

BRIEFING · BRIEFING · TRP-0001 · 2026-06-12

Star Power Briefing — June 2026

Star Power — Research Desk

Coverage: Star Power

ABSTRACT

This Briefing covers six developments shaping fusion and the emergence of high-power generation: (1) Commonwealth Fusion Systems installs SPARC's first 12.2 T toroidal-field magnet and locks a 200 MW Google offtake, putting a $Q > 1$ tokamak shot on a 2027 clock; (2) Helion raises \$465M at a \$15.5B valuation after its Polaris machine logs measurable D-T fusion at 150 million °C; (3) Focused Energy banks a record \$240M laser-fusion Series A as NIF posts a ~8.6 MJ yield and 4.13 target gain; (4) Thea Energy clears the first DOE milestone design review and a \$100M Series B for a planar-coil stellarator; (5) Oklo wins an accelerated NRC design-criteria approval and breaks ground on its Idaho Aurora, the cleanest near-term public proxy for firm advanced-fission power; and (6) the public-private timeline gap widens as ITER's 2035 baseline meets a private sector that has now raised ~\$9.8B.

Keywords: fusion energy, triple product, SPARC, Commonwealth Fusion Systems, HTS magnets, Helion, field-reversed configuration, inertial confinement, NIF, Focused Energy, stellarator, Thea Energy, ITER, SMR, Oklo, private fusion funding, data center power

<! [TRP BRIEFING SKELETON — 5–12 topics, 3–15 pp.](#) See [config/house-style.md](#) §[Briefing topic block](#) and [§Equity/market calls, and config/editorial-profile.md](#). [Rules](#):

- Each topic: headline -> What's new -> Evidence (cited, real numbers) -> The Take (original insight, labeled) -> Market read (real tickers; only where relevant).
- Every topic MUST carry a labeled The Take. Every number is cited or "Star Power estimate".
- End with the Market Calls table and the Disclosures & Disclaimer block (verbatim from [house-style.md](#)) — required because this piece carries equity calls. ≥

In this Briefing

1. SPARC's first magnet is on the jig — and Google has already bought the output
2. Helion triples its valuation as Polaris logs measurable D-T fusion
3. Laser fusion gets a record Series A while NIF's yield curve bends upward
4. The stellarator quietly clears its first federal gate
5. Oklo turns regulatory milestones into a groundbreaking — the firm-power proxy
6. The public–private timeline gap is now a chasm

SPARC's first magnet is on the jig — and Google has already bought the output

What's new. Commonwealth Fusion Systems (CFS) entered 2026 having shipped and installed the first of SPARC's 18 toroidal-field (TF) magnets, moving the high-field tokamak from component fabrication into machine assembly. In parallel, Google has contracted to offtake 200 MW from CFS's first commercial ARC plant — the rare case where a fusion device is being built against a signed power buyer rather than a slide deck.

Evidence. The first TF magnet is a 24-ton, steel-clad coil — one of 18 D-shaped REBCO HTS coils that together produce a 12.2 T on-axis field and support up to 8.7 MA of plasma current; it shipped across the Devens, Massachusetts campus in December 2025 and was placed on the assembly jig by early January 2026 [1][2]. SPARC's physics basis predicts ~140 MW of fusion power at $Q \approx 11$, against a mission threshold of $Q > 2$; first plasma is targeted for 2026 and net energy ($Q > 1$) for 2027 [2]. CFS raised an \$863M Series B2 in 2025 and has signed Google to a 200 MW offtake from the ~400 MW first ARC plant, slated for the Virginia grid in the early 2030s, with options on future units [3][4].

THE TAKE:

The Google offtake is doing more analytical work than the magnet milestone. A 200 MW take on a 400 MW first-of-a-kind plant means a hyperscaler has implicitly underwritten roughly half the merchant risk of a machine that has not yet produced first plasma — a financing structure closer to a chartered LNG cargo than to a power project. The signal to watch is not the 2027 $Q > 1$ shot itself but the gap between it and the ARC FID: at SPARC's 12.2 T / 8.7 MA design point, the binding constraint on ARC is not plasma performance but TF-coil throughput. At one 24-ton coil per build slot, 18 coils per machine, CFS must convert a bespoke magnet line into a serial one before ARC can scale — making magnet manufacturing cadence, not Q , the true 2027–2030 critical path (Star Power estimate, from the disclosed 18-coil count and single first-coil delivery).

Market read. CFS is private; the cleanest listed proxy is the HTS supply chain. NVDA (NASDAQ) — Hold · conviction Low · 12–24 mo — exposure is real (digital-twin/compute partnership and broader fusion-adjacent compute demand) but immaterial to the thesis; own it for AI, not for fusion.

Helion triples its valuation as Polaris logs measurable D-T fusion

What's new. Helion closed a \$465M Series G at a \$15.5B post-money valuation — roughly triple its prior mark — after its seventh-generation Polaris machine became, per the company, the first privately developed device to demonstrate measurable deuterium–tritium (D-T) fusion. Helion's field-reversed-configuration (FRC) concept skips the steam cycle and aims to recover electricity directly, on the sector's most aggressive commercial timeline.

Evidence. The Series G was led by Thrive Capital at a \$15.5B post-money valuation, bringing total capital raised to ~\$1.5B [5][6]. Helion reports Polaris reached plasma temperatures of 150 million °C and measurable D-T fusion; the company has begun site work on its first power plant, "Orion," in Chelan County, Washington, and is contracted to supply a Central Washington Microsoft data center by 2028 [5][6].

THE TAKE:

Helion's valuation is now priced for a physics result it has not yet published in peer-reviewed form. A \$15.5B mark implies the market is discounting direct-electricity FRC as if net-electricity were a 2020s engineering problem rather than an open physics question — measurable D-T fusion is a necessary but very early waypoint, several orders of magnitude in gain short of breakeven. The 2028 Microsoft delivery date is the real risk node: it is tight enough that a slip becomes a public, dated miss, unlike the soft "early 2030s" language competitors use. Helion has chosen to be falsifiable on a calendar — admirable, and the single most likely source of a fusion-sentiment repricing in 2028 (our view).

Market read. Helion (private) and lead backer Thrive (private) offer no clean listed proxy. Microsoft's offtake exposure is immaterial to MSFT. MSFT (NASDAQ) — Hold · conviction Low · 2+ mo — the Helion deal is a strategic option, not a financial driver; no fusion premium warranted in the equity.

Laser fusion gets a record Series A while NIF's yield curve bends upward

What's new. Germany's Focused Energy raised a \$240M Series A — the largest fully secured Series A in fusion — to commercialize an inertial-confinement design derived directly from the National Ignition Facility (NIF) physics base, with utility RWE backing a pilot at the decommissioned Biblis nuclear site. The raise lands as NIF's post-ignition yields keep climbing, lending the laser pathway hard experimental tailwinds.

Evidence. Focused Energy's \$240M Series A brings total private capital to ~\$300M plus ~\$200M in grants; RWE led a \$60M tranche and will develop the Biblis site, with first laser deployment targeted for 2028 and a grid-MWh pilot for 2037 [7][8]. On the underlying physics: NIF first achieved scientific breakeven on 5 December 2022 (3.15 MJ out from 2.05 MJ of laser energy on target), and by spring 2025 reached a yield of ~8.6 MJ (± 0.45) from 2.08 MJ delivered — a target gain of 4.13 [9][10].

THE TAKE:

The investable gap in inertial fusion is not gain — NIF has shown target gain >4 — it is rep-rate. NIF fires on the order of once per several hours; a power plant needs roughly 10 shots per second. That is a $\sim 10^5$ – 10^6 gap in shot cadence (Star Power estimate, from NIF's single-shot duty cycle versus a ~ 10 Hz plant requirement), and it is an optics, target-factory and laser-driver engineering problem, not a plasma-physics one. This is why RWE's involvement matters more than the dollar figure: a utility underwriting the Biblis pilot is implicitly betting that the remaining work is industrial, not scientific. Inertial fusion has quietly become an advanced-manufacturing play wearing a physics costume.

Market read. Focused Energy is private; RWE is the cleanest listed read. RWEYOY (OTC) / RWE (XETRA) — Hold · conviction Low · 24+ mo — Biblis repurposing and the \$60M tranche are option value on a 2037 pilot, not a near-term earnings lever; hold for the core utility, not the fusion call.

The stellarator quietly clears its first federal gate

What's new. Thea Energy became the first of the DOE Milestone-Based Fusion Development Program's eight inaugural awardees to pass a preconceptual design review — a government validation of its planar-coil stellarator approach — and followed with an oversubscribed \$100M Series B. The stellarator, long the tokamak's steadier but harder-to-build cousin, is having a financing moment.

Evidence. In January 2026 Thea passed the milestone program's preconceptual design review for its "Helios" pilot plant, unlocking further milestone funding; it subsequently raised an oversubscribed \$100M Series B led by the U.S. Innovative Technology Fund [11][12]. Thea's design replaces the stellarator's notoriously complex twisted modular coils with arrays of simpler planar HTS magnets whose fields are shaped in software — a manufacturability bet. Across the federal program, ~\$46M in initial DOE commitments has catalyzed >\$350M in private capital, a ~7.5:1 leverage ratio since May 2023 [12][13].

THE TAKE:

The milestone program is the most capital-efficient instrument in U.S. fusion policy, and the market is underrating it because the dollar amounts look small. A 7.5:1 private-to-federal leverage ratio means each DOE milestone dollar is de-risking roughly seven private dollars — closer to a credit guarantee than a grant. Thea's planar-coil concept is the strategically interesting one: if shaping a stellarator field in software rather than in bent steel actually works, it collapses the stellarator's historical disadvantage (coil fabrication) and turns its historical advantage (steady-state, disruption-free operation) into a clean lead over tokamaks. The stellarator's revival is a manufacturing story, exactly like SPARC's and Focused Energy's — three different confinement schemes converging on the same conclusion: the physics is no longer the bottleneck (our view).

Market read. Thea, USIT Fund, and program peers are private — no clean public-market read. Omitted.

Oklo turns regulatory milestones into a groundbreaking — the firm-power proxy

What's new. While pure fusion stays private, the listed way to play "firm, advanced, behind-the-meter power" is advanced fission. Oklo secured an accelerated NRC approval of the Principal Design Criteria (PDC) topical report for its Idaho Aurora powerhouse and broke ground on the unit — converting paper milestones into a physical project on a regulator's fast track.

Evidence. The NRC approved Oklo's PDC topical report in May 2026 on an accelerated schedule — in under half the traditional review timeline [14][15]. The DOE Idaho Operations Office had earlier approved the Nuclear Safety Design Agreement for the fast-fission Aurora at Idaho National Laboratory, and Oklo has broken ground on the first powerhouse, projecting ~370 construction jobs and 70–80 long-term operating roles [15][16].

THE TAKE:

The regulatory tempo is the real asset here. A PDC approval in under half the standard timeline is the NRC, not Oklo, signaling that the licensing pathway for non-light-water reactors has materially de-risked — and that read-through extends to every advanced-fission name, not just Oklo. The investable distinction the market keeps blurring: Oklo's value inflection is not the groundbreaking but the first fueled, NRC-authorized operation, and a design-criteria approval does not foreclose the much harder combined-operating-license fight ahead. Treat the accelerated PDC as a sector signal (regulatory friction falling) more than a company-specific de-risking — the beta is cleaner than the alpha (our view).

Market read. A genuine listed cluster exists here. OKLO (NYSE) — Hold · conviction Medium · 12–24 mo — real regulatory progress, but the equity already prices a smooth path to first operation; add only on pullbacks. SMR (NYSE) — Hold · conviction Low · 12–24 mo — NuScale benefits from the same NRC modernization tailwind; thesis is order-book conversion, still thin. BWXT (NYSE) — Add · conviction Medium · 12–24 mo — the picks-and-shovels read: HALEU/fuel and component fabrication exposure with actual current cash flows, the lowest-variance way to own the advanced-fission build-out.

The public–private timeline gap is now a chasm

What's new. ITER's revised baseline pushes deuterium–tritium operation toward 2039, while the private sector — having raised on the order of \$9.8B cumulatively and added more than a billion dollars in 2026 alone — is openly targeting net-energy demonstrations in 2027 and grid power before 2030. The two halves of the field are no longer on the same clock.

Evidence. Under ITER's 2024 baseline, full plasma current is scheduled for 2034, deuterium–deuterium operation for 2035, and D-T operation for 2039, with repair of malfunctioning components estimated near €5B [17]. Against that, private fusion has raised roughly \$9.8B cumulatively, with 2026 alone adding Helion's \$465M, Focused Energy's \$240M, Thea's \$100M and others [12][13]. SPARC targets Q>1 in 2027; Helion targets data-center delivery by 2028 [2][5].

THE TAKE:

ITER's slipping schedule is now an asset to the private sector, not an embarrassment to it. Every year ITER's D-T date recedes, the strategic and talent case for compact, privately financed machines strengthens — the public mega-project has effectively become a de-risked physics reference and a talent pipeline that private firms draw on without carrying its cost or schedule. The contrarian read: the biggest near-term risk to private fusion is not technical failure but a sentiment air-pocket. With multiple firms staking dated 2027–2028 claims (SPARC Q>1, Helion's Microsoft delivery), 2027–2028 is when fusion first becomes falsifiable on a calendar. A single high-profile dated miss could reprice the entire private cohort regardless of individual merit — concentrated event risk the \$9.8B in aggregate funding has not diversified away (our view).

Market read. Exposure is overwhelmingly private; the listed read is indirect, via the firm-power and grid names that benefit whether fusion or fission wins. GEV (NYSE) — Add · conviction Medium · 24+ mo — GE Vernova is grid- and generation-agnostic; it sells the turbines, grid hardware and services that abundant firm power requires regardless of the source technology. CCJ (NYSE) — Hold · conviction Low · 24+ mo — Cameco is a fission-fuel beneficiary if SMRs scale; structurally unaffected by fusion outcomes, so a hedge rather than a thesis.

Market Calls

Company (Ticker)	Call	Conviction	Horizon	Thesis (one line)
NVIDIA (NVDA, NASDAQ)	Hold	Low	12–24 mo	CFS compute/digital-twin tie is real but immaterial to the equity; own NVDA for AI, not fusion.
Microsoft (MSFT, NASDAQ)	Hold	Low	24+ mo	Helion offtake is a strategic option, not a financial driver; no fusion premium warranted.
RWE (RWEQY, OTC / RWE, XETRA)	Hold	Low	24+ mo	Biblis/Focused-Energy stake is option value on a 2037 pilot, not a near-term earnings lever.
Oklo (OKLO, NYSE)	Hold	Medium	12–24 mo	Accelerated PDC approval is real progress, but the stock prices a smooth path to first operation; add on dips.
NuScale Power (SMR, NYSE)	Hold	Low	12–24 mo	Shares the NRC-modernization tailwind; thesis hinges on still-thin order-book conversion.
BWX Technologies (BWXT, NYSE)	Add	Medium	12–24 mo	Lowest-variance advanced-fission play: fuel/component fabrication with current cash flows.
GE Vernova (GEV, NYSE)	Add	Medium	24+ mo	Generation-agnostic beneficiary of abundant firm power — turbines, grid hardware, services.
Cameco (CCJ, NYSE)	Hold	Low	24+ mo	Fission-fuel beneficiary if SMRs scale; a hedge on the firm-power theme, not a thesis.

References

1. Commonwealth Fusion Systems, "CFS delivers its first fusion magnet — a stronger, smaller design," The Tokamak Times, Jan 2026.
<https://blog.cfs.energy/cfs-delivers-its-first-fusion-magnet-a-stronger-smaller-design/>
2. "SPARC (tokamak)" — design parameters (12.2 T, 8.7 MA, ~140 MW, Q ≈ 11, Q>1 target 2027), Wikipedia, accessed Jun 2026. [https://en.wikipedia.org/wiki/SPARC_\(tokamak\)](https://en.wikipedia.org/wiki/SPARC_(tokamak))
3. Commonwealth Fusion Systems, "How \$863M in new funding fast-tracks commercial fusion power," The Tokamak Times, 2025.
<https://blog.cfs.energy/how-863m-in-new-funding-fast-tracks-commercial-fusion-power/>
4. IDTechEx, "Google Purchases 200MW of Fusion Power from US\$2 Billion Startup," 2025.
<https://www.idtechex.com/en/research-article/google-purchases-200mw-of-fusion-power-from-us-2-billion-startup/33467>
5. Helion Energy, "Helion Raises \$465 Million Series G Funding Round to Meet Surging Global Demand for Power," 4 Jun 2026.
<https://www.helionenergy.com/newsroom/helion-raises-465-million-series-g-funding-round-to-meet-surging-global-demand-for-power>
6. GeekWire, "Helion hits \$15.5B valuation with \$465M in new cash as it aims to commercialize fusion this decade," 2026.
<https://www.geekwire.com/2026/helion-hits-15-5b-valuation-with-465m-in-new-cash-to-commercialize-fusion-this-decade/>
7. Focused Energy, "Focused Energy Sets a New Benchmark: \$240 Million for the Largest Series A Financing in the Global Fusion Industry," 27 May 2026.
<https://www.focused-energy.co/news-release/focused-energy-sets-a-new-benchmark-240-million-for-the-largest-series-a-financing-in-the-global-fusion-industry>
8. TechCrunch, "Focused Energy raises whopping \$240M Series A for laser-powered fusion tech,"

2 Jun 2026.

<https://techcrunch.com/2026/06/02/focused-energy-raises-whopping-240m-series-a-for-laser-powered-fusion-tech/>

9. American Nuclear Society / Nuclear Newswire, "National Ignition Facility experiment achieves record-breaking yield."
<https://www.ans.org/news/article-3169/national-ignition-facility-experiment-achieves-record-breaking-yield/>
10. Physics Today, "National Ignition Facility surpasses long-awaited fusion milestone."
<https://physicstoday.aip.org/news/national-ignition-facility-surpasses-long-awaited-fusion-milestone>
11. TechCrunch, "With a new \$100M raise, Princeton's Thea Energy is now a top-funded fusion startup," 27 May 2026.
<https://techcrunch.com/2026/05/27/with-a-new-100m-raise-princetons-thea-energy-is-now-a-top-funded-fusion-startup/>
12. Granted AI, "DOE's Fusion Bet Is Working: \$46 Million in Federal Seed Money Has Unlocked \$350 Million in Private Capital," 2026.
<https://grantedai.com/blog/doe-fusion-fire-milestone-program-350-million-private-capital-pilot-plant-strategy-2026>
13. Congressional Research Service, "Toward Commercial Fusion Energy: Considerations for Congress," R48866. <https://www.congress.gov/crs-product/R48866>
14. Oklo Inc., "Oklo's NRC Principal Design Criteria Topical Report Approved for Aurora Powerhouse in Idaho," 6 May 2026.
<https://www.businesswire.com/news/home/20260506124210/en/Oklos-NRC-Principal-Design-Criteria-Topical-Report-Approved-for-Aurora-Powerhouse-in-Idaho>
15. World Nuclear News, "Oklo breaks ground for first Aurora powerhouse," 2026.
<https://www.world-nuclear-news.org/articles/oklo-breaks-ground-for-first-aurora-powerhouse>
16. Oklo Inc., "Oklo Announces U.S. Department of Energy Approval for Nuclear Safety Design Agreement of Aurora Powerhouse at Idaho National Laboratory," 2026.
<https://oklo.com/newsroom/news-details/2026/>
17. ITER Organization, "New baseline to prioritize robust start to exploitation" (2024 baseline: full current 2034, D-D 2035, D-T 2039).
<https://www.iter.org/node/20687/new-baseline-prioritize-robust-start-exploitation>

Disclosures & Disclaimer

This report is general commentary published for information purposes only. It is **not** investment advice, a recommendation, or a solicitation to buy or sell any security, and it does not account for the objectives or circumstances of any individual. Star Power is a research publication, not a registered investment adviser or broker-dealer. Views are the publication's own analytical opinions, are subject to change, and may prove wrong. Markets involve risk of loss; past performance does not indicate future results. Readers should do their own research and consult a licensed financial professional before acting. The publication and/or its principals may hold positions in securities mentioned. Company facts and figures are drawn from public sources believed reliable but are not guaranteed. © Star Power.

About Star Power

Star Power publishes independent technical and techno-economic research in its field. Reports are prepared for subscribers and are provided for information only. © Star Power. All rights reserved.