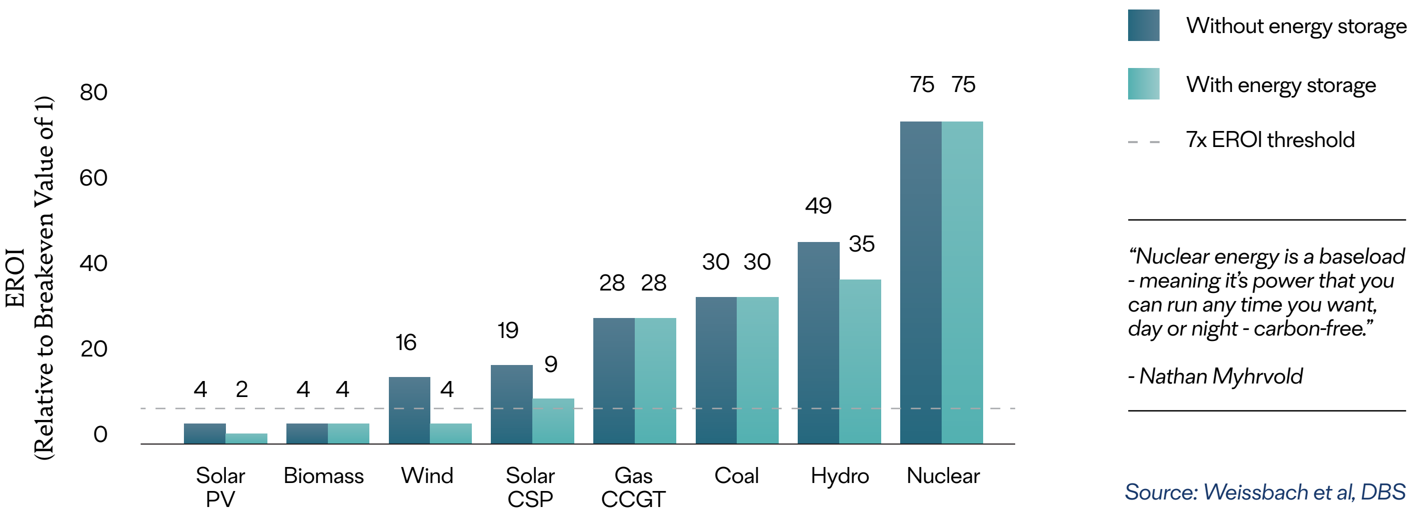


Source: Energy Institute's Statistical Review of World Energy, Smil et al, Our World in Data, DBS
Note: Traditional biomass is assumed constant since 2015

The "ROI" of energy sources. That said, how does one evaluate the efficiency of any source of energy? Investors are all too familiar with the phrase "return on investment" (ROI), which is the return for every dollar of capital invested over a particular period. A similar concept – the energy returned on investment (EROI) – can be applied to power generation, measuring the ratio of energy returned to energy invested in that source, along its entire life cycle. For example, each barrel of crude oil requires energy to extract the oil, transport it, and refine it; it only makes sense to keep doing so because each barrel of oil returns a much larger amount of energy than what was invested to extract it.

Unrivalled EROI of Nuclear power. By this measure, it is remarkable to see that nuclear power (a sustainable alternative no less) far exceeds the EROI of fossil fuels. Therefore, by engineering and economic merit alone, nuclear power should certainly command much greater attention in the narratives of energy transition today. Moreover, seeing as the mass adoption of coal and oil had effectively catalysed the industrial revolutions of the early 20th century that built modern society as we know it, one can only imagine the potential productivity enhancing innovations that a nuclear renaissance may enable, given its significantly higher EROI. Energy revolutions precipitate industrial revolutions.

Nuclear energy promises the highest EROI among other energy sources



"Nuclear energy is a baseload - meaning it's power that you can run any time you want, day or night - carbon-free."

- Nathan Myhrvold

Source: Weissbach et al, DBS

GEOPOLITICS AND ENERGY SECURITY

Stranger than fiction. Popular culture often explores the concept of commodity scarcity as the premise by which great conflict occurs. *Dune* (the popular science-fiction novel by American author Frank Herbert) for example, tells of "Spice Melange", the rarest commodity in the universe, capable of a host of incredulous properties ranging from bestowing prescience to powering interstellar travel. As "he who controls the spice controls the universe", violent conflicts ensue over control of the planet Arrakis where spice is found in abundance.

Globalisation gave way to "commodification". For several decades however, the scarcity of commodities has not been a primary concern in our non-fictional world. In fact, to "commoditise" something has the exact opposite connotation to scarcity; Merriam-Webster's dictionary defines it as "to render (a good or service) widely available". How did this come to be? The etymology of the word "commoditise" reveals origins that coincide with the onset of the current era of globalisation – both dating back to the 1970s – where Ricardian and Friedman ideologies of free trade and markets lowered the barriers of international access to global goods and services, commodities included. This isn't a coincidence; the American-led post war global order of international cooperation underpinned an environment of peace, enabling private sector commodity producers to maximise production efficiency with little international backlash – effectively "commoditising" natural resources for the benefit of the world.

The war on the world order. Nonetheless, key developments have occurred in the last few years that are now symptomatic of a fraying of peaceful global order. Cold wars have escalated between the US and China – the world's largest economies – on the fronts of trade and technology. Hot wars, on the other hand, had erupted between Russia and Ukraine, resulting in the severance of the economic partnership between Russia and Europe; a move none more symbolic than the physical demolition of the Nord Stream gas pipeline that was meant to power large swathes of European industry for years. In the Middle East, conflict that began between Israel and the militant organisations of Hamas and Hezbollah continues to escalate, with Iran provoked into extended hostilities with the Jewish state.

Fragilities of the fossil fuel supply chain. These wars come as rude awakenings to both public and private sector executives that are unfamiliar with factoring geopolitical risk premiums into their plans; "supply chain fragility" being chief among other pertinent considerations today. Take the crude supply chain for instance. Russia is the third-largest producer of oil worldwide, accounting for over 12% of global crude production. Before the invasion, more than 40% of Europe's imported natural gas came from Russia, according to the European Commission. Geographically, 21% of global daily petroleum liquids consumption flows through the Strait of Hormuz, a narrow channel sitting between Oman and Iran (potentially a zone of hot conflict) that links crude producers in the Middle East with the rest of the world. c.40% of global LNG trade moves through the contested waters of the South China Sea. Critically, cartels like the Organisation of the Petroleum Exporting Countries (OPEC) produce c.40% of the world's crude and hold c.80% of the world's proven oil reserves.

"He who controls the spice controls the universe", and the bottlenecks for "spice" are now painfully apparent in conflict.

Strait of Hormuz connects Middle Eastern crude to the World

Source: DBS

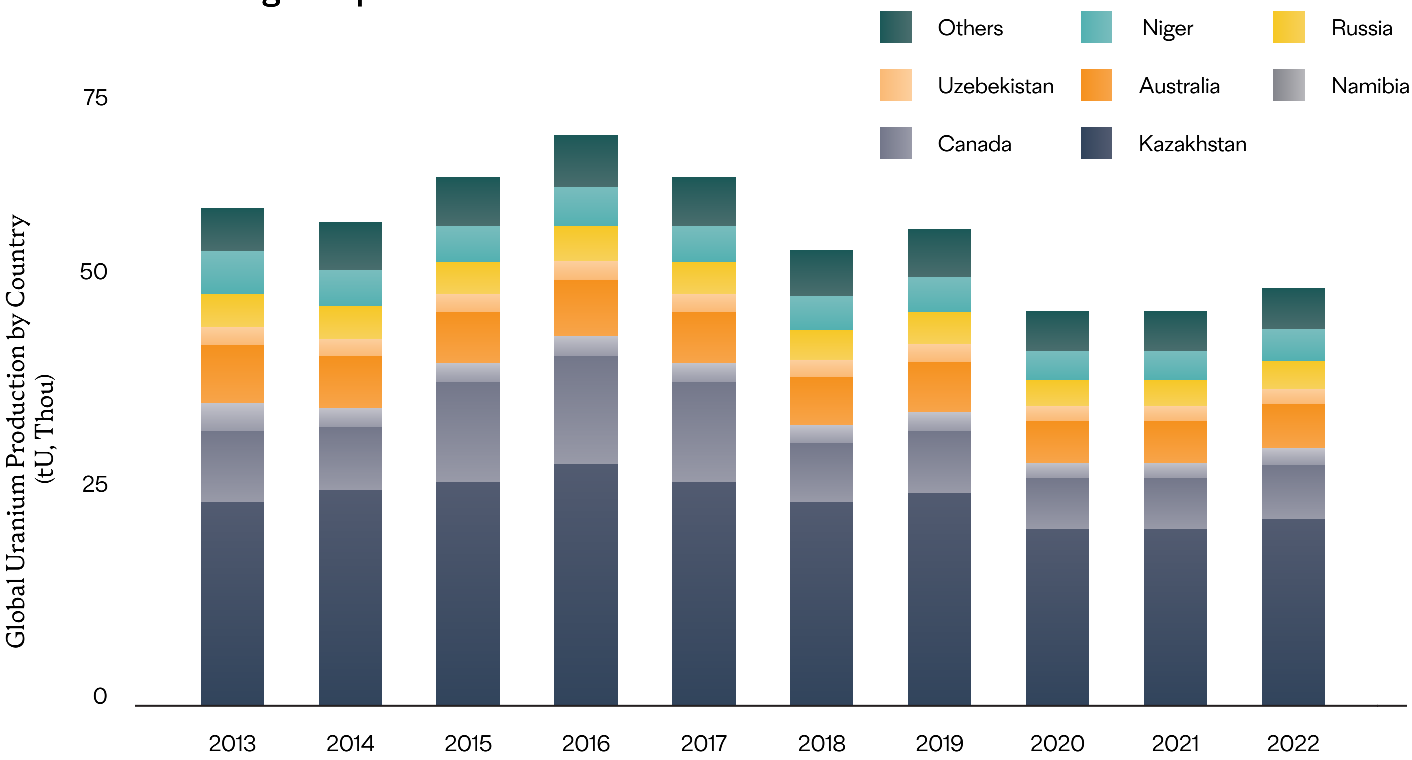
40% of global LNG trade moves through the South China Sea

Source: US Energy Information Administration, IHS EDIN, Global Trade Tracker (Chinese Import Statistics), DBS
Note: Figures expressed as trillion cubic feet

Diversification is the only free lunch (in energy security). With globalisation in retreat, the case to diversify from fossil fuels is no longer just for environmental considerations, but geopolitical ones as well.

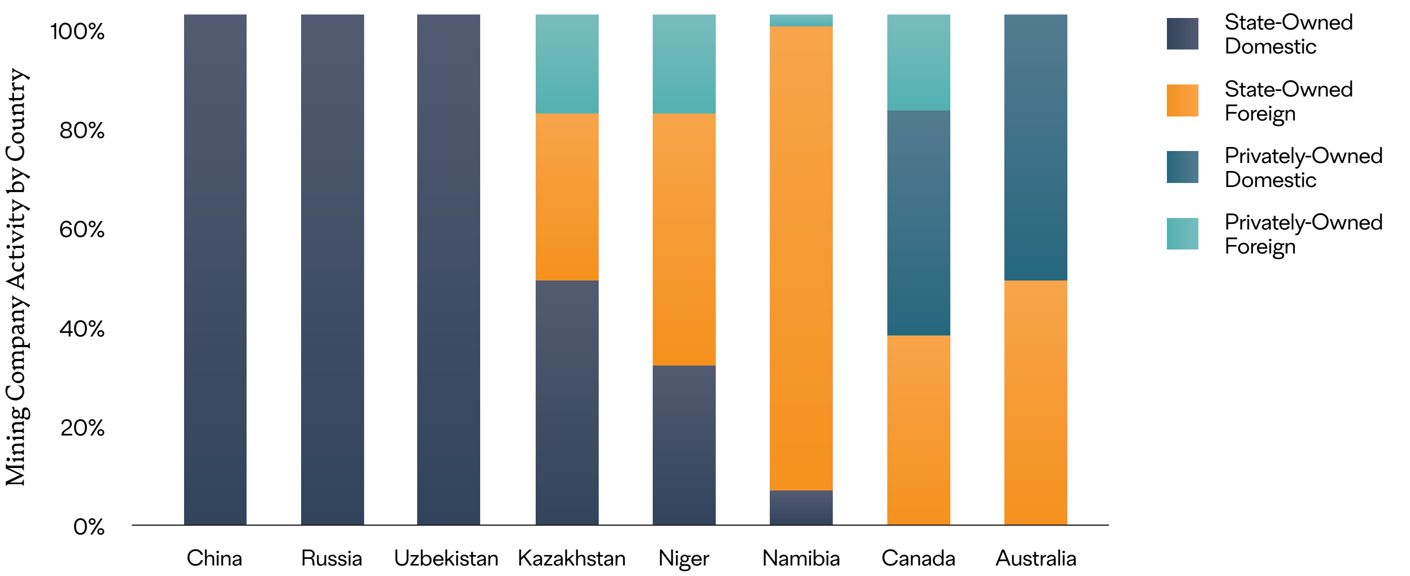
Keeping in mind that good energy sources are good energy stores, uranium is practically the only non-fossil fuel, high EROI substitute that makes a strong case for nations across the world to consider as an alternative source for energy security. Just as the US maintains a Strategic Petroleum Reserve (SPR), it is not too far a stretch of the imagination to consider the creation of "Strategic Uranium Reserves" by countries that have plans for nuclear power in their energy grids in the future. There is simply no other high EROI, non-fossil fuel alternative.

Kazakhstan leads global production of uranium



Source: World Nuclear Association, DBS

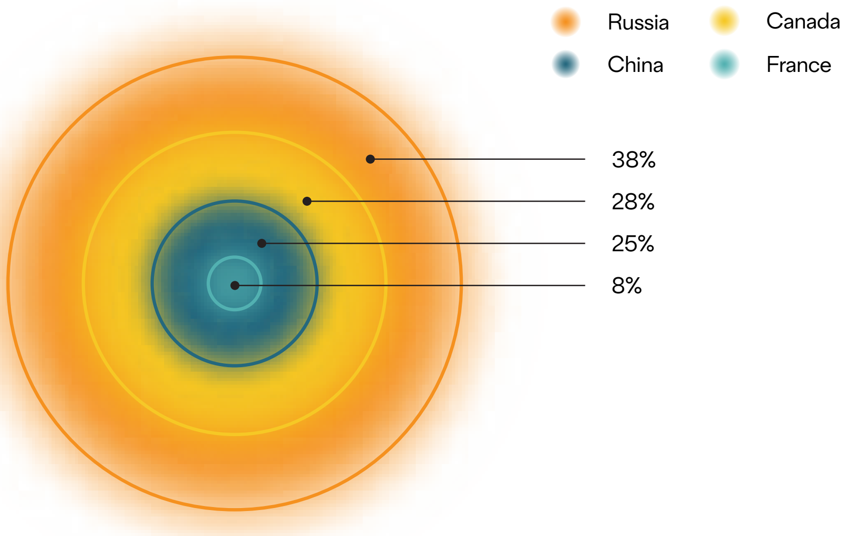
State-owned organisations dominate uranium mining space



Source: OECD Nuclear Energy Agency, DBS

Chokepoints in the uranium supply chain. Nevertheless, we would be remiss to ignore the present supply chain risks inherent with uranium trade as well. A critical chokepoint is with Kazakhstan, which exports c.46% of the world's raw uranium today. The country was a former constituent republic of the Soviet Union and maintains shared economic interests with Russia, importantly through the Caspian Pipeline Consortium (CPC). Crucially, c.80% of the country's oil and gas is exported through Russia via the CPC, an industry that represents c.35% of Kazakhstan's GDP and c.75% of its exports.

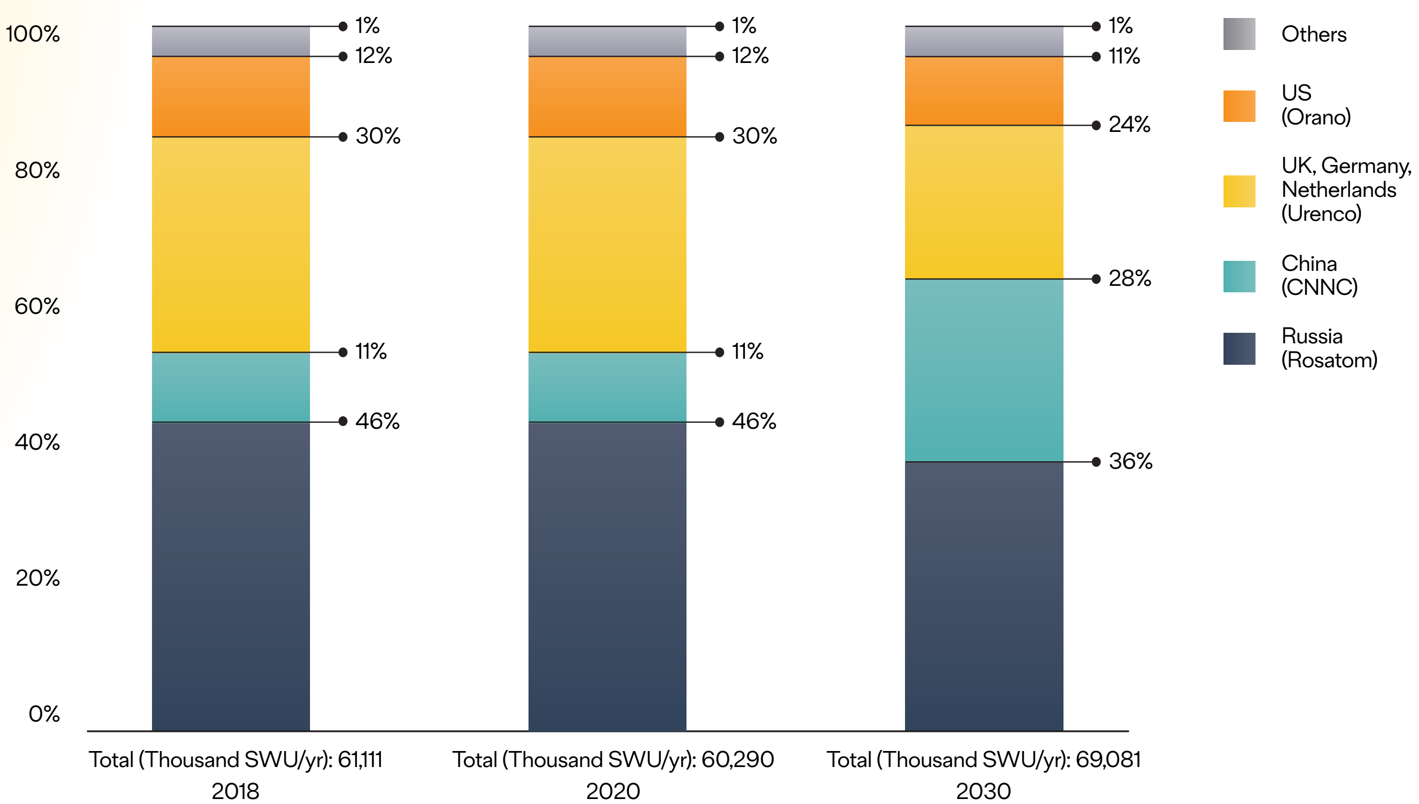
World uranium conversion capacity resides narrowly in four nations



Source: World Nuclear Association, DBS
Note: Numbers are estimated due to rounding

The enemy of my enemy is my friend. The outbreak of war in Ukraine since 2022, however, has seen the rise of anti-imperialist sentiment and accelerated Kazakhstan's search for alternative economic and security partnerships, with a new possibility now that their own sovereignty may come under Russian threat in time to come. In clear alignment with the West, they have adhered to sanctions against Russia, sent humanitarian aid to Ukraine, and maintained contact with Ukrainian President Volodymyr Zelenskyy. Given their prominence in raw uranium export today, they could leverage on their position to engage in "nuclear diplomacy" – an oxymoron if ever there was one – with other economic heavyweights like China and the US who are also interested in advancing their own capabilities in nuclear power generation.

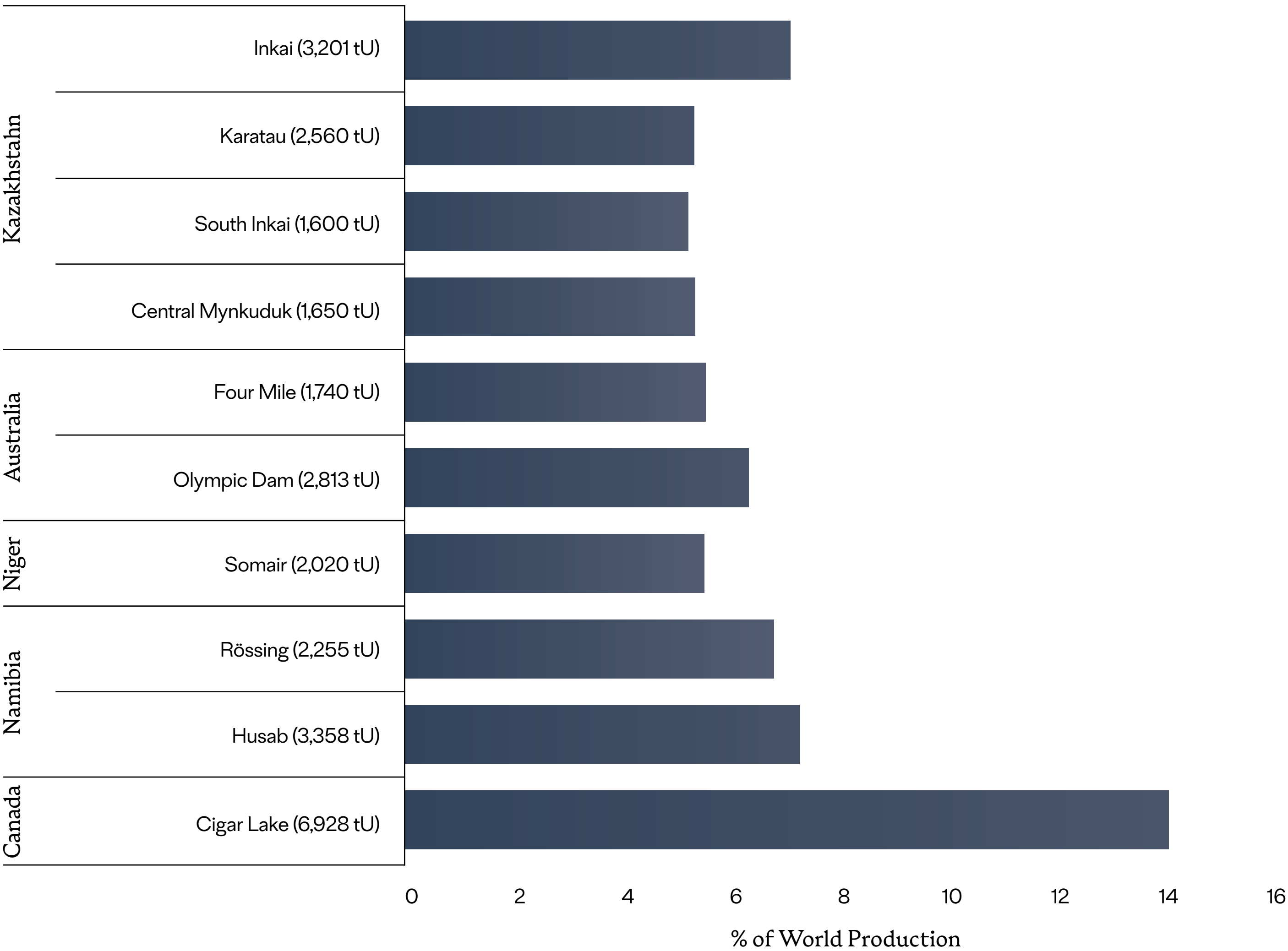
China's enrichment capacity projected to expand the most among nations



Source: World Nuclear Association, DBS
Note: 2020 and 2030 figures are planned capacity; SWU/yr refers to the amount of separation in an enrichment process per year

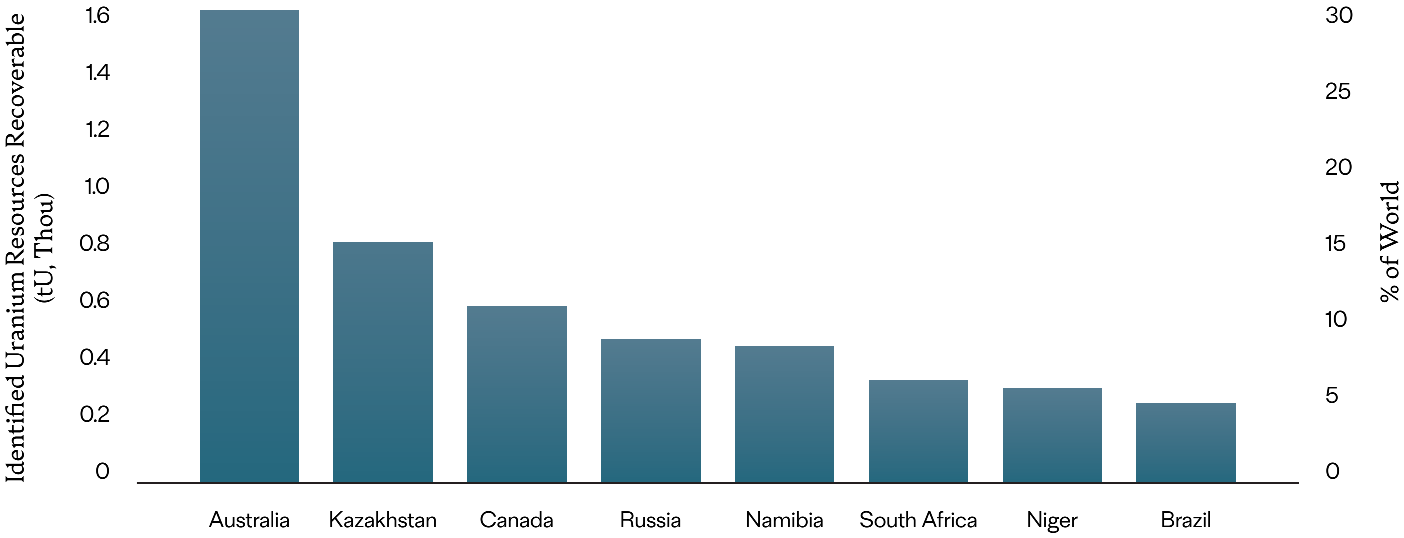
Enriched uranium is a greater concern. Moving away from the export share to the global share of proven reserves, aside from Russia (8%) and Kazakhstan (13%), there exists a healthy spread of raw uranium supply among conventional western allies such as Australia (28%) and Canada (10%), as well as African nations such as Namibia (8%), South Africa (5%), and Niger (5%) – unlike with crude, there exists no singular cartel having disproportionate influence. However, raw uranium is itself not fit for purpose; uranium oxide needs to first be converted to the chemical form of uranium hexafluoride (UF_6), and then enriched to the 3-5% uranium-235 (from the natural state of c.0.7%) level that is required to be used as power reactor fuel.

World's largest uranium mines not confined to Kazakhstan



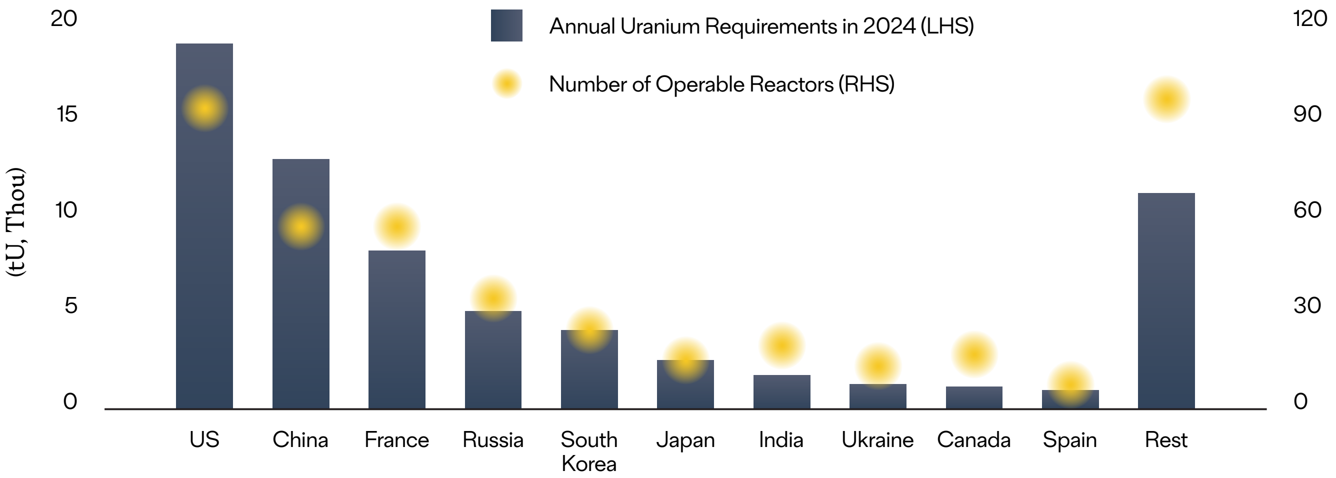
Source: World Nuclear Association, DBS

Healthy spread of raw uranium reserves globally



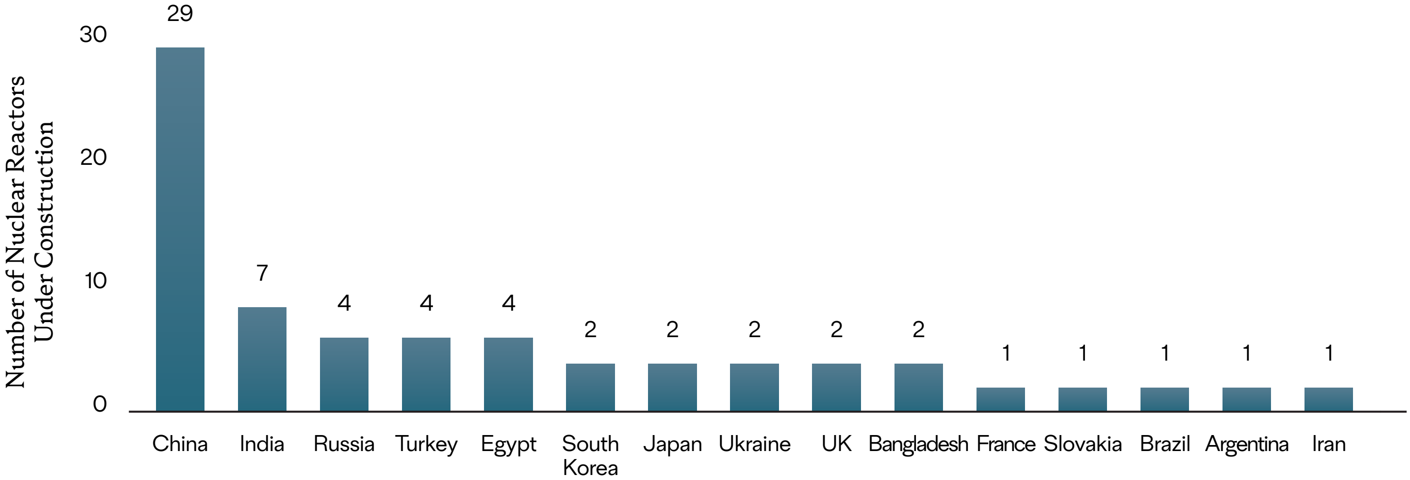
Source: World Nuclear Association, DBS

US operates the largest nuclear reactor fleet but faces uranium shortage



Source: International Atomic Energy Agency (IAEA) Power Reactor Information System, DBS

China aggressively ramping up nuclear fleet expansion

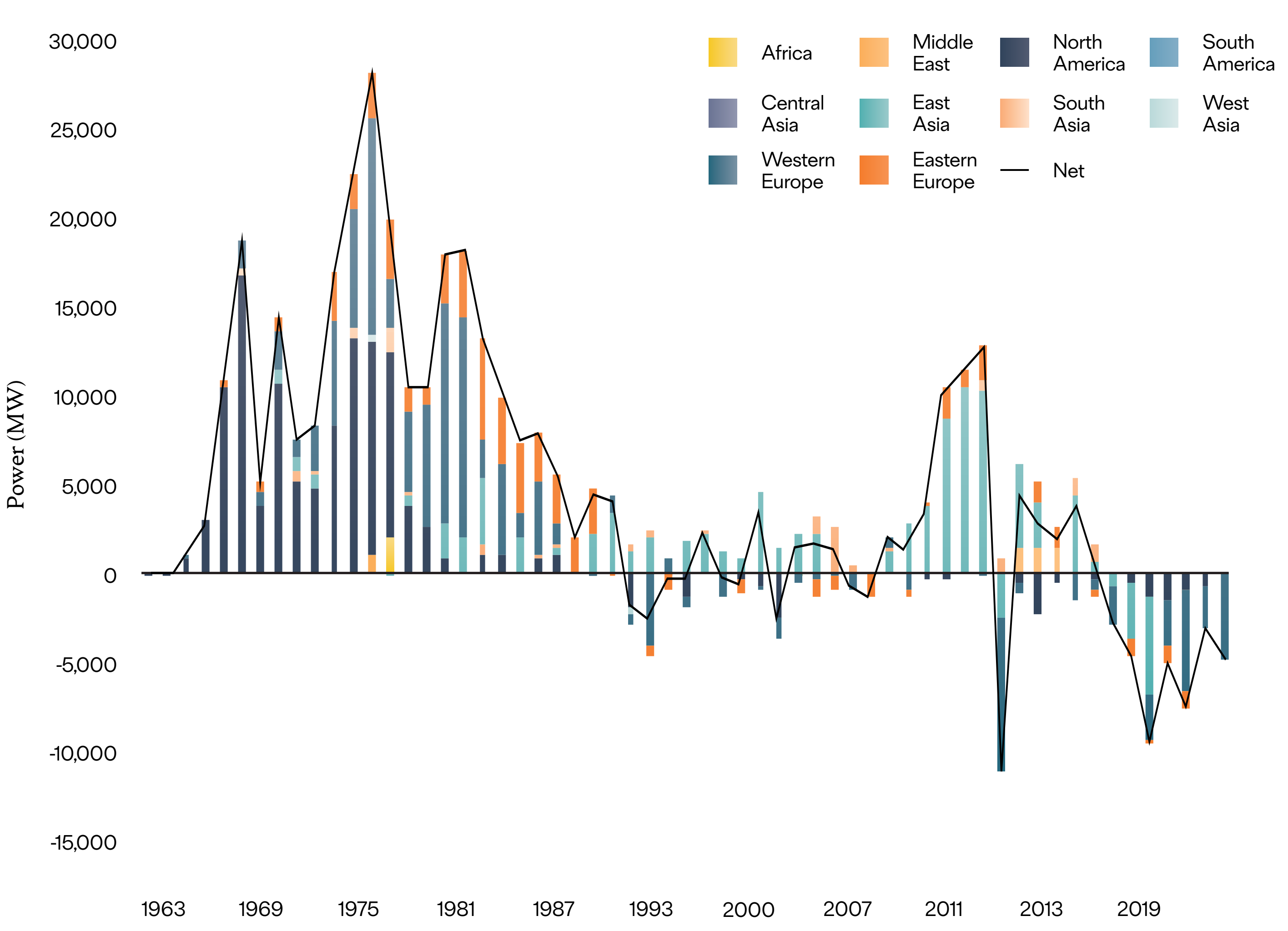


Source: International Atomic Energy Agency (IAEA) Power Reactor Information System, DBS

West meets East. Therein lies the second and perhaps more critical bottleneck. Russia presently owns c.40% of the total conversion infrastructure and c.46% of the total enrichment capacity in the world today, while growth in both conversion and enrichment capacity is projected to expand the most in China within this decade. The West is conspicuously missing in these upstream processes; no doubt, the western nuclear power phase-out in the last decade had come as a miscalculated overreaction to the Fukushima nuclear disaster in 2011 – especially in Europe.

Now that energy security has become a much greater concern, a much larger order of investment and innovation is needed in western nuclear technology and self-sufficiency to even the scales with the East.

Western nuclear power phase-out last decade in reaction to the 2011 Fukushima disaster



Source: International Atomic Energy Agency (IAEA), DBS

Western nuclear greenshoots. It comes as no surprise then that American policymakers have recognised these deficiencies and have made plans to rectify them. The Inflation Reduction Act (IRA) passed by the Biden administration in 2022 has devoted USD6bn to nuclear energy for (i) research into next-generation reactors, (ii) tax credits for nuclear power production and investment, as well as (iii) earmarking USD700mn for the development of a domestic market and production of high-assay low-enriched uranium ("HALEU"). Moreover, the US House of Representatives approved a bipartisan bill that would prohibit the import of Russian enriched uranium to the US from 2028, the result of worry over the country's reliance on Russia for 20% of reactor fuel requirements. Calling to mind that the nuclear breakthroughs of the Manhattan project in World War II effectively brought the world under a US-led global order, it is not without a sense of fate that Americans are coming back full circle to reclaim the throne.

As with anything in geopolitics, outcomes are never always clear. But as the movies like *Dune* would depict, rival factions bidding for scarce assets can make for very explosive demand for generations to come.

COMPARING ENERGY SOLUTIONS

Asking what the best energy solution for mankind is often provokes controversy because human beings often disagree on what the "greater good" is. Behind this lies an obvious but inconvenient truth – that there is no perfect solution.

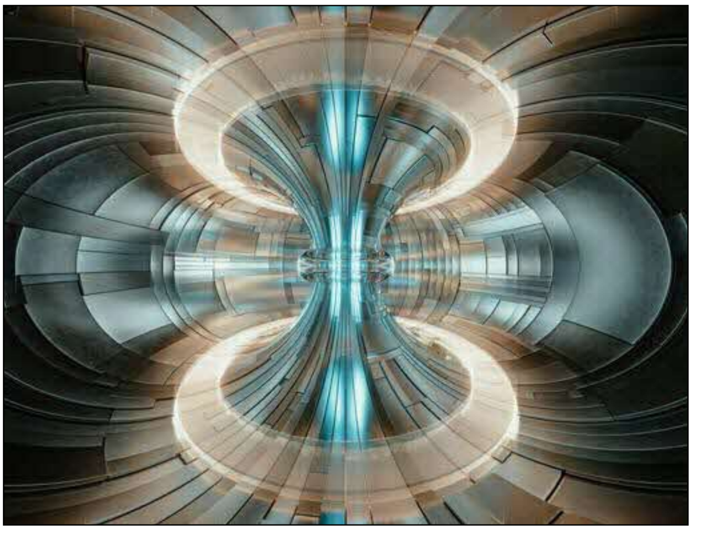
Balance is a virtue. Saying that crude oil is bad because it is detrimental to the environment is like saying that Einstein is unintelligent because he cannot paint. Judgement ultimately requires a thorough evaluation of all parameters to determine what is the best trade-off in any chosen solution. In our analysis, we assess various energy solutions by variables such as cost, EROI, constancy, safety, sustainability, reliability, non-fuel resource intensity, and scalability – and scoring them to discern which solution strikes the best balance.

How we measured the parameters for various energy solutions

Metric	Definition
Cost	We measure cost using Levelised Cost of Electricity (LCOE), the average cost per unit of electricity generated by a power plant over its entire lifetime. Unit is (USD/MWh). To be conservative, we used 10% discounting rate for cost projections.
EROI (Energy Returned on Investment)	EROI refers to the ratio of energy returned to energy invested in that source, along its entire life cycle.
Constancy	Constancy refers to how consistently an energy source generates electricity over time. We proxy constancy using the capacity factor, which compares a power plant's actual energy output to its maximum potential output if it operated at full capacity 100% of the time.
Safety	We measure safety by the number of deaths per TWh of electricity generated from accidents and air pollution.
GHG Emissions	GHG emissions are measured by the amount of GHG released during the generation of one kWh of electricity. Unit is (gCO_2e/kWh).
Reliability	Reliability is measured by the Weighted Equivalent Forced Outage Rate (WEFOR), which represents the percentage of time a power plant is unavailable due to forced outages (e.g., wear and tear), weighted by the plant's capacity.
Non-Fuel Resource Consumption	Non-fuel resource consumption refers to the materials required, excluding the energy source itself (e.g., uranium for nuclear), to generate electricity. This includes both the materials needed for plant construction (measured in kg/MW of installed capacity) and for electricity generation over the plant's lifetime (measured in tonnes/TWh). It serves as a useful proxy to measure how resource-intensive an energy source is.
Scalability	We measure scalability by project lead time (in years), which refers to the time required to design, construct, and commission an energy plant. A shorter project lead time indicates a more scalable energy source.

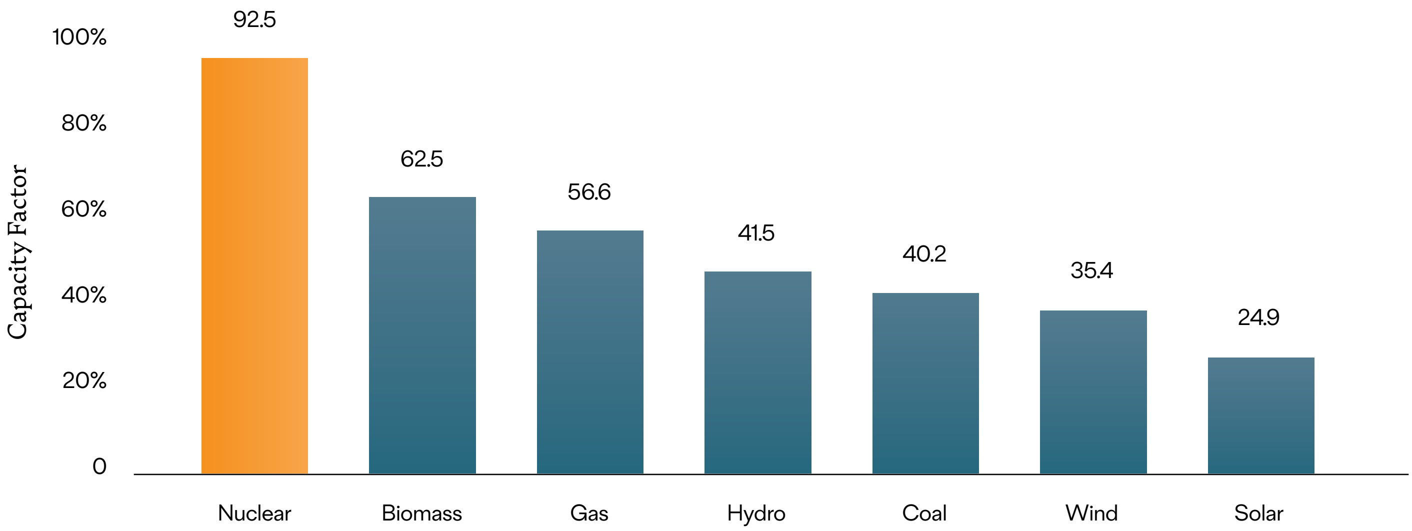
Putting nuclear energy to the test. For each of the following parameters, we indicate a (+) where we think nuclear ranks well, and a (-) otherwise. While not all-encompassing, nuclear stands out as a well-balanced and viable component of today's energy mix. This becomes clear with a radar chart comprising these various energy alternatives. It is a visual narrative of strengths: a larger area under "cost" reflects greater affordability, while greater coverage under "EROI" represents higher efficiency.

EROI – Unparalleled (+). We had earlier spoken about the energy returned on investment (EROI) — measuring the ratio of energy returned to energy invested in that source, and recognised that nuclear energy far surpasses all other alternatives at this point.



Energy constancy - The gold standard (+). Energy constancy is the bedrock of progress. It powers breakthroughs in AI and fuels other advanced technologies by supplying the uninterrupted electricity needed for intensive data processing, model training, and round-the-clock operations. Yet how do we gauge an energy source's constancy? A revealing measure is the capacity factor — the ratio of a facility's actual output over time to the theoretical maximum it could achieve if it ran at full capacity continuously. Nuclear energy excels by this standard, achieving a capacity factor that exceeds 90%. This consistency is a rare commodity in modern energy systems, where renewables like wind, solar, and hydro are at the mercy of nature's variability. Nuclear's dominance in this regard underscores its potential as the backbone of global energy security.

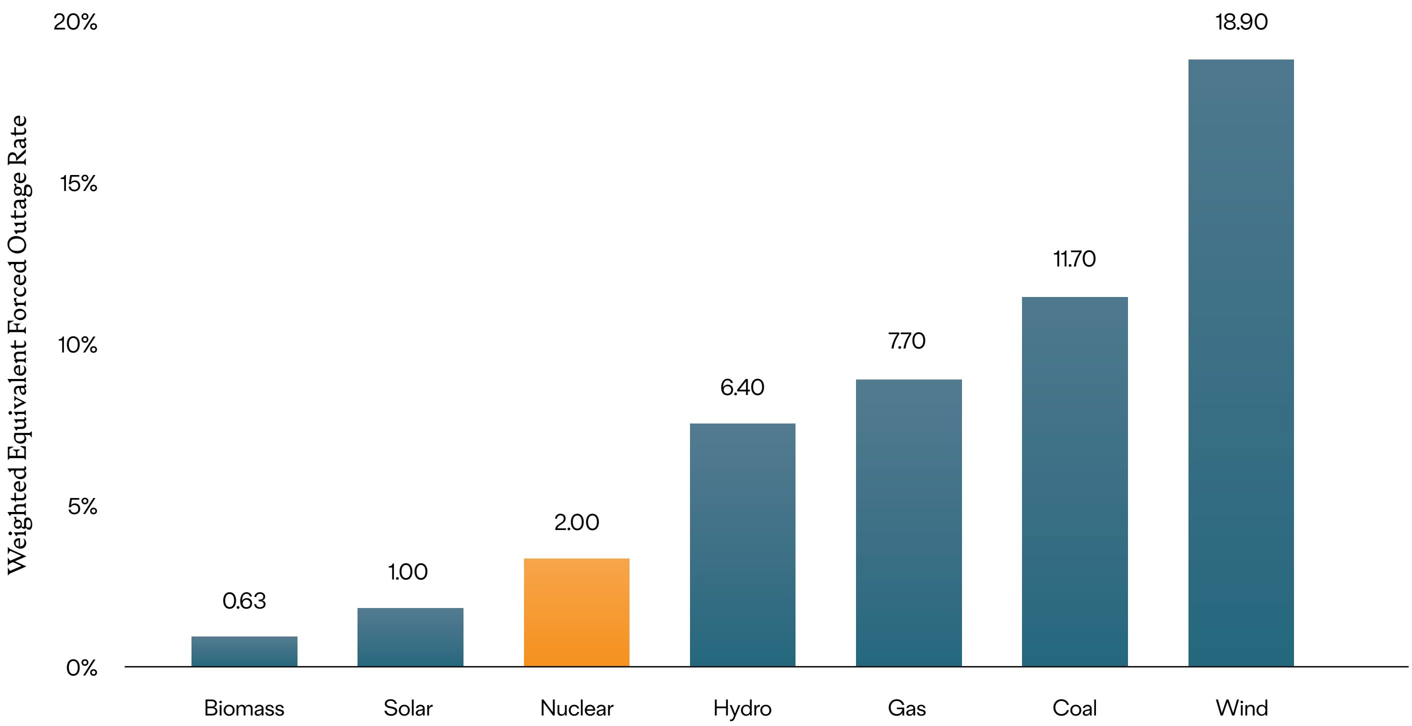
Nuclear boasts the highest constancy in power generation



Source: US Department of Energy, US Energy Information Administration, DBS

Reliability – Built to last (+). Beyond constancy, which reflects resilience to nature's unpredictability, reliability — measured by unplanned outages, reveals the durability of human-made infrastructure. The measure, Weighted Equivalent Forced Outage Rate (WEFOR), captures the proportion of time a plant is unexpectedly offline, weighted by its capacity. Nuclear plants, with its relatively low WEFOR, proves to be capable of anchoring the stability of modern energy systems.

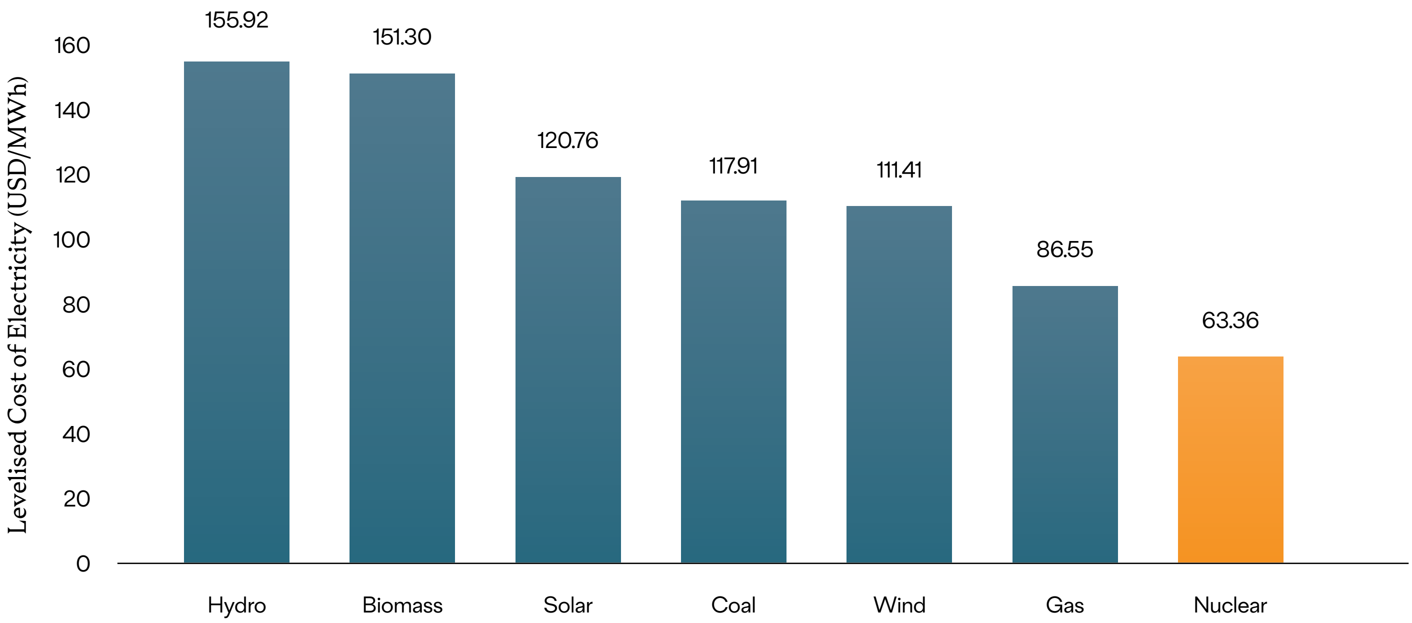
Lower outage vulnerability in nuclear energy systems



Source: North American Electric Reliability Corp., National Renewable Energy Laboratory, Muslimin et al, DBS

Affordability – Cheaper for longer (+). True progress demands energy solutions that excel in both performance and feasibility, with cost-effectiveness playing a critical role in ensuring that the benefits of innovation reach all corners of society. In this regard, nuclear emerges as a clear leader. Its levelised cost of electricity — calculated as the average net present value of total generation costs over a plant's entire operational lifespan — stands as the lowest among other energy sources, cementing its place as a pillar of sustainable and economical energy.

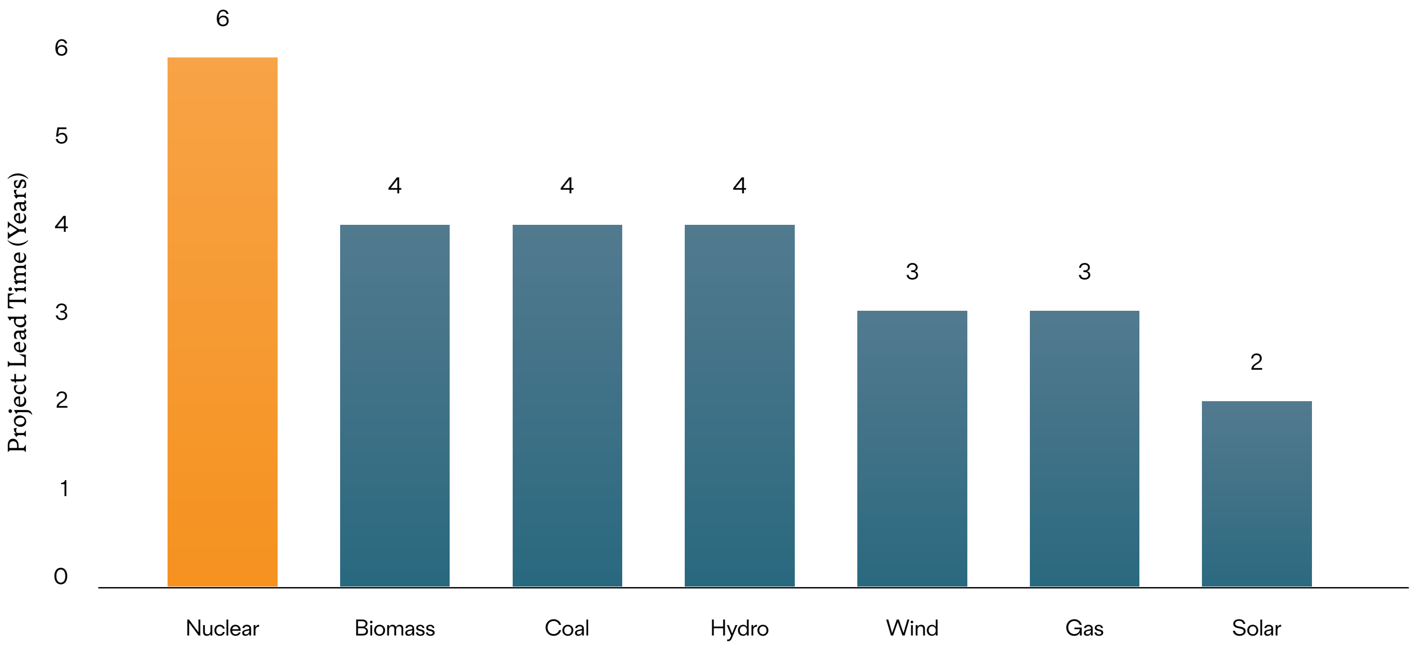
Nuclear energy delivers the lowest LCOE



Source: International Energy Agency, OECD Nuclear Energy Agency, DBS

Scalability – Limited but improvable (-). We are the architects of our own limitations. While nuclear energy holds immense potential, our current expertise act as bottlenecks, hindering scalability. In our model, we proxy scalability through project lead times — the time required to design, construct, and commission a power plant. The expected lead time of building a nuclear plant is longer than any other types of energy plant. That said, we remain optimistic that, with time and innovation, faster and more efficient construction methods (such as SMRs) will be realised.

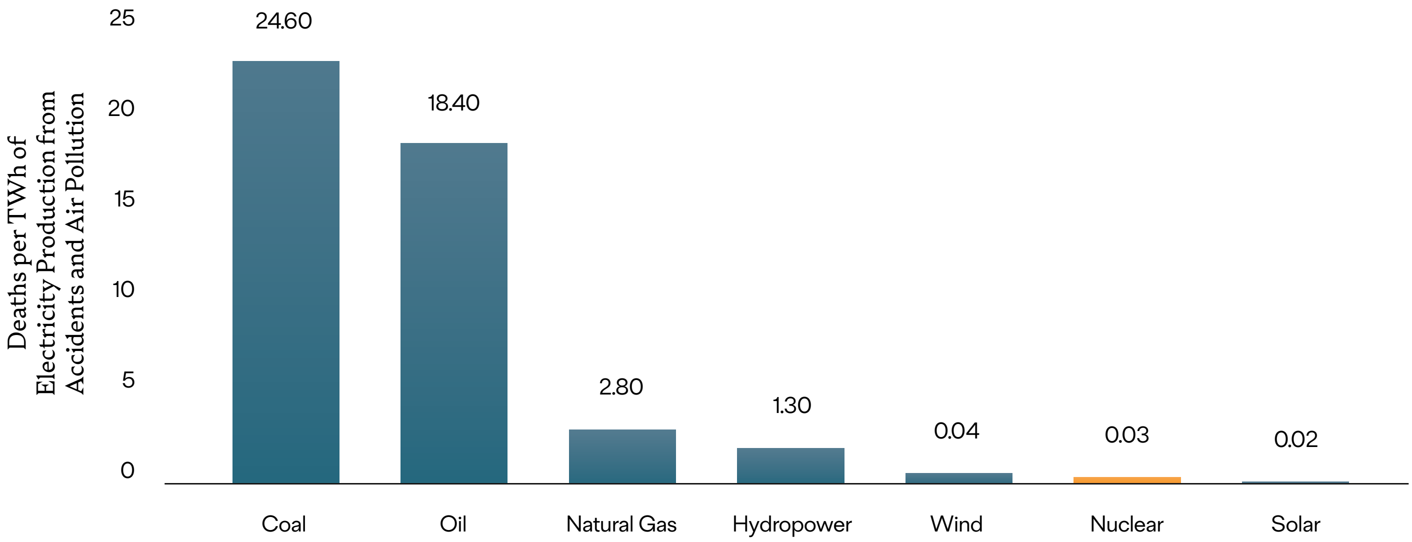
Nuclear plants require the longest lead time



Source: US Energy Information Administration, DBS

Safety – The unexpected leader (+). When we think of nuclear, "safe" isn't the first word that springs to mind — especially as nuclear conflict often surfaces in popular culture and news headlines, raising negative public perceptions about the technology. Yet, the data tells a different story. As it turns out, nuclear stands out as one of the safest energy sources, with a remarkably low fatality rate of 0.03 deaths per terawatt-hour (TWh) of electricity generated — orders of magnitude safer than fossil fuels such as coal and oil. We think that nuclear energy is a victim of the availability bias; speak of nuclear energy and it is often the Chernobyl and Fukushima disasters that come to mind. In that regard, the fear of nuclear energy is similar to the fear of flying; many would remember a handful of famous airline tragedies, but the facts are that traffic accidents on land are a far greater leading cause of loss of human life than air crash disasters.

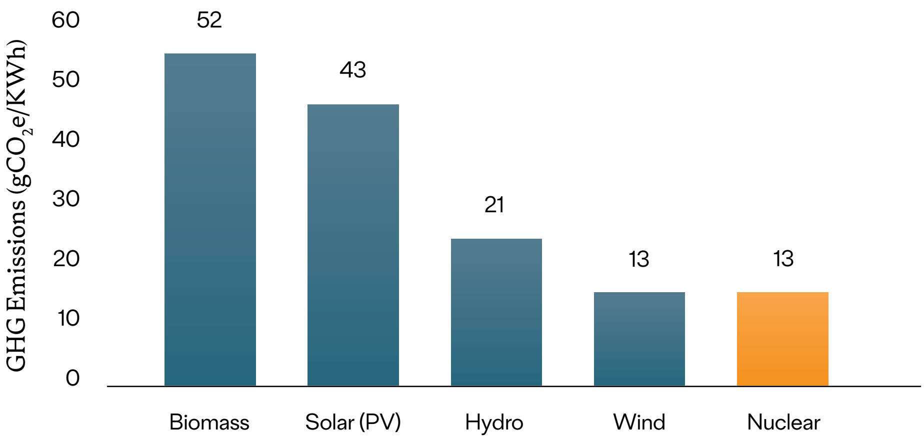
Nuclear power holds one of the lowest fatality rates among all major energy sources



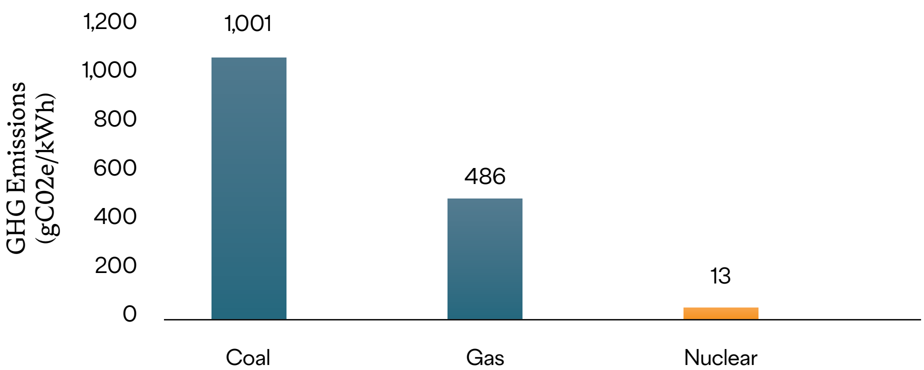
Source: Our World in Data, DBS

Sustainability – The decarbonisation imperative (+). It's no secret that the world has a climate problem. The acceleration of economic growth in the industrial age was sadly mirrored by the dramatic increase in carbon in Earth's atmosphere. Put in perspective, the levels of CO_2 in the atmosphere today are unprecedented in the last 800,000 years. To combat this escalating crisis, a shift to cleaner, low-emission energy sources is essential. In these circumstances, nuclear stands as a cornerstone of the global fight against climate change due to its exceptionally low GHG emissions. From uranium extraction to energy production, the nuclear fuel cycle releases just 1% of GHG of coal and 3% of natural gas. This positions nuclear as a pivotal solution for nations striving to meet aggressive net-zero targets while maintaining industrial-scale energy production.

Nuclear emits the lowest GHG among renewables...

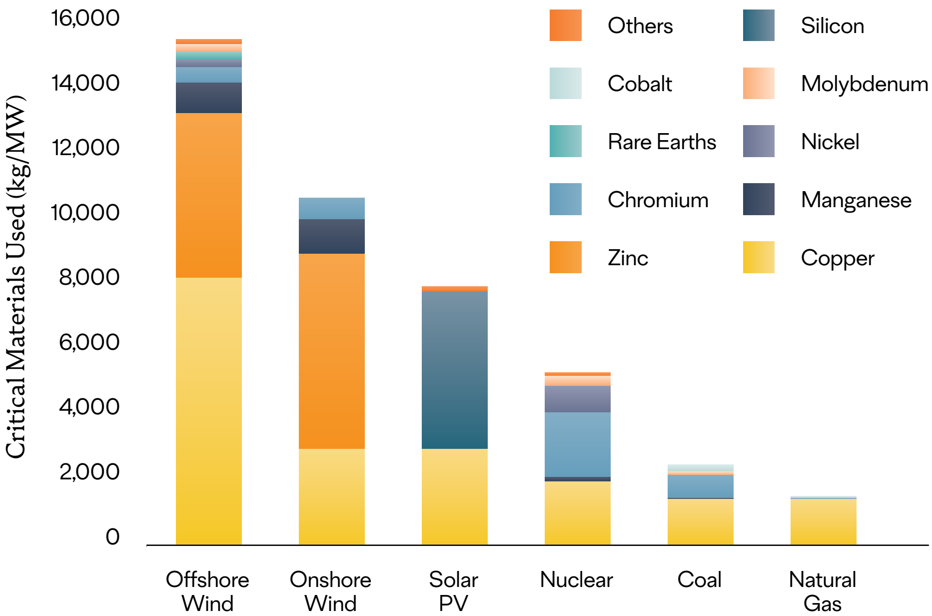


...and significantly less than fossil fuels

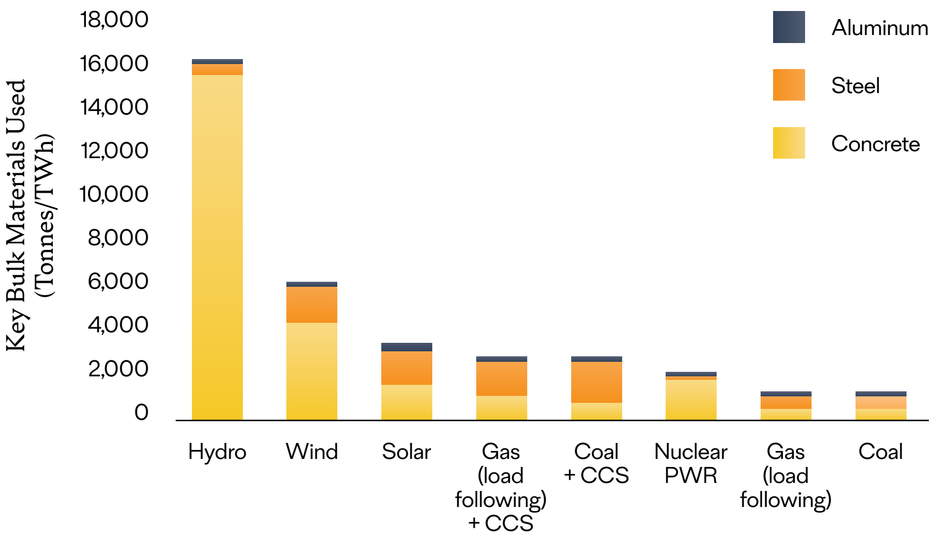


Source: National Renewable Energy Laboratory, DBS
Note: Based on Life Cycle Analysis (LCA) of GHG emissions

Nuclear requires minimal dependency on critical minerals...



...as well as bulk materials



Source: World Nuclear Association, University of Michigan, DBS

Resource intensity – Better than renewables (+). We cannot truly evaluate the sustainability of an energy source without considering how much material we consume to produce it. While EROI measures the energy efficiency ratio, resource consumption quantifies the actual amount of materials needed to build and operate the energy plants. Our model uses non-fuel resource consumption — the materials required, excluding the energy source itself (e.g., uranium for nuclear) — to allow fair comparisons across renewables like hydro, wind, and solar, whose raw energy inputs are infinite. Unlike hydro, wind, and solar technologies that require extensive bulk materials — such as concrete, steel, and aluminum — nuclear plants operate with minimal resource intensity. Furthermore, its dependency on critical minerals, including rare earth elements and copper, is markedly lower than that of wind and solar PV. This resource discipline not only mitigates environmental degradation but also insulates nuclear energy from the geopolitical and economic risks associated with supply chain volatility.

Did you know?
Nuclear energy is the world's second-largest source of low-carbon electricity, providing about one-quarter of the world's low-carbon electricity.

Nuclear stands not as a perfect solution, but as a pragmatic and sufficiently comprehensive one — capable of meeting a substantial share of the world's sustainable energy needs.

Projected ascent of nuclear. With such stellar grades, it comes to no surprise that projections for global nuclear power capacity is only expected to grow in the years to come. The International Atomic Energy Agency (IAEA)'s low case assumes minimal policy changes, projecting a modest 24% increase by 2050, while the high case, driven by climate policies, anticipates capacity to grow 2.5x from 2023 levels. The International Energy Agency (IEA)'s Net Zero Scenario predicts capacity will nearly double, from 413 GW in 2022 to 812 GW by 2050. Similarly, Bloomberg New Energy Finance (NEF)'s Economic Transition Scenario, which assumes policymakers will rely on scalable, commercially mature, and cost-effective clean energy technologies without major policy shifts, forecasts a one-third increase in nuclear capacity by 2025.

Pragmatic yet imperfect. While nuclear demonstrates remarkable performance across key metrics, the reality remains that there is no singular, perfect solution to the global energy and climate crisis — only trade-offs. The desire for a silver bullet solution persists, yet such an ideal remains elusive.

Criticisms and Counterpoints

Myth	Reality	Statistics
Nuclear energy is too dangerous.	Nuclear is one of the safest energy sources.	0.03 deaths per TWh generated compared to oil (24.6) and coal (18.4).
Nuclear energy is unreliable.	Nuclear has the highest capacity factor, ensuring consistent energy generation.	Nuclear has a capacity factor (>90%) compared to wind (35%) and solar (25%).
Nuclear plants are prone to frequent shutdowns.	Nuclear power has low unplanned outage rates, making it a stable energy source.	Nuclear Weighted Equivalent Forced Outage Rate (WEFOR) is (2%) compared to hydro (6.4%), gas (7.7%), coal (11.7%), and wind (18.9%).
Nuclear energy is expensive.	Nuclear offers the lowest Levelised Cost of Electricity (LCOE) among major energy sources.	Nuclear exhibits a Levelised Cost of Electricity (LCOE) (USD63.36/MWh) compared to coal (USD117.91/MWh), wind (USD111.41/MWh), solar (USD120.76/MWh), and hydro (USD155.92/MWh).
Nuclear energy takes too long to build to be a solution.	While nuclear plants require long lead times, advancements in SMRs could shorten this.	SMRs can take as little as two to three years to build, comparable to solar (two years), wind (three years), and hydro (four years).
Nuclear energy is bad for the environment.	Nuclear emits significantly less greenhouse gas (GHG) emissions than fossil fuels and even some renewables.	Nuclear GHG emissions are (1%) of coal's and (3%) of natural gas.
Uranium mining is highly unsustainable.	Nuclear plants require far fewer materials compared to wind, solar, and hydro.	To generate 1MW of electricity, nuclear only uses 5,274kg of critical mineral, compared to solar (6,834kg) and wind (10,166 – 15,409kg).

Nuclear power's multi-dimensional strengths

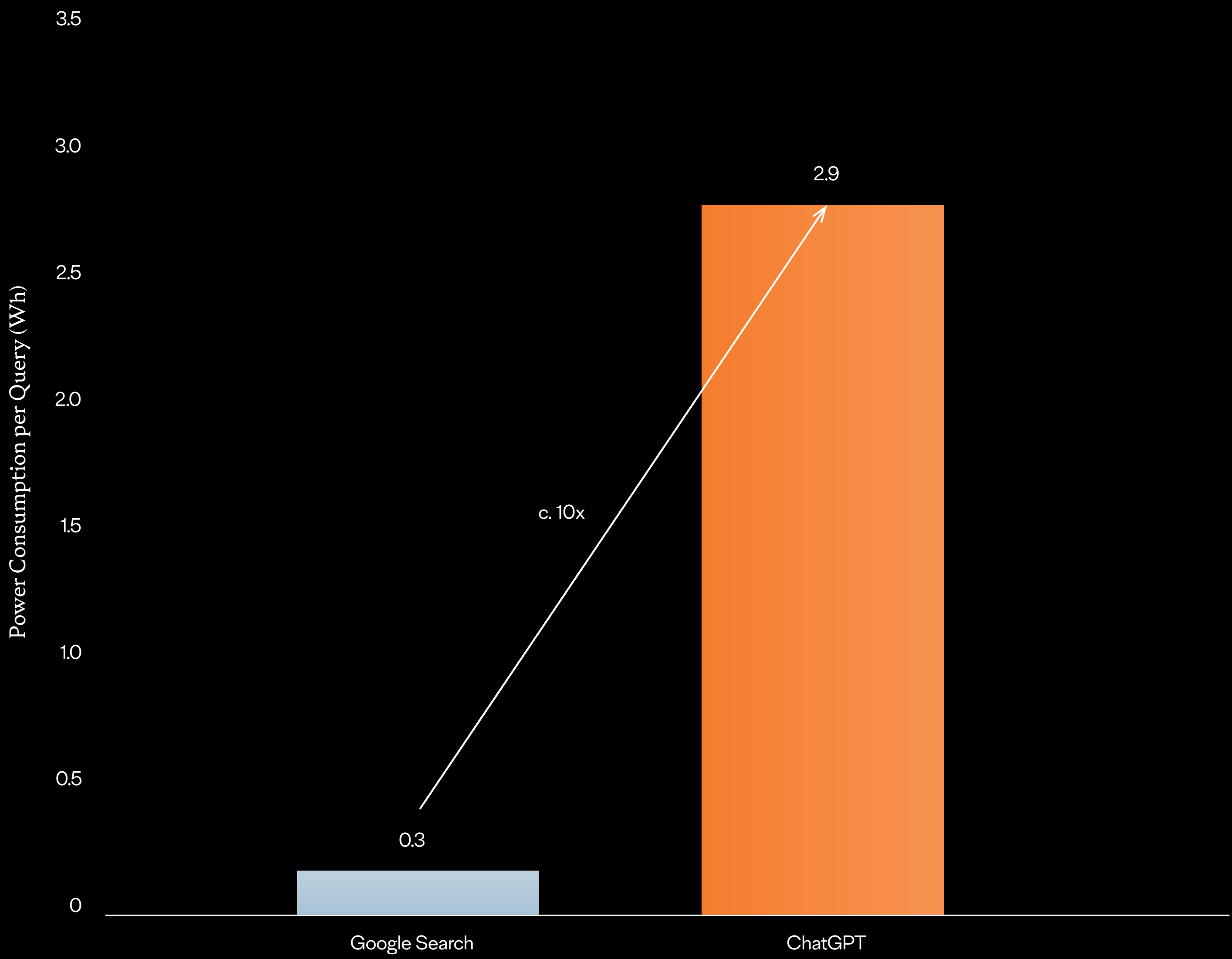
Source: DBS
Note: The scores for the radar chart are scaled based on the percentile rank across different energy sources

KEY DEMAND DRIVERS FOR NUCLEAR ENERGY

Insatiably nuclear. Humanity's insatiable demand for electrical energy since Faraday's seminal demonstration of electricity generation 200 years ago has intensified in the present day. Driven by digitalisation, artificial intelligence (AI), electric vehicles (EVs), manufacturing reshoring, defence needs, and climate change, the ever expanding demand is now bringing nuclear energy into sharp focus.

AI and the data centre power crux. The commercialisation of computers in the 1950s planted the seeds of digitalisation which later gained traction in the 1990s with the internet, and exploded in the 2000s and 2010s with mobile phones, cloud, and Internet-of-Things (IoT). Today, digitalisation has extended beyond lifestyle conveniences to shaping monetary systems through blockchain and augmenting humanity with artificial intelligence (AI). Underpinning digitalisation are data centres which drive global demand for electrical energy. Globally, data centres consumed c.460 TWh (or 2% of global electricity consumption) in 2022 alone. This consumption is projected to double by 2026, and reach 13% of global consumption by 2030 – driven largely by AI development. AI generative models like ChatGPT has been estimated to consume energy equivalent to over 17,000 US households on a daily basis. Importantly, the management of such seemingly rampant energy consumption by AI and broader digitalisation trends needs to go beyond simply optimising usage efficiency. Power usage effectiveness (PUE) of data centres supporting AI has recently plateaued, making the case for energy production at a larger scale and intensity. It is little wonder therefore that tech giants like Google and Microsoft are investing in next-generation nuclear technologies. Nuclear technologies, with their ability to generate clean uninterrupted electricity at greater intensity than other clean energy alternatives, carry the potential to meet this ever-increasing energy demand, and aid the sustainable expansion of "always-on" data centres.

Generative AI models consume 10x more electrical power than conventional search engines

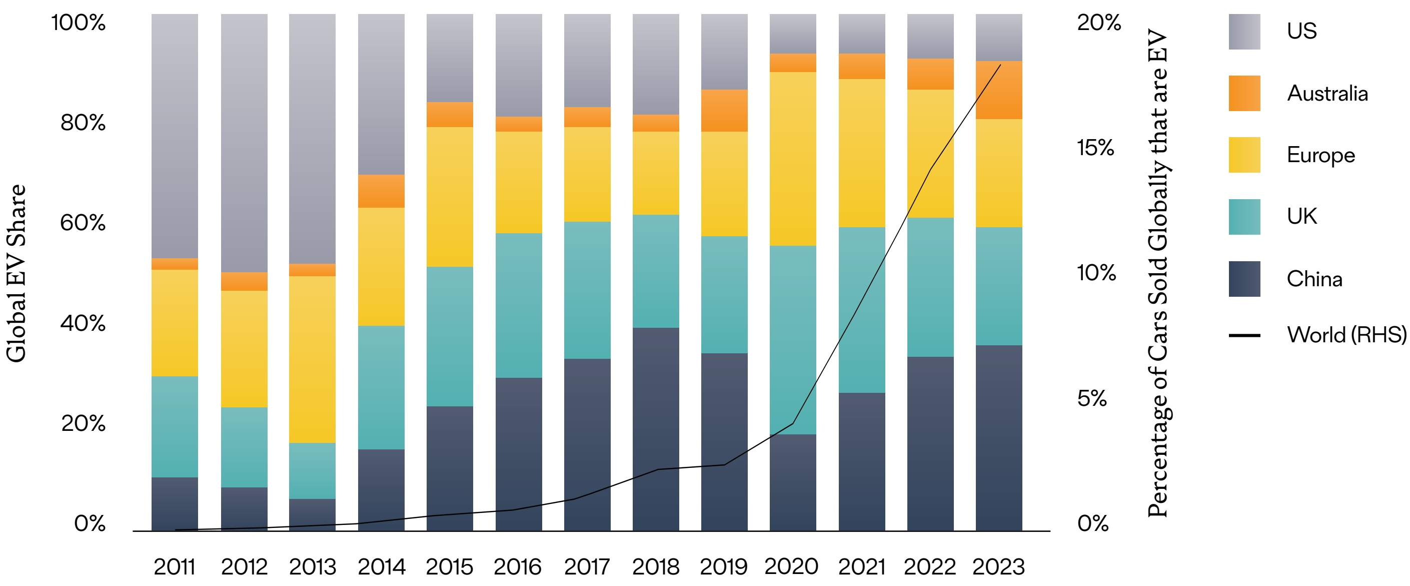


Source: Google, SemiAnalysis, DBS

EVs – Hopping on the electrification wagon. Alongside digitalisation and AI, the accelerating global shift to electric vehicles (EVs) is another catalyst for nuclear energy demand. In 2023 alone, nearly one in five new cars sold globally was electric, a gigantic leap from barely 1% 10 years ago. This exponential growth redistributed energy consumption from gasoline to the electricity grid, precipitating a 90% spike in electricity consumption.

By 2030, this figure could hit c.1,000TWh. In a case of life imitating art, countries like France and China are turning to nuclear technology for consistent, carbon free, and weather-agnostic electricity output to meet the round-the-clock charging demands of EV, much like Doc Brown's nuclear-powered DeLorean in *Back to the Future II*, sparking a growth trajectory in nuclear energy production.

China and the UK lead strong EV momentum globally



Source: Our World in Data, DBS

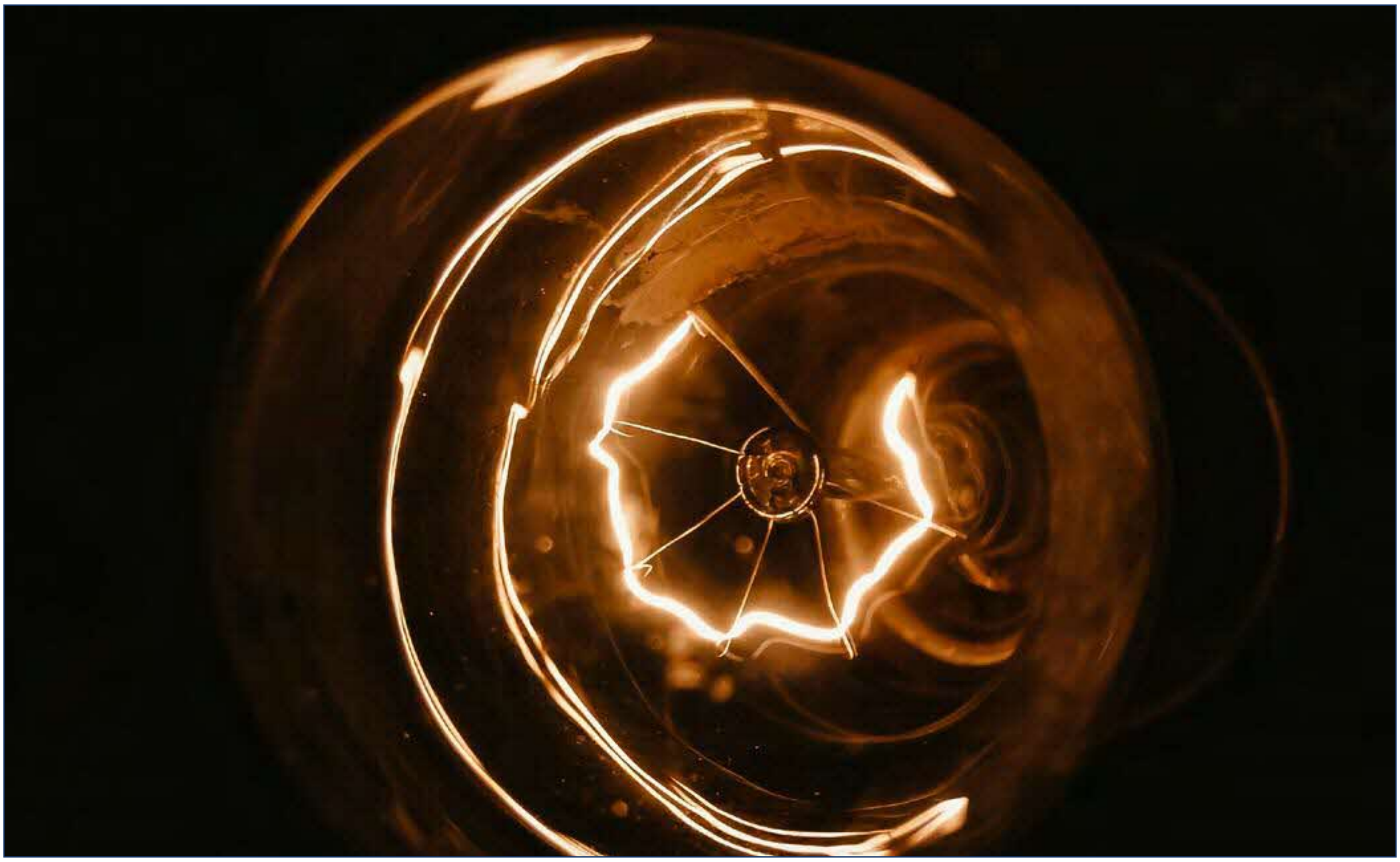
Environmental push – Going green. The urgency to tackle climate change is another powerful driver of nuclear energy demand. Nuclear energy is increasingly being viewed as the cornerstone of the clean energy mix by virtue of its ability to steadily produce electricity without carbon emissions. In fact, 31 nations have pledged to triple nuclear energy production before 2050 in the 2024 COP29 in order to contain global warming within 1.5°C. Additionally, policy support for nuclear energy is now palpable, with the EU including nuclear energy in its sustainability taxonomy, and the US inflation reduction act issuing tax credits for advanced nuclear reactor manufacturing. Globally, c.65 new reactors collectively generating c.72GW of electrical energy are now under construction across 15 countries, while extensive work is underway globally to extend lifespan of reactors in response to growing demand. Uranium demand is expected to mirror nuclear energy demand and witness a 28% rise by 2030 and 98% by 2040.

Defence and self-sufficiency. Disruptions from rising protectionism and geopolitical instability are prompting countries to de-risk critical industries by reshoring manufacturing and localising supply chains. On the back of this revival, the US alone is expected to witness a significant rise in electricity demand over the next decade which nuclear energy, by virtue of its high density and capacity factor, can potentially grow to cater for. As an example, 155 new manufacturing facilities have been built since 2021, and these are projected to consume c.13TWh of electricity every year. Accordingly, planned nuclear phase-outs in developed nations over the last decade are now seeing reversals. For instance, Belgium is postponing its 2025 exit by 10 years amid soaring energy prices, while Japan now sees 13 reactors back online to supply 8.5% of the nation's electrical power after nearly phasing out its nuclear infrastructure post-Fukushima.

Perhaps the most conspicuous demand for nuclear energy comes from defence technology and operations. From powering sophisticated digital information networks, military bases, transport, to battlefield systems, the US Department of Defence (DoD) consumes c.30 TWh of electricity annually on top of c.10mn gallons of fuel daily. In recognition of the insurmountable power consumption, the DoD embarked on the development of c.1-5MW nuclear microreactors under Project Pele, with the goal of generating continuous power remotely in an easily scalable and capex-efficient manner.

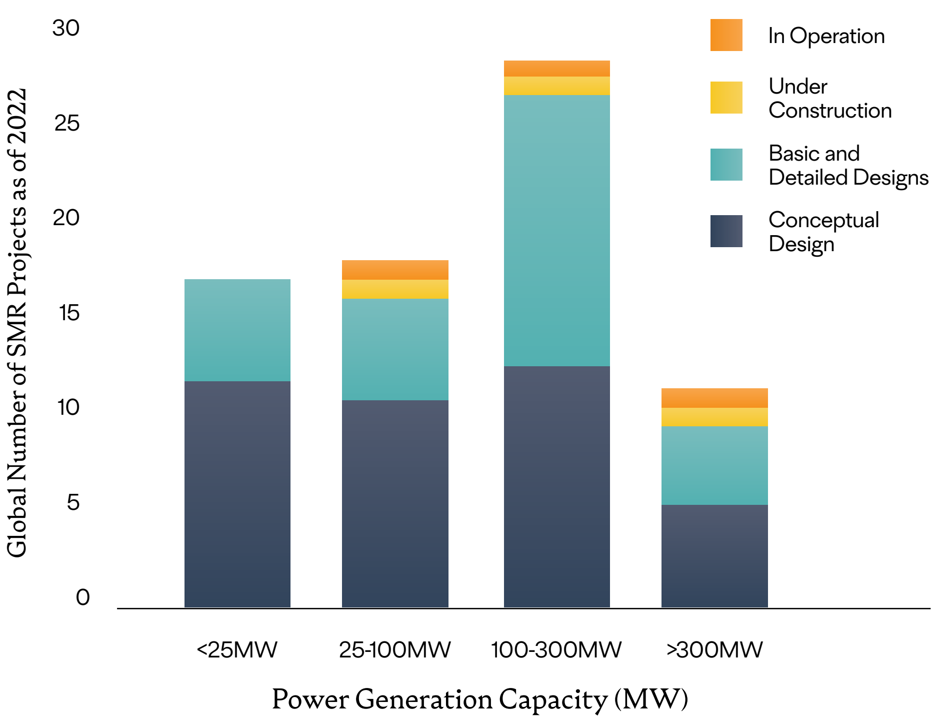
Rising geopolitical tensions globally are also expected to further intensify nuclear energy demand in defence, spurring the expansion of nuclear reactor technology in the name of energy security.

NEW INNOVATIONS IN NUCLEAR TECHNOLOGY



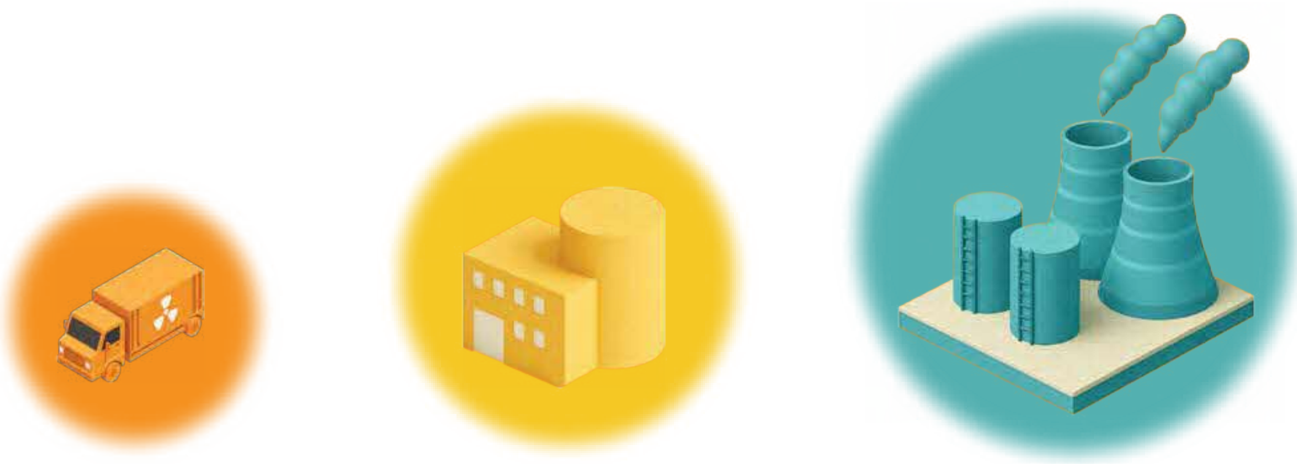
Modularity in focus. In recent times, nuclear reactor development in the private sector has caught up with defence-led innovations as corporates jump on the bandwagon of small modular reactor (SMR) development to secure their own energy needs. Prominent leaders in this space include Rolls-Royce, General Electric, Hitachi, Google, and Microsoft. Similar to the aforementioned military microreactors, SMRs are designed for scalability, rapid deployment, safety, and cost-efficiency, but have wider dispersions in energy production capacity (up to 300MW per unit) to cater for different commercial or industrial use-cases. More than 80 designs are currently in development and the global pipeline is registering a 65% y/y growth. In 2021, China connected a c.200MW SMR to its grid, while Russia operated a floating plant with twin 35MW reactors in the Arctic. Domestic projects in the West are aiming for deployment in early 2030s.

SMRs see strong pipeline momentum in the private sector



Source: International Energy Agency, DBS

A comparison of nuclear reactor sizes



Microreactor
1MW - 20MW

Small Modular Reactor
20MW - 300MW

Large-Scale Reactor
300MW - 1,000+ MW

Source: DBS

Innovating a nuclear future. Noteworthily, reactor development in the private sector has expanded beyond SMRs to next-generation reactors such as fast neutron and molten salt reactors which promise enhanced safety, fuel efficiency, and sustainability. Fast neutron reactors (FNRs), for instance, elevate the energetic profile of neutrons to better process fissile reactions, resulting in energy extraction from uranium c.70x more efficient than conventional reactors. Molten salt reactors (MSRs), on the other hand, incorporates fuel into a molten salt mixture that doubles up as a coolant. Interestingly, spent nuclear fuel can be incorporated into the molten salt mixture, opening up an avenue to recycle fuel and reduce radioactive waste. Safety features, such as freeze plugs which melt under overheating to drain fuel into protective tanks, can also be found in MSRs. Several prominent projects such as China's CFR-600 fast reactor, US Natrium sodium-cooled fast reactor, and Canada's IMSR molten salt reactor are targeting deployment in 2030s.

Beyond reactor innovations, advancements in accident-tolerant fuels, uranium enrichment, and waste management techniques are also underway. Worthy mentions include novel cladding materials and fuel pellets which can endure cooling malfunction, HALEU fuels which can reduce refuelling frequency, and deep borehole disposal processes which improve waste management. Collectively, these auxiliary improvements support the case for nuclear energy as indispensable technology to meet surging global electricity demands.

"Nuclear energy is one of the greatest discoveries in the history of science."

- Michael Bloomberg

RISKS IN THE NUCLEAR THEMATIC

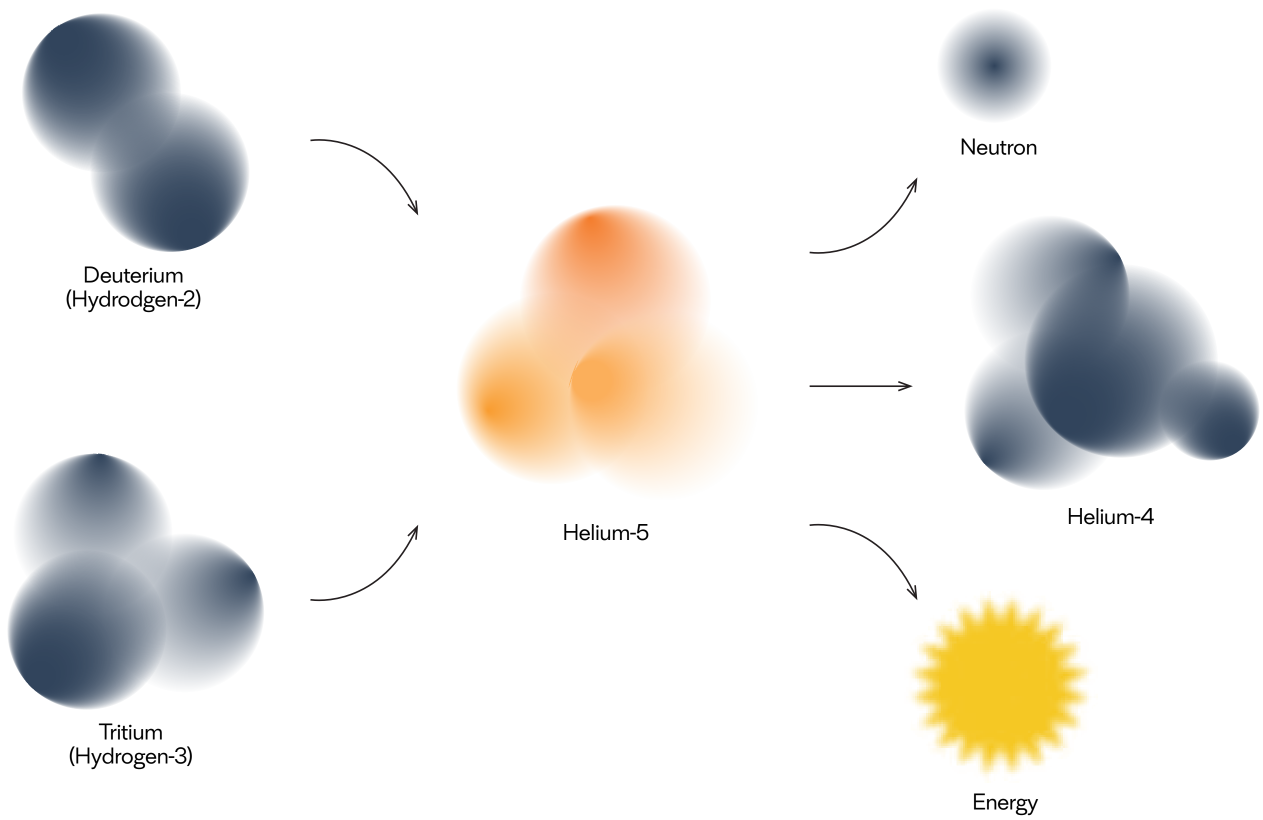
Minding the blind spots. Despite the compelling outlook for nuclear fission energy, there remains concerns that technological breakthroughs in energy production (e.g. nuclear fusion, thorium fuels, and space-based solar power) and computing efficiency (e.g. quantum computing) could diminish demand and impact growth trajectory of nuclear fission technology. We play the devil's advocate to our own thesis to assess the probabilities of risk to our own investment views.

Did you know?
Nuclear energy powers the Mars Rover in space explorations.

1. Nuclear Fusion

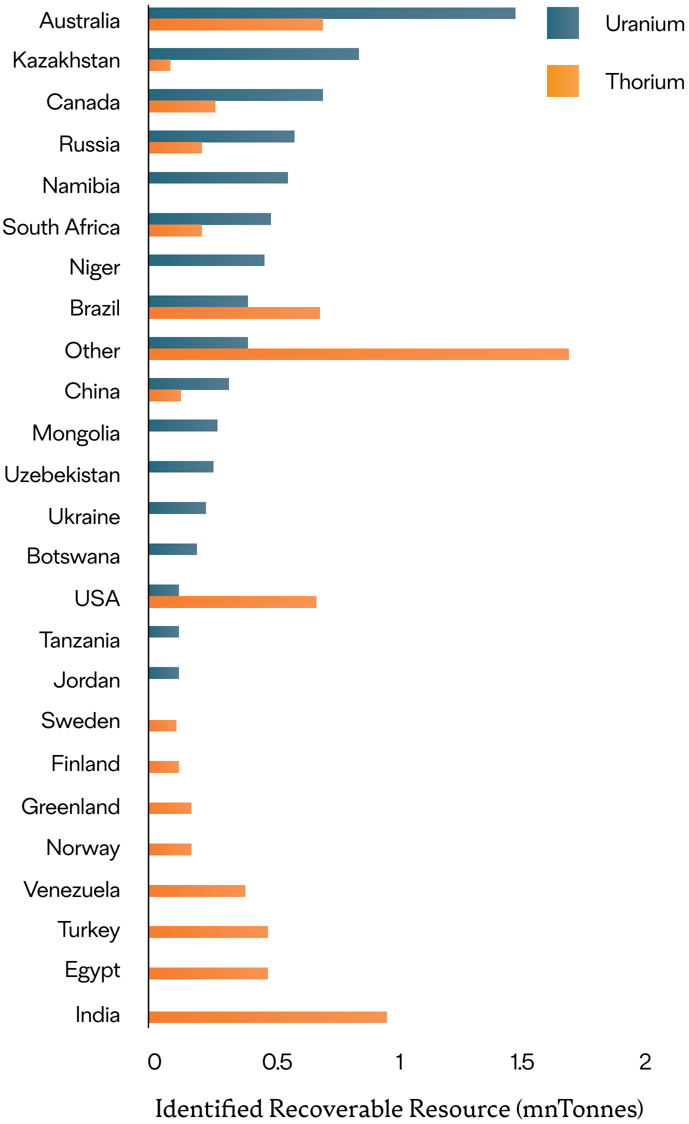
Fusion over fission? Nuclear fusion has long promised near-limitless energy. By combining hydrogen isotopes, it purportedly releases intense energetic bursts of plasma, similar to the sun, without producing long-lived radioactive waste. Recent breakthroughs are bringing this closer to reality. Notably, the US National Ignition Facility (NIF) proved in Dec 2022 and again in 2023, that man-made fusion can produce more energy than what is being delivered by lasers for ignition. Significant investments from governments and tech billionaires are now pouring into the technology, with private startups researching plasma confinement materials, and reactor designs. Fusion's potential could shift investor sentiment away from fission, and siphon investments that would otherwise avail safe and efficient nuclear fission energy much sooner. However, as fusion remains experimental and still faces significant technical challenges – including an extremely low EROI – its commercial deployment are likely decades away, with grid-scale plants unlikely before mid-century. This leaves nuclear fission largely unchallenged in the near term.

Nuclear fusion promises energy without radioactive waste



Source: DBS

Thorium could level the energy playing field for nations with limited uranium

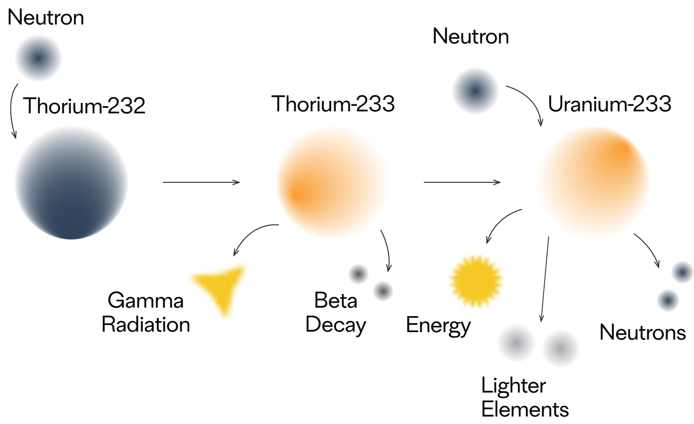


Source: World Nuclear, DBS

2. Thorium as an uranium substitute

No room for zero-sum games. With regard to nuclear fuel, thorium is increasingly viewed as an alternative to uranium. Its relative natural abundance over uranium (c.10.5ppm compared to uranium's c.3ppm) and the fact that nearly all mined thorium can be used without enrichment is particularly attractive. Boosted by their large domestic thorium reserves, India is currently leading thorium reactor research the likes of Liquid Fluoride Thorium Reactors (LFTRs). However, commercialisation likely remains decades away as progress has been fraught with technical issues. Compared to the fissile of enriched uranium, the thorium cycle releases intense gamma radiation that demands more complicated handling and containment. Therefore, considering its relative maturity, uranium-based reactors and uranium demand will likely remain dominant. Moreover, thorium systems rely heavily on enriched uranium as seed fuel. Consequently, thorium is likely to co-exist with uranium in the long term.

Thorium transmutation into fissile uranium



Source: DBS

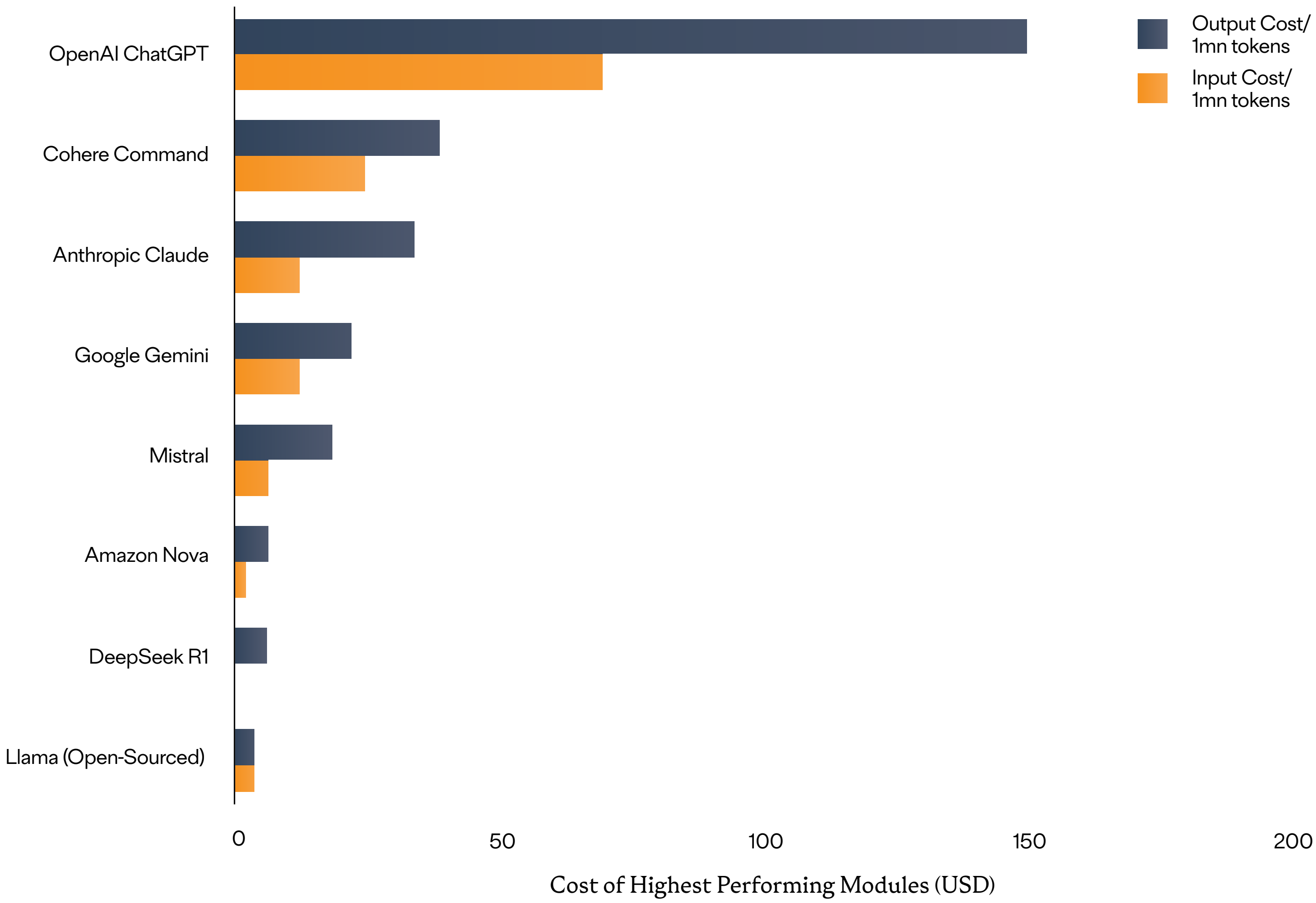
3. Breakthroughs in other renewables innovation

Practical considerations rank high. In parallel to the nuclear renaissance, existing renewables are also seeing advancements amid rising energy demand. A plethora of renewables derivatives such as high-altitude wind kites, enhanced geothermal systems, and space-based solar power (SBSP) have emerged. The most promising being the latter, which could potentially rival nuclear energy's high-density output. Caltech's 2023 experiment provided proof-of-principle for harvesting solar energy in space, and transmitting the energy wirelessly via lasers to Earth for utility. In comparison to ground panels, SBSP panels in orbit are believed to capture 8x more solar energy. Yet, SBSP faces practical challenges of launching enormous structures into orbit, managing transmission losses, and servicing difficulties. These challenges underscore the need for established technology like nuclear energy to bridge the practical limitations of emerging renewables.

4. Energy demand declines on greater efficiency

When promise meets trepidation. If there is one event that epitomises both the hopes and fears of making an AI and energy conviction, it would undoubtedly be the unveiling of DeepSeek in Jan 2025, and the subsequent selloff which erased nearly USD1tn in market capitalisation in the wider technology and energy ecosystem. Overnight, the promises of more efficient AI precipitated worries of technological and energy redundancies, affecting even nuclear energy and uranium stocks. With quantum computing recently making huge strides towards scalability and fault-tolerance – cue Microsoft's Majorana 1, Google's Willow, and IBM's cloud-accessible Quantum System One – the prospect of ultra-efficient AI on quantum computers precipitating a reenactment of the DeepSeek moment is increasingly palpable.

DeepSeek's top-performing model costs only a fraction of OpenAI's ChatGPT and comes close to open-sourced models



Source: DocsBot, DBS

In reality, such concerns of efficiency improvements reducing technological and energy demand have proven fallacious in most historical instances. In the 19th century, the rise of steam engines paradoxically increased the consumption of coal. In 2022, global energy demand grew c.1% y/y even though global energy efficiency reached 2.2% y/y. These examples reflect Jevon's Paradox which describes how efficiency gains are likely to result in wider technological adoption, driving greater demand over the long term instead.

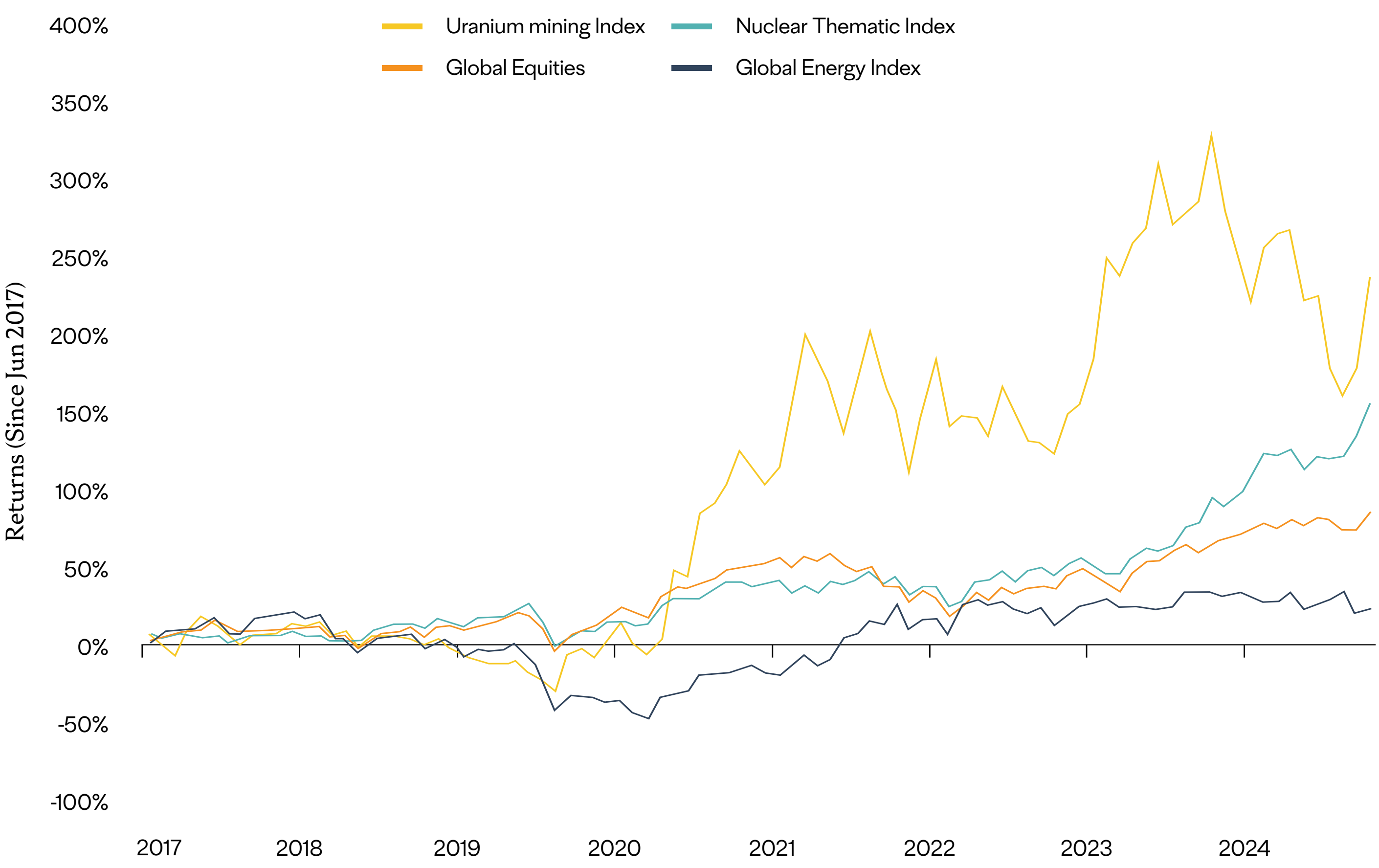
Paradoxically unstoppable. In the same light, ultra-efficient AI will likely expand AI use-cases and spike demand for more advanced computing systems. One should not overlook the energy requirements of advanced computing systems. At current low adoption rates, the Frontier supercomputer already consumes 504MWh daily, the energy equivalence of 15,000 households. Upon mainstream adoption, energy consumption to support supercomputing systems (and ultra-efficient AI) will likely skyrocket, with nuclear energy potentially stepping up to meet demands.

Meanwhile, parallel attempts to avail more efficient green energy production via nuclear fusion, next-generation renewables, and alternative nuclear fuels, should lower green energy prices, thereby capturing non-renewables userbase and widening green energy adoption and consumption. As discussed above, demand for nuclear fission energy and uranium ought to remain competitive amid these developments due to technical inter-dependencies and the value in energy diversification via more established technological counterparts.

INVESTMENT EXPRESSIONS

Investment expressions in the nuclear renaissance. All the promise of the nuclear renaissance would be for naught if there were no avenues by which investors could participate in this thematic. We do acknowledge that nuclear energy proliferation is in its early innings, and as such the supply chains are neither as extended nor diverse compared to more established industries for investors to find a variety of expressions. Particularly for uranium conversion and enrichment, most enrichers are fully state-owned enterprises (not surprising given the sensitive nature of the enrichment process). Russia's Rosatom, for example, accounts for more than a third of global enrichment capacity. Nonetheless, there are several segments that investors can still consider for meaningful exposure in this emerging theme.

Explosive performance in nuclear themes

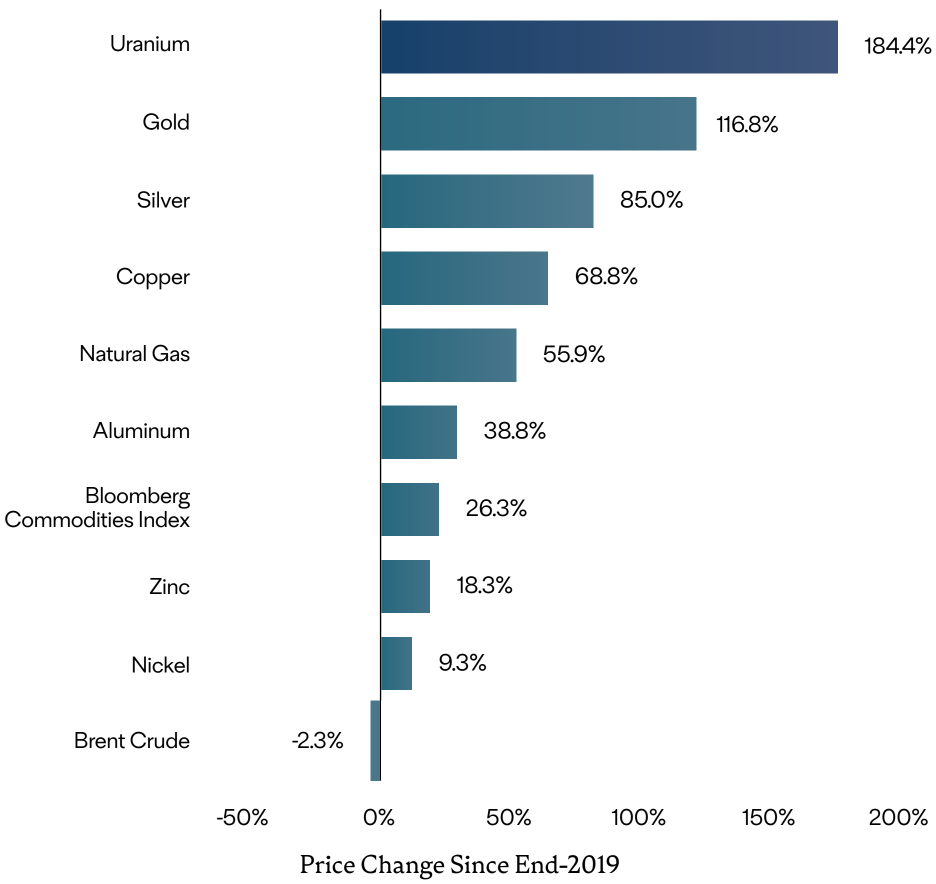


Source: Bloomberg, DBS
Data as of 28 May 2025

1. Physical uranium

The purest play. The expansion in nuclear energy demand unambiguously implies a growing need for uranium across the globe. The headlines themselves continue to suggest that the need is long-term structural; whether it is the commitment to net-zero targets, government planning of additional nuclear reactors/extension of the lifespan of existing ones, or the international commitment to triple nuclear energy capacity by 2050 in the COP28 pledge – the list goes on. Expanding nuclear capacity appears to be one of the rare priorities that many nations in a fragmented world remain in agreement of. Since end-2019, just before the pandemic hit, uranium prices have surged c.162%, eclipsing the performance of energy-related commodities like oil and natural gas, as well as precious metals such as gold and silver.

Uranium is the new oil

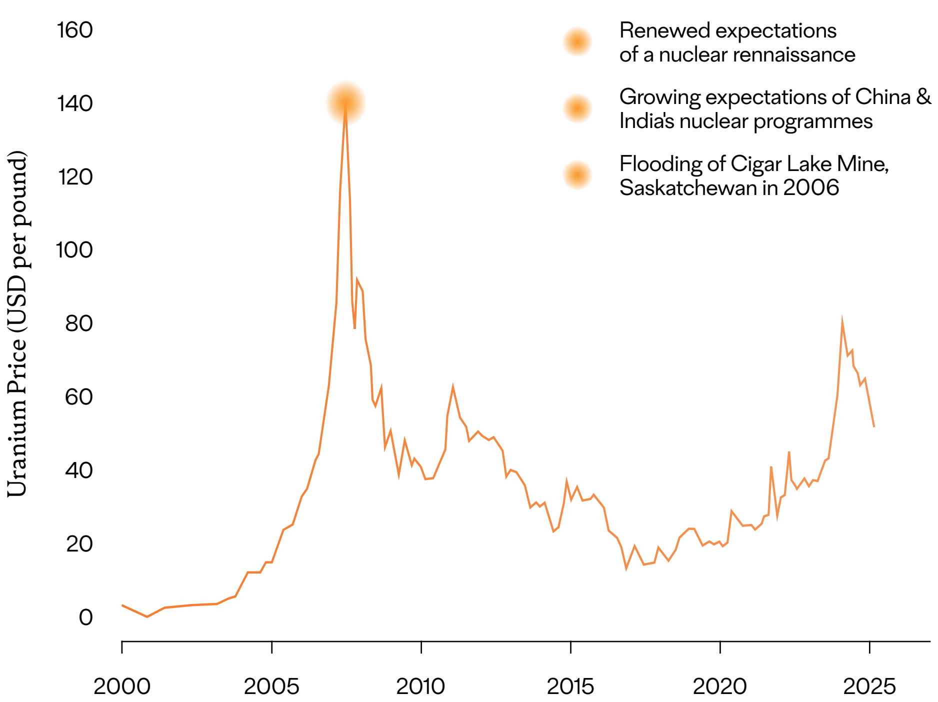


Source: Bloomberg, DBS
Data as of 28 May 2025

Expectations are nowhere near the peaks of the past. The consideration of supply-demand dynamics does not yet account for the potential for contingency demand – establishing strategic stockpiles of uranium by said countries to ensure adequate reserves in times of crisis. Despite the strong performance in spot uranium prices after the pandemic, it is curious to note that they have not surpassed the all-time highs back in 2007. Arguably, the narrative today – we opine – is far more compelling.

New kid on the block trades old school. Uranium presently trades OTC (over the counter) via contracts between buyers and sellers, unlike other mainstream commodities that trade on organised exchanges such as COMEX or LME. Physical uranium is less volatile than uranium-related equities, due to (i) the absence of financial leverage and (ii) lack of operational risk; one of the least complicated avenues to participate in this space. Investors may gain exposure through uranium futures, ETFs, or listed companies that hold physical uranium.

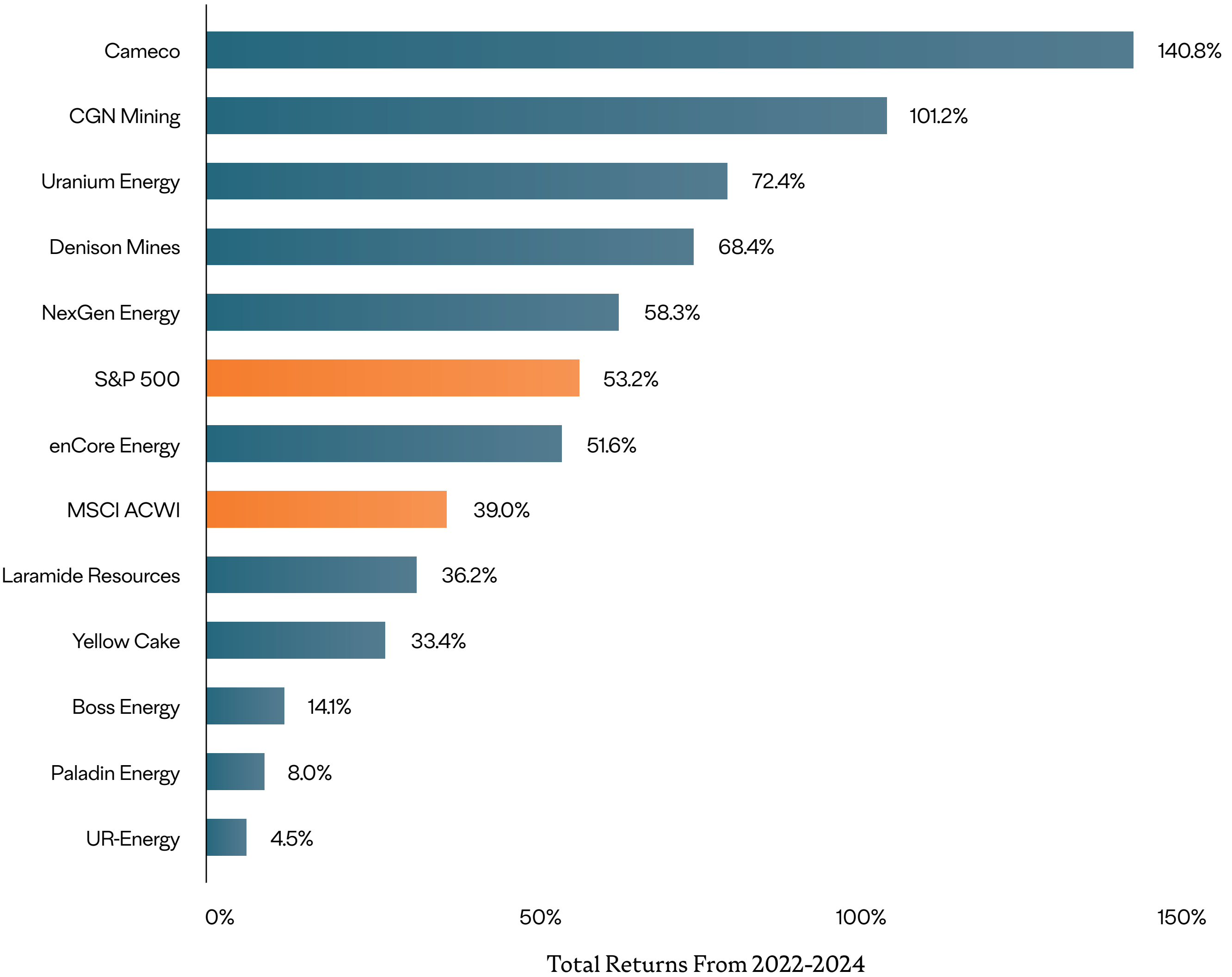
Uranium prices remain far from their all-time peak



2. Uranium miners

Going to the source. Sitting at the very top of the supply chain of equity plays lies uranium miners – which have specialisations across exploration, development, and production. As is typical with commodity miners, those in exploration and development are higher beta plays due to the larger execution risks of the projects, while producers have generally more predictable cash flows based on underlying commodity prices and margins. Nonetheless, uranium miners would clearly be beneficiaries under a nuclear energy revolution. Most notably, miner performance has been no slouch against the backdrop of the strong equity bull markets of 2023-2024.

Uranium miners performance kept pace with the equity bull market of 2023-2024



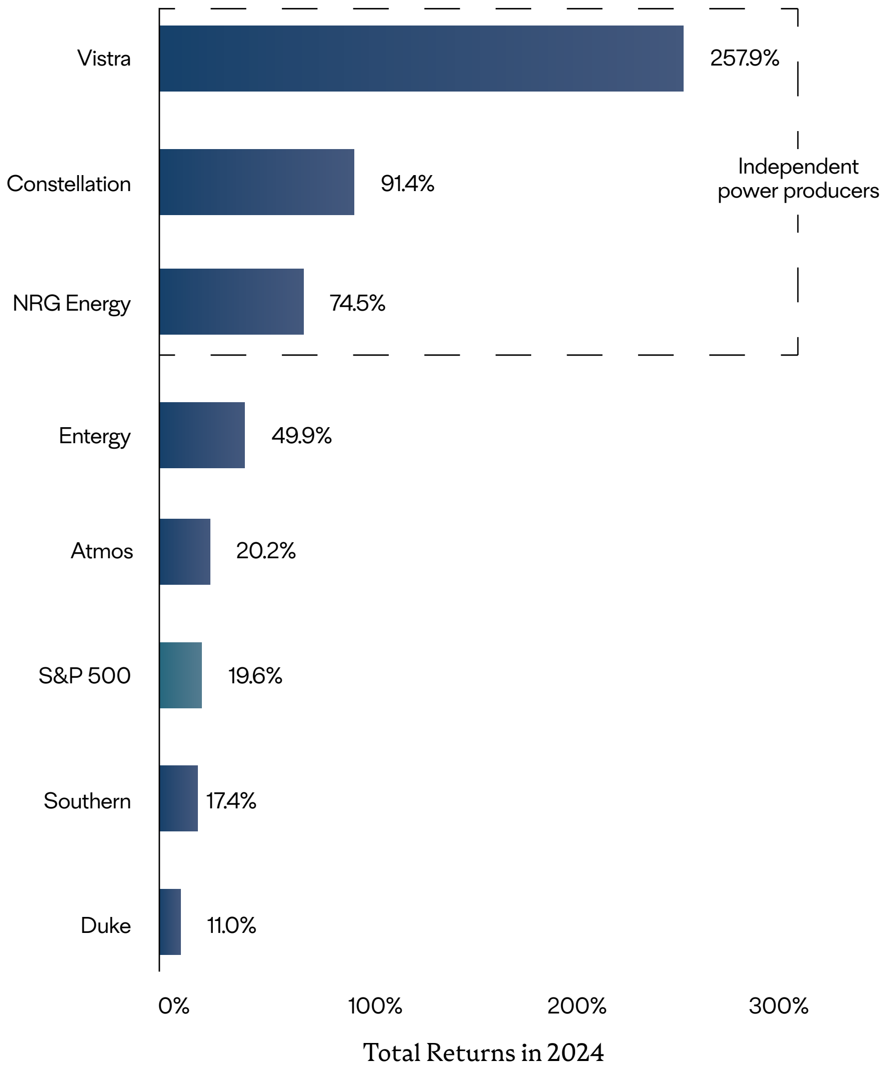
Source: Bloomberg, DBS

Company	Business	Focus Area(s)			
		Production	Exploration	Development	Investment Holding
Cameco	The largest uranium producers globally, with operations in Canada and Kazakhstan. Supplies uranium to nuclear utilities worldwide. Announced plans in Jan 2025 to increase uranium production by nearly 30% in 2024 at its Saskatchewan mines.	✓	✓	✓	
CGN Mining	Hong Kong-based company engaging in the development and trading of natural uranium resources. Focuses on securing stable uranium supply primarily serving nuclear power plants in China.				✓
Uranium Energy	US-based uranium mining and exploration company with ISR projects in Texas and development assets in Wyoming, Arizona, and Paraguay. Acquired ISR project Rio Tinto in Wyoming in 2024 for USD175mn.		✓	✓	
Denison Mines	Operating ISR projects (e.g. Wheeler River Project) at Canada's Athabasca Basin. Manages the Uranium Participation Corporation.		✓	✓	
NexGen	Canadian company developing the Rook I Project in Saskatchewan's Athabasca Basin.			✓	
enCore	US-based uranium developer focusing on advancing in-situ recovery (ISR) projects in Texas and New Mexico.			✓	
Laramide Resources	Canadian company engaging in the exploration and development of uranium projects in the US and Australia.		✓	✓	
Yellow Cake	UK-based company that purchases and holds physical uranium oxide (U_3O_8).				✓
Boss Energy	Focuses on the development of the Honeymoon Uranium Project in South Australia.			✓	
Paladin Energy	Australian-based uranium producer operating the Langer Heinrich Mine in Namibia.	✓		✓	
UR-Energy	Operates the Lost Creek in-situ recovery (ISR) uranium facility in Wyoming, US for low-cost uranium production.	✓	✓	✓	

3. Utilities

Nuclear power generation. Utility companies which have considerable nuclear power generation share of electricity production are also another means to gain exposure. That said, the utilities sector would invariably be affected by exogenous factors such as interest rates and general electrical consumption demand which is dependent on the economy. We are cognisant that headwinds remain as the Trump administration looks to repeal several provisions under the Inflation Reduction Act (IRA), which would roll back certain tax credits that renewable companies have benefitted from over the Biden administration. Nonetheless, nuclear power generation continues to receive bipartisan support and could escape the fallout from proposed budget cuts and continue to benefit from said credits. Independent power producers (IPPs) in particular, have demonstrated resilient performances in 2024, due to the robust AI outlook driving data center and big tech companies to seek nuclear-power contact opportunities with such providers.

Nuclear-ready independent power producers benefitting from the AI frenzy



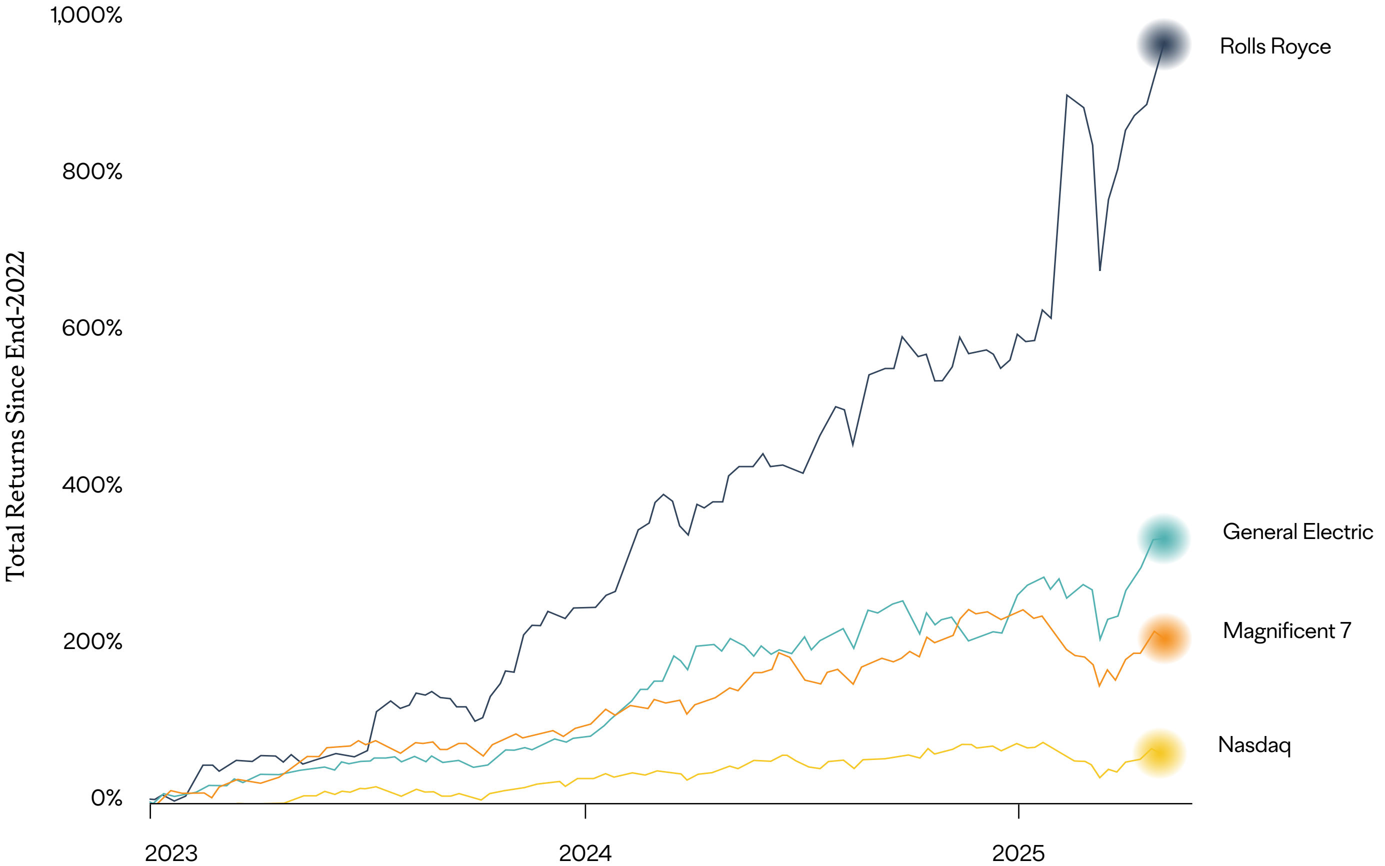
Source: Bloomberg, DBS

Company Name	Business Overview & Strategy	Recent Updates
NRG Energy	Engages in the production, sale, and delivery of energy and services across the US. Operates a mix of natural gas, coal, oil, and nuclear power plants.	In collaboration with GE Vernova and Kiewit, NRG is building four natural-gas electricity plants, with planned operation date in 2029, to cater for AI and data centre power demands.
Constellation	Operates a large nuclear power fleet in the US.	Announced its plan to acquire Calpine, a natural gas power provider, for USD16.4bn in Jan 2025 in its bid to become the leading retail electricity provider in the US. Entered into a 20-year contract with Microsoft in Sep 2024 to restart the Three Mile Island reactor and supply nuclear power.
Vistra	Operates a diverse energy portfolio with a total capacity of c.39GW. Provides electricity and related services across the US and invests in various renewable energy projects.	On the back of AI demand, its stock surged by 258% in 2024. Acquired nuclear sites in 2024 and became the second largest nuclear fleet operator in the US.

4. Nuclear reactor manufacturers

Builders of nuclear infrastructure. We lamentably admit that there are few pure-play expressions in reactor construction at present. Curiously however, conglomerates such as General Electric and Rolls Royce – which have been in the nuclear business for many years – seemed to have caught a bid, outperforming even the Magnificent 7 tech plays that the markets have attributed to as leading the equity bull run of 2023-2024. For certain, their multiple lines of businesses make it difficult to conclude that their reactor build capabilities alone are responsible for this outperformance. Nonetheless, the markets could increasingly attribute strong future value creation in reactor construction capabilities, should nuclear power continue to gain mainstream adoption.

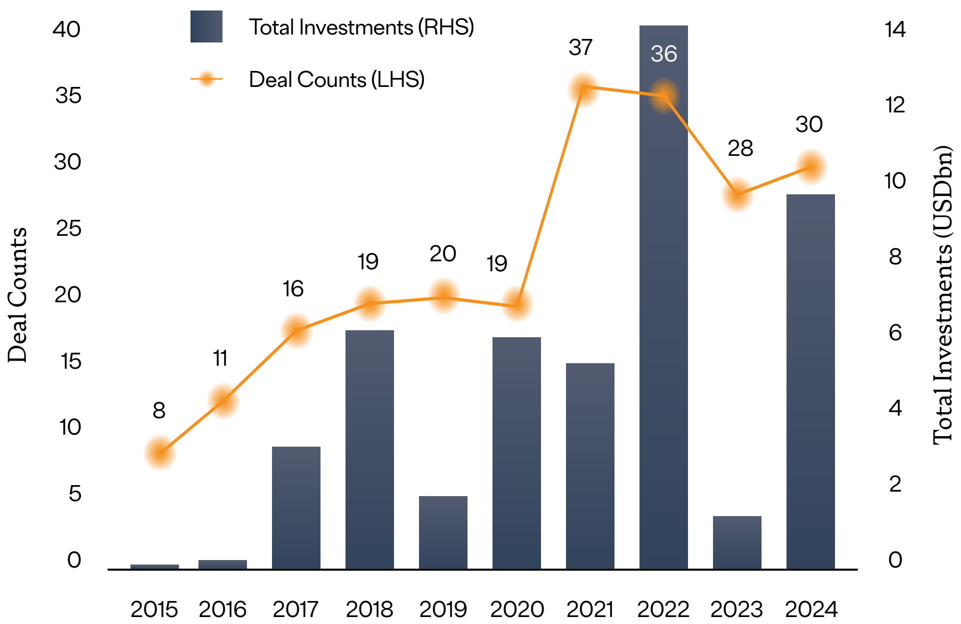
Beyond magnificent – General Electric and Rolls Royce



Source: Bloomberg, DBS
Data as of 28 May 2025

Small modular reactors (SMRs). We had highlighted the immense potential underpinning SMRs, and continue to think that this technology has the potential to follow the same S-curves as other successful human innovations of the past e.g. mobile phones, electric vehicles etc. The investment expressions presently, however, are few and far between. Rolls Royce has a proprietary design for SMRs, and is set to eventually build them for sale, but much of it is still in development. NuScale Power is a recently listed company that is the only investable pure play in SMRs (it is the only company with an SMR design approval from the Nuclear Regulatory Commission), but the company is small and has yet to turn a profit due to large R&D spend. We believe the investable opportunities would continue to grow as more private companies working on advanced nuclear and SMR technology begin to go public.

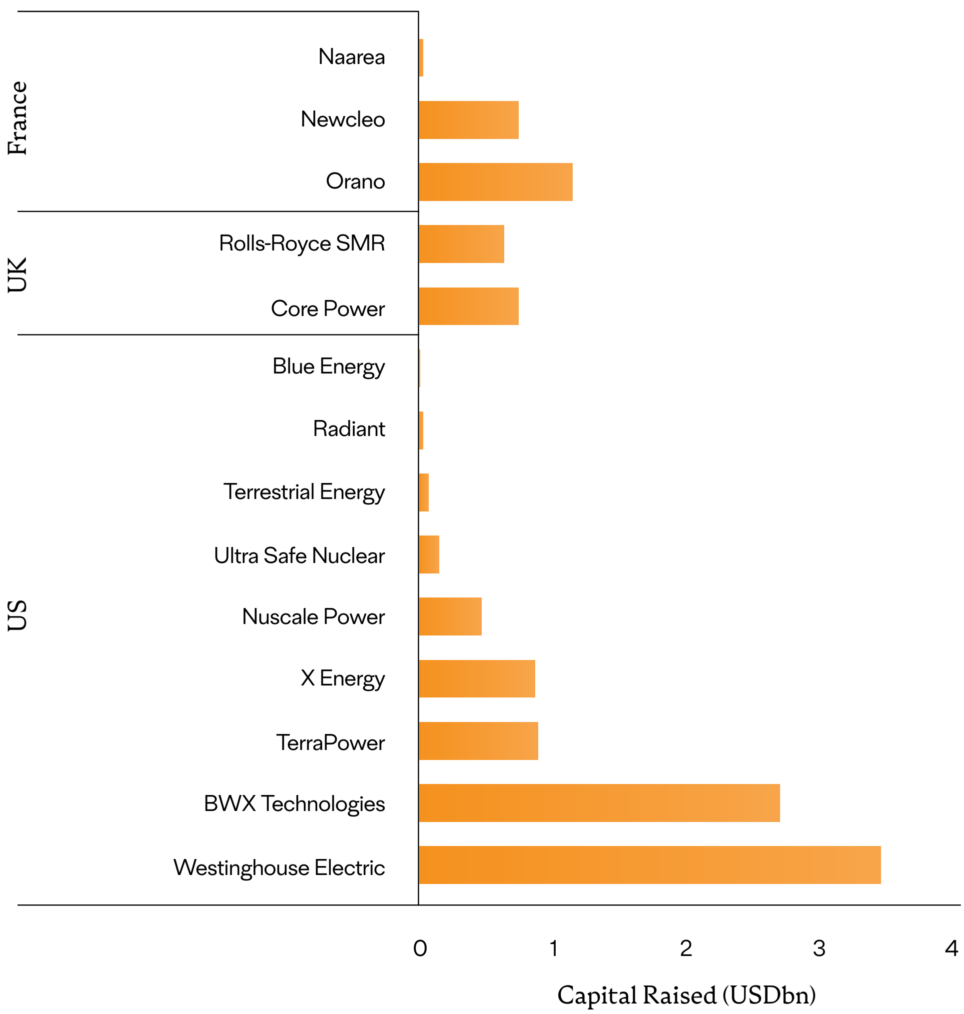
Early-stage nuclear fission deals in private markets are seeing 14.1% CAGR from 2015 to 2024



Source: Pitchbook, DBS

Hidden unlisted gems. Speaking of private companies, we believe that there is a plethora of opportunities in private equity, especially with companies working on Generation IV reactor designs and SMR development. Gen IV nuclear reactors represent the next stage in the evolution of nuclear energy technology, designed to address challenges related to fuel efficiency, waste management, and safety. Breakthroughs in both safety and scalability – we believe – would precipitate a "tipping point" moment in nuclear adoption, which would imply significant upside for early-stage investors in this space.

Early-stage nuclear fission companies in US lead fundraising



Source: Pitchbook, DBS

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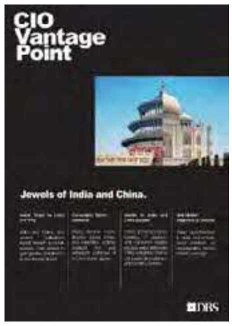

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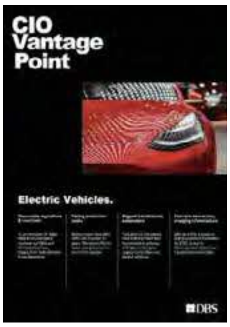

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