Lightbridge

AUGUST 2026 | **NASDAQ: LTBR**

SAFE HARBOR STATEMENT

With the exception of historical matters, the matters discussed in this presentation and today's oral comments, including in response to questions, are forward-looking statements. These statements are based on current expectations and involve a number of risks and uncertainties that may cause actual results or outcomes to differ significantly from such estimates and expectations. The risks include, but are not limited to: Lightbridge's ability to commercialize its nuclear fuel technology; the degree of market adoption of Lightbridge's product and service offerings; Lightbridge's ability to fund general corporate overhead and outside research and development costs; market competition; our ability to attract and retain qualified employees; dependence on strategic partners; demand for fuel for nuclear reactors; Lightbridge's ability to manage its business effectively in a rapidly evolving market; the availability of nuclear test reactors and the risks associated with unexpected changes in Lightbridge's fuel development timeline; the increased costs associated with metallization of Lightbridge's nuclear fuel; public perception of nuclear energy generally; changes in the political environment; risks associated with war in Europe; changes in the laws, rules and regulations governing Lightbridge's business; development and utilization of, and challenges to, Lightbridge's intellectual property; risks associated with potential shareholder activism; potential and contingent liabilities; as well as other factors described in Lightbridge's filings with the Securities and Exchange Commission (the "SEC").

A further description of risks and uncertainties can be found in Lightbridge's Annual Report on Form 10-K for the fiscal year ended December 31, 2024, and in its other filings with the SEC, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Statements", all of which are available at http://www.sec.gov/ and www.ltbridge.com.

Lightbridge does not assume any obligation to update or revise any such forward-looking statements, whether as the result of new developments or otherwise, except as required by law.

LIGHTBRIDGE PIONEERING **ADVANCED NUCLEAR FUEL**

We are a leading developer of nuclear fuel technology for current and future reactors, expected to enhance the safety, economics, and proliferation resistance of nuclear fuel, enabling power uprates and extended cycle lengths.

01

Proprietary

We invented the only truly new nuclear fuel — a next-generation metallic design. Others build new water-cooled reactors around 1950s-era pellet fuel.

02

Protected

A global patent portfolio and trade secrets protect the fuel design, its fabrication process, and the economics it unlocks.

03

Validated

Our fuel is in irradiation testing at Idaho National Laboratory, backed by our own out-of-reactor testing and peer-reviewed research.

04

Commercializing

Fabrication and irradiation milestones being executed on a defined roadmap to licensing and commercial deployment.

05

Capitalized

$216M in cash, zero debt — anticipated to last for at least several years based on projected funding needs.

06

Massive Global Addressable Market

A ~$115B global annual fuel market across today's 396 GWe fleet, growing to ~$252B as nuclear capacity is expected to double by 2050.

THE PATH TO BECOMING **THE GLOBAL STANDARD**

OUR GOAL: TO POWER MOST OF THE WORLD'S NUCLEAR REACTORS — THE REACTOR'S FUEL PRODUCES ALL OF THE ENERGY

Lead test assemblies (LTAs) — our commercial fuel, in commercial reactors, targeting early 2030s

1 Test & Qualify	2 Demonstrate	3 Supply Commercially	4 Scale Globally	5 Enable Tomorrow's Reactors
Produce: Fuel samples at INL	**Produce:** LTAs at a future SHED, DOE-authorized pilot facility (slide 11) — Lightbridge-led.	**Produce:** Batch reloads & full cores at LEFF, our future NRC-licensed facility (slide 11).	**Produce:** Regional commercial-scale facilities worldwide via JVs & tech licensing.	**Produce:** Fuel designs for new reactor designs.
Power: Irradiation testing in INL's test reactors – INL-led, Lightbridge-supported.	**Power:** Utilities obtain NRC licensing to use the LTAs.	**Power:** NPPs that license Lightbridge Fuel.	**Power:** Reactor fleets in every region.	**Power:** Additional types of reactors.

Almost every reactor operating or under construction today could run on Lightbridge Fuel.

LIGHTBRIDGE FUEL TOTAL ADDRESSABLE MARKET: THE CAPACITY BASE

TAM measured in MWe of Lightbridge Fuel-compatible reactor capacity. Current TAM: compatible operating fleet plus estimated uprate opportunity (~9% average uprate availability). 2050 TAM assumes 80% of projected new capacity worldwide is compatible. Sources: IAEA (Sep 2025) 992 GW global; U.S. DOE (Nov 2024) 290 GW U.S.; company analysis, July 2026.

Addressable reactor capacity expected to double from ~396 GWe today to ~794 GWe by 2050

396 GWe

Current TAM — 395 compatible operating reactors plus uprate capacity

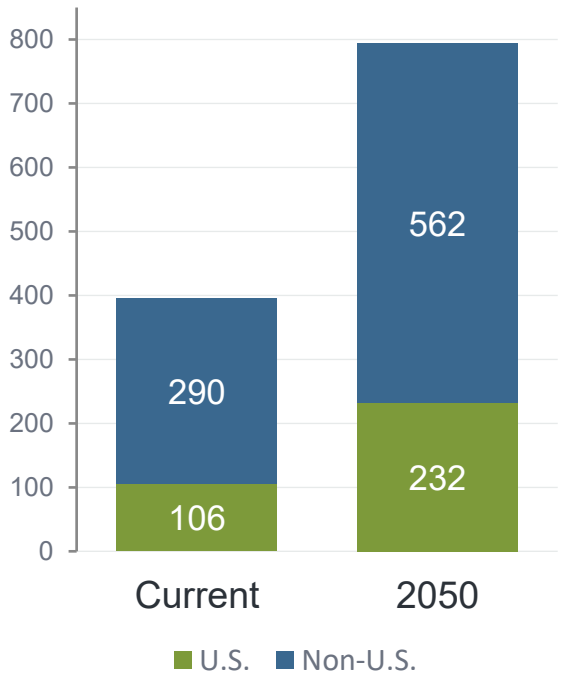
794 GWe

2050 TAM — driven by projected new nuclear build-out worldwide

+100%

TAM growth, 2026–2050

Addressable Reactor Capacity (Gwe)



What Builds The TAM

INSTALLED FLEET

395 compatible PWR, BWR & PHWR reactors operating worldwide (~363 GWe)

HIGH COMPATIBILITY

~97% of global operating reactor capacity can adopt Lightbridge Fuel

UPRATE UPSIDE

Uprate potential across the existing fleet can add ~34 GWe of capacity opportunity

NEW BUILD PIPELINE

58 compatible reactors under construction (~62 GWe), plus 2050 targets of 290 GW U.S. / 992 GW global

HOW GWE BECOMES DOLLARS

COMPATIBLE BASE CAPACITY

363 GWe operating today → 794 GWe by 2050

×

INCREMENTAL VALUE PER GW PER YEAR

+20% uprate with 18-month cycles adds ~1.65 TWh of generation and ~192 MW of capacity per reactor:

$87M at $40/MWh energy (low)
$120M at $60/MWh energy (base)
$153M at $80/MWh energy (high)

=

ANNUAL VALUE-CREATION TAM

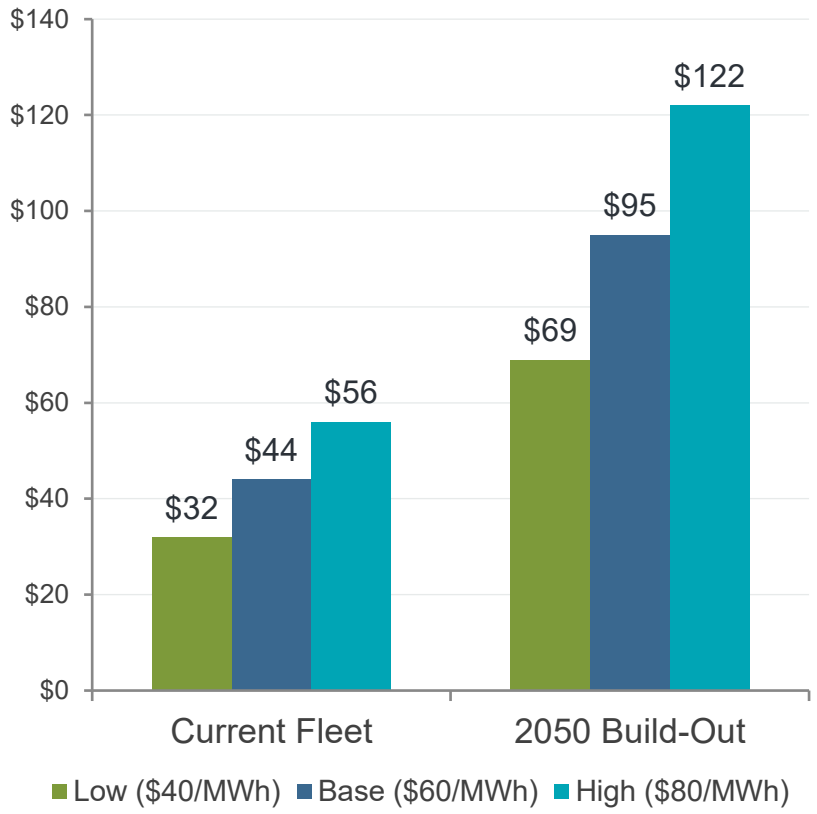
The value pool Lightbridge Fuel pricing can capture a share of

Dollar figures apply value per base GW to compatible base capacity (363 GWe today, vs. 396 GWe TAM on the prior page, which includes ~34 GWe of resulting uprate output). Value per GW = incremental energy (~2.37 TWh/yr per 1,000 MW base reactor at $80–$160/MWh; 18-month cycles per the 19.75% max HALEU enrichment level) plus incremental capacity (~301 MW at $300/MW-day, ~$33M/yr). 2050: 794 GWe, assuming 80% compatibility of projected build worldwide. Figures represent utility value creation, not Lightbridge revenue. Company analysis, July 2026.

TRANSLATING THE MARKET INTO DOLLARS

The compatible fleet represents ~$44B of annual utility value creation today, growing to ~$95B by 2050

Annual Value-Creation TAM ($B per year)



$32–$56B
per year, today's compatible fleet (base case: $44B)

$69–$122B
per year at 2050 nuclear targets (base case: $95B)

BASE CASE MATH:
363 GWe × $120M/GW = ~$44B/yr today

794 GWe × $120M/GW = ~$95B/yr by 2050

VALUE THE WHOLE GRID CAN SEE

BENEFITS FOR UTILITIES AND RATEPAYERS

What Utilities Gain

1 **More Electricity To Sell**
Uprates and/or longer cycles increase saleable megawatt-hours from the same asset.

2 **Fewer Outages**
Longer cycles reduce costly replacement-power purchases and lost generation.

3 **Load-following Revenue**
Faster ramp rates capture value in increasingly dynamic power markets.

4 **Enhanced Safety**
Wider safety margins support operating efficiency and asset longevity.

POTENTIAL ANNUAL VALUE

Tens of millions

of dollars in added value per year at a typical large reactor, depending on configuration and market.

AND IT REACHES EVERY HOUSEHOLD

A lower cost per unit of electricity generated — helping keep electricity bills down, a top priority for American families and policymakers.

MULTIPLE PATHS TO REVENUE

THE LIGHTBRIDGE BUSINESS MODEL

A flexible model designed to monetize the technology at every stage of adoption.

1 Complete Fuel Assemblies

Fabrication and sale of complete fuel assemblies to utility customers — Lightbridge as a full-service fuel vendor.

2 Metallic Fuel Rod Supply

Fabrication and supply of metallic fuel rods to other fuel vendors, which build and sell complete fuel assemblies to their utility customers.

3 Licensing & Royalties

Licensing the technology to fabrication partners and earning royalties as adoption scales globally.

4 Services & Software

Engineering, analytical, and fuel-management services that surround the core product.

One flexible model — addressing the entire global reactor fleet.

MILESTONES ON THE PATH TO COMMERCIALIZATION

LAB SCALE → PILOT SCALE → COMMERCIAL SCALE

1 Fabrication Process Development & Testing

Co-extrusion scale-up, thermal-hydraulic validation, and irradiation testing at national laboratories.

2 Regulatory Authorization & Qualification

Fuel qualification data package, analytical model validation, and ongoing regulatory engagement.

3 Lead Test Assembly Production

Fabrication of lead test assemblies for demonstration in a commercial reactor.

4 Commercial Demonstration & Supply

Demonstration in a commercial reactor, followed by commercial batch reloads through dedicated fabrication.

Acceleration Opportunities

Advanced Testing Methods

Modeling, simulation, and accelerated irradiation testing.

Strategic Partnerships

Fabrication infrastructure and manufacturing process development.

Regulatory Streamlining

Pre-submission consultations and ADVANCE Act provisions.

Policy Support

Federal government action prioritizing next-generation nuclear energy.

SHED: SPECIAL HALEU EXTRUSION DEMONSTRATION FACILITY

LAB SCALE → PILOT SCALE

SHED is the next step in Lightbridge Fuel fabrication — the bridge from lab-scale development to commercial-scale production

Production-Scale Equipment

Full-size production equipment implementing the complete processing line, using proven off-the-shelf industrial equipment.

Process Tuning at Commercial Scale

Validating models and establishing tolerances and acceptance specifications for full-length Lightbridge fuel rods.

Siting: INL Site under Launch Pad INL Program

The Lightbridge project was selected by DOE and INL for deployment of the SHED facility at the INL site under DOE authorization.

Depleted Uranium → HALEU

Initial production at SHED will use depleted uranium for process validation before transitioning to HALEU.

2 MTU/yr
Anticipated annual production capability

10 LTAs/yr
Up to 10 full-size lead test assemblies per year

10+ yrs of operation
Primary prototyping line, even after LEFF operates

On August 24, 2026, INL issued a press release announcing, among other matters, that Lightbridge has been selected to participate in the Nuclear Energy Launch Pad Program, the U.S. Department of Energy initiative administered by the National Reactor Innovation Center at INL. The press release can be accessed on the INL website: https://inl.gov/news-release/nric-selects-new-nuclear-energy-launch-pad-participants-to-boost-nuclear-energy/

LEFF: LIGHTBRIDGE EXPANDABLE FUEL FACILITY

PILOT SCALE → COMMERCIAL SCALE

LEFF is the next step after SHED — the commercial-scale facility that unlocks Lightbridge Fuel commercialization

Expandable Throughput

Same proven process as SHED, at far larger capacity — starting at ~2 batch reloads/year, expandable up to ~20 reloads/year.

Customized, Automated Equipment

Purpose-built equipment optimized for Lightbridge's process, with automation (vs. SHED's off-the-shelf, primarily manual line).

Multiple Product Lines

Able to fabricate multiple product lines simultaneously — e.g., PWR & BWR fuel.

Initially, Parallel Operation with SHED

LEFF and SHED will operate in parallel for some time, with SHED serving as the prototyping facility until SHED's capabilities are transitioned to LEFF.

~2 → ~20
Batch reloads per year — expandable capacity

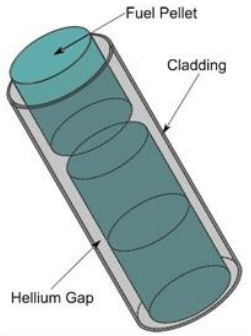
Location: TBD
Siting study underway with Amentum

NRC
Facility licensing pathway

A STEP-CHANGE OVER CONVENTIONAL FUEL

LIGHTBRIDGE FUEL VS. CONVENTIONAL FUEL

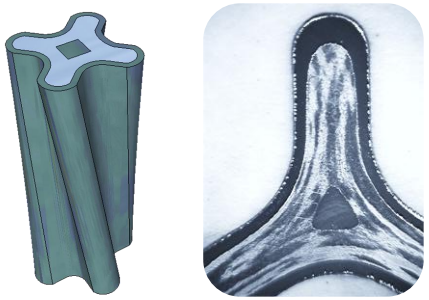
Conventional Fuel



Stacked ceramic pellets in a thin metal tube. Stanford University (2011)

- Ceramic uranium-dioxide pellets
- Runs near 1,250°C average fuel temperature
- Fuel-to-cladding gap limits heat transfer
- Spacer grids increase coolant pressure drop
- Limited room to uprate or extend cycles

Lightbridge Fuel



Helically twisted multi-lobe fuel rod — three-lobe cross-section at right

- Metallic uranium-zirconium alloy
- Operates roughly 1,000°C cooler than conventional fuel
- Metallurgical bond — no fuel-cladding gap
- No spacer grids — lower pressure drop
- Enables uprates, longer cycles, faster ramp rates

More power. Longer cycles. Load-following. Enhanced safety. Less waste.

MORE POWER FROM THE SAME REACTOR

THE LIGHTBRIDGE POWER ADVANTAGE

110%

Power output after a 10% power uprate in existing reactors

120%

Power output after a 20% power uprate

130%

Potential output in new-build reactors after a 30% power uprate

Two Sources Of Added Power

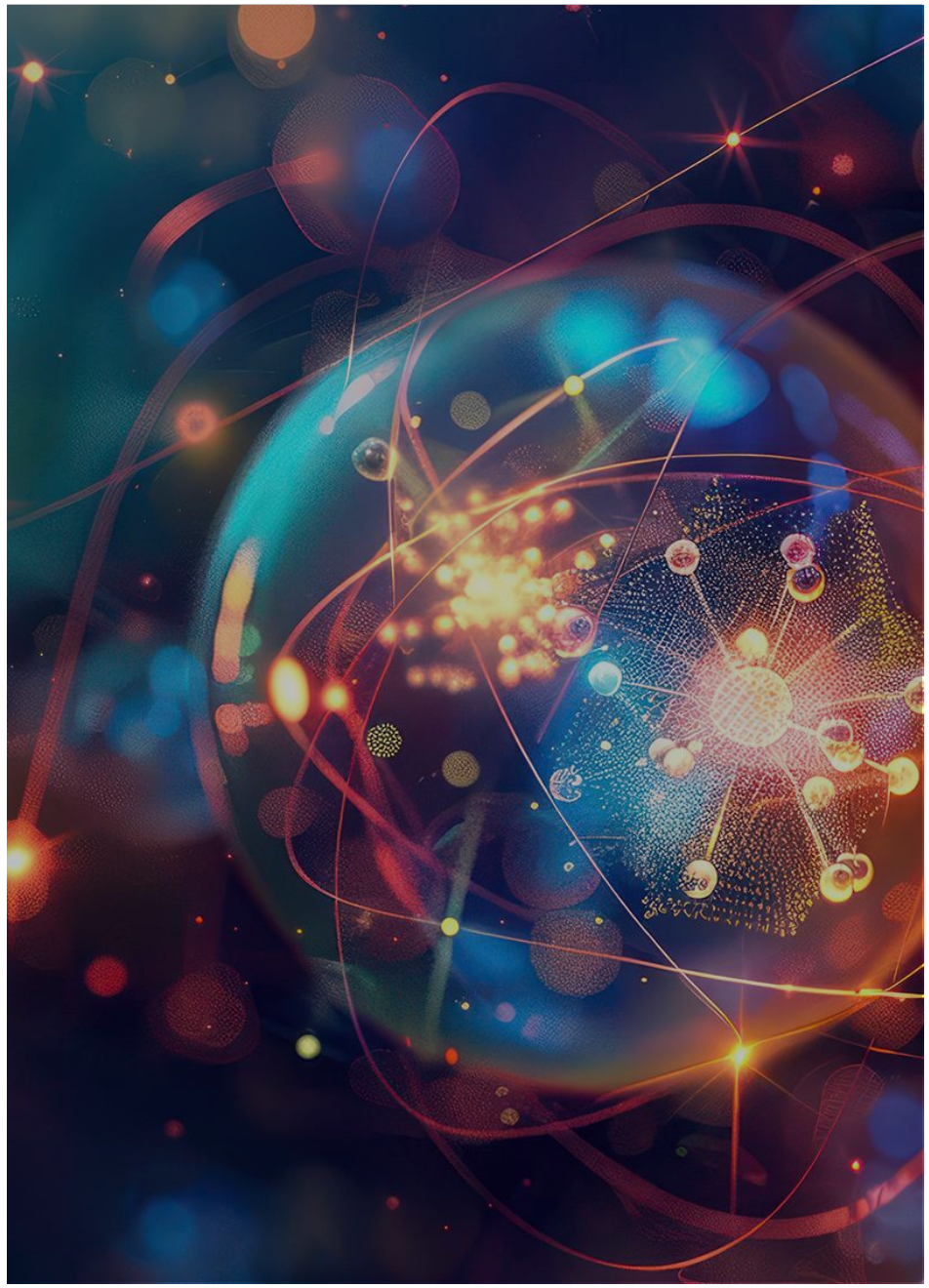
1. Power Uprate

Higher power density can safely enable an increase in power output in existing or new-build reactors

2. Load-Following

An improved ramp rate allows reactors to follow demand and complement renewables.

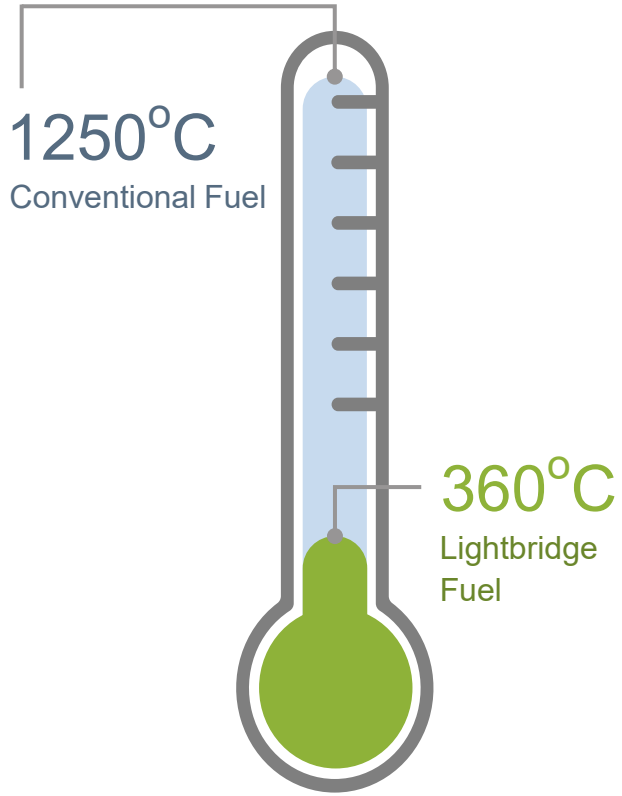
More electricity from existing or new-build reactors.



LIGHTBRIDGE FUEL: **DESIGNED FOR SAFETY**

Lightbridge Fuel is designed to operate nearly 1000oC cooler than conventional nuclear fuel.

AVG. FUEL TEMP



ANTICIPATED SAFETY BENEFITS

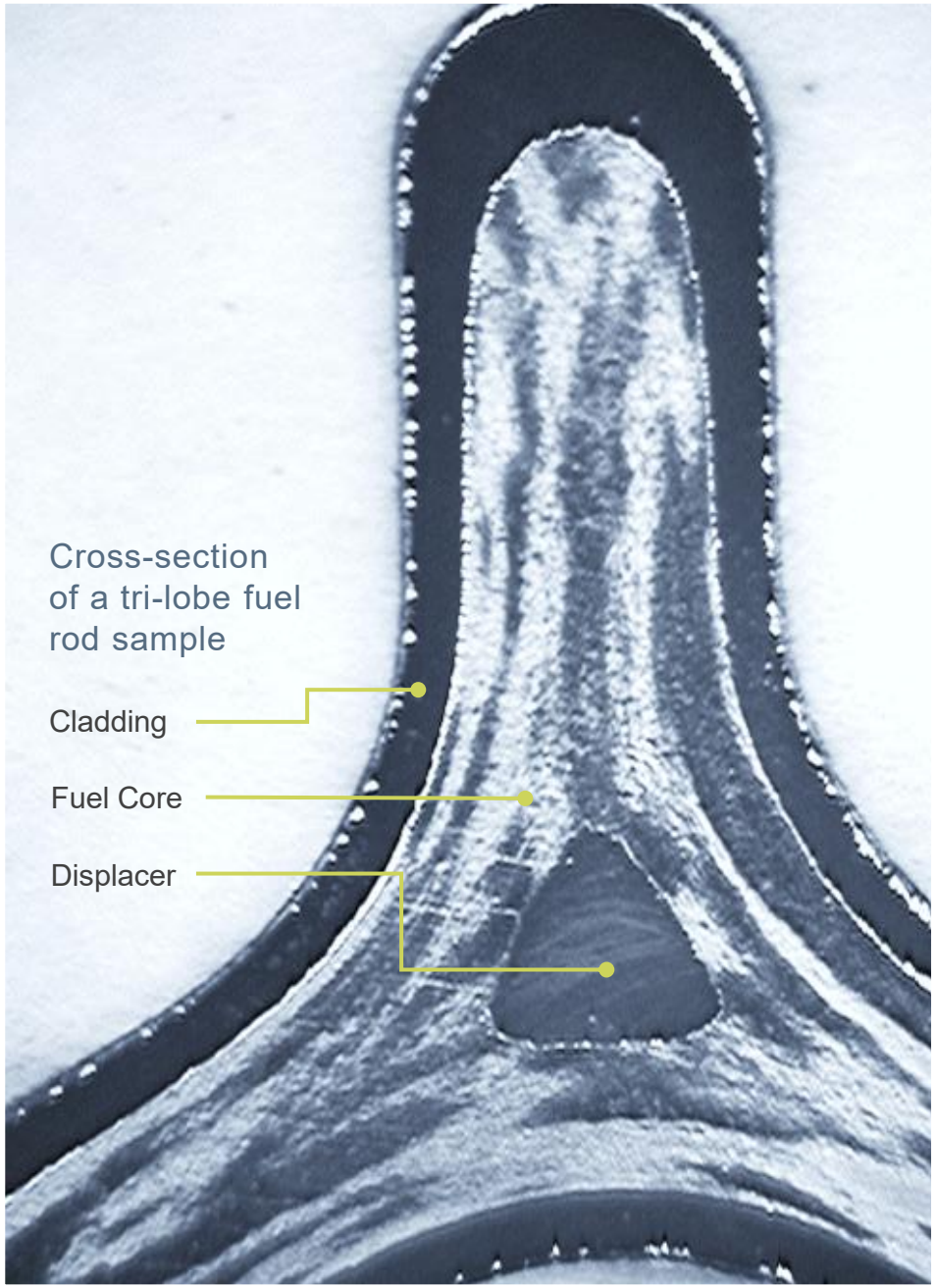
- Metal fuel has better heat transfer
- Reduces fuel operating temperature
- Enhances structural integrity of the fuel
- Does not generate hydrogen gas under design basis accidents
- Buys more time to restore active cooling during accidents
- Improves the non-proliferation benefits of the fuel

NRC TAKES NOTICE

Click this logo to view the full article

"The company Lightbridge is developing a new fuel design that incorporates an extruded metallic bar composed of a zirconium-uranium matrix within a zirconium alloy cladding."

-January 12, 2021



LIGHTBRIDGE FUEL FEATURES

Powering next-generation performance

Absence Of Spacer Grids…

may reduce core pressure drop by up to 50%, which contributes to enabling power uprates and improves the natural circulation of the water coolant.

Metallurgical Bond…

between fuel components significantly reduces radiological consequences of cladding breach due to fuel-cladding mechanical interactions & provides a robust design.

Increased Cladding Thickness…

at the lobes increases the durability of the fuel at the contact points as seen in the image on the left.

Absence Of Fuel-clad Gap…

eliminates the mechanism for widespread coolant-cladding interaction on the inner surface in case of cladding breach & improves heat transfer from fuel to coolant.

Coextrusion Fabrication Process…

eliminates several possible sources of undesired manufacturing defects (e.g., pellet chipping).

Lightbridge surrogate rods used for a thermal-hydraulic flow experiment

ROBUST INTELLECTUAL PROPERTY PORTFOLIO

PROTECTS RETURN ON INVESTMENT

- Lightbridge has invented and developed its technology to meet the needs of the growing energy marketplace, backed by a robust worldwide patent portfolio and trade secrets.
- Expanding our patent portfolio and trade secrets continues to be a strategic focus for Lightbridge.
- These new patents and trade secrets will help safeguard the Company's intellectual property, which is an integral element of our plans to monetize Lightbridge Fuel.

Existing patents related to the following core areas

- Fabrication method using the casting route
- Fab. method using the powder metallurgic route
- An all-metal fuel assembly design
- Multi-lobe metallic fuel rod design

FORTIFIED FINANCIAL POSITIONING

$237M

Cash Position
@ June 30, 2026

$0

Debt On
Balance Sheet

ASSETS	30-Jun-26	31-Dec-25
Current Assets		
Cash and cash equivalents	$237,466,174	$201,862,421
Prepaid expenses & other current assets	1,025,865	712,983
Total Current Assets	238,492,039	202,575,404
Other Assets		
Prepaid project costs & other long-term assets	2,007,231	1,140,000
Trademarks	127,187	119,391
Total Assets	$240,626,457	$203,834,795
LIABILITIES & STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable & accrued liabilities	$2,046,144	$847,451
Total Current Liabilities	2,046,144	847,451
Stockholders' Equity		
Common stock	37,405	33,407
Additional paid-in capital	434,407,448	386,719,120
Accumulated deficit	(195,864,540)	(183,765,183)
Total Stockholders' Equity	238,580,313	202,987,344
Total Liabilities and Stockholders' Equity	$240,626,457	$203,834,795

SEASONED **LEADERSHIP TEAM**

Seth Grae

Chairman & CEO

INDUSTRY POLICY.

Chairman of the American Nuclear Society's International Council, Nuclear Energy Institute's Board of Directors, Nuclear Energy and National Security Coalition, Working Group on Climate, Nuclear, & Security Affairs of the Council on Strategic Risks, Virginia Nuclear Energy Consortium Board of Directors.

N NEI C CINTAC

Larry Goldman, CPA

Chief Financial Officer

FINANCE AUDIT

Larry is a seasoned executive with 40+ years in financial, assurance, tax, and advisory services. With Lightbridge since 2006, serving as Chief Accounting Officer since 2008 and CFO since 2018. Member of the AICPA and NYSSCPA CFO Committee, previously serving on the SEC Practice and Management Consulting Committees.

A AICPA N NYSSCPA

Sherrie Holloway

Project Controller

ACCOUNTING ENERGY

Sherri bring 30+ years in corporate accounting for public and private companies,. Background includes 'Big 4' public accounting, energy, natural gas, transportation, and international business. Member of U.S. Women in Nuclear, supporting the advancement of women in nuclear energy and technology.

B4 Big 4

Andrey Mushakov, Ph.D.

EVP, Nuclear Operations

FABRICATION R&D

Leads the Fuel Technology Division and strategic initiatives at Lightbridge, securing key collaborations and joint development projects. Instrumental in securing two DOE GAIN voucher awards for fuel development, as well as two 7-year framework agreements with Battelle Energy Alliance, DOE's operating contractor for INL.

I INL D DOE

Scott Holcombe, Ph.D.

VP, Engineering

ENGINEERING LICENSING

Oversees R&D and demonstration efforts to commercialize proprietary nuclear fuel technologies. Brings 20+ years of experience from industry and research labs. Expertise in nuclear fuel performance, manufacturing, inspections, and licensing. Held management roles at the Halden Reactor, INL, and the OECD Halden Reactor Project.

I INL H Halden O OECD

Lesli Mills

Controller

SEC REPORTING GAAP

Lesli brings over 15 years of experience in accounting policy, SEC reporting, U.S. GAAP, and financial services. She previously served in the Accounting Policy and External Reporting group at Freddie Mac and as a Director in PwC's Financial Services practice, where she led complex audits and advised clients on regulatory and technical accounting matters. Member of the AICPA.

P PwC F Freddie Mac

BOARD OF **DIRECTORS**

Seth Grae

Chairman & CEO

Chairman of the American Nuclear Society's International Council, Nuclear Energy Institute's Board of Directors, Nuclear Energy and National Security Coalition, Working Group on Climate, Nuclear, & Security Affairs of the Council on Strategic Risks, Virginia Nuclear Energy Consortium Board of Directors.

NEI **CINTAC**

Sherri Goodman

Director

NOMINATING COMP.

Vice-Chair of the U.S. Secretary of State's ISAB and a member of EXIM Bank's Climate Council. Secretary General of IMCCS. Chairs the Council on Strategic Risks Board and Sandia Labs' Advisory Board on Energy & Homeland Security. Also serves on the National Academies Advisory Board for the U.S. Global Change Research Program.

Sandia **IMCCS**

Sweta Chakraborty, Ph.D.

Director

COMPENSATION NOMINATING

Globally recognized risk and behavioral scientist specializing in risks from climate change to COVID-19. Advises government agencies on integrating behavioral science into policy, programs & communication. Developed science-based communication strategies with Fortune 100 companies, including Mars Inc., Novartis, and PVH Corp

Fortune 100

Jesse Funches

Director

AUDIT NOMINATING

Former CFO of the U.S. Nuclear Regulatory Commission (NRC) and Operations Research Analyst at the Pentagon. Recipient of the 2004 Donald L. Scantlebury Memorial Award for excellence in financial management. Three-time Presidential Rank Award honoree and two-time NRC Distinguished Service Award winner.

NRC **Pentagon**

Daniel Magraw Jr.

Director

NOMINATING GOVERNANCE

President Emeritus of the Center for International Environmental Law, Senior Fellow at Johns Hopkins SAIS, and former Director of the EPA's International Environmental Law Office. Member of the Trade and Environment Policy Advisory Committee to the U.S. Trade Representative.

EPA **SAIS**

Mark Tobin

Director

★ AUDIT CHAIR COMP.

Extensive experience in international investment banking and public company leadership. CFO of National Underground Group and board member at Qualstar Corporation. Former CFO of Printronix and Nanoflex Power, and audit chair at Innovation Pharmaceuticals. Previously Director of Research and Senior Analyst at Roth Capital.

Nat. Underground **Qualstar**

LIGHTBRIDGE FUEL **WHY WE WIN?**

1 Proprietary
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2 Protected
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A ~$115B global annual fuel market across today's 396 GWe fleet, growing to ~$252B as nuclear capacity is expected to double by 2050.

ADVANCED NUCLEAR FUEL TECHNOLOGIES

for clean power and energy security

Lightbridge

NASDAQ: LTBR

ADDRESS
11710 Plaza America Drive
Suite 2000
Reston, VA 20190 USA

INVESTOR RELATIONS
ir@ltbridge.com

WEBSITE
www.ltbridge.com

x
@lightbridgecorp

LinkedIn
@ltbridge

Youtube
@lightbridgecorporation

SUPPLEMENTAL MATERIALS

Appendix

IRRADIATION TESTING OF LIGHTBRIDGE FUEL™ MATERIAL AT INL'S ATR

RECENT MILESTONES

COMMENCED NOVEMBER 2025 | FIRST BATCH OF SAMPLES REMOVED MAY 2026

Enriched uranium-zirconium fuel samples being irradiated in the ATR; first batch of irradiated samples removed May 2026 for post-irradiation examination.

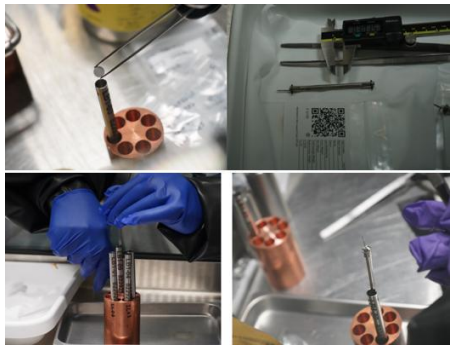
Strategic Significance

- Major milestone in fuel development program under SPP/CRADA with BEA
- Advances pathway toward fuel qualification and commercial licensing

Testing Objectives

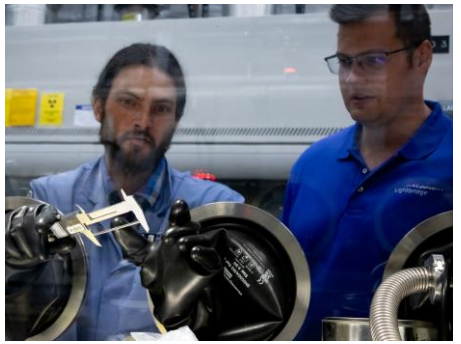
- Microstructural evolution analysis
- Thermal performance

Capsules containing Lightbridge Fuel material samples before loading into an experimental assembly.

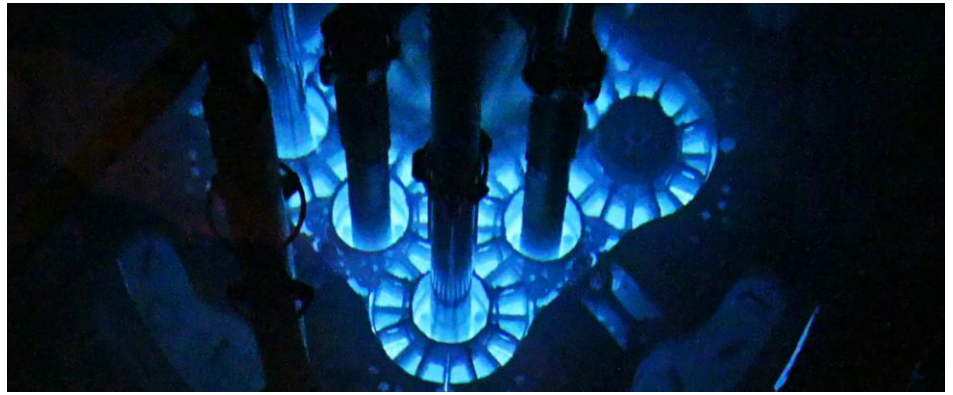


Loading fuel into the inner capsule

Lightbridge and INL Team Performing a Visual Inspection of a Finished Enriched Uranium-Zirconium Coupon Sample inside a Glovebox



Loading of one of the capsules into an experimental assembly in the ATR canal.



The Core of the Advanced Test Reactor

KEY DEVELOPMENT & **COMMERCIALIZATION DEPENDENCIES**

Funding & Strategic Support

Continued access to capital markets financing, government funding, and strategic partner support are essential to maintain projected timelines.

ATR Test Loop Availability

Highly competitive irradiation test capacity is limited; insufficient access may require alternative testing approaches ahead of full lead test assembly demonstration.

Industry Partnerships

Utility engagement is required for commercial reactor demonstration and regulatory licensing.

HALEU Supply Chain Infrastructure & Access to HALEU Material

Current infrastructure is designed for ≤5% enrichment. Lightbridge Fuel™ requires up to 19.75% enrichment; facilities must complete regulatory licensing for higher enrichment handling. Expanding US domestic HALEU production capacity is needed to meet HALEU demand.

Experimental Data Requirements

Limited public data on metallic fuel performance. Irradiation testing data are needed to confirm fuel performance under various operating conditions. In addition, thermal-hydraulic experiments are needed for pressure drop and critical heat flux data.

Analytical Model Development & Fabrication Qualification

New or modified models and qualified fabrication processes for full-length rods are required.

THE NEED FOR **MORE POWER**

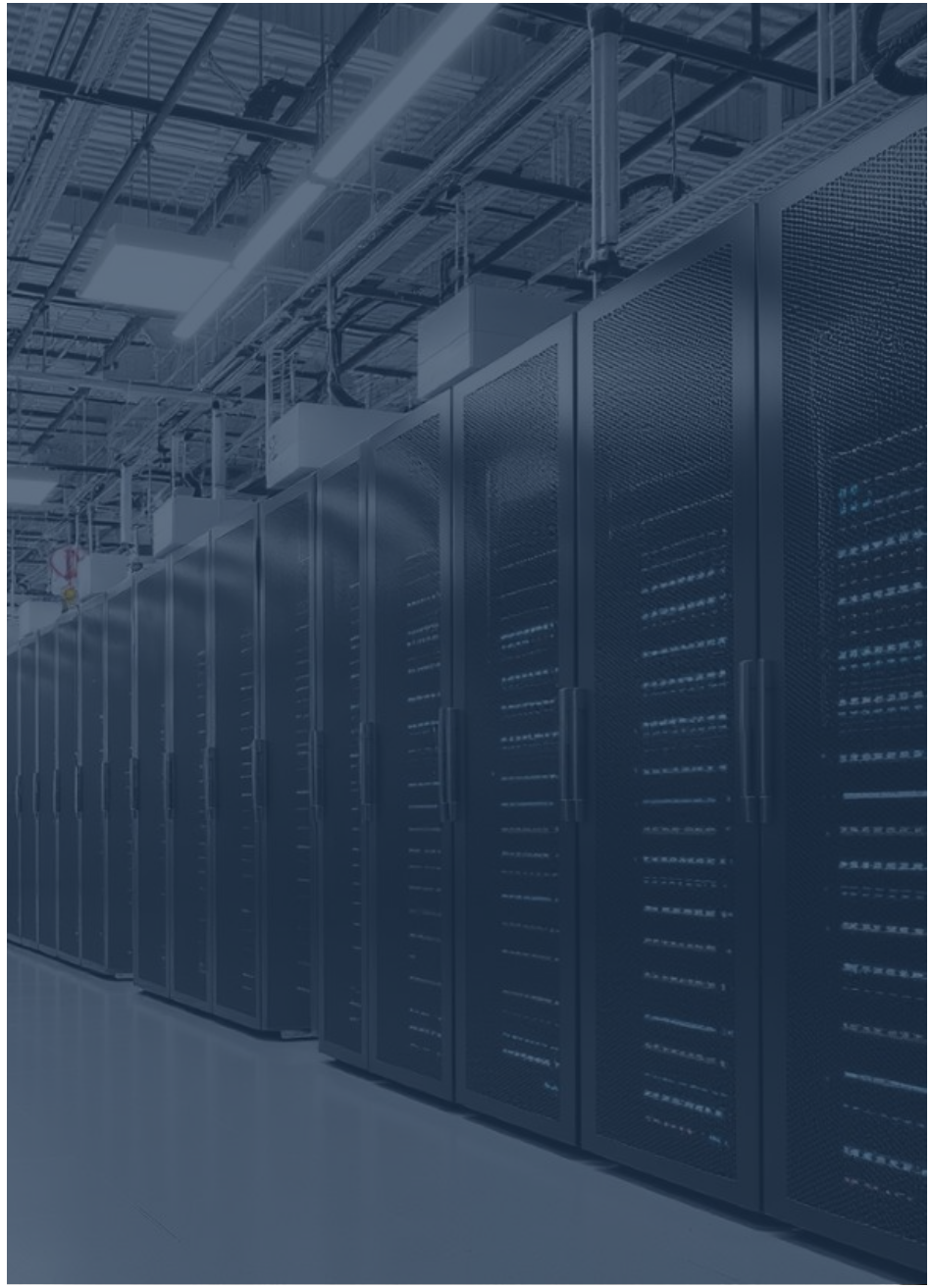
ELECTRICITY DEMAND IS SURGING

U.S. electricity demand is surging. AI data centers alone are projected to demand 123 GW of power by 2035[1], a 30-fold increase from current levels.

Data centers could consume up to 12% of U.S. electricity by 2030[2], with massive AI growth requiring 28 GW of new electricity by 2026[3].

Meeting that demand takes reliable, carbon-free, 24/7 baseload power — and the fastest way to add it is to generate more from the reactors already on the grid.

That is the need Lightbridge Fuel™ is designed to meet.



1. Deloitte, June 2025 - https://www.deloitte.com/us/en/insights/industry/power-and-utilities/data-center-infrastructure-artificial-intelligence.html
2. U.S. Department of Energy, August 2025 - https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers
3. Nuclear Energy Institute, May 2025 - https://www.nei.org/news/2025/state-of-the-nuclear-energy-industry-2025
4. Pew Research Center, October 2025 - https://www.pewresearch.org/short-reads/2025/10/24/what-we-know-about-energy-use-at-us-data-centers-amid-the-ai-boom/

INCREASING **CAPACITY FACTOR**

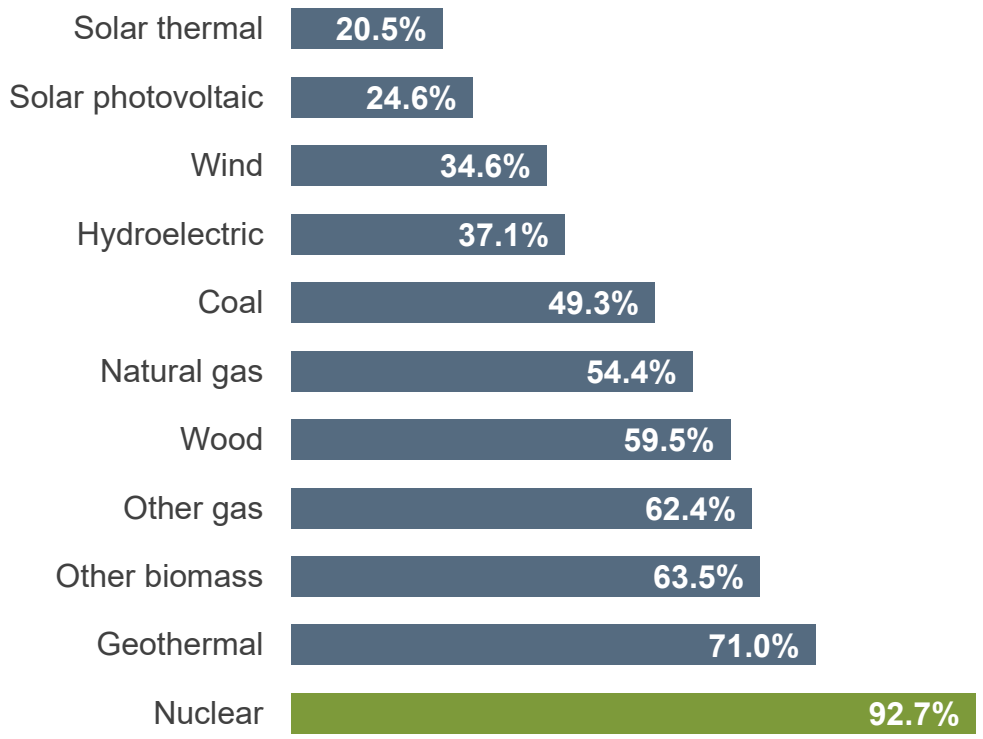
Capacity Factor Overview

- Capacity factor measures how often a power plant runs for a specific period, indicating how fully a unit's capacity is used.
- The U.S. nuclear fleetwide capacity factor is about 92.7%, topping out at over 98% in 2014.
- Utilities would like to find ways to increase capacity factor but have struggled to do so economically.

Ways Lightbridge Fuel Could Increase Capacity

- Longer fuel cycles (lengthening from 18 to 24 months eliminates the need for one refueling outage in every six-year period)
- Quicker ramp-up when adjusting power (the current fuel requires longer periods to ramp-up power level to prevent cladding breach, thus inhibiting load-follow operation). Lightbridge Fuel, like other metallic fuels, is expected to accommodate rapid power adjustments – enabling load-follow operation.

Major energy source capacity factors



THE NUCLEAR RESURGENCE

A TIMELY IMPERATIVE

Unmatched Power Economics

Reactors powered by Lightbridge Fuel will deliver massive amounts of power more reliably — and at a lower cost per unit of electricity — than any other way of providing it.

A Global Fleet Ready for Lightbridge Fuel

94 U.S. reactors that can use our fuel are operating today — out of about 400 worldwide. Hundreds more that can use it will likely be built, then maybe thousands.

Silicon Valley's Trillion-Dollar Power Buildout

Silicon Valley is moving from spending little to make its products — mostly software — to the most massive capital spend ever: trillions, much of it to get electric power. Lightbridge intends to be on the receiving end of that spending.

Source: Matteo Wong, "Silicon Valley Has Lost Its Biggest Advantage," The Atlantic, July 18, 2026, www.theatlantic.com/technology/2026/07/data-center-ai-heavy-industry/687990

OpenAI CEO Sam Altman calls power — "electrons" — his company's biggest constraint. Elon Musk, Microsoft's Satya Nadella, and former Google CEO Eric Schmidt have echoed him.

— The Atlantic, July 2026

$1.1 trillion+ in projected AI infrastructure spend next year — much of it to secure electric power (J.P. Morgan).

LARGE REACTORS **LEADING THE WAY**

Proven Technology With Global Scale

Large nuclear reactors have a proven history of reliable and safe baseload power generation. Multiple reactors are currently under construction in the US, China, and Europe, reflecting global commitment to this established technology.

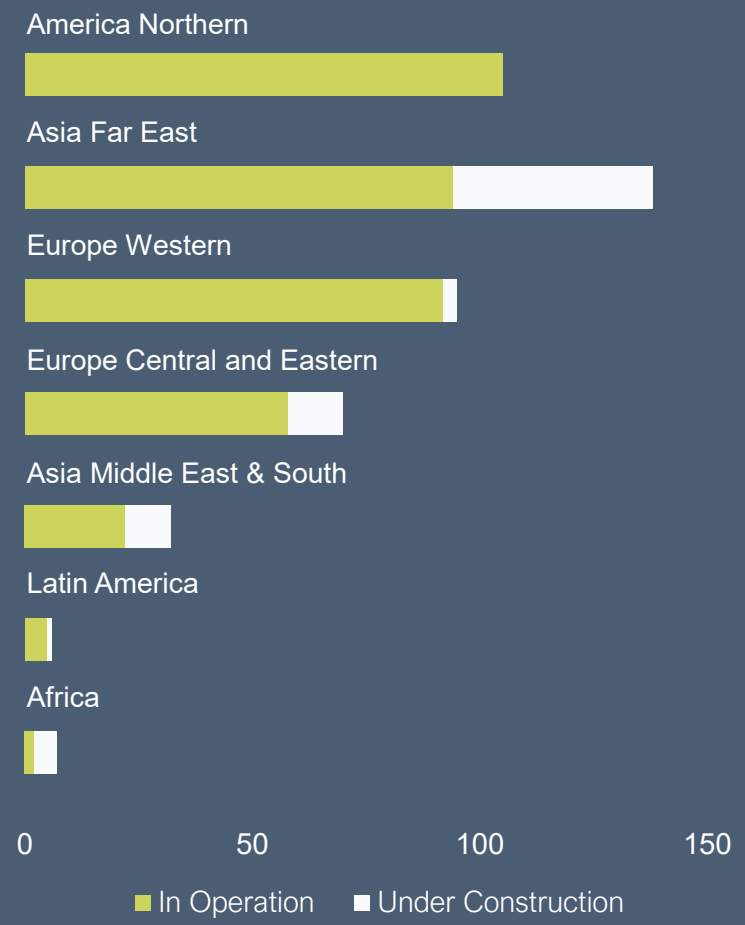
Current Projects Driving Capacity Growth

Major new reactor projects like Vogtle Units 3 and 4 in the US, Hualong One in China, and EPR in Europe are adding hundreds of gigawatts of clean energy capacity, supporting climate goals and energy security.

Stable, Zero-carbon Baseload Power

Large reactors offer continuous, reliable power to meet rising electricity demand and support renewable integration, all while having a zero-carbon footprint that aligns with climate commitments for a sustainable energy future.

417	Nuclear Power Reactors in Operation
377,147	MWe Total Net Installed Capacity
23	Nuclear Power Reactors In Suspended Operation
19,687	MWe Total Net Installed Capacity
67	Nuclear Power Reactors under Construction
17,150	MWe Total Net Installed Capacity
20,606	Reactor-Years of Operation



Net Capacity GW(e)

International Atomic Energy Agency (IAEA) Power Reactor Information System (PRIS)

Data as of March 8, 2026

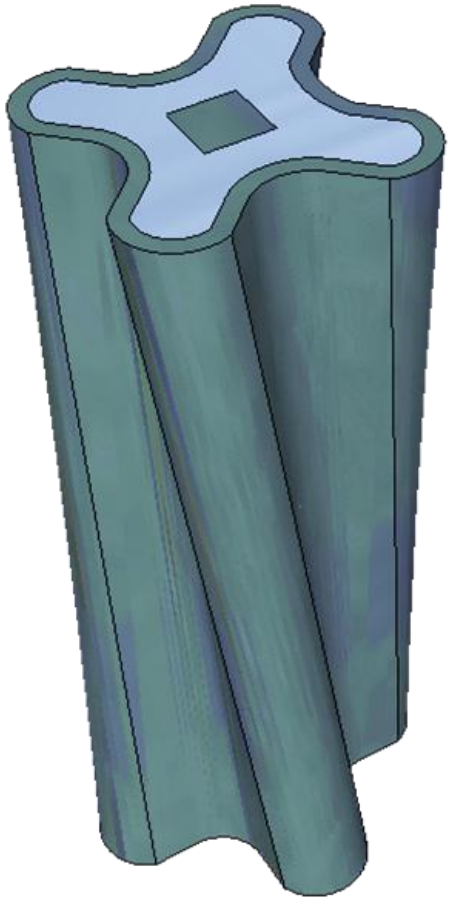
HOW WE DESIGN SAFER FUEL

Fabrication

The three components of Lightbridge Fuel are metallurgically bonded during the fabrication process. This bonding improves the structural integrity of the fuel rod and may reduce a potential radiation exposure to plant workers if the cladding is breached during off-normal events.

Operations

At lower fuel operating temperatures, fission products are expected to behave like solids (versus gases) and remain where they are created. No fission product release is anticipated during design-basis events.



Shape

Helically-twisted multi-lobe fuel rod – increased coolant mixing, increased fuel surface area, and shorter distance for heat generated in the fuel rod to reach the water may improve the coolability of the fuel. Swelling is expected to occur primarily in the valleys between the lobes & along the rod.

Materials

1. Displacer helps to reduce centerline temperature and may contain burnable poison material for reactivity control.
2. Fuel core made out of a uranium-zirconium alloy, which has higher thermal conductivity.
3. Metallurgically bonded barrier made out of corrosion-resistant zirconium-niobium alloy that reduces the consequences of cladding breach due to fuel-cladding mechanical interactions.

GLOSSARY **KEY TERMS & ACRONYMS**

Acronyms & Abbreviations

LTA	lead test assembly: full-size fuel assemblies identical to our commercial product, proven in a commercial reactor.
SHED	Special HALEU Extrusion Demonstration Facility — our DOE-authorized pilot plant at the INL site.
LEFF	Lightbridge Expandable Fuel Facility — our planned commercial-scale fuel plant.
HALEU	high-assay low-enriched uranium (5–20% U-235).
INL	Idaho National Laboratory (a U.S. DOE national lab).
ATR	Advanced Test Reactor at INL.
NRC	U.S. Nuclear Regulatory Commission.
DOE	U.S. Department of Energy.
NPP	Nuclear power plant.
PWR/BWR /PHWR	pressurized, boiling & pressurized heavy water reactors — the types compatible with Lightbridge Fuel.
Gwe/MWe	electric generating capacity; MWh / TWh — electricity generated.
MTU	metric tons of uranium.
TAM	total addressable market.

Industry Terms

Power uprate	A licensed increase in a reactor's power output.
Batch reload	The portion of a core's fuel replaced at a refueling outage.
Fuel cycle	The operating run between refuelings (typically 18–24 months).
Load-following	Ramping output up or down to track electricity demand.
Capacity factor	Actual generation as a share of maximum possible output.
Cladding	The metal outer layer sealing fuel from the reactor coolant.
Co-extrusion	Forming fuel core and cladding into a single metallurgically bonded rod.
Irradiation testing	Testing fuel samples inside a reactor to validate performance.
Enrichment	Raising the share of fissile u-235 in uranium.