A photograph of a nuclear power plant under construction. The central focus is a large, white, hourglass-shaped cooling tower. In the background, there are several white domes and other industrial structures. The sky is a clear, vibrant blue with some light clouds. The foreground shows a grassy field. The image is partially obscured by a dark grey rounded rectangle on the left and a black rounded rectangle at the bottom, which contains the title and subtitle. An orange rounded rectangle is visible at the bottom right corner.

Nuclear's Second Act: Non-Water Cooled Advanced Reactors

A comprehensive analysis of the FHR and SFR ecosystem,
from technology to capital and commercialization

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EXECUTIVE SUMMARY

THE ECOSYSTEM: 6 COMPANIES. 2 TECHNOLOGIES. CONCRETE IN THE GROUND.

The FHR & SFR ecosystem is one of the most capital-concentrated in advanced energy, 6 companies globally, all founded after 2006, all responding to the same macro convergence: AI power demand, energy sovereignty, IRA incentives, and Chinese sovereign urgency. The NRC issued the first non-water-cooled construction permit in the US in over 50 years in December 2023. A second followed in early 2026. Concrete is being poured. This is not a whiteboard conversation.

CONSTRUCTION STATUS: THREE REACTORS BREAKING GROUND

Kairos Power's Hermes FHR reactor at Oak Ridge is pouring nuclear-safety concrete (May 2025) under the first non-LWR NRC construction permit in 50+ years. TerraPower's Natrium SFR at Kemmerer WY received its NRC construction permit in early 2026, the first ever for a commercial non-LWR. Oklo broke ground at Idaho National Laboratory in September 2025. Three separate regulatory systems in three countries (NRC, CNSC, ASNR) have all cleared non-water-cooled reactors within 24 months.

CAPITAL: CONCENTRATED AND ACCELERATING

Funding peaked at \$854M in 2022, driven by TerraPower's twin Series C closes (\$750M August, \$80M November). After a silent 2023, capital returned at scale in 2025 with \$681M across three rounds, TerraPower's \$650M Series D led by NVentures (NVIDIA), Hexana's \$16M Series B, and Otrera's \$3M seed round. 96% of all disclosed capital sits in one company (excluding Kairos Power's undisclosed private equity and Oklo's SPAC proceeds). The challenger cohort has collectively raised ~\$58M, still priced at pre-construction risk.

EXIT ACTIVITY: NO ACQUISITIONS. ONE IPO. WINDOW OPEN.

NYSE: OKLO

Oklo listed via SPAC in May 2024, the only public market entry in the six-company universe. No acquisitions have been recorded. Strategic acquirers (utilities, industrial conglomerates, sovereign energy entities) have not yet moved. The acquisition premium in nuclear is tied to operating license achievement, not construction permits. That event is 3–5 years away. Investors entering now are ahead of it.

THE ECOSYSTEM

6

COMPANIES
FHR(1) + SFR(5)

3

COUNTRIES
USA · CA · FR

2

NRC PERMITS
2023 & 2026

CAPITAL: CONCENTRATED AND ACCELERATING

~\$1.6B

All-time disclosed equity
funding across 11 rounds

~\$1.4B

in mega rounds (≥\$100M) -
both TerraPower

SNAPSHOT

~\$854M

Peak annual funding
2022 - TerraPower Series C

96%

Capital in one company
TerraPower of all disclosed equity (excluding Kairos
Power's undisclosed private equity and Oklo's SPAC
proceeds)

Dec 2023

First NRC construction permit
Non-LWR in the US in 50+ years

KEY SIGNAL

The first non-water-cooled commercial reactors in 50 years are being built right now, priced for construction risk. They reprice on operations.

Key signal: Late-stage capital is already deployed at construction scale. Early-stage activity is forming behind it in Europe. The two-speed compression, TerraPower priced for utility-scale operations, Challenger cohort priced for pre-construction risk, is where the return multiple lives.

01

The Coolant Revolution: Beyond Water-Cooled Reactors

FLUORIDE SALT-COOLED (FHR) • SODIUM-COOLED FAST REACTORS (SFR)

1.1 WHY WATER-COOLED REACTORS HAVE A CEILING

Two technologies are replacing water as a nuclear coolant. Both operate at near-atmospheric pressure. Both run hotter than any water reactor can. One is already pouring concrete. This section explains why the coolant choice matters, and what it unlocks commercially.

The pressurised water reactor (PWR) keeps water liquid at 290–325°C by running its primary loop at ~155 bar, 153× atmospheric pressure¹. Every safety system, every containment structure, every valve in a conventional nuclear plant exists to manage what happens if that pressurised water is lost. The engineering consequence is cost, complexity, and a hard temperature ceiling.

At 325°C, a PWR cannot serve the large industrial energy market that requires heat above 500°C - steel, hydrogen, advanced chemicals, synthetic fuels. Nuclear has been locked out of industrial decarbonisation not by physics, but by coolant choice. Two alternative coolant architectures, fluoride salt and liquid sodium have now matured to the point where commercial companies are putting concrete in the ground.

1.2 FHR EXPLAINED - SOLID TRISO FUEL, FLUORIDE SALT COOLANT, WHAT IT UNLOCKS

1,430°C

FLiBe boiling point vs. 325°C max for water

600–700°C

FHR operating range at near-atmospheric pressure

The FHR replaces water with molten FLiBe, lithium fluoride + beryllium fluoride. FLiBe boils at 1,430°C and operates at near-atmospheric pressure, eliminating pressurised containment entirely². The fuel is TRISO: poppy-seed-sized uranium kernels wrapped in ceramic and carbon layers that act as their own containment. TRISO particles cannot melt and have been tested to 1,800°C with no radioactive release. The combination, low-pressure, high-temperature, inherently contained fuel - opens industrial heat markets no PWR can reach³.



1.3 SFR EXPLAINED - LIQUID SODIUM COOLANT, FAST NEUTRONS, WASTE-BURNING CAPABILITY

883°C

Sodium boiling point - 785°C liquid range vs. water's 100°C

400+

Reactor-years of global SFR operating experience across 20+ reactors⁴

The SFR replaces water with liquid sodium, which stays liquid from 98°C to 883°C. Operating at 500–550°C and near-atmospheric pressure, SFRs are more thermally efficient than any LWR (35–40% vs ~33%)⁵. The fast neutron spectrum is the strategic differentiator: fast neutrons can fission long-lived actinides in spent nuclear fuel, turning a waste problem into additional fuel⁶. The trade-off is sodium's violent reactivity with air and water, which requires sealed systems and adds engineering complexity that is well-understood and has decades of operating history but it remains the primary cost and safety management challenge for SFR developers⁷.

TABLE 1

1.4 FHR vs. SFR - comparative overview

Feature	FHR - Fluoride Salt-Cooled	SFR - Sodium-Cooled Fast
• Coolant	Molten FLiBe (LiF-BeF ₂)	Liquid sodium metal
• Operating temp.	600–700°C	500–550°C
• Operating pressure	Near atmospheric	Near atmospheric
• Fuel form	Solid TRISO pebbles in graphite	Metal alloy (U-Zr) or MOX fuel pins
• Neutron spectrum	Thermal	Fast
• Coolant boiling point	1,430°C	883°C
• Core advantages	Unlocks 600–700°C industrial heat; TRISO provides particle-level containment; low-pressure design eliminates major PWR accident scenarios	400+ reactor-years operating history; actinide waste burning; closed fuel cycle capability; 35–40% thermal efficiency
• Key challenges	Beryllium toxicity in FLiBe; tritium management; limited commercial history	Sodium reacts violently with air/water; opaque coolant; sealed intermediate loop required
• Where they fit	Industrial heat >600°C; SMR process heat markets	Grid-scale baseload 50–1,500 MWe; fuel-cycle-closing programmes

TABLE 1

1.5 Key regulatory milestones - NRC, CNSC, ASNR, and the DOE pilot pathway

Date	Regulator	Company	Milestone	Status
Dec 2023	NRC (US)	Kairos Power	Construction permit issued for Hermes FHR demo reactor, first non-LWR NRC permit in 50+ years ⁸	Under construction
Jun 2024	NRC / DOE (US)	TerraPower	Sodium non-nuclear groundbreaking, Kemmerer WY; NRC construction permit issued early 2026 ⁹	Active construction
Sep 2025	DOE (US) ¹⁰	Oklo	Aurora sodium fast reactor groundbreaking at INL under DOE Reactor Pilot Program ¹¹	DOE pathway
Jul 2025	CNSC (Canada)	ARC Clean Technology	Phase 2 Vendor Design Review completed, no fundamental licensing barriers identified ¹²	Pre-construction
2025	ASNR (France)	Hexana	Entered preparatory regulatory review phase with French nuclear safety authority, post \$16M raise ¹³	Pre-construction

Synthesis: The regulatory activity of 2023–2026 is not iterative progress, it is category creation. The Kairos NRC construction permit was the first non-water-cooled reactor approved in the US in over 50 years. The Sodium NRC construction permit is the first ever issued for a commercial non-LWR. The ARC-100 CNSC clearance is the first sodium fast reactor to complete that review globally. Three separate regulatory systems, in three countries, have all cleared advanced non-water-cooled reactors within 24 months of each other. That concurrence is the signal.

Risk to watch: NRC construction permits cover construction only. Each company still requires a separate operating license before any reactor generates power. The commercial timeline runs through 2029–2031 at the earliest for the most advanced projects.

02

Ecosystem At A Glance - The FHR & SFR Ecosystem

2.1 TOTAL COMPANIES IN SCOPE -
METHODOLOGY & SCOPE DEFINITION

The FHR and SFR ecosystem remains highly concentrated, with six companies operating at a deployment stage, having moved beyond early R&D into demonstration, licensing, or construction pathways. The scope of this report is defined through a technology and deployment lens, focusing on non-water-cooled reactor developers (FHR & SFR) that are actively progressing toward real-world build-out. This includes both: Commercial licensing pathways (e.g., NRC-led processes) and Government-supported demonstration pathways.

Within this, Oklo represents a demonstration-led deployment case, with its Aurora reactor under construction via a DOE pilot program, while commercial licensing continues in parallel. Overall, the limited number of players reflects high entry barriers, long development timelines, and concentrated capital, positioning the ecosystem as select and execution-focused rather than broadly commercialized.

2.2 STAGE DISTRIBUTION - SEED / EARLY / LATE STAGE

The capital stack is heavily back-weighted. Three late-stage rounds account for \$1.5B - 94% of total funding, reflecting the capital intensity of nuclear construction. The 2022 equity peak (\$830M in a single year) was catalysed by the DOE ARDP framework, which de-risked large private rounds by committing federal cost-share, ARDP disbursements themselves are excluded from equity totals per this report's methodology. The small seed cohort (2024 peak) signals early-stage European activity is now beginning; Hexana and Otrera represent a nascent second geography.

TABLE 3
Funding by Stage

Stage	Rounds	Total Funding	Peak Year	What it signals
Seed	3	\$3M	2024 (3M)	Concept validation; European activity emerging
Early Stage	5	\$90M	2010 (35M)	Platform-building; regulatory pre-engagement
Late Stage	3	\$1.5B	2022 (830M)	Construction-readiness capital; sovereign co-investment

(\$ = USD) YTD figures are considered up to Apr 10, 2026 - Source: Tracxn

Note: The \$24M discrepancy between the \$854M peak cited in the year-on-year funding analysis and the \$830M late-stage peak in the stage distribution table reflects a classification difference: ARC Clean Technology's April 2022 Series A (\$24M) is categorised as early-stage funding and is therefore excluded from the late-stage 2022 total. Both figures are internally consistent with their respective methodologies.

2.3 GEOGRAPHY - HQ DISTRIBUTION AND CONSTRUCTION SITES

TABLE 4

Funding by Geography

Country	Companies	Total Funding	Investment signal
United States	3	\$1.5B	TerraPower, Kairos Power, Oklo. DOE ARDP drives scale. Sodium NRC construction permit issued 2026.
Canada	1	\$39M	ARC Clean Technology. NB provincial equity + private investors. Federal and provincial grants provide additional non-dilutive support (excluded from \$39M equity total). Phase 2 CNSC design review cleared Jul 2025.
France	2	\$19M	Hexana + Otrera New Energy, both CEA spin-offs, France 2030 laureates. ASNR pre-review engagement 2025.

(\$ = USD) YTD figures are considered up to Apr 10, 2026 - Source: Tracxn

The US dominates on both company count and capital, driven by the DOE ARDP public-private framework which de-risked large private rounds. Canada is a single-company market but strategically credible, ARC-100 at Point Lepreau has provincial and federal backing with a 2029 commissioning target.

France is the watch market: two CEA spin-offs, state funding, and ASNR pre-review engagement in 2025 signal that European SFR activity is moving from research to deployment intent faster than most peer markets.



2.4 FOUNDED TIMELINE - THREE FOUNDING WAVES

TABLE 5

Company Founded Year

Year	Company	Formation signal	Wave
2006	TerraPower	Founded by Bill Gates. Travelling Wave Reactor research. First commercial non-LWR NRC construction permit filed 2024.	Wave 1
2006	ARC Clean Technology	Rooted in EBR-II legacy at Argonne National Laboratory. Partnered with NB Power for ARC-100 at Point Lepreau.	Wave 1
2013	Oklo	First advanced reactor company to submit a custom NRC combined licence. Went public NYSE: OKLO. DOE groundbreaking INL, Sep 2025.	Wave 1
2016	Kairos Power	Catalysed by DOE ARDP. First non-LWR NRC construction permit in 50+ years. Nuclear concrete poured May 2025.	Wave 2
2023	Hexana	CEA spin-off, France 2030. Builds on Phénix & ASTRID sodium legacy. \$16M raised Jan 2025; ASNR pre-review 2025.	Wave 3
2024	Otrera New Energy	Second CEA sodium spin-off. 110 MWe CHP focus. \$3M seed (Dec 2024). France 2030 laureate. Youngest company in scope.	Wave 3

(\$ = USD). YTD figures are considered up to Apr 10, 2026 - Source: Tracxn

Company formation followed three discrete triggers rather than a linear trend. Wave 1 (2006–2013) was institutional and research-led, organisations with deep DOE and national lab roots. Wave 2 (2016) was catalysed by the DOE ARDP announcement, which de-risked the capital case for Kairos Power.

Wave 3 (2023–2024) is the European response: France's energy sovereignty agenda following the 2022 energy crisis produced two CEA spin-offs in back-to-back years.

Synthesis: The three-wave structure is not coincidental, each wave was triggered by a policy or regulatory event: ARDP funding in the US, NRC construction permits in 2023, and the French energy sovereignty push post-2022. The next formation trigger is likely to be the first operating license granted to a non-LWR in the US or Canada. When that lands, expect a Wave 4 across multiple geographies.

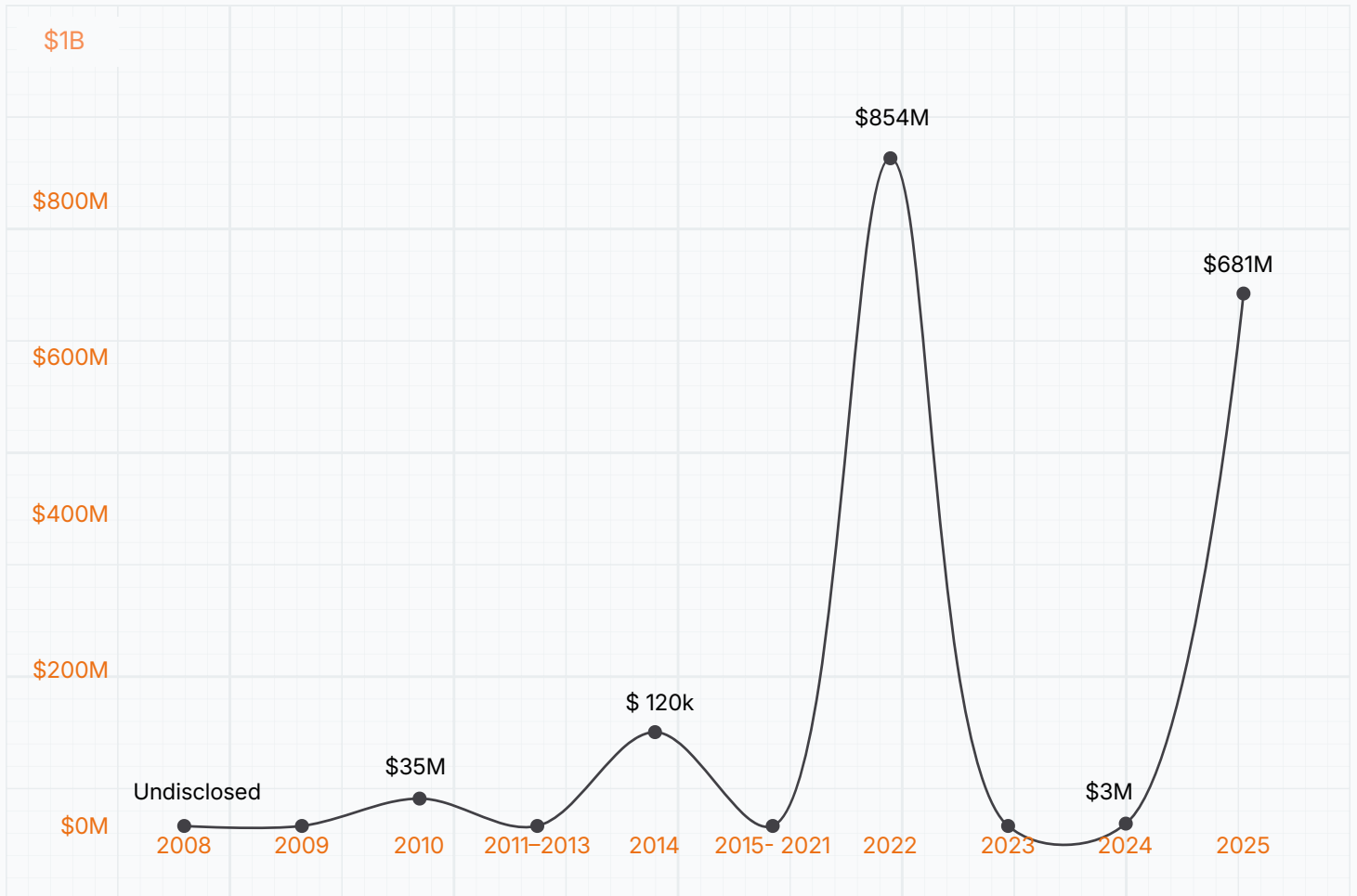
03 Funding Landscape - Where The Money Is Flowing

3.1 YEAR-ON-YEAR FUNDING, A DECADE OF SILENCE, THEN TWO SURGES

From 2009 through 2021, thirteen years, the ecosystem produced two disclosed rounds: TerraPower's \$35M Series B in 2010 and Oklo's \$120K seed round in 2014. Neither attracted follow-on capital. No new entrants raised institutional rounds. A technology advancing through national labs and DOE programmes, not venture pipelines, the Oklo seed being the sole exception, and at \$120K, barely registering against the capital intensity the sector requires.

The pattern breaks in 2022 with \$854M across three rounds, all TerraPower, \$750M Series C in August, \$80M Series C extension in November, and ARC Clean Technology's \$24M Series A. 2023 went completely silent, the year Kairos received its NRC construction permit and TerraPower signed its DOE technology investment agreement, capital paused. Then 2025 reopened at \$681M across three rounds, led by TerraPower's \$650M Series D, plus Hexana's \$16M Series B and Otrera's \$3M seed close. The 2023 zero is not a slowdown; it is capital watching construction-stage proof arrive before committing at scale.

EXIBIT 1
Y-O-Y Funding Trends



(\$ = USD) YTD figures are considered up to Apr 10, 2026. - Source: Tracxn

Synthesis: The 2023 zero is the most analytically interesting data point. The year TerraPower received its DOE technology investment agreement and Kairos received its NRC construction permit, arguably the two most significant de-risking events in the ecosystem's history, saw zero new funding rounds. The capital was not slow; it was watching. The 2025 rebound at \$681M confirms the thesis: investors waited for construction-stage proof, got it, and then moved. The formation of the early-stage European cohort (Hexana \$16M Jan 2025, Otrera \$3M Dec 2024) in the same year signals that the funding curve is now broadening beyond a single dominant company for the first time.

3.2 TOP FUNDED COMPANIES - CUMULATIVE CAPITAL RAISED

TerraPower accounts for 96% of all disclosed equity funding in this six-company universe, \$1.5B of the \$1.6B total. The remaining four companies with disclosed funding have collectively raised ~\$58M: ARC Clean Technology (\$39M), Hexana (\$16M), Otrera (\$3M), and Oklo (\$120K).

Although Kairos Power has raised private equity, the amounts have not been publicly disclosed and are therefore excluded from this analysis. That concentration reflects the capital intensity of utility-scale nuclear construction. TerraPower is the only company in this report actively building a commercial-scale reactor under an NRC construction permit, a stage that demands a fundamentally different order of capital than the pre-construction and conceptual-design companies behind it.

TABLE 6

List of Top Funded Companies

Company	Founded	Stage	Total Funding	Latest Round	Latest Investors
TerraPower	2006	Series D	\$1.5B	\$650M - (Jun 2025)	NVentures (NVIDIA), HD Hyundai
ARC Clean Technology	2006	Series B	\$39M	\$15M - (Dec 2025)	Xplor Ventures, Banpu, Hennessy Capital Group
Hexana	2023	Series B	\$16M	\$16M - (Jan 2025)	Blast.Club, Eren Groupe, CEA Investissement
Otrera New Energy	2024	Seed	\$3M	\$3M - (Dec 2024)	Exergon, Reelinternational, CEA Investissement, Fortil, Ekium, Groupe ADF
Oklo	2013	Public (NYSE)	\$120K	\$120K - (Aug 2014)	Y Combinator

(\$ = USD) YTD figures are considered up to Apr 10, 2026. - Source: Tracxn

Synthesis: The concentration of disclosed equity capital in TerraPower is a feature of deep-technology nuclear, not a limitation of the ecosystem. At the early stages of nuclear development, regulatory clearances and government co-investment matter more than seed capital, the milestones that de-risk a pre-commercial nuclear company are licensing approvals and state-backed frameworks, not venture round sizes. Kairos, ARC, Hexana, and Otrera have all accessed non-dilutive government funding (DOE ARDP, France 2030, NB provincial) that does not appear in Tracxn's equity rounds but materially de-risks their capital requirements. The challenger cohort is not underfunded relative to its stage; it is appropriately funded for pre-commercial nuclear development.

3.3 TOP ROUNDS BY STAGE - SEED, EARLY, AND LATE

Eleven disclosed rounds across three stages. The distribution is structurally unusual: no seed activity in the US cohort at institutional scale, Kairos, TerraPower, and ARC all entered at Series A or above, while Oklo's \$120K YC seed is the sole exception and reflects pre-commercial concept validation rather than institutional capital entry. Late-stage dominates in dollar terms (87% of capital). Early-stage is now accelerating, four rounds in 2022–2025 vs. one in the prior decade.

TABLE 7

Rounds by stage

Stage	Company	Date	Amount	Round	Lead investors
Seed	Otrera New Energy	Dec 2024	\$3M	Seed	Exergon, Reelinternational, CEA Investissement, Fortil, Ekium, Groupe ADF
Seed	Oklo	Aug 2014	\$120K	Seed	Y Combinator
Early stage	TerraPower	Jun 2010	\$35M	Series B	CRV, Khosla Ventures
Early stage	Hexana	Jan 2025	\$16M	Series B	Blast.Club, Eren Groupe, CEA Investissement
Early stage	ARC Clean Technology	Apr 2022	\$24M	Series A	Government of New Brunswick
Early stage	ARC Clean Technology	Dec 2025	\$15M	Series B	Xplor Ventures, Banpu, Hennessy Capital Group
Late stage	TerraPower	Aug 2022	\$750M	Series C	SK Group
Late stage	TerraPower	Nov 2022	\$80M	Series C	ArcelorMittal, SK Innovation, HD Korea Shipbuilding
Late stage	TerraPower	Jun 2025	\$650M	Series D	NVentures (NVIDIA), Bill Gates, HD Hyundai

(\$ = USD) YTD figures are considered up to Apr 10, 2026 - Source: Tracxn



3.4 MEGA ROUNDS - ROUNDS ABOVE \$100M

Two mega rounds. Both TerraPower. Both in the same three-year window. The \$750M Series C in August 2022 was co-led by SK Group and marked the moment that Korean industrial capital entered the US advanced nuclear space at scale.

The \$650M Series D in June 2025 brought NVIDIA's NVentures, the first AI infrastructure investor to deploy at this scale into non-LWR nuclear, alongside returning investors. No other company in the six-company universe has crossed the \$100M round threshold.

EXIBHIT 2

Mega rounds defined as disclosed equity rounds

TerraPower Nuclear Energy Investment Rounds

Series C



Date
Aug 2022



Amount
\$750M



Capital earmarked for
Natrium reactor construction at Kemmerer WY; HALEU fuel supply chain; NRC licensing programme. SK Group led; round closed ahead of DOE \$2B ARDP commitment announcement.

Series D



Date
Jun 2025



Amount
\$650M



Capital earmarked for
First Natrium plant nuclear island construction (2026 start); fleet deployment pipeline (10–12 plants targeted by 2030); HALEU enrichment facility investment in South Africa (ASP Isotopes partnership). NVentures (NVIDIA) led the round alongside HD Hyundai.

≥\$100M (\$ = USD). YTD figures are considered up to Apr 10, 2026 - Source: Tracxn

Synthesis: The identity of the mega round investors matters as much as the amounts. SK Group and ArcelorMittal (2022) are steel and energy industries that need the product TerraPower is building. NVIDIA NVentures (2025) is an AI compute infrastructure investor that needs the electricity TerraPower's reactor will generate. The investor base has shifted from industrial co-venturers to energy end-users in three years. That shift validates the demand signal and changes the commercial negotiation dynamic: TerraPower's customers are now also its equity holders.

04

Company Deep Dive - Building The Category

Six companies. Two technologies. Three countries. The ecosystem is not yet a head-to-head competitive market, it is an allocation problem: which company is best positioned to capture which slice of the non-water-cooled nuclear opportunity as the market opens.

● Fluoride High-Temperature Reactor

Kairos Power

The only FHR company with a reactor under active NRC construction permit

FOUNDED

2016

HQ

Alameda,
USA

TOTAL FUNDING

Undisclosed*

LATEST ROUND

No equity
funding

TARGET OPS.

Hermes 2027 ·
KP-X TBD



REACTOR

KP-FHR. TRISO pebble fuel + FLiBe molten salt coolant. Hermes test reactor 35 MWt (non-power). Commercial KP-X targets 140 MWe. Operating temp. 650°C. Atmospheric pressure¹⁴.



CONSTRUCTION STATUS

NRC construction permit issued Dec 2023¹⁵, first non-LWR US permit in 50+ years. Nuclear-safety concrete poured May 2025. Hermes 2 NRC construction permit issued Nov 2024¹⁶. Most advanced FHR built globally.



KEY DIFFERENTIATOR

The only FHR company with a reactor physically under NRC construction permit. Has established its own FLiBe purification facility (Materion, Ohio) and TRISO fuel qualification pipeline, removing supply-chain dependencies most competitors have not yet addressed.

Every Hermes milestone, first criticality, first heat, first operation, structurally de-risks all subsequent KP-X deployments. Google's offtake deal is the first hyperscaler PPA for an FHR globally.

INVESTORS

Private investors (undisclosed)

• Sodium-Cooled Fast Reactor

TerraPower

Most advanced commercial non-LWR in the world, NRC construction permit issued 2026

FOUNDED

2006

HQ

Bellevue, USA

TOTAL FUNDING

\$1.5B

LATEST ROUND

\$650M, Series D
Jun 2025

TARGET OPS.

2030



REACTOR

Natrium. 345 MWe sodium fast reactor + 1 GWh molten salt thermal energy storage system. Can surge to 500 MWe. HALEU metal fuel. Primary sodium operating temp is ~510–550°C; steam cycle temp is ~350°C+¹⁷.



CONSTRUCTION STATUS

Non-nuclear construction began Jun 2024, Kemmerer WY. NRC construction permit issued early 2026, first ever for a commercial non-LWR. Nuclear island construction to begin 2026. Total project cost ~\$4B (DOE ARDP 50%, private capital 50%)¹⁸.



KEY DIFFERENTIATOR

Uniquely integrates gigawatt-scale molten salt thermal storage with the reactor, enabling dispatchable output from 100–500 MWe without adjusting reactivity. Only advanced nuclear project in the world co-located with a retiring coal plant. Meta signed MOU for up to 8 reactors.

NVIDIA entering the Jun 2025 round signals that AI infrastructure capital is directly backing the energy source it requires. The \$650M raise confirms TerraPower can access private capital at construction scale without public markets; no other non-listed advanced reactor developer has shown this.

INVESTORS

NVentures

HD-Hyundai

SK Innovation

ArcelorMittal

Khosla Ventures

CRV

SK

● Sodium-Cooled Fast Reactor

Oklo

Only publicly listed SFR company. Power-as-a-Service with 13.2+ GW in disclosed framework agreements

FOUNDED

2013

HQ

Santa Clara, CA
USA

TOTAL FUNDING

\$120K

LISTED

NYSE: OKLO
May 2024

TARGET OPS.

2027–2028



REACTOR

Aurora Powerhouse. 15–75 MWe fast-fission reactor. Heat pipe design. Metallic U-Zr fuel (recycled EBR-II spent fuel). Supercritical CO₂ power conversion. Walk-away safe passive shutdown¹⁹.



CONSTRUCTION STATUS

Broke ground at Idaho National Laboratory Sep 2025 under DOE Reactor Pilot Program. DOE Nuclear Safety Design Agreement approved. NRC combined licence application (COLA) in preparation; pre-application readiness assessment completed Jul 2025. Commercial operations target 2027–2028²⁰.



KEY DIFFERENTIATOR

Only publicly listed FHR/SFR company (NYSE: OKLO). Power-as-a-Service model: Oklo owns and operates reactors, sells electricity directly. Has 13.2 GW in announced framework agreements, including a 1.2 GW MOU with Meta and a 12 GW Master Power Agreement with Switch, among the largest corporate nuclear power announcements on record. Additional agreements totalling the oft-cited 15+ GW figure have not been publicly disclosed at the time of writing.

OKLO is the real-time price signal for the SFR thesis. A 13.2+ GW in disclosed framework agreements with no reactor operational yet is the clearest evidence that hyperscalers will contract for advanced non-LWR power ahead of first operations. Investors are pricing 2028–2030 delivery today.

INVESTORS

Y Combinator

● Sodium-Cooled Fast Reactor

ARC Clean Technology

First sodium fast reactor globally to clear CNSC Phase 2 design review with no licensing barriers

FOUNDED

2006

HQ

Saint John, NB
Canada

TOTAL FUNDING

\$39M

LATEST ROUND

\$15M, Series B
Dec 2025

TARGET OPS.

2029



REACTOR

ARC-100. 100 MWe pool-type sodium fast reactor. Metallic U-Zr alloy fuel. 20-year refuel cycle. 500°C sodium or superheated steam output. Based on EBR-II (Argonne National Lab, 30-year prototype)²¹.



CONSTRUCTION STATUS

CNSC Phase 2 Vendor Design Review cleared Jul 2025, no fundamental barriers identified; first sodium fast reactor globally to complete CNSC Phase 2. NB Power site licence application submitted 2023. Pre-construction; commissioning target 2029²².



KEY DIFFERENTIATOR

20-year refuel cycle lowers operating costs and fuel supply risk significantly vs. competitors. The KHNP collaboration agreement provides a potential pathway to large-scale global fleet deployment via the Korean shipbuilding and construction supply chain.

The CNSC Phase 2 clearance, the first globally for a sodium fast reactor, unlocks project development conversations in Japan, South Korea, and the UK where CNSC endorsement carries regulatory weight. The Series B closed six months after the milestone: capital following de-risking, exactly as expected.

INVESTORS

Xplor Ventures

Hennessy Capital Group

Yeo

Banpu Ventures

Government of New
Brunswick

• Sodium-Cooled Fast Reactor

Hexana

European SFR for heavy industry — no HALEU dependency, 60 years of CEA sodium heritage

FOUNDED

2023

HQ

Aix-en-Provence,
France

TOTAL FUNDING

\$16M

LATEST ROUND

\$16M, Series B
Jan 2025

TARGET OPS.

2035



REACTOR

Sodium SMR platform. 2x400 MWt modules (~330 MWe). MOX fuel from the reprocessed French fleet. Integrated thermal storage for flexible dispatch. Up to 500°C process heat. Builds on Phénix, Superphénix, and ASTRID legacy²³.



CONSTRUCTION STATUS

CEA spin-off. France 2030 laureate. \$16M equity raise Jan 2025 (total financing €25M including a €10M Bpifrance grant, excluded from equity analysis); ASNR pre-licensing review entered 2025. Completing Conceptual Design (Avant-Projet Sommaire); Safety Options Dossier to be submitted to ASNR. First industrial reactor target 2035²⁴.



KEY DIFFERENTIATOR

Only European SFR company with formal ASNR regulatory engagement and access to CEA's Phénix/Superphénix/ASTRID intellectual property base. MOX fuel strategy using existing French reprocessed fuel removes HALEU dependency entirely, a structural supply-chain advantage over all US-based competitors.

No HALEU dependency, CEA institutional backing, and 60 years of national sodium operating knowledge are structural advantages no US or Canadian competitor can replicate. The ASNR Safety Options Dossier acceptance - expected 2025–2026 - is the watch signal.

INVESTORS

Blast.Club

Eren Groupe

CEA Investissement

South Investment Region

• Sodium-Cooled Fast Reactor

Otrera New Energy

Purpose-built for industrial co-generation - youngest company in scope

FOUNDED

2024

HQ

Aix-en-Provence
France

TOTAL FUNDING

\$3M

LATEST ROUND

\$3M, Seed
Dec 2024

TARGET OPS.

2035+



REACTOR

110 MWe combined heat and power SFR. MOX fuel from reprocessed spent assemblies. 180 MWt of direct process heat delivery. Purpose-built for industrial co-generation. Second CEA spin-off from the Phénix/Superphénix programme²⁵.



CONSTRUCTION STATUS

Seed stage. France 2030 laureate. \$3M seed closed Dec 2024. Conceptual design phase. Youngest company in scope; entered regulatory ecosystem through France 2030 programme. First reactor target ~2035+²⁶.



KEY DIFFERENTIATOR

The only company in scope purpose-built for combined heat and power co-generation at industrial sites. Hexana targets grid-scale output; Otrera targets the 110 MWe + 180 MWt industrial site customer that needs reliable heat and power simultaneously, a different market segment with no direct competitor in the FHR/SFR universe.

The founding of a second CEA sodium spin-off within 12 months of the first confirms France's institutional nuclear community is commercialising its SFR knowledge base through parallel ventures. Otrera is the highest-risk, highest-optionality position in this report, seed pricing for a technology with 60 years of national heritage.

INVESTORS

Reelinternational

Exergon

CEA Investissement

Ekium

Fortil

4.1 DIFFERENTIATION MAP - SCALE, CUSTOMER, FUEL, GEOGRAPHY

The six companies are differentiated across four axes that matter for positioning: reactor scale (microreactor to utility-scale), target customer (data centre vs. industrial vs. grid), fuel strategy (HALEU dependency vs. closed fuel cycle), and geography (US vs. Canada vs. France). No two companies are identically positioned. Direct head-to-head competition within this six-company universe is limited.

The most significant structural overlap is TerraPower and ARC Clean Technology, both are utility-scale SFR developers targeting commercial power generation, separated primarily by geography (US vs Canada) and deployment timeline (2030 vs 2029). The French pair (Hexana and Otrera) share technology heritage and geography, but are differentiated by scale and customer: Hexana targets grid-scale industry, Otrera targets combined heat and power.

TABLE 8

Differentiation map

Company	Technology	Scale (MWe)	Target customer	Fuel strategy	Geography
Kairos Power	FHR (TRISO + FLiBe)	140 (KP-X commercial)	Grid-scale & industrial heat	HALEU TRISO pebbles; own supply chain	USA
TerraPower	SFR (Sodium)	345 (500 surge)	Utility / grid-scale; coal plant replacement	HALEU metal fuel; DOE-backed supply	USA
Oklo	SFR (Aurora)	15-50 (microreactor)	Remote sites, data centres, defence, federal	Recycled EBR-II metal fuel; closed cycle	USA
ARC Clean Technology	SFR (ARC-100)	100	Utility / industrial heat; off-grid industrial	Metal U-Zr alloy; 20-year refuel cycle	Canada
Hexana	SFR (sodium SMR)	330 (2x400 MWt modules)	Heavy industry; synthetic fuels; data centres	MOX from reprocessed French fleet fuel	France
Otrera New Energy	SFR (sodium CHP)	110 + 180 MWt heat	Industrial heat & power co-generation	MOX; reprocessed fuel	France

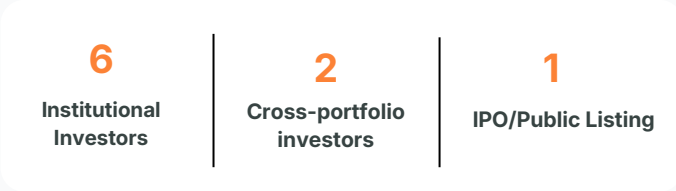
Source: Tracxn - Kairos Power 27, TerraPower 28, Oklo 29, ARC Clean Technology 30, Hexana 31 and Otrera New Energy 32.

Synthesis: The most important differentiation axis is not technology, both FHR and SFR operate at near-atmospheric pressure and above water-cooled temperatures. It is a fuel strategy. Companies with access to closed fuel cycles (Oklo using recycled EBR-II fuel, Hexana and Otrera using French MOX) face a structurally different fuel supply risk than companies dependent on HALEU (Kairos Power, TerraPower). That supply chain risk is the single largest variable in commercial timeline credibility.

05

Investor & Exit Activity - Who Is Backing This Space

5.1 MOST ACTIVE INVESTORS - RANKED BY ROUND COUNT



The table below covers the six named institutional investors across all disclosed rounds.

CRV and CEA Investissement lead on round count (2 each). CEA Investissement is the only cross-portfolio investor, having backed both French CEA spin-offs, Hexana and Otrera New Energy, making it the only player running a deliberate category-level strategy across the ecosystem. NVentures (NVIDIA) entered in the largest single round (\$650M Series D, Jun 2025), representing a new investor archetype: the AI infrastructure end-user investing directly in its energy supply.

TABLE 9

List of Most Active VCs by Number of Rounds

SLNo.	Investor	Portfolio cos.	Rounds	Recent investment	Signal
1	CRV	1	2	TerraPower Series B - Jun 2010, \$35M	Earliest institutional backer. Two rounds (Undisclosed 2008, Series B 2010) before any government support existed for advanced nuclear. Long-hold conviction over 15+ years.
2	CEA Investissement	2	2	Hexana Series B - Jan 2025, \$16M	Only cross-portfolio investor in the ecosystem. Backed both French CEA spin-offs. Represents the institutional nuclear establishment directly investing in its own commercial spin-out pipeline.
3	Y Combinator	1	1	Oklo Seed - Aug 2014, \$120K	The earliest Oklo investor and the only YC-backed company in the FHR/SFR universe. \$120K seed in 2014 preceded Oklo's NYSE listing by a decade.
4	Xplor Ventures	1	1	ARC Series B - Dec 2025, \$15M	Lead investor in ARC's Series B, the round that followed the CNSC Phase 2 clearance. Entry timed directly to the regulatory de-risking milestone.
5	Khosla Ventures	1	1	TerraPower Series B - Jun 2010, \$35M	Co-invested with CRV in TerraPower's 2010 Series B. Early deep-tech energy thesis validated by TerraPower's subsequent trajectory to construction stage.
6	NVentures (NVIDIA)	1	1	TerraPower Series D - Jun 2025, \$650M	Most significant new entrant of 2025. NVIDIA's venture arm entering at \$650M signals that AI compute infrastructure is directly backing its own energy supply chain. No prior nuclear investing history.

(Non-Exhaustive List) (\$) = USD. YTD figures are considered up to Apr 10, 2026 - Source: Tracxn

Synthesis: CEA Investissement backing both Hexana and Otrera is not portfolio hedging, it is the French national nuclear research establishment directly funding the commercial vehicles it intends to succeed. That dynamic has no equivalent in the US or Canadian cohort, where government support comes through DOE grants rather than equity stakes. An investor backing both companies in the same technology, country, and founding wave is making a category-level bet, not a company-level one. The entry of NVentures in 2025 introduces a third investor archetype: beyond long-hold deep-tech VC and institutional nuclear, the AI sector is now a direct equity participant in advanced nuclear development.

5.2 IPO PIPELINE AND EXIT SIGNALS

One IPO has been recorded in the six-company universe. No acquisitions. No secondary sales. The exit architecture of this space is at an early stage consistent with where most companies sit in their development cycle, pre-revenue, pre-operation, and in several cases pre-construction.

The five remaining companies are all private. TerraPower has not announced IPO plans and appears unlikely to pursue a public offering before the Natrium reactor generates commercial revenue, currently targeted at 2030. Kairos Power, ARC Clean Technology, Hexana, and Otrera are all pre-commercial and have no stated public market intentions. The IPO pipeline for this ecosystem is effectively a single data point: Oklo, which used the SPAC route to access public capital ahead of revenue generation, a strategy that is both unusual for nuclear and consistent with Oklo's Power-as-a-Service model that requires long-duration capital.

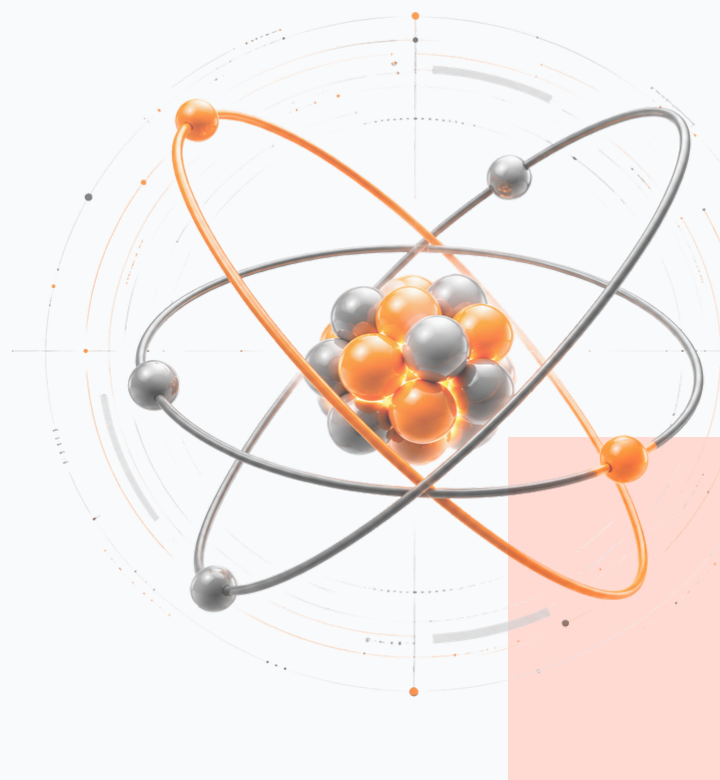


TABLE 10
List of IPO

Company	Exchange / Ticker	IPO Date	Context
Oklo	NYSE: OKLO	May 10, 2024	Listed via SPAC merger with AltC Acquisition Corp., co-founded by Sam Altman. Only public market entry in the six-company SFR universe. Stock has no commercial revenue; investors are pricing 2027–2028 reactor operations.

YTD figures are considered up to Apr 10, 2026, - Source: Tracxn

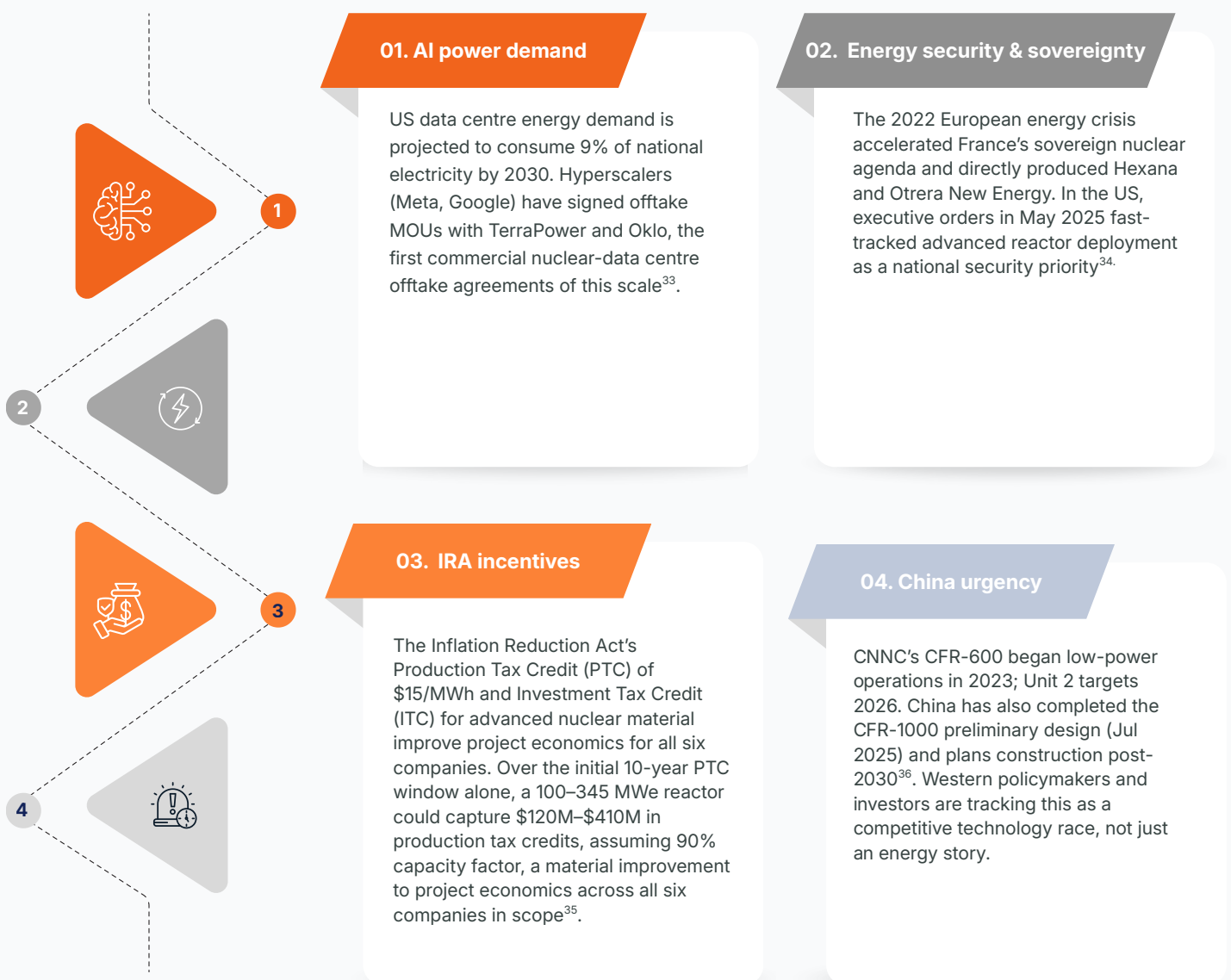
Synthesis: The absence of acquisitions in this ecosystem is structural, not a gap. The strategic acquirers most likely to buy an advanced nuclear company, major utilities, industrial energy conglomerates, sovereign energy entities have not yet moved because none of the targets have demonstrated operating reactors. The acquisition premium in nuclear is structurally tied to operating license achievement, not construction permit status. The first operating license granted to a non-LWR in the US or Canada will likely trigger the first M&A conversation. That event is a couple years away at minimum. Investors entering now at construction-stage pricing are positioned ahead of that re-rating.

Forward Insights & Opportunities

WHY NOW IS THE ENTRY POINT, WHAT'S NEXT, AND WHAT A BET LOOKS LIKE

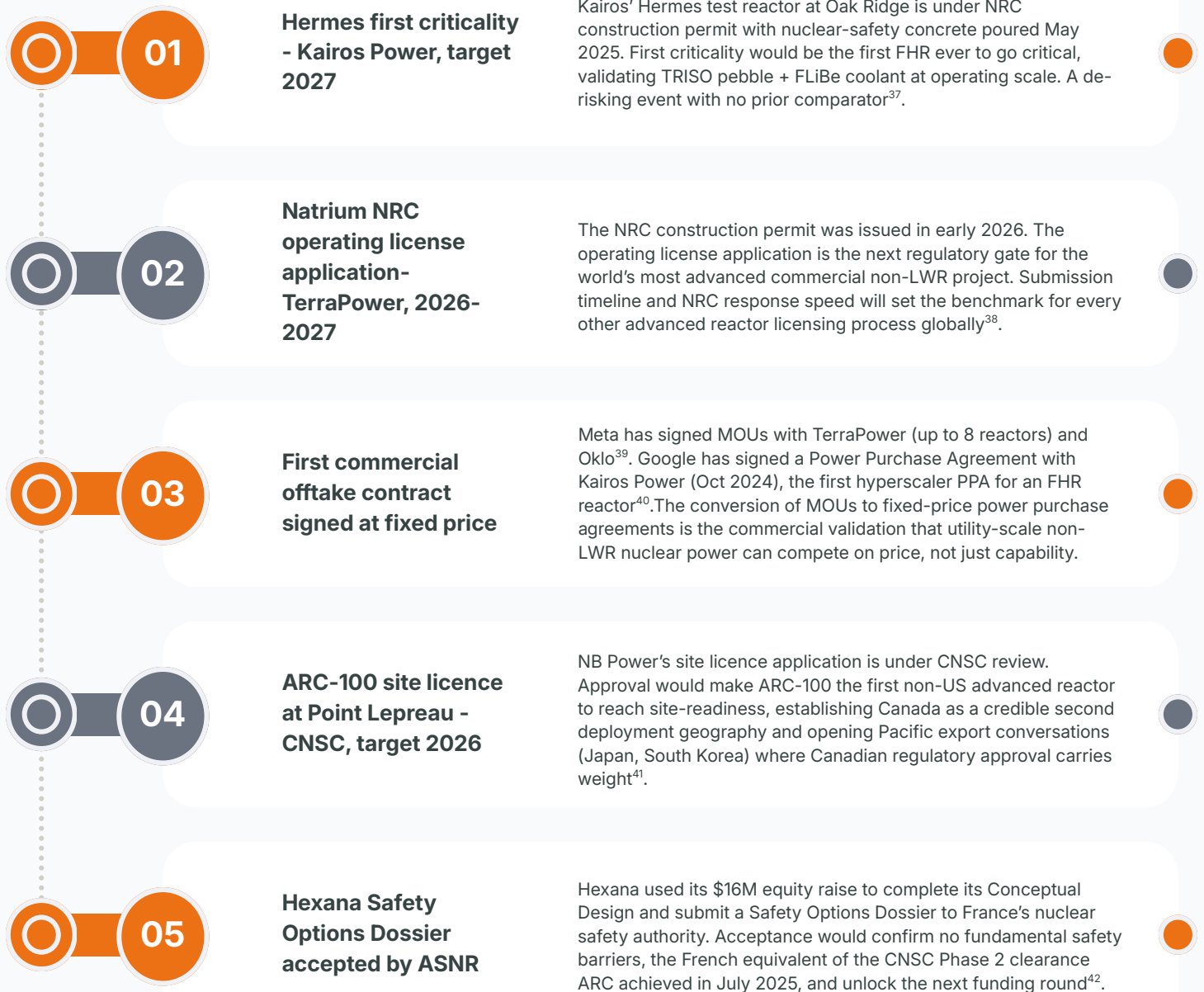
The regulatory permits are in. The concrete is being poured. The hyperscalers have signed offtake MOUs. This is not a 10-year story being told from a whiteboard, it is a 5-year commercial deployment story that has already started. The question for investors is not whether FHR and SFR work. It is who captures the first operating reactor and what that does to their capital position.

Why now - Four converging forces defining the entry window



Synthesis: None of these four forces existed simultaneously before 2023. ARDP was announced in 2020; IRA incentives passed in 2022; the AI power demand inflection materialised in 2023; China's CFR-600 operations began in 2023. The convergence is recent, and the regulatory response (NRC Sodium permit, DOE Pilot Program, French ASNR engagement) has followed within 24 months. The window when capital can enter pre-construction and pre-operation is open now.

Forward Looking Signals to watch



INVESTMENT THESIS - WHAT A BET ON FHR/SFR LOOKS LIKE

The thesis is not that FHR and SFR will displace water-cooled reactors. They will occupy market segments that water-cooled reactors structurally cannot: industrial heat above 500°C and small-footprint deployments where pressure-vessel economics are prohibitive. These segments map to a \$2–3 trillion annual fossil-fuel-dependent energy spend, triangulated from global energy investment (~\$3T), industrial share (~25–30%), and high fossil dependence (~70–80%) in high-temperature heat. An investment in this cohort is a staged de-risking bet. Each regulatory milestone, operating license, first criticality, first grid connection, structurally re-rates the companies that achieve it.

Companies currently priced at construction-stage risk will reprice sharply on first operating milestones. The gap between construction-stage and operating-stage valuation in nuclear is historically the largest re-rating event in the asset class.

The FHR/SFR cohort is differentiated from the broader advanced nuclear basket by two things that matter for investor entry: construction has started (not just design stage), and the regulatory path is proven (not just claimed). Of the 70+ advanced reactor designs tracked globally (IAEA ARIS), only a handful ~5–7 depending on classification, have progressed to actual site construction or operation (WNA, DOE, World Nuclear News)⁴³.

Investment thesis in one line: The first non-water-cooled commercial reactors in 50 years are being built right now. The companies building them are still priced for construction risk. They reprice on operations.

Risks and Watchouts

Regulatory delays - high probability, manageable

NRC operating licenses typically lag construction permits. TerraPower's 2030 target implies approval by ~2028; any delay pushes revenue timelines. Watch: NRC staffing levels and the ongoing restructuring to support advanced reactor licensing (U.S. NRC).

HALEU supply constraint - high impact, partially mitigated

Limited US HALEU capacity, with Centrus Energy as the only NRC-licensed producer today. DOE support is ongoing, but 2027-scale availability remains uncertain. Closed fuel cycle players (Oklo, Hexana, Otrera) are relatively insulated.

Sodium incidents - low probability, high perception impact

Past events (Phénix, Monju) show even minor sodium leaks trigger outsized regulatory and public backlash. A single incident could impact the entire SFR cohort.

Construction overruns - sector-wide risk, structurally elevated for first-of-kind builds

No company in this cohort has completed a commercial nuclear build. TerraPower's Sodium plant (~\$4B) is the only project at commercial scale under NRC construction permit. First-of-kind nuclear construction carries well-documented overrun risk, cost and schedule slippage, delays the operating license application and defers the revenue inflection that re-prices the cohort. Watch: DOE ARDP cost-share disbursements are milestone-gated; a construction delay triggers funding pauses, not just schedule slippage. TerraPower's 2030 commercial operations target is the critical date.

China competition - timeline and pricing pressure

China National Nuclear Corporation is ahead (CFR-600 operational; CFR-1000 in design). Early commercialization could allow subsidized exports, challenging Western players on cost and speed.

Risk to watch: Regulatory delay and HALEU supply are structurally linked: a fuel-supply shortfall delays first load regardless of licensing progress. Track both on parallel timelines, not sequentially.

A.1 Research Scope & Data Cut-Off

This report covers the global non-water-cooled advanced reactor ecosystem, specifically Fluoride Salt-Cooled Reactors (FHR) and Sodium-Cooled Fast Reactors (SFR). The company universe was defined using a strict technology and deployment-stage filter, with inclusion criteria as follows:

- Companies must be actively developing non-water-cooled reactor designs (FHR or SFR)
- Must demonstrate progress beyond early R&D, including: Regulatory engagement (e.g., NRC, CNSC, ASNR) and demonstration projects, construction permits, or site development
- Includes both: Commercial licensing pathways (e.g., NRC-led) and Government-supported deployment pathways (e.g., DOE Reactor Pilot Program)

The final 6-company universe includes: 1 FHR developer and 5 SFR developers

Funding and ecosystem analysis incorporates all-time activity, with year-to-date (YTD) figures considered up to April 10, 2026.

A.2 Data Sources

This report synthesises insights from market intelligence platforms, regulatory disclosures, and primary company-level research, including:

Market intelligence databases:

- Tracxn (startup identification, funding rounds, investor participation, geographic classification, and exit tracking)
- Primary and secondary sources:
- Company websites, press releases, and investor announcements
- Regulatory publications and filings from: U.S. Nuclear Regulatory Commission (NRC), U.S. Department of Energy (DOE), Canadian Nuclear Safety Commission (CNSC), Autorité de Sûreté Nucléaire et de Radioprotection (ASNR).
- Government program disclosures (e.g., DOE ARDP, France 2030)

- Industry reports and energy sector publications
- Media coverage of advanced nuclear deployment and funding activity

A.3 Ecosystem Segmentation & Inclusion Framework

For analytical consistency, the ecosystem is segmented based on reactor technology, deployment maturity, and fuel strategy.

Technology Segmentation

- FHR (Fluoride Salt-Cooled Reactors)- TRISO fuel + molten salt coolant and Thermal neutron spectrum
- SFR (Sodium-Cooled Fast Reactors)- Liquid sodium coolant and Fast neutron spectrum

Inclusion Criteria

- Included: Companies developing FHR or SFR technologies, Demonstrating clear commercialisation pathways, Active in licensing, construction, or advanced design stages
- Included with context: Companies operating under non-traditional regulatory pathways (e.g., DOE pilot programs)
- Excluded: Water-cooled SMRs (LWR-based designs), Pure research programs without commercial intent, Academic or national lab projects without a corporate vehicle

A.4 Funding, Investor & Exit Analysis

Funding Analysis Includes:

- Publicly disclosed equity funding rounds: Seed, Series A/B (Early Stage) & Series C and beyond (Late Stage)

Key Notes: Total ecosystem equity funding: ~\$1.6B. Funding is highly concentrated, with one company accounting for the majority of capital. Seed-stage activity is minimal, reflecting high entry barriers.

Investor Analysis Focuses On:

- Most active investors by round participation
- Identification of:
 - Cross-portfolio investors
 - Strategic investors (industrial, energy, AI infrastructure)
- Analysis of mega rounds (>\$100M) and their strategic implications

Exit Analysis Includes:

- IPO activity (public listings)
- No acquisitions recorded in the ecosystem
- Exit pathways evaluated based on:
 - Regulatory milestones
 - Commercial readiness
 - Operating reactor timelines

A.5 Limitations & Interpretation Notes

- The report focuses on **startup-led and commercial reactor developers**, excluding:
 - Academic programs
 - Government-only reactor initiatives without corporate structures

- Funding data reflects **publicly disclosed equity transactions only**, and may:
 - Underrepresent **government funding**
 - Exclude **undisclosed private investments**
- The ecosystem is **small (6 companies)**, and:
 - Funding trends may be **skewed by large individual rounds**
 - Comparisons across years should be interpreted as **directional, not linear**
- Reactor development timelines are:
 - **Long-duration (10+ years)**
 - Highly sensitive to **regulatory and fuel supply constraints**
- All insights should be interpreted as:
 - **Directional indicators of ecosystem evolution**
 - Not definitive predictors of **commercial success or timelines**

A.6 Acronyms & Abbreviations

Abbreviation	Full Form	Context in this report
FHR	Fluoride Salt-Cooled Reactor	High-temperature, low-pressure reactor using molten salt coolant
SFR	Sodium-Cooled Fast Reactor	Fast-spectrum reactor using liquid sodium coolant
SMR	Small Modular Reactor	Modular nuclear reactor designs with smaller output
TRISO	Tristructural-Isotropic Fuel	Particle-based fuel used in FHR designs
HALEU	High-Assay Low-Enriched Uranium	Fuel type required for many advanced reactors
MOX	Mixed Oxide Fuel	Reprocessed fuel used in French SFR designs
NRC	Nuclear Regulatory Commission (US)	Primary US nuclear regulator
DOE	Department of Energy (US)	Government body funding advanced reactors
CNSC	Canadian Nuclear Safety Commission	Canadian nuclear regulator
ASNR	Autorité de Sûreté Nucléaire et de Radioprotection	French nuclear regulator
ARDP	Advanced Reactor Demonstration Program	DOE funding program for advanced reactors
PPA	Power Purchase Agreement	Long-term electricity offtake contract
CHP	Combined Heat and Power	Simultaneous generation of electricity and heat
MWe	Megawatt electric	Electrical output capacity
MWt	Megawatt thermal	Thermal output capacity
LWR	Light-Water Reactor	All six companies in this report develop non-LWR technologies

1. https://en.wikipedia.org/wiki/Pressurized_water_reactor
2. <https://en.wikipedia.org/wiki/FLiBe> ; <https://www.ornl.gov/content/fluoride-salt-cooled-high-temperature-reactors>
3. <https://www.energy.gov/ne/articles/triso-particles-most-robust-nuclear-fuel-earth>
4. <https://www.gen-4.org/generation-iv-criteria-and-technologies/sodium-fast-reactor-sfr>
5. <https://www.nationalacademies.org/read/26630/chapter/14#190>
6. <https://www.gen-4.org/generation-iv-criteria-and-technologies/sodium-fast-reactor-sfr>
7. <https://www.gen-4.org/resources/reports/sodium-cooled-fast-reactor-sfr-system-safety-assessment-2017>
8. <https://www.kairospower.com/updates/nuclear-regulatory-commission-approves-construction-permit-for-hermes-demonstration-reactor>
9. <https://www.energy.gov/ne/articles/nrc-issues-construction-permit-terrapowers-natrium-advanced-reactor>
10. <https://www.world-nuclear-news.org/articles/licensing-of-oklo-pilot-reactor-facilities-advances>
11. <https://oklo.com/newsroom/news-details/2025/Oklo-Breaks-Ground-on-First-Aurora-Powerhouse/default.aspx>
12. <https://www.arc-cleantech.com/>
13. <https://www.nucnet.org/news/france-s-hexana-enters-preparatory-phase-with-regulator-for-generation-iv-reactor-project-6-1-2025>
14. <https://www.kairospower.com/technology> ;
<https://www.sciencedirect.com/topics/engineering/kairos#:~:text=The%20reactor%20uses%20a%20TRISO%20fuel%20pebble,efficiently%20from%20the%20fuel%20to%20produce%20power.>
15. <https://www.kairospower.com/updates/nuclear-regulatory-commission-approves-construction-permit-for-hermes-demonstration-reactor>
16. <https://www.nrc.gov/reactors/non-power/new-facility-licensing/hermes2-kairos>
17. https://www.terrapower.com/downloads/Natrium_Technology.pdf
18. <https://www.terrapower.com/natrium/> ; <https://www.world-nuclear-news.org/articles/nrc-issues-construction-permit-for-first-natrium-plant#:~:text=TerraPower%20began%20non%20nuclear%20construction,What's%20next>
19. <https://www.oklo.com/technology/>
20. <https://www.world-nuclear-news.org/articles/oklo-breaks-ground-for-first-aurora-powerhouse> ; <https://oklo.com/newsroom/news-details/2026/Oklos-Atomic-Alchemy-Announces-U-S-Department-of-Energy-Approval-for-Nuclear-Safety-Design-Agreement-of-its-Groves-Isotopes-Test-Reactor/default.aspx> ; <https://www.nrc.gov/docs/ML2517/ML25178A002.pdf>
21. <https://www.arc-cleantech.com/technology>.
22. <https://www.world-nuclear-news.org/articles/arc-100-completes-canadian-regulatory-design-review#:~:text=Wednesday%2C%20July%202025,nuclear%20regulatory%20requirements%20and%20expectations.>
23. <https://www.hexana.com/technology/>
24. [https://www.hexana.fr/wp-content/uploads/2025/01/PR_EN_HEXANA-secures-E25-million-to-accelerate-the-deployment-of-its-Sodium-Fast-Reactor-system.pdf#:~:text=HEXANA%2C%20a%20start%20up%20spin%20off%20from%20the%20French,\(CEA\)%2C%20is%20developing%20an%20innovative%20energy%20platform.](https://www.hexana.fr/wp-content/uploads/2025/01/PR_EN_HEXANA-secures-E25-million-to-accelerate-the-deployment-of-its-Sodium-Fast-Reactor-system.pdf#:~:text=HEXANA%2C%20a%20start%20up%20spin%20off%20from%20the%20French,(CEA)%2C%20is%20developing%20an%20innovative%20energy%20platform.)
25. <https://www.cea.fr/english/Pages/innovation/start-ups/otrera.aspx#:~:text=Otrera%20is%20designing%20a%20sodium,KEY%20Markets:>
26. <https://www.globenewswire.com/news-release/2024/12/05/2992125/0/en/French-Startup-Otrera-secures-2-5M-to-drive-development-of-modular-next-generation-nuclear-reactors.html>
27. <https://www.kairospower.com/updates/nuclear-regulatory-commission-approves-construction-permit-for-hermes-demonstration-reactor>
28. <https://www.terrapower.com/>
29. <https://www.oklo.com/overview/default.aspx>
30. <https://www.arc-cleantech.com/>
31. <https://www.hexana.fr/>
32. <https://otrera.fr/>
33. <https://www.reuters.com/business/energy/data-centers-could-use-9-us-electricity-by-2030-research-institute-says-2024-05-29/#:~:text=Data%20centers%20could%20use%209,2030%2C%20research%20institute%20says%20%7C%20Reuters>
34. <https://www.ans.org/news/article-7661/2025-the-year-in-nuclear#:~:text=May%20The%20Trump%20administration%20issued,laboratory%20process%20for%20reactor%20testing.>
35. <https://www.spglobal.com/energy/en/news-research/latest-news/electric-power/051524-layers-of-ira-tax-credits-boost-nuclear-energys-economics-drive-uprate-interest>
36. <https://www.neimagazine.com/news/china-finalises-design-of-cfr-1000-fast-reactor/>
37. <https://www.energy.gov/ne/articles/kairos-power-starts-construction-hermes-reactor#:~:text=Kairos%20Power%20has%20started%20construction,reactors%20in%20the%20United%20States.&text=Architect's%20rendering%20of%20the%20Hermes%20Low%20Power%20Demonstration%20Reactor%20facility,&text=Kairos%20Power-,Kairos%20Power%20has%20started%20construction%20on%20one%20of%20the%20first,Oak%20Ridge%2C%20Tennessee%20in%202027.>
38. <https://foleyhoag.com/news-and-insights/blogs/energy-and-climate-counsel/2026/march/terrapower-successfully-navigates-the-nrc-permitting-process#:~:text=On%20March%204%2C%202026%2C%20the,Part%2050.>
39. <https://www.world-nuclear-news.org/articles/meta-announces-landmark-agreements-for-new-nuclear>
40. <https://www.kairospower.com/google#:~:text=In%20October%202024%2C%20Kairos%20Power,community%20access%20to%20affordable%20energy.>
41. <https://world-nuclear.org/our-association/publications/world-nuclear-outlook-report/canada---world-nuclear-outlook-report#:~:text=According%20to%20ARC%20it%20has,targeted%20in%20the%20early%202030s.%E2%80%9D>
42. <https://www.hexana.com/hexana-secures-e25m-ti-accekerate-deployment-of-sfr/>
43. <https://world-nuclear.org/information-library/nuclear-power-reactors/other/advanced-nuclear-power-reactors>