UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest event Reported): February 23, 2011

LIGHTBRIDGE CORPORATION

(Exact name of registrant as specified in its charter)

Nevada	**001-34487**	**91-1975651**
(State or other jurisdiction of incorporation)	*(Commission File Number)*	*(I.R.S. Employer Identification No.)*

1600 Tysons Boulevard, Suite 550, McLean, VA 22102
(Address of Principal Executive Offices)

571.730.1200
(Registrant's Telephone Number, Including Area Code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

[_] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[_] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a -12)

[_] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d -2(b))

[_] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e -4(c))

Item 7.01. Regulation FD Disclosure.

On February 23, 2011, Lightbridge Corporation (the "Company") made a slide presentation to group of investors at the Jefferies 11th Global Clean Technology Conference. A copy of the Company's presentation is furnished herewith as Exhibit 99.1.

The information contained in this current report on form 8-K and the exhibit attached hereto shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall such information or such exhibit be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing. The information set forth in or exhibit to this form 8-K shall not be deemed an admission as to the materiality of any information in this report on form 8-K that is required to be disclosed solely to satisfy the requirements of Regulation FD.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	**Description**
99.1	Slide Presentation of Lightbridge Corporation

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

LIGHTBRIDGE CORPORATION

Date: February 23, 2011

By:/s/ Seth Grae
Seth Grae
President and Chief Executive Officer

EXHIBIT INDEX

Exhibit No.	Description
99.1	Slide Presentation of Lightbridge Corporation

Exhibit 99.1


Lightbridge®
NASDAQ: LTBR
Part of the WNA Nuclear Energy Index
WNA Nuclear Energy Index-based ETFs traded on NYSE and LSE
Jefferies 11th Global Clean Technology Conference
February 23, 2011

Safe Harbor Statement

This presentation includes or incorporates by reference statements that constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Act of 1934, as amended. These statements relate to future events or to our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. These statements include, but are not limited to, information or assumptions about revenues, gross profit, expenses, income, capital and other expenditures, financing plans, capital structure, cash flow, liquidity, management's plans, goals and objectives for future operations and growth. In some cases, you can identify forward-looking statements by the use of words such as "may," "could," "expect," "intend," "plan," "seek," "anticipate," "believe," "estimate," "predict," "potential," "continue," or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties, and others factors which are, in some cases, beyond our control and which could materially affect actual results, levels of activity, performance or achievements. These risks and uncertainties include, but not limited to, the factors mentioned in the "Risk Factors" section of our Annual Report on Form 10-K for the year ended December 31, 2010, and other risks mentioned in our other reports filed with the Commission.

The forward-looking statements contained in this presentation are made only as of this date, and Lightbridge Corporation is under no obligation to revise or update these forward-looking statements.

Lightbridge® – How We Fit in the Nuclear Space

Fuel Technology Business

All-Uranium Seed & Blanket Fuel Design

- Anticipated 10-17% power uprate and longer fuel cycles
- Technology best suited to currently operating light water reactors

All Metal Fuel Design

- Anticipated up to 30% power uprate
- Technology best suited to new build light water or small modular reactors

Thorium-based Seed & Blanket Fuel Design

- Leading developer of thorium-based , enhanced proliferation resistant nuclear fuel designs
- Addresses key concerns of proliferation, waste reduction and fuel supply

Advisory Services Business

Nuclear Generation

- Industry leading team
- Comprehensive advisory services for nuclear programs

Nuclear Regulation

- Leading regulatory team
- Advisory services on design, development and management of nuclear energy programs according to highest int'l standards

Investment Highlights– Why Lightbridge

- **Proprietary technology** addresses nuclear industry's obstacles: energy production efficiency, economics, nuclear weapons proliferation, and nuclear waste
  - **Increased power output** from plant (anticipated power uprate of up to 17% and longer fuel cycles in existing reactors, anticipated power uprate of up to 30% in new build reactors)
  - Increased **revenue** and improved operating margins of **existing** reactors and reduced total levelized cost per kilowatt-hour for new build reactors – Increased competitiveness of nuclear power
- **Superior Investment Returns**; Fuel technology value – IRR: **40% - 2020, 59% - 2025, 62% - 2030**
- R&D program focused on positioning the fuel technology for a **commercial arrangement** with one or more major fuel fabricators within the next **2-3 years**
- **Growing advisory services** business provides **revenue stream** and access to potential clients for fuel technology business
- Strong patent portfolio with **no known competition** globally
- **Experienced** management team, technical and strategic advisory boards made up of experts that have served in the nuclear industry and governments for decades

Fuel Technology Business

Fuel Technology Value Proposition

Increased Power Output from Plant	• 10-17% power uprate and longer fuel cycles for existing PWRs • Up to 30% power uprate for new build PWRs
Improved Plant Economics	• Increased revenue and improved operating margins of existing nuclear power plants • Reduced total levelized cost per kilowatt-hour for new build reactors • Increased competitiveness of nuclear power versus other energy sources
Increased Supply Chain Efficiency	• Fuel enables the supply chain to deliver more power from the same capacity • Reduced fuel fabrication costs
Improved Used Fuel Management	• Reduced volume of used fuel • Enhanced proliferation resistance of used fuel

Lightbridge's Metallic Fuel Technology Product Line:

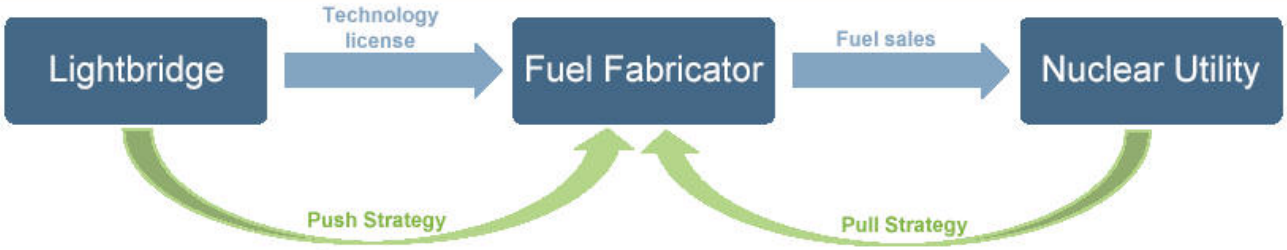
LTB17-1024™:
All-uranium seed and blanket fuel for 10% power uprate and longer fuel cycle in existing PWRs

LTB17-1724™:
All-uranium seed and blanket fuel for 17% power uprate and longer fuel cycle in existing PWRs

LTB17-3018™:
All-metal fuel for 30% power uprate in new build PWRs

LTB17-Th18™:
Thorium-based seed and blanket fuel for improved used fuel management

Monetizing Fuel Technology Value



Projected Annual Incremental Value Created per 1,000-MWe Reactor:

LTB17-1024™: $20-40M

LTB17-1724™: $25-55M

LTB17-3018™: Up to $90M

LTB17-Th18™: Up to $2M

Lightbridge will seek to capture up to 1/3 of incremental value as ongoing royalty fees

	2014	2020	2025	2030	2035
Projected fuel technology revenues, Millions USD					
LTB17-1024™: 10% Uprate, 24 Month Cycle	6	88	375	472	469
LTB17-1724™: 17% Uprate, 24-Month Cycle		35	58	197	385
LTB17-3018™: 30% Uprate, 18-Month Cycle			188	799	1,481
LTB17-Th18™: Thorium fuel,18-Month Cycle			14	41	96
Total projected revenues, Millions USD	**6**	**123**	**636**	**1,509**	**2,430**
Internal rate of return for cumulative net cash flows through year-end	-	40%	59%	62%	62%

In addition to ongoing royalty fees from future fuel sales, Lightbridge will seek an upfront technology access fee to generate early revenue

Industry Trends in Established Nuclear Markets

- The growth of nuclear power is facing major obstacles that need to be addressed, including:
  - Low cost natural gas in the US (shale gas)
  - Significant upfront capital cost of new build nuclear power plants,
  - Regulatory uncertainties
  - Fuel limitations
  - Used fuel management issues
- **Power uprates and longer fuel cycles** have become a favored industry option for increasing nuclear power generation from existing reactor fleets as it is faster **(months vs. years)** and less expensive **(overnight cost of under $1,200 per kWe; over 70% cheaper)** than building new reactors
- Next generation fuel designs capable of higher power density are required for greater power uprates and longer fuel cycles

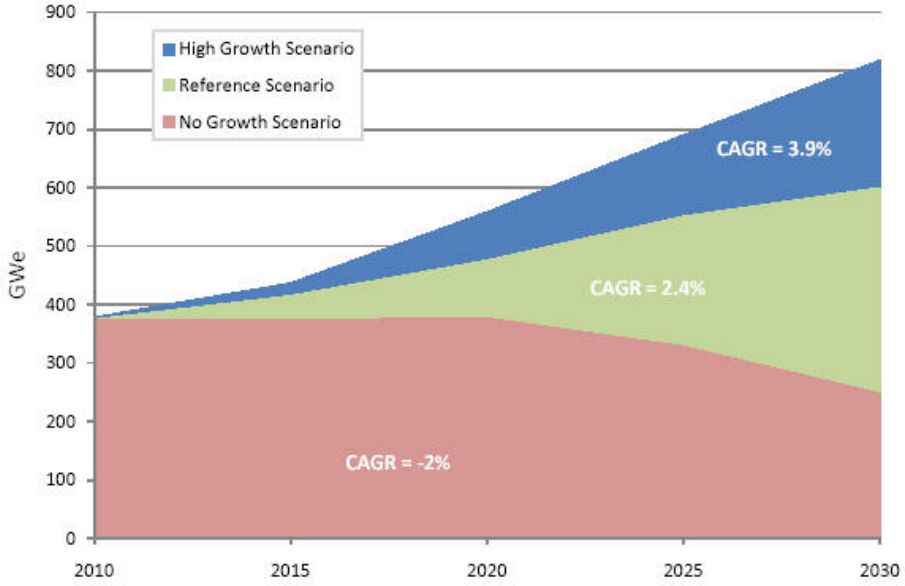
Industry trends in established nuclear markets point toward power uprates and longer fuel cycles as the growth engine in the foreseeable future

Industry Trends in Emerging Nuclear Markets

- Key priority is the most efficient use of capital and increasing supply chain throughput for new build reactors
- Next generation fuel designs capable of higher power density are required for increased power output with the same core size and plant footprint:
  - Greater power output from the same core size reduces average overnight cost per kilowatt and operations & maintenance costs per MWh for new build reactors
  - Additional nuclear capacity could be brought into operation faster
  - Existing supply chain can deliver more power from the same capacity
  - No changes to current pressure vessel forging capability required

Industry trends in emerging nuclear markets point toward efficient use of capital and supply chain infrastructure by increasing power production per dollar invested

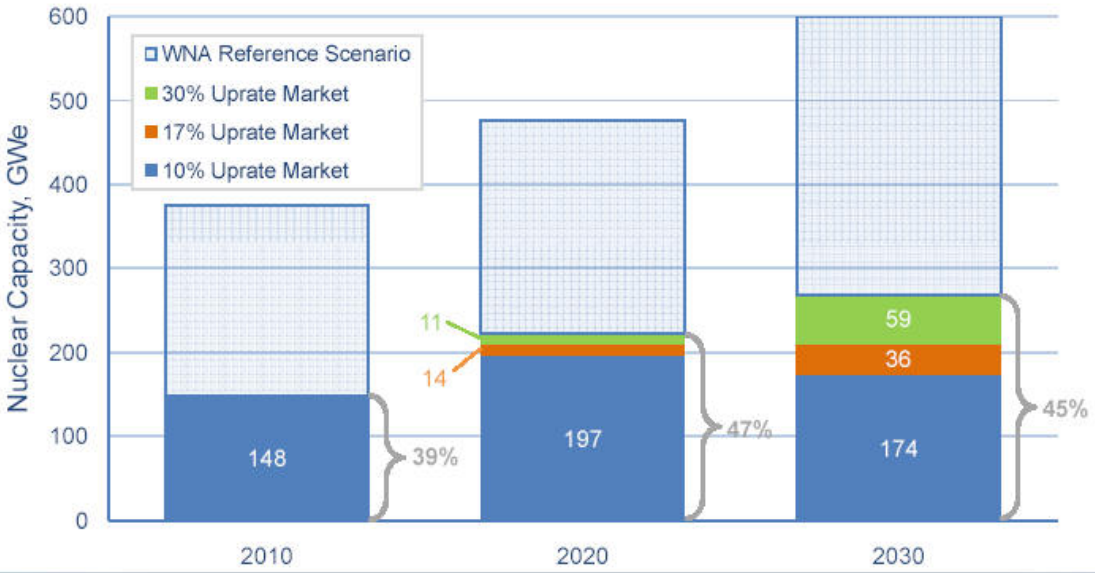
World Nuclear Generating Capacity



Source: World Nuclear Association "The Global Nuclear Fuel market, Supply and Demand 2009-2030"

World Nuclear Association's reference scenario forecasts world nuclear capacity to increase 60% by 2030

Estimated Target Market for Lightbridge PWR Fuels



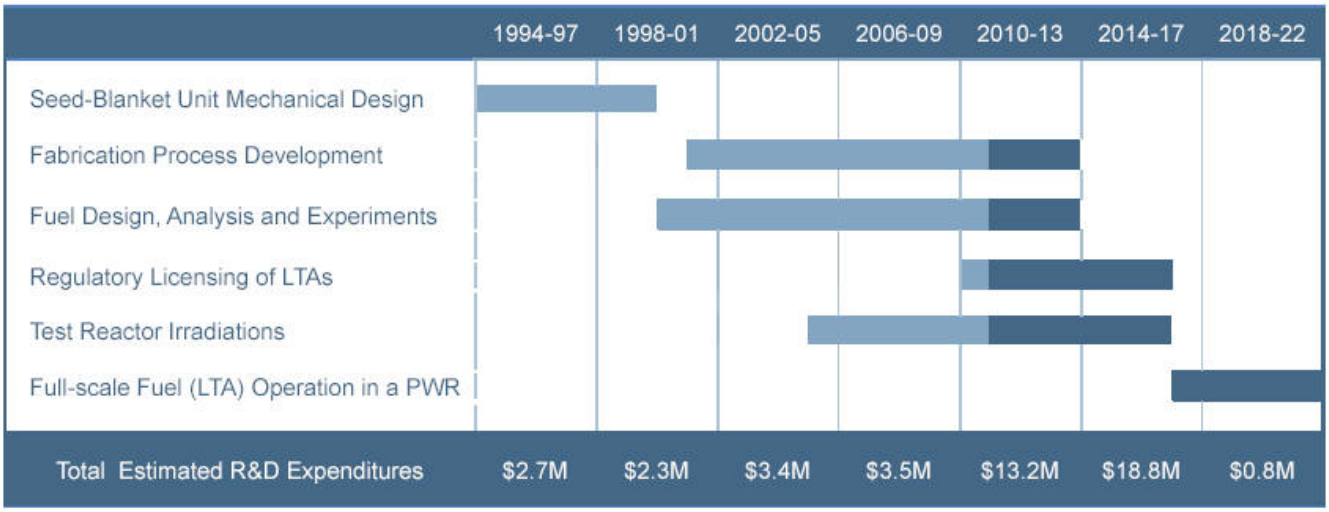
The current PWR target market represents the largest commercial market segment with the highest potential for near-term return on investment. It could be expanded in the future by including other reactor types, such as BWR, VVER, SMRs

PWR Market Penetration Scenarios

	2018	2020	2023	2025	2030	2035
Market penetration rates as a percentage of each target market segment:						
LTB17-1024™: 10% Uprate, 24 Month Cycle	1.0%	6.7%	18.0%	25.0%	30.0%	30.0%
LTB17-1724™: 17% Uprate, 24-Month Cycle	-	10.0%	15.0%	21.0%	30.0%	30.0%
LTB17-3018™: 30% Uprate, 18-Month Cycle	-	-	5.0%	10.0%	25.0%	40.0%
LTB17-Th18™: Thorium-based fuel, 18-Month Cycle	-	-	1.0%	1.0%	5.0%	10.0%
Projected market penetration, GWe:						
LTB17-1024™: 10% Uprate, 24 Month Cycle	2.0	13.1	34.9	48.2	52.2	44.8
LTB17-1724™: 17% Uprate, 24-Month Cycle	-	1.4	2.5	3.7	10.9	18.4
LTB17-3018™: 30% Uprate, 18-Month Cycle	-	-	1.1	4.0	14.6	23.4
LTB17-Th18™: Thorium-based fuel, 18-Month Cycle	-	-	2.3	2.4	13.2	26.4
Total market captured, GWe	2.0	14.5	40.7	58.4	91.0	113.0
Total market captured as a percentage of total target market	0.9%	6.5%	17.6%	23.3%	33.8%	42.0%

Based on the current and forecasted population of PWRs. The Metallic Fuel Technology fuel can be applied to other reactor types, e.g. BWR, VVER, SMRs

Lightbridge Nuclear Fuel Development Timeline



Current development efforts are focused on demonstration of LTB17-1718™ that allows advancement of all four product families in Lightbridge's metallic fuel product line

Key Milestones Completed To-date

Completed Milestones

1. Conceptual design for metallic fuel line of products
2. Fabrication of semi-scale metallic fuel rods demonstrated
3. Preliminary thermal-hydraulic testing, including flow tests and tests on heated rods
4. Initial capsule irradiation testing in a test reactor environment performed
5. Filed multiple new patent applications to strengthen patent portfolio and protect key intellectual property

Lightbridge continues to successfully advance its fuel development program

Key Technical Milestones in 2011-2013

	Technical Milestone	Milestone Significance
1	Fabrication of short-length fuel samples for capsule and loop irradiation	Provides fuel samples for capsule and loop irradiation testing.
2	Capsule irradiation of samples in the Advanced Test Reactor at Idaho National Laboratory	Confirm US fuel fabrication process for the metallic fuel technology (MFT).
3	Begin loop irradiation tests in prototypic PWR operating conditions	Demonstrate the performance of MFT under prototypic operating conditions of Western-type PWRs. Fuel samples from these tests will be used in subsequent fuel tests.
4	Fabrication of full-length fuel rods	Full-length fuel rods will be manufactured for fabrication process demonstration and out-of-reactor tests.

Achieving these key technical milestones over the next 2-3 years will position Lightbridge well for a commercial arrangement with one or more fuel fabricators

LTB17-1718™ LTA Program

WBS	Task Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Estimated Cost ($1,000)
1	**Conceptual Design**												**225**
1.3	Perform PWR fuel design optimization study												75
1.4	Perform plant study for various power uprate levels												125
1.5	Secure Russian export license for U-Zr fuel database												25
2	**Preliminary Design**												**8,944**
2.1	Develop preliminary LTA design												303
2.2	Design Review Meeting												50
2.3	Preliminary fabrication process development												2,169
2.4	Fabrication of sample fuel rods												2,142
2.5	Capsule irradiation of fuel samples												2,692
2.6	Out-of-reactor testing												1,588
3	**Detailed Design**												**18,057**
3.1	Establish joint development program with PWR fuel vendor												50
3.2	Develop detailed LTA design												300
3.3	Loop irradiation of fuel samples in the test reactor and PIE												10,366
3.4	Additional Test Irradiations												2,350
3.5	Irradiated materials testing at hot cells												1,600
3.6	Detailed design – out-of-reactor testing												1,785
3.7	Detailed fabrication process design for LTAs												1,607
4	**Full Scale Product Testing and Validation (LTA Testing)**												**5,171**
4.1	Regulatory licensing for LTAs												2,200
4.2	Fabricate LTAs												1,451
4.3	PWR host reactor activities in preparation for LTA testing												720
4.4	LTA Operation												800
Total Annual Expenditure ($1,000)		5,267	4,075	3,438	7,215	9,388	2,213	0	100	100	0	600	32,397

A commercial arrangement with a fuel fabricator can help fund a portion of the remaining R&D and commercialization costs

Viable Technology

- The Lightbridge metallic fuel technology is an evolution of the early work performed in the US and further development and operation of similar type of fuel in the Russian icebreaker fleet
- Technology at the core of the metallic fuel product line creates significant synergies and technology transfer among Lightbridge's various fuel products
- Based on the successful operating history in the icebreakers and extensive experience of the development team, we are confident that commercial deployment will follow successful conclusion of the LTA program

Consulting and Advisory Services Business

Advisory Services – United Arab Emirates

United Arab Emirates - Lightbridge Milestones and Experience

UAE Contract: Entered into multiple five-year agreements to provide strategic advice for planning and implementation of nuclear energy within the United Arab Emirates

- Developed a comprehensive plan (the" Roadmap") for implementing a nuclear power program in the UAE.
  - Completed in six months
  - Currently being implemented
  - Covers near-term and long-term deployment
  - Separate agreements for generation, ENEC (Emirates Nuclear Energy Company) and regulatory, FANR (Federal Authority for Nuclear Regulation)
- Providing ongoing counsel and advice related to nuclear generation capabilities, commercial issues and regulatory planning.

Two leading nuclear programs launched in recent times: UAE & Kuwait, Lightbridge lead consultant for both countries

Advisory Services - Kuwait

Kuwait: Lightbridge Milestones and Experience

- Completed a comprehensive nuclear economic feasibility study that addresses the question of whether deployment of a civil nuclear power program would meet the economic, energy portfolio mix and environmental objectives of the country.
- Completed a Nuclear site suitability study that evaluates and ranks sites that are potentially suitable for the construction and operation of commercial nuclear power plants.
- Currently conducting an extensive analysis to review applicable renewable energy technologies. This analysis will contribute to the future development of a national renewable energy strategy with the objective of ultimately implementing these options.

Two leading nuclear programs launched in recent times: UAE & Kuwait, Lightbridge lead consultant for both countries

Advisory Services - Gulf Cooperation Council (GCC)

GCC: Lightbridge Milestones and Experience

- The GCC, a political and economic union that comprises the Gulf states of the Kingdom of Bahrain, State of Kuwait, Sultanate of Oman, State of Qatar, Kingdom of Saudi Arabia and United Arab Emirates.
- Lightbridge entered into a consulting contract with the Gulf Cooperation Council (GCC) Member States to assess regional cooperation in the development of civilian nuclear power programs for electricity generation and water desalination.
- Contract is with Lightbridge and its partner Exelon Generation Company, LLC, a wholly owned subsidiary of Exelon Corporation (NYSE:EXC), and other leading nuclear consultants. The studies will take place over a six-month period and will be completed by the second quarter of 2011.

Poised to advise any of the GCC member states that may evaluate the need for a civil nuclear program.

World Class Team – Strategic Advisory Council (1)

Sir Ronald Grierson, Chairman of the Committee	• Chairman of the Blackstone Group's International Advisory Board • Former Chairman of the General Electric Company plc (UK) 1968 -1996 • Served on the Boards of Chrysler Corp., R.J. Reynolds, Nabisco, W.R. Grace & Co., British Aircraft Corp., International Computers Ltd. • Former Managing Director of S. G. Warburg
Victor Chu	• Founder and Chairman of the First Eastern Investment Group – Hong Kong • Former Director and Council Member of the Hong Kong Stock Exchange
Susan Eisenhower	• President and Chair of the Eisenhower Group • Member of the Blue Ribbon Commission on America's Nuclear Future
General Lord Charles Guthrie	• Past Chief of the U.K. Defence Staff, sitting member of the House of Lords • Principal military advisor to two prime ministers and three secretaries of defence
Rt. Hon Michael Howard	• Past leader of Britain's Conservative Party, sitting member of the House of Lords • Member of Parliament in the House of Commons for nearly three decades

World Class Team – Strategic Advisory Council (2)

Tidu Maini, BSc, ACGI, DIC, Phd	• Executive Chair of the Qatar Science and Technology Park, advisor to the Qatar Foundation • Member of the Microsoft European Roundtable
Simon Murray, CBE	• Chairman and founder of the General Enterprise Management Services (GEMS) a private equity firm in Hong Kong, former Executive Chairman of the Asia Pacific Division of Deutsche Bank • Former CEO of Hutchison Whampoa • Board member –Richemont and Cheung Kong Holdings, Ltd.
Dr. Charles W. Pryor, Jr.	• Chairman of Urenco USA • Former Board Chairman and CEO of Westinghouse
Ernie Steiner	• Past President and Vice Chairman of the Louis Dreyfus Holding Company • Former director of Louis Dreyfus Natural Gas Corporation (one of the largest independent natural gas companies in the United States)
John Taylor	• Thirty year career with Chase Manhattan Bank where he played a key role in developing its Asian business • Founding director of International Power PLC, which operates power stations in twenty countries around the world
Kathleen Kennedy Townsend	• Former Lieutenant Governor of Maryland • Past deputy assistant attorney general in the Clinton Administration's Department of Justice

Investment Highlights– Why Lightbridge

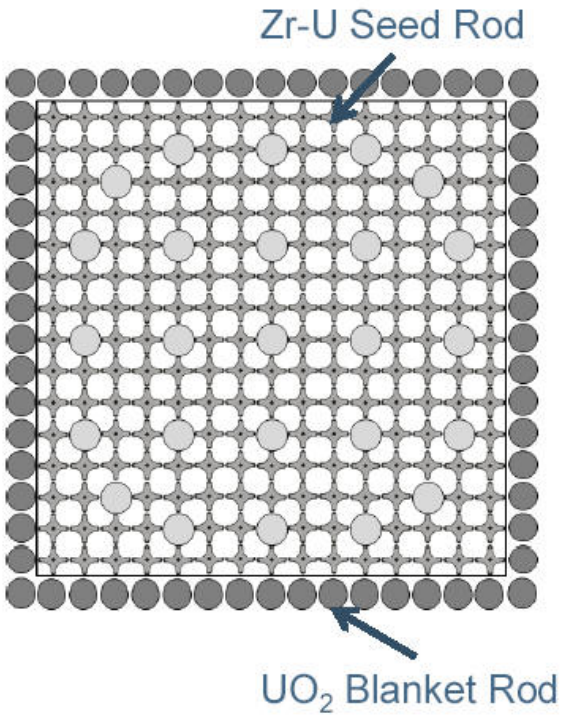
- **Proprietary technology** addresses nuclear industry's obstacles: energy production efficiency, economics, nuclear weapons proliferation, and nuclear waste
  - **Increased power output** from plant (anticipated power uprate of up to 17% and longer fuel cycles in existing reactors, anticipated power uprate of up to 30% in new build reactors)
  - Increased **revenue** and improved operating margins of **existing** reactors and reduced total levelized cost per kilowatt-hour for new build reactors – Increased competitiveness of nuclear power
- **Superior Investment Returns**; Fuel technology value – IRR: **40% - 2020, 59% - 2025, 62% - 2030**
- R&D program focused on positioning the fuel technology for a **commercial arrangement** with one or more major fuel fabricators within the next **2-3 years**
- **Growing advisory services** business provides **revenue stream** and access to potential clients for fuel technology business
- Strong patent portfolio with **no known competition** globally
- **Experienced** management team, technical and strategic advisory boards made up of experts that have served in the nuclear industry and governments for decades

Appendix

Metallic Fuel Technology Product Line

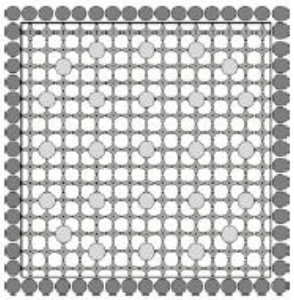
All-Uranium Seed & Blanket Fuels

- Lightbridge's metallic fuel rod in the central seed region and conventional UO_2 rods in the outer blanket region.
- Developed for power uprate in existing PWRs
- Capable of extending the length of fuel operation and increased reactor power output.
- Evolutionary fuel designs building on Lightbridge's thorium-based seed and blanket fuel development program:
  - LTB17-1024™ (10% uprate / 24-month cycle)
  - LTB17-1718™ (17% uprate / 18-month cycle)



Incremental Value Created by Lightbridge LTB17-1024™ Fuel for 10% Power Uprates

- Incremental capital cost of plant modifications: ~$62/kWe or over 98% lower than the average new build capital cost



	UO2 Fuel*	LTB17-1024™
Capital Cost (₪/kWh)	-	0.00
O&M Costs (₪/kWh)	1.46	1.33
Fuel Costs (₪/kWh)	0.69	0.79
Total production cost (₪/kWh)	**2.15**	**2.12**

*Assumes the initial capital cost has been fully written off by an existing nuclear power plant

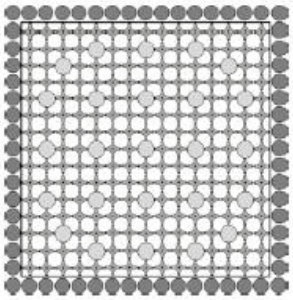
Projected Incremental Value Created for a 1,000 MWe Reactor

Wholesale Price of Electricity (₪/kWh)	Spread[a] (₪/kWh)		Annual Spread Value		**Additional Spread from LTB17-1024™**	Extra Annual Revenue from Longer Fuel Cycle	Annual Cost of Avoided Outage	**Total Annual Benefit from LTB17-1024™**
	UO_2	LTB17-1024™	UO_2	LTB17-1024™				
3	0.85	0.88	$67M	$76M	**$9.2M**	$4M	$3.8M	**$17M**
4.5	2.35	2.38	$185M	$206M	**$21M**	$6M	$3.8M	**$31M**
6	3.85	3.88	$304M	$337	**$33M**	$8M	$3.8M	**$45M**

[a] Difference between the wholesale price of electricity and total production costs

Incremental Value Created by Lightbridge LTB17-1724™ Fuel for 17% Power Uprates

- Incremental capital cost of plant modifications: ~$1,154/kWe or over 70% lower than the average new build capital cost



	Standard UO2 Fuel*	LTB17-1724™
Capital Cost (₹/kWh)	-	0.12
O&M Costs (₹/kWh)	1.46	1.24
Fuel Costs (₹/kWh)	0.69	0.79
Total production cost (₹/kWh)	**2.15**	**2.15**

*Assumes the initial capital cost has been fully written off by an existing nuclear power plant

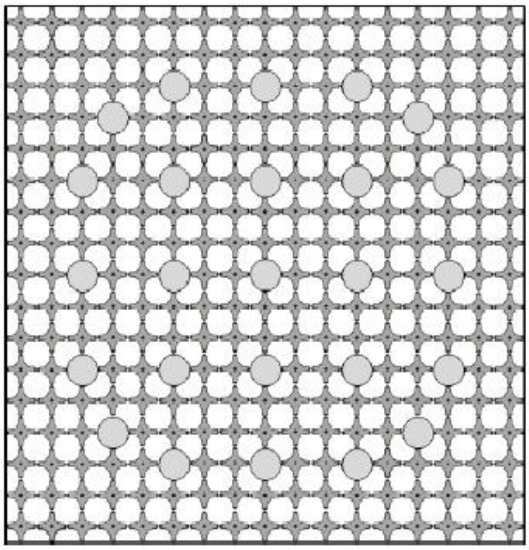
Projected Incremental Value Created for a 1,000 MWe Reactor

Wholesale Price of Electricity (₹/kWh)	Spread[a] (₹/kWh)		Annual Spread Value		**Additional Spread from LTB17-1724™**	Extra Annual Revenue from Longer Fuel Cycle	Annual Cost of Avoided Outage	**Total Annual Benefit from LTB17-1724™**
	UO_2	LTB17-1724™	UO_2	LTB17-1724™				
3	0.85	0.85	$67M	$79M	**$11M**	$4.2M	$3.8M	**$19M**
4.5	2.35	2.35	$185M	$217M	**$32M**	$6.3M	$3.8M	**$42M**
6	3.85	3.85	$304M	$356M	**$52M**	$8.4M	$3.8M	**$64M**

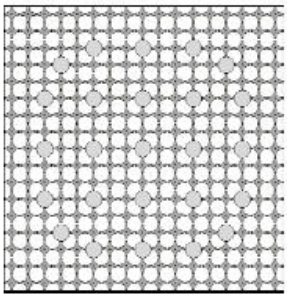
[a] Difference between the wholesale price of electricity and total production costs

Lightbridge All-Metal Fuel for up to 30% Power Uprate

- Utilizes Lightbridge's metallic fuel rods
- New-build reactors are most suited to take advantage of the full power uprate potential offered by the Lightbridge metallic fuel rod design
- Any necessary upgrades to reactor and NSSS components can be more easily and less expensively implemented before construction has commenced
  - LTB17-3018™ (30% uprate / 18-month cycle)



Incremental Value Created by LTB17-3018™ Fuel for 30% Power Uprates



- Incremental capital cost of plant modifications: ~$2,056/kWe or more than 50% lower than the average new build capital cost

Cost Component	Standard UO_2 Fuel*	Lightbridge LTB17-3018™, 30% uprate
Total capital cost	6.60	5.71
O&M Costs	1.46	1.12
Fuel Costs	0.69	0.83
Total Levelized Costs, ¢/kWh	**8.75¢**	**7.66¢**

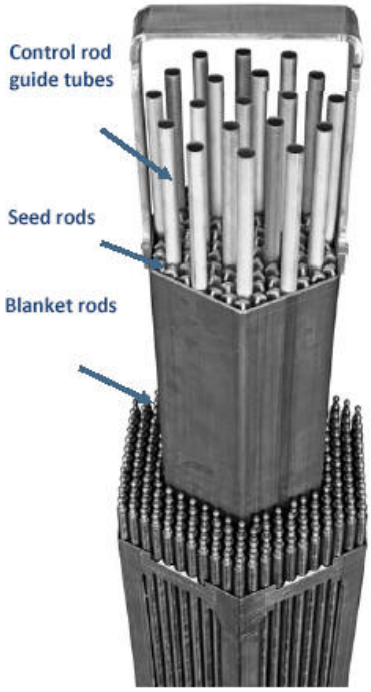
*Source: Nuclear Energy Institute for total capital and O&M costs; Lightbridge's internal fuel cost model

Calculation of Annual Cost Savings for a 1,000-MWe Plant:

- Difference in total levelized cost between standard UO2 fuel and LTB17-3018™ per kWh = □1.09
- The amount of electricity generated by a 1,000-MWe reactor per year = 8,331 GWh

Total Annual Cost Savings = $90.8M

Thorium-based Seed and Blanket Fuels

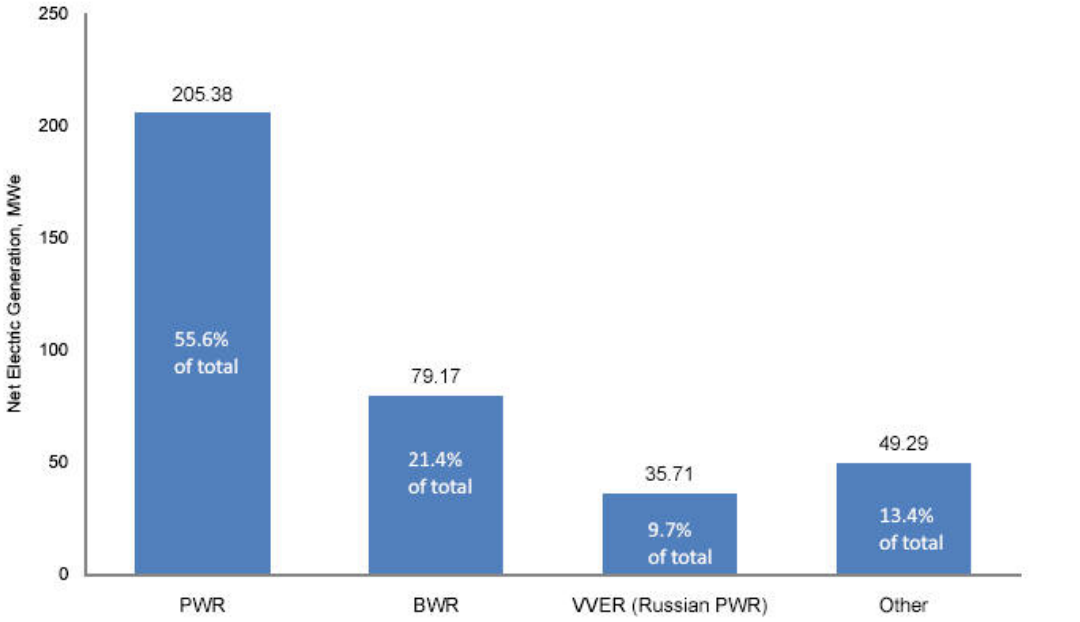


Lightbridge thorium-based seed and blanket assembly model for VVER-1000 reactors

- Once-through fuel cycle based on patented seed and blanket fuel assembly design that efficiently utilizes thorium
- Full compatibility with existing LWR designs
- Enhanced proliferation resistance of the used fuel
- Reduced natural uranium requirements - up to 10% natural uranium savings
- Reduced volume (up to 40%) and long-term radio-toxicity (up to 90%) of used fuel
- Reduction in fabrication costs due to reduction in fuel rod requirements

Market Analysis

Current Nuclear Power Market by Reactor Type



World Nuclear Association, Reactor Database. http://www.world-nuclear.org/NuclearDatabase

Total Potential Market: Existing PWRs

- Estimated 2.2% compound annual growth rate
- By 2030 80% of the existing NPP market is expected to be in France, US, China and Korea

Country	2010	2020	2030
France	55,150	56,800	56,800
United States	36,378	37,555	37,555
China	6,158	31,938	31,938
Korea RO (South)	13,566	18,366	18,366
Germany	10,781	10,781	10,781
Japan	8,775	8,775	8,775
Spain	5,933	5,933	5,933
Belgium	4,009	4,009	4,009
Brazil	1,270	2,540	2,540
South Africa	1,842	1,842	1,842
Sweden	1,835	1,835	1,835
Finland	0	1,600	1,600
United Kingdom	1,188	1,188	1,188
Switzerland	970	970	970
Total MWe	**147,855**	**184,132**	**184,132**

Total Potential Market: New-Build PWRs

- Significant new-build capacity expected in China, India, and Korea
- China estimated to build ~51% of the new NPPs in the next 20 years; India and Korea combine for ~20%

Country	2020	2030
China	17,000	43,200
France	1,620	1,620
India	4,650	9,300
Japan	3,000	3,000
Korea RO (South)	0	8,100
United Arab Emirates	4,900	5,600
United Kingdom	6,600	6,600
United States	0	7,558
Total MWe	**37,770**	**84,978**

Target Market: 10% Power Uprate

- PWRs with:
  - net capacity over 900 MWe;
  - began operation before 2018;
  - under 41 years of age by 2020;
  - under 30 years of age by 2020; not scheduled to replace steam generators within 5 years from 2020 or each subsequent year.
- France, United States, China, Korea and Japan will account for approximately 80% of this market segment by 2020 and beyond.

Country	2010	2020	2030
France	55,150	52,430	44,550
China	6,158	42,068	37,280
United States	36,378	37,555	34,093
Korea RO (South)	13,566	15,516	13,566
Germany	10,781	10,781	10,781
Japan	8,775	11,775	7,482
Spain	5,933	5,933	5,933
United Kingdom	1,188	4,488	4,488
Belgium	4,009	4,009	4,009
United Arab Emirates	0	2,800	2,800
South Africa	1,842	1,842	1,842
Sweden	1,835	1,835	1,835
India	0	1,700	1,700
Finland	0	1,600	1,600
Brazil	1,270	1,270	1,270
Switzerland	970	970	970
Total MWe	**147,855**	**196,572**	**174,199**

Target Market: 17% Uprate

- PWRs with:
  - a net capacity over 900 MWe;
  - began operation before 2018;
  - under 30 years of age by 2020;
  - scheduled to replace steam generators within 5 years from 2020 or each subsequent year.
- France, China, Korea, Japan, and the United States will account for a total of approximately 97% of this market segment by 2030 and beyond.

Country	2020	2030	2035
China	3,870	8,658	24,858
France	5,990	13,870	13,870
Korea RO (South)	2,850	4,800	10,020
Japan	0	4,293	5,420
United States	0	3,462	4,590
Brazil	1,270	1,270	1,270
United Kingdom	0	0	1,188
Total	**13,980**	**36,353**	**61,216**

Target Market: 30% Uprate

- New-build PWRs with:
  - net capacity over 900 MWe;
  - began operation after 2018

- China, Korea, India and the United States will account for a total of approximately 90% of this market segment by 2030 and beyond.

Country	2020	2030
China	3,000	29,200
Korea RO (South)	0	8,100
India	2,950	7,600
United States	0	7,558
United Kingdom	3,300	3,300
United Arab Emirates	2,100	2,800
Total	**11,350**	**58,558**

Target Market: Thorium Fuels

Country	2020	2030
China	48,938	75,138
France	56,600	56,600
United States	37,555	45,113
Korea RO (South)	18,366	26,466
Japan	9,535	9,535
Germany	9,436	9,436
India	4,650	9,300
United Kingdom	7,788	7,788
Spain	5,933	5,933
United Arab Emirates	4,900	5,600
Belgium	4,009	4,009
Brazil	2,540	2,540
South Africa	1,842	1,842
Sweden	1,835	1,835
Finland	1,600	1,600
Turkey	-	1,200
Total	**215,527**	**263,935**

- The total size of the thorium PWR market segment is estimated to be:

  ~216 GWe (97% of the total target PWR market) by 2020;

  ~264 GWe by 2030 (98% of the total target PWR market).

Country	2020	2030
Price Sensitive	154,499	170,157
Thorium Resourced	56,128	88,178
Non-Proliferation Promoter	4,900	5,600
Total	**215,527**	**263,935**

Lightbridge®

NASDAQ: LTBR

Part of the WNA Nuclear Energy Index

WNA Nuclear Energy Index-based ETFs traded on NYSE and LSE

Q&A