Nuclear Energy – Is a Bubble Brewing?

Power demand in the US is surging, a consensus that crosses the political divide. However, while Republicans are curtailing tax incentives for wind and solar energy, they are boosting incentives for other forms of energy generation. One of their favourites is nuclear power, which under the OBBBA received an extension of tax credits by three years, now lasting until 2035. For a capital-intensive sector with long lead times, this is important, and it is one reason nuclear is once again prominent in the headlines. The question remains: can nuclear help close the US power supply gap, or is it just another hype cycle?

It is common knowledge that Greenpeace and many environmental activists have a strong dislike of nuclear power. This sentiment emerged in the 1970s and was reinforced by disasters like Chernobyl and Fukushima. These events helped entrench a narrative that reactors are dangerous, the waste unmanageable, and the economics unworkable. Most of these claims, apart from the subjective fear of radiation, have since been challenged by experts. New reactor designs are inherently safer, waste volumes are modest and technically solvable, and nuclear provides something most renewables cannot: always-on, carbon-free electricity.

Nevertheless, nuclear power in the US has been dormant for decades. Until last year, no new reactors had entered commercial operation since the 1990s. Only the two long-delayed Vogtle units in Georgia were under construction, each more than seven years behind schedule with cost overruns of more than USD 20bn, 150% over the original budget. However, this is beginning to change as energy security, climate change, policy shifts and perhaps most importantly, rising power demand have pushed nuclear back onto the agenda. President Trump has singled out nuclear as a strategic priority, setting targets to have ten new reactors under construction by the end of this decade and to quadruple US nuclear capacity by 2050.

Although the ambition is notable, some observers, including us, have viewed it as more rhetorical than real. The US has limited experience and capacity in building nuclear plants and regulatory hurdles remain high. Still, since mid-2024, activity has picked up. In Tennessee, Kairos Power began construction of its Hermes test reactor, the first non-light-water reactor to break ground in the US in more than 50 years. The Department of Defence has also begun work on Project Pele, a portable 1–5 MWe microreactor designed to power remote military bases. Other projects are moving through permitting stages, often with strong federal backing. While these are small steps, in a slow-moving sector like nuclear, they are significant.

The US regulatory environment is undergoing its most substantial reshaping since the Atomic Energy Act of 1954. Trump’s executive orders have directed the Nuclear Regulatory Commission (NRC) to shift from a risk-averse to a “pro-innovation” stance. On paper, this sounds transformational and has excited investors. However, senior experts note that similar ambitions have been proposed by many administrations over the last 30 years. The fact is that the NRC’s processes are built on extensive institutional knowledge about reactor safety and licensing. While efficiency and innovation can be pursued, overriding safety protocols is extremely difficult, which explains why reforms rarely deliver the breakthroughs hoped for.

Nonetheless, improvements have been made in the review time for construction permits. A notable change finalized in 2024 allows emergency planning zones (EPZs) to be determined based on the potential size of a radiation release rather than fixed 10-mile zones designed for large, legacy reactors. For small reactors with very low fission inventories, especially microreactors, this could reduce the required safety buffer to just a few hundred meters. This change could enable reactors to be located

closer to population centres and industrial facilities. However, it remains uncertain how many local communities, many of which have long resisted wind farms and transmission lines, will welcome nuclear plants in their “backyards”.

Another major NRC reform is the ongoing rollout of a new licensing framework that is performance-based, risk-informed, and in principle technology-neutral. It replaces the assumption that all new reactors must resemble pressurized water reactors from the 1980s. Combined with Department of Energy’s pilot programs and targeted funding, this provides microreactors and other advanced designs a clearer path to licensing than ever before.

Internationally, despite the disastrous cost overruns on recent European nuclear plants and Germany’s shutdown of its own nuclear capacity, political support for nuclear power is growing. For example, Sweden’s parliament recently approved a government-backed plan to finance 5GW of new nuclear capacity through subsidies or contracts for difference (CFDs). While history suggests Sweden may struggle to meet its 2.5GW target by 2035, increased European focus on rebuilding its nuclear industry could help it reach the 5GW target by 2045. Other European countries are exploring similar moves, reflecting a broader global reassessment of the role of nuclear power.

All in all, as reflected in the rising share prices of nuclear technology-related stocks, momentum is building. However, we remain cautious about extrapolating too much from these early signals. Most small modular reactors (SMR) and microreactor projects announced so far are small-scale demonstrations, not utility-scale deployments. Many are backed by federal grants or strategic customers, like the military, rather than competitive power markets. Moreover, despite regulatory improvements, building commercial reactors still takes years, not quarters. Even under the most optimistic assumptions, it is difficult to envision the US nuclear fleet adding more than a few hundred megawatts of capacity in the next five years. Given the expected power supply gap driven by AI data centre demand, this will not be sufficient. As we have long argued, solar and wind remain the only large-scale power generators capable of closing the supply gap over the next 3-4 years.

Nevertheless, a wave of private-sector activity is underway, with over 100 start-ups pursuing SMRs or microreactors. This is encouraging and demonstrates genuine innovation, but it raises a fundamental question: which utilities or governments will truly place their bets on one of these companies? Especially since major industry players like GE-Hitachi, Westinghouse and Rolls Royce, with more than 60 years of experience, have conducted research on small reactors for decades and offer their own SMR commercial solutions. As the incumbents begin winning contracts, we believe most start-ups will ultimately struggle to attract customers, secure regulatory approval and raise additional capital.

On the fuel side, spot uranium price rose fivefold to over USD 100 per pound in 2024 before settling below USD 80. The move was driven by structural supply tightness as well as political developments. Importantly, the Biden administration passed a law banning Russian uranium imports from 2028, with a waiver period through 2027. Since Russia supplies around 20–25% of enriched uranium used in US reactors, this caused significant optimism among both established and start-up uranium miners. There is renewed focus on domestic enrichment and conversion capacity, with mothballed mines restarting and new greenfield mining projects attracting capital.

However, there is probably not yet a speculative bubble in uranium. The supply side has been underinvested for years, and shifting away from Russian supply will require a meaningful rebuilding of US capacity. That said, much of the anticipated uranium demand growth assumes a significant ramp-up in reactor construction that has yet to materialize. Also, Trump tend to be his favourite sectors’ worst enemy at times, and it is easy to imagine a future reversal of the Russian uranium ban as part of

a future trade agreement with Russia.

All in all, we believe the nuclear sector is in the early stages of a structural, albeit uncertain, shift. The tailwinds are real: bipartisan political support, generous tax credits, a friendlier regulatory regime, and a clear case for firm, carbon-free power. However, enthusiasm has outpaced construction timelines. The only two public SMR providers (excluding the SPAC pipeline), Nuscale Power and Oklo Inc are trading at 19x and 362x EV/Sales in 2028, respectively, demanding valuations that require flawless execution and continued regulatory and customer success. The broader investment community needs to distinguish between long-term opportunity and near-term hype.

For now, we remain on the sidelines and expect incumbents to be the ultimate winners rather than the start-ups. We anticipate ample opportunities to short the hype, much like in other similar cycles. We are monitoring permitting pipelines, construction starts, and domestic fuel policy more closely than headlines or stock price movements. When it comes to nuclear, progress is measured in poured concrete, not press releases.

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