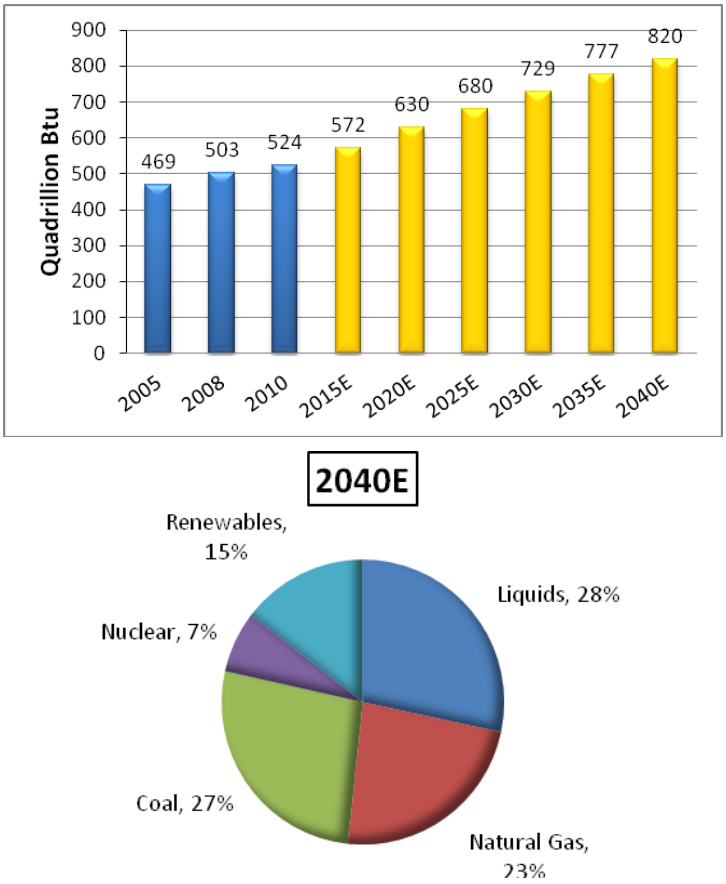
Dr. Randell L. Mills
Chairman, CEO, and President
Email: rmills@brilliantlightpower.com
Phone: 609.490.1040

BUSINESS

Industry and Market Opportunity

According to the Energy Information Association ("EIA"), during the last two decades, global demand for energy has nearly doubled. This rapid growth has resulted in imbalances of supply and demand of electricity and natural resources worldwide. Global energy demand has grown 18.7% from 2000 to 2006, and the EIA projects growth of 56% by 2040 from 2010 demand levels. Energy provided by existing renewable sources, primarily wind and solar which are relatively poor sources of baseload power, is projected to grow rapidly during this time period, but is expected to satisfy only 15% of global demand by the year 2040 (Figure 1). In fact, despite global mandates on the use of renewable forms of energy and increased energy conservation, consumption of fossil fuels is projected to increase 45% over the same time period.

Figure 1. Projected total global energy consumption with fuel-type breakdown.



Sources: EIA IEO 2013.
(1) Unconventional includes biofuels, bitumen extra-heavy oils, coal-to-liquids, and gas-to-liquids.
(2) Liquids excludes unconventional liquids.

Brilliant Light Power, Inc.'s ("BrLP" or the "Company") proprietary process is the culmination of approximately 25 years of research and $100 million of investment into the existence of a lower-energy-state of hydrogen that the Company has trademarked as HYDRINO®. The corresponding energy release represents a new energy source that will be a non-polluting replacement for all fossil fuel applications at approximately $1/10^{th}$ the cost. As such, BrLP's potential addressable market is enormous by any measure. According to EIA, the annual market for fossil fuels in the United States is approximately $1 trillion, and Management estimates the global market to be in excess of $4 trillion. As noted above, these markets are expected to experience significant growth through the year 2040. The International Energy Agency estimates over $1 trillion of annual energy-related capital expenditures through 2030. With renewables being an intermittent source of power and currently dependent on subsidies, and nuclear too expensive and potentially dangerous, the world's reliance on carbon-based fuels is anticipated to continue to contribute to atmospheric carbon dioxide. The recent Paris accord underscores the World's fear of the catastrophic effects of carbon dioxide pollution. Steps to curtail greenhouse gases come at a high economic cost compounded by trillions of dollars in infrastructure and redistribution of wealth. In contrast, BrLP believes that its new power source is the only possible broad solution to climate change while providing power to essentially all applications in the form of electricity at a fraction of the cost of any conventional source.

Company Overview

BrLP believes that it has created a game-changing, nonpolluting fundamentally new primary source of energy from the conversion of hydrogen into a prior undiscovered, more stable form of hydrogen called "Hydrino®" that releases two hundred times more energy than burning hydrogen. This enormous chemical energy gain is thermodynamically enabling of using ubiquitous H_2O water as the source of hydrogen fuel to form Hydrinos and oxygen. Brilliant Light has solved the theory, confirmed Hydrino reaction products by many analytical techniques, and identified Hydrino as the pervasive dark matter of the universe. The SunCell® was invented and engineered to harness this clean energy source of optical power of thousands of Sun equivalents that can be directly converted to electrical output using commercial photovoltaic cells. SunCell® technology is under rapid development for commercialization. Prototypes are already continuously producing hundreds of thousands of watts of light that is ideal for concentrator photovoltaic conversion being engineered and fabricated at leading photovoltaic (PV) companies. The performance to date indicates that the SunCell® is capable of rapid displacement of fuels, power sources, and infrastructure due to its superior performance, lower cost, lack of pollutant by-products, and use of existing mass-produced components. To protect its intellectual property, multiple worldwide patent applications have been filed on BrLP's

proprietary pioneering innovations and inventions. To Management's knowledge, there are no known Hydrino-technology competitors.

This energy source is based on a new chemical process that releases the latent energy of the hydrogen atom resulting in the formation of the previously undiscovered more stable, Hydrino form of hydrogen. The Company refers to this process shown schematically in Figure 2 as the "BlackLight Process" since enormous intensity ultraviolet (UV) and extreme ultraviolet (EUV) or soft X-ray or black light is emitted. The Company utilizes the BlackLight Process to produce electrical power using its SunCell® that forms brilliant light-emitting plasma, converts the UV and EUV light into a visible light spectrum that matches the Sun and irradiates concentrator-type photovoltaic cells at over a thousand times Sun intensity to produce the electricity.

The only consumable fuel of the SunCell® comprises hydrogen atoms of water molecules wherein gaseous water is injected into the hydrino reaction plasma during operation to serve as a source of HOH catalyst and atomic hydrogen. Optionally, hydrogen gas derived from the electrolysis of water could also be injected. The hydrino reaction is initiated and propagated by a high current flowed through a highly conductive matrix comprising molten silver or molten silver-copper alloy that is injected into current-supplying electrodes by an efficient electromagnetic pump having no moving parts. The current supplied by a capacitor bank and switched on by the molten metal injection may be one hundred times that of household current at a voltage of about one tenth that of a AA battery. H of H_2O is converted to Hydrinos with a net release of large multiples of the energy required to ignite the fuel (e.g. 100 times) by application of the high current. The overall reaction is H_2O to Hydrinos, oxygen, and electricity. The safe, nonpolluting products can be vented to atmosphere. Hydrino is lighter than air and cannot be contained in the atmosphere such that it is vented to space where it is currently observed in vast abundance (approximately 95% of the mass of the universe is comprised of dark matter or Hydrinos). The Company believes that the SunCell® primarily produces light and power unlike any known light source, hundreds of kilowatts of high-energy (ultraviolet and extreme ultraviolet or soft X-ray) continuum light with essentially no visible or infrared light. To make this light convertible to electricity using commercial concentrator photovoltaic cells that require irradiation by visible and near infrared light, the SunCell® exploits its uniquely high energy light of extraordinary high power density to produce emission resembling the light from the Sun, but at thousands of times the solar intensity at the Earth's surface.

BrLP is well positioned to deploy commercial products through leasing SunCells® and generating power-sales revenue streams in essentially all power application markets as a replacement of primary fuels and as a primary source of electricity. Manufacturing, supply chain management, installation, and in-field maintenance and repairs will be outsourced. The current

scale of the SunCell® is hundreds of thousands of watts of high-energy light at a power density of over 10 million watts per square meter that can be converted to electricity at an estimated efficiency of about 35% to 45% with optimization. This performance far exceeds that of an internal combustion engine, the densest conventional engine available. SunCells® producing ten kilowatts to megawatts of electricity are anticipated by adjusting the scale accordingly. Moreover, SunCells® may be ganged to achieve any reasonably sought power such as hundreds of megawatts of electricity available on-site, continuously without interruption.

The capital costs for a low-maintenance system that can have no moving parts are projected to be about 10% that of conventional distributed generation with H_2O serving as the fuel and without production of any pollutant. The carbon footprint of the SunCell® is zero while the energy release of H_2O fuel, freely available in the humidity in the air, is over one hundred times that of an equivalent amount of high-octane gasoline. It is anticipated to run on demand with load following, continuously for many years. Moreover, SunCell® technology permits independence from existing infrastructure, such as the grid in the case of electricity and fuels in the case of motive power. The safe, nonpolluting SunCell® uses readily available components and cheap, abundant, nontoxic, commodity chemicals, with no apparent long-term supply issues that might preclude commercial, high volume manufacturing. At over a thousand Sun equivalents, the corresponding reduction in the area of the photovoltaic converter gives rise to a projected cost of the SunCell® of about $50 to $100/kW compared to over ten times that for conventional power sources of electricity. Applications and markets for the SunCell® extend across the global power spectrum, including thermal, stationary electrical power, motive, and defense. The Company believes that its technology, comprising the process of the conversion of the hydrogen of water into dark matter and the SunCell® to harness the energy release as electrical output power, represents the solution to climate change while providing power to essentially all applications in the form of electricity at a fraction of the cost of any conventional source, most of which emit pollutants.

Advantages:

- Availability of clean power 24/7/365.
- Energy security and independence.
- Autonomous on-site, motive, or motive-to-stationary power that requires no fuel or grid infrastructure.
- The capital costs are projected to be under $100 per kW electric.
- The cost to produce electricity is expected to be well below 1¢ per kWh.
- 17 liters of water would power the average U.S. household for one year.

  One liter of water would power a full-sized car for more than 1000 miles.
- Completely absent any form of pollutant, including carbon dioxide, an EPA regulated greenhouse gas.
- Safety of the power generator and fuel since it is ordinary water.

BrLP believes the process can provide economically green competitive products in a wide range of applications including:

- Residential electrical power
- Commercial electrical power
- Micro-distributed electrical power
- Motive to Stationary
- Motive power
- Marine power
- Aviation power
- Aerospace
- Defense
- Space and process heating
  - Commercial/industrial process heating
  - Residential heating
- Distributed power
- Central power generation
- Co-generation
- Other applications, including hydrino fuel cells, lighting, lasers and specialty chemicals

The generation cost per kWh from SunCell® or thermal-based systems compared to other source of power are summarized in Table 1.

Table 1. Capital and Generation Costs Comparisons of BrLP Power Sources Versus Other Primary Energy Sources or Power Converters.

	Average Generating Capacity (kW)	Installed Cost ($/kW)	Levelized Cost of Electricity ($/kWh)	CO_2 Emission (LB per MMBtu)
CENTRAL GEN				
BrLP Thermal	**1,000+**	**1,000**	**<0.01**	**0**
Natural Gas Combined Cycle	550,000	1,000	0.05	117
Coal	600,000	3,000	0.07	211
Nuclear	1,100,000	5,400	0.10	
DG APPLICATIONS				
BrLP SunCell®	**<10 MW**	**<100**	**<0.01**	**0**
Solid Oxide Fuel Cell	2.4	7,500	0.17	117
Wind*	10	7,800	0.18	
Photovoltaic	5	5,300	0.30	

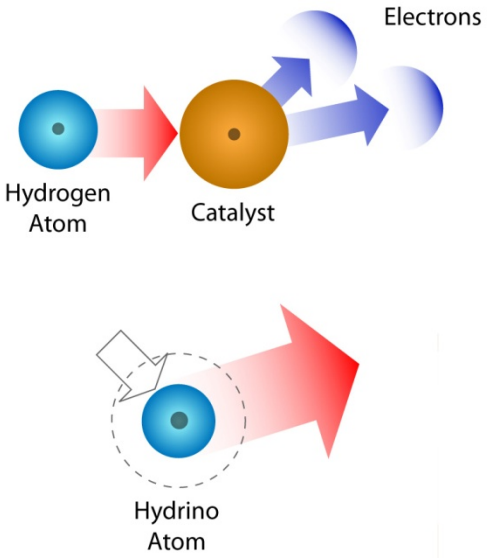
*Sources: Lazard 9.0, *NREL, BrLP estimates for BrLP*

SunCell®

The "BlackLight Process," of making Hydrinos is shown schematically in Figure 2 catalytically converts the hydrogen of H_2O molecules into the non-polluting product, lower-energy state hydrogen called "Hydrino", by allowing the electrons to fall to smaller radii around the nucleus. A typical system to propagate the BlackLight Process comprises two electrodes that confine a highly electrically conductive matrix with associated water that serves as a source of reactants to form Hydrinos. A low-voltage, very high current (about one hundred times that of household currents) ignites the water to form Hydrinos and cause a brilliant burst of plasma. Specifically, a high current is passed through water associated with the highly conductive matrix such that plasma forms wherein (i) H atoms are dissociated from H_2O molecules, (ii) autonomous or nascent water molecules are formed from bound water to serve as the catalyst

HOH, and (iii) arc plasma is formed that massively accelerates the kinetics and vastly intensities the power of the plasma. The high kinetics or rate of the catalyst reaction to form Hydrinos is caused by creating a plasma supporting an arc current comprising a high density of positive ions and free electrons wherein the energy of the system is lowered with higher current. The higher current is caused by a faster rate of the catalysis reaction and a lower energy favors faster kinetics such that the positive feedback effect of the interplay of these factors gives rise to explosive kinetics. Water serves as the only consumable reactant in supplying the H.

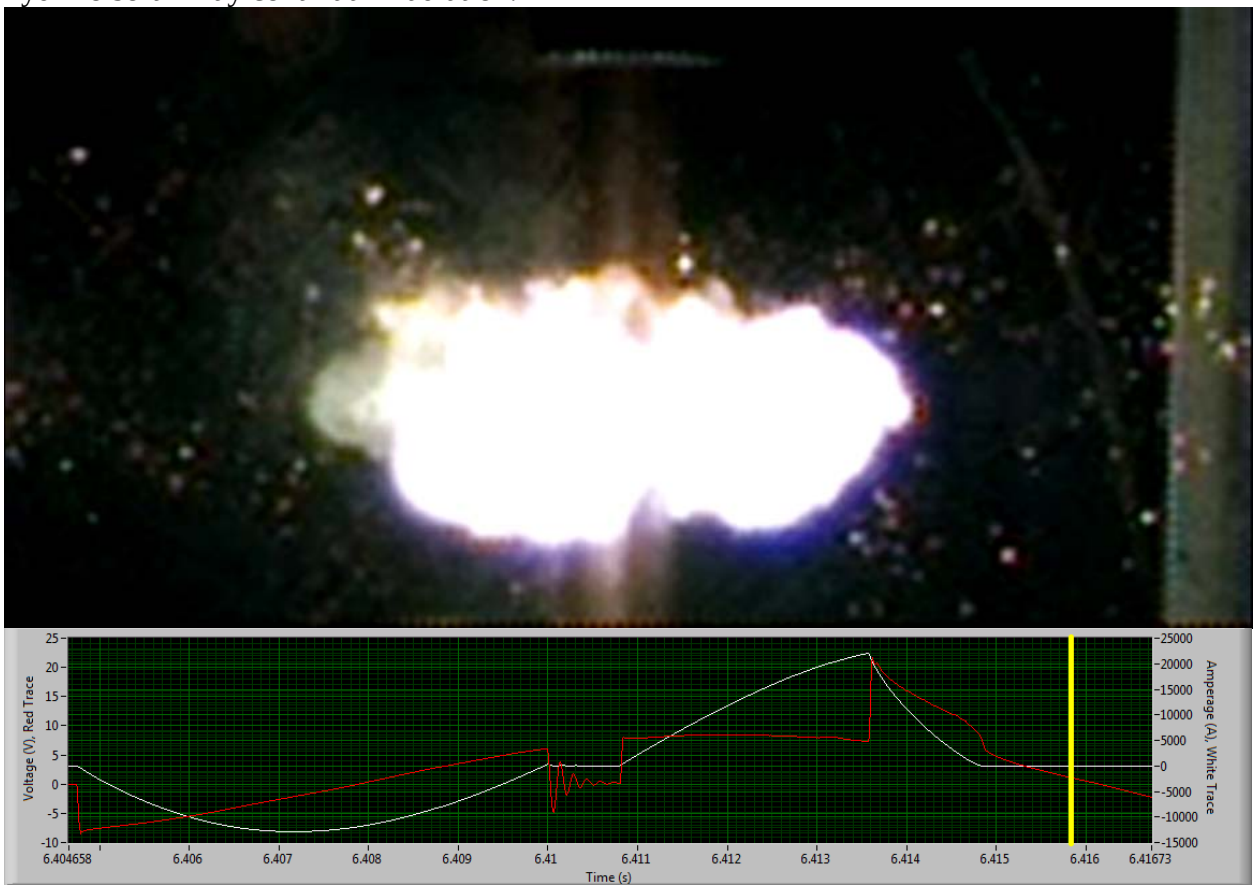
Figure 2. Hydrino reaction ("BlackLight Process").



- Atomic hydrogen reacts with an energy acceptor called a catalyst wherein energy is transferred from atomic hydrogen to the catalyst that forms an ion due to accepting the energy.
- Then, the negative electron drops to a lower shell closer to the positive proton to form a smaller hydrogen atom, which the Company calls a "Hydrino," releasing energy to produce electricity or heat depending on the design of the system.
- The catalyst ion regains its lost electrons to reform the catalyst for another cycle with the release of the initial energy accepted from H (atomic hydrogen). The high current, arc plasma of the SunCell® counters the limiting effect of the charge accumulation from the catalyst losing its electrons to result in a massively high reaction rate. The arc plasma provides decreasing energy with increasing current that results in positive feedback to the catalyst ionization and explosive kinetics.

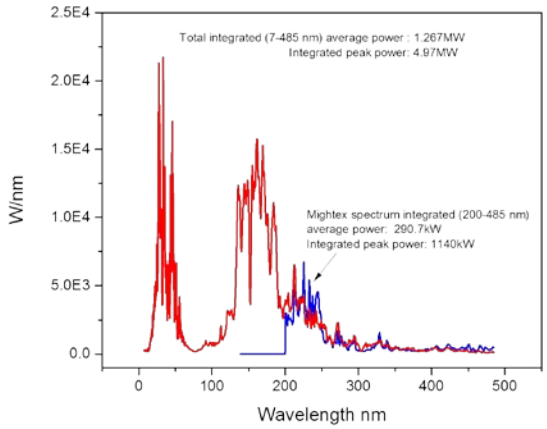
The reaction of the hydrogen atoms of water molecules to Hydrinos, the dark matter form of hydrogen, gives rise to extraordinarily unconventional emission comprising intense continuum soft X-ray of hundreds of thousands of watts with essentially no visible or infrared light. In an exemplary light source of hydrino emission, a 1.5 mm diameter, two weight percent water-containing silver shot is formed by flowing molten metal through a dripper into a water bath, and ignition is achieved by applying about 12,000 A at a voltage of about 1.5 V to the shot. High-speed photography of brilliant light-emitting expanding plasma formed from the low voltage, high current ignition of the shot is shown in Figure 3 along with voltage and current waveforms.

Figure 3. High-speed photography of brilliant light-emitting expanding plasma formed from the low voltage, high current detonation of the H_2O-based fuel with a current and voltage waveform trace that shows plasma at a time when there was no electrical input power (noted by the yellow vertical line), and no chemical reaction was possible. The plasma persisted for 21.9 ms while the input power was zero at 1.275 ms. The visible light is minor (less than 1%) compared to the hydrino soft X-ray continuum radiation.



Proof of a new energy source is provided by two otherwise inexplicable observations: (i) The formation of a high-energy hydrogen plasma in the absence of any input electrical power, the nonexistence of any energy releasing chemistry with this fuel, and the further impossibility of known chemistry of this high energy. (ii) The emission of soft X-ray (EUV and UV) radiation at a voltage far less than that of the light energy produced and the inability of any known chemistry to release such high energy. A representative power spectrum of the flash of brilliant light from the ignition of a water-and hydrogen containing silver shot showing an average optical power of 527 kW comprising essentially pure extreme ultraviolet and ultraviolet light is given in Figure 4. Continuous power can be produced by systems capable of a fuel injection and ignition rate of about 1000 Hz with supporting commensurate conductive-matrix recovery and fuel regeneration operations with matching kHz rates.

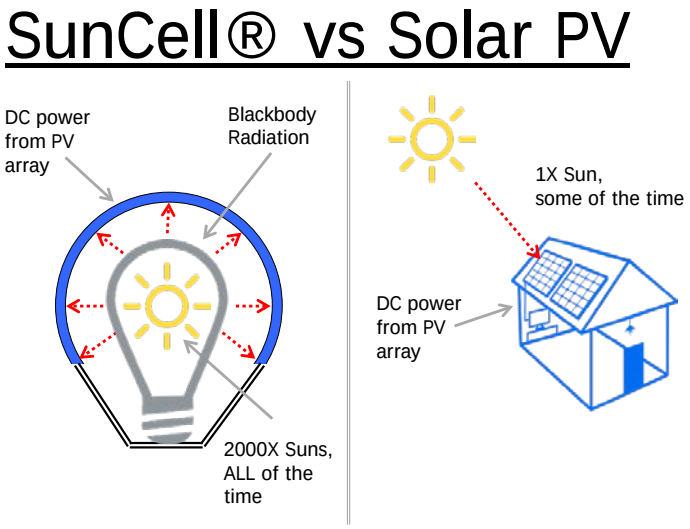
Figure 4. The absolute spectrum in the 5 nm to 450 nm region of the ignition of a 80 mg shot of silver comprising absorbed H_2 and H_2O from gas treatment of silver melt before dripping into a water reservoir.



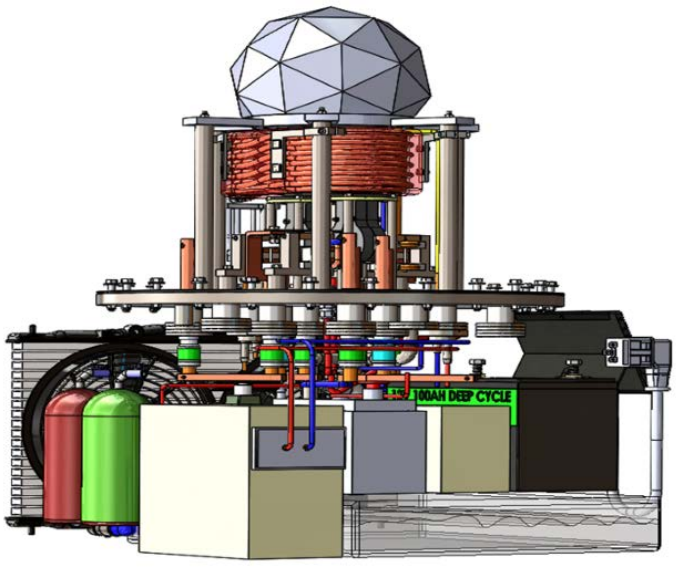
The safe, non-polluting power-producing SunCell® (Figures 5A-C and 6) was invented to harness this fundamentally new primary energy source as electrical output. The SunCell® comprises five fundamental low-maintenance systems, some having no moving parts and capable of operating for a decade or more: (i) a start-up inductively coupled heater to first melt silver or silver-copper alloy and optionally an electrode electromagnetic pump to initially direct the ignition plasma stream; (ii) an injection system comprising an electromagnetic pump to inject molten silver or molten silver-copper alloy and a gas injector to inject water vapor and optionally hydrogen gas; (iii) an ignition system to produce a low-voltage, high current flow across a pair of electrodes into which the molten metal and water vapor are injected to form a brilliant light-emitting plasma; (iv) a light to electricity converter comprising so-called concentrator

photovoltaic cells that operate at a light intensity of over one thousand Suns; and (v) a fuel recovery and a thermal management system that causes the molten metal to return to the injection system following ignition.

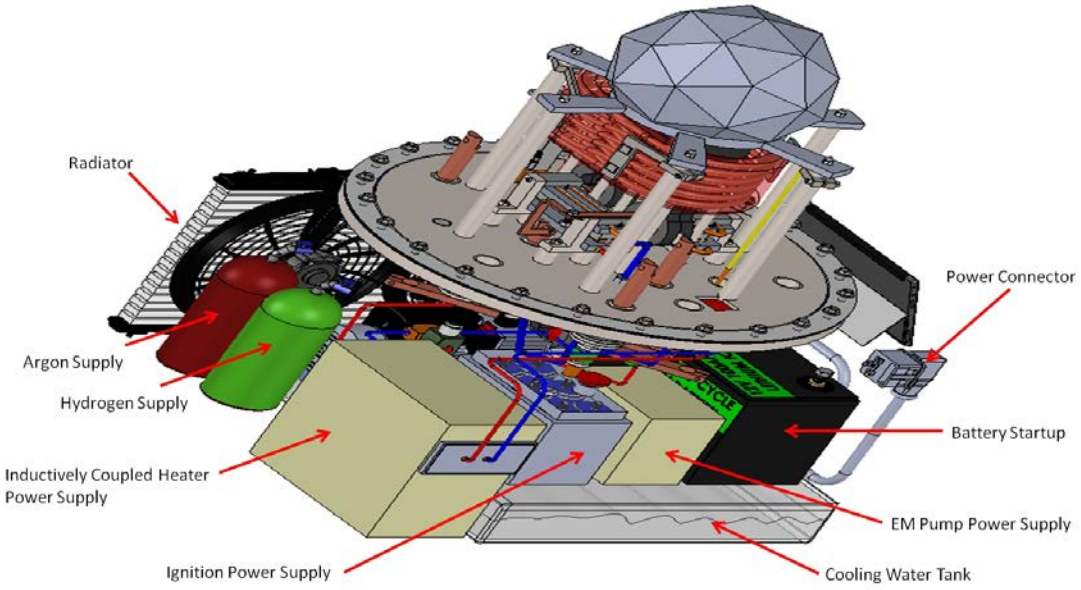
Figures 5A-D. Operational schematic and system design of the SunCell®.



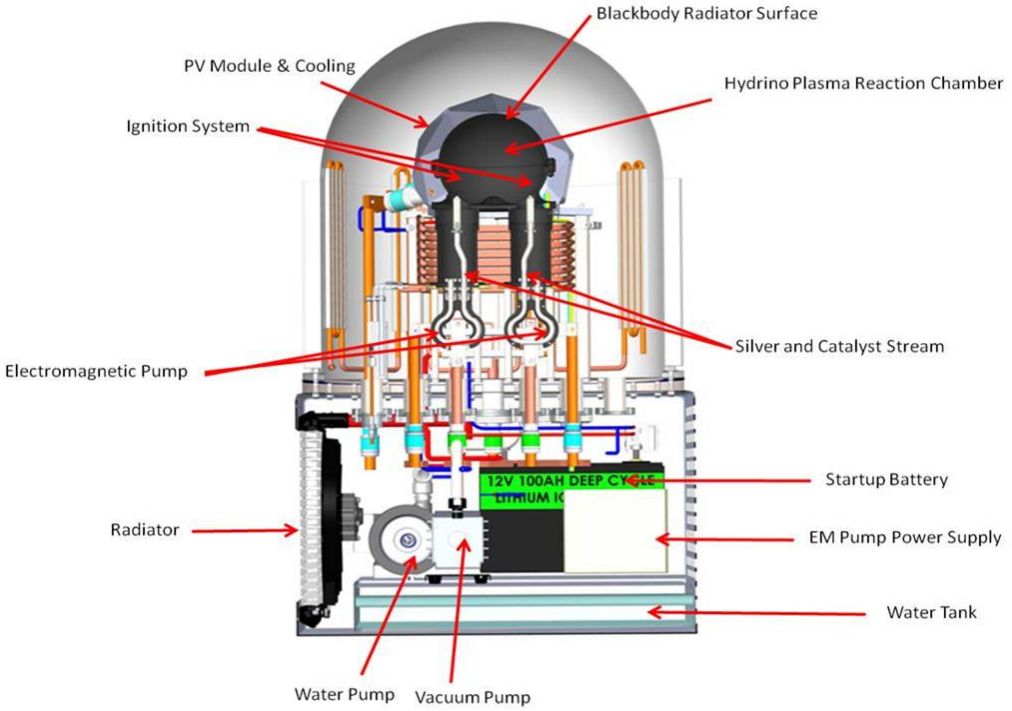
(A)



(B)


Radiator
Power Connector
Argon Supply
Hydrogen Supply
Battery Startup
Inductively Coupled Heater
Power Supply
EM Pump Power Supply
Ignition Power Supply
Cooling Water Tank

(C)

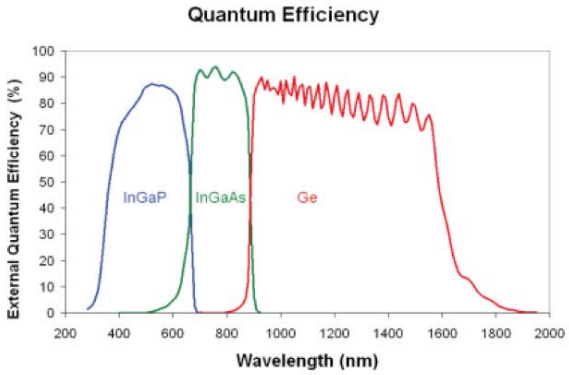

Blackbody Radiator Surface
PV Module & Cooling
Hydrino Plasma Reaction Chamber
Ignition System
Silver and Catalyst Stream
Electromagnetic Pump
Startup Battery
Radiator
EM Pump Power Supply
Water Tank
Water Pump
Vacuum Pump

(D)

Figure 6. SunCell® hardware.

To make the soft X-ray light convertible to electricity by commercial concentrator photovoltaic cells that require irradiation with visible and near infrared light, the SunCell® exploits its unique emission of extraordinary high power density, high energy light to form emission resembling the light from the Sun at thousands of times the intensity at the Earth's surface. A typical response spectrum of a concentrator PV cell is shown in Figure 7. By comparison with Figure 4, it can be appreciated that the SunCell® light is too energetic (wavelength too short) to be converted to electricity by conventional PV.

Figure 7. The response of a triple junction concentrator photovoltaic cell to light of different wavelengths of light showing that the response of each of the three junctions covers a different spectral region to match the Sun emission, but this typical cell has no response for light of wavelength shorter than 300 nm since sunlight has longer wavelengths.



Thus, BrLP has invented a system to convert the short wavelength light to a blackbody radiation that resembles the emission of the Sun wherein the blackbody temperature is adjusted to more closely match the response spectrum of commercial PV. High-speed ultraviolet-visible spectroscopy (Figures 8 and 11) and high-speed photography (Figures 9, 10, and 12) show the conversion of the soft X ray emission to 5000K blackbody emission for gravity and electromagnetic pump, molten metal injection systems.

Figure 8. Time sequenced spectra (100 nm to 500 nm region with a cutoff at 180 nm due to the sapphire spectrometer window) of the SunCell® ignition of molten silver, gravity injected into W electrodes in an argon-H_2O vapor atmosphere showing UV line emission that transitioned to 5000K blackbody radiation (continuous traces starting at 220 nm) when the atmosphere became optically thick to the UV radiation with the vaporization of the silver.

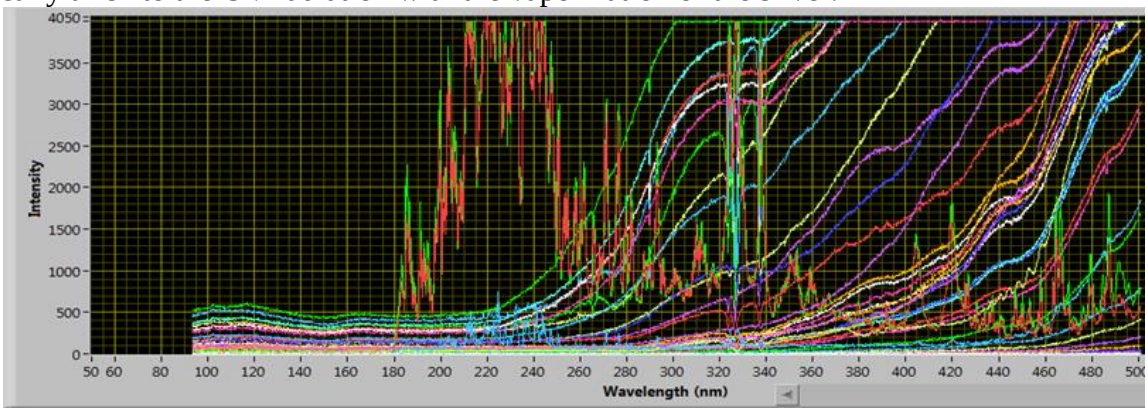


Figure 9. The emission transitioned from EUV and UV to 5000K blackbody radiation when the atmosphere became optically thick to the EUV and UV radiation with the vaporization of the silver that was gravity injected into an ignition system maintained in a glove box containing an argon-water vapor atmosphere.

Figure 10. SunCell® emission in the EUV and UV mode.

Figure 11. Time sequenced spectra recorded on the SunCell® showing the transition from UV line emission to 5000K blackbody radiation during the ignition of molten silver with an electromagnetic pump due to the atmosphere becoming optically thick to the UV radiation with the vaporization of the silver.

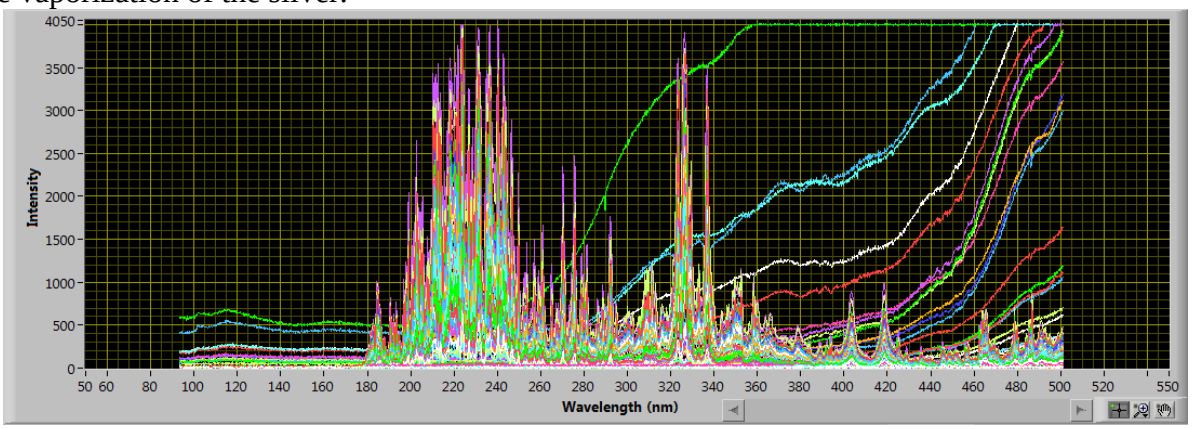
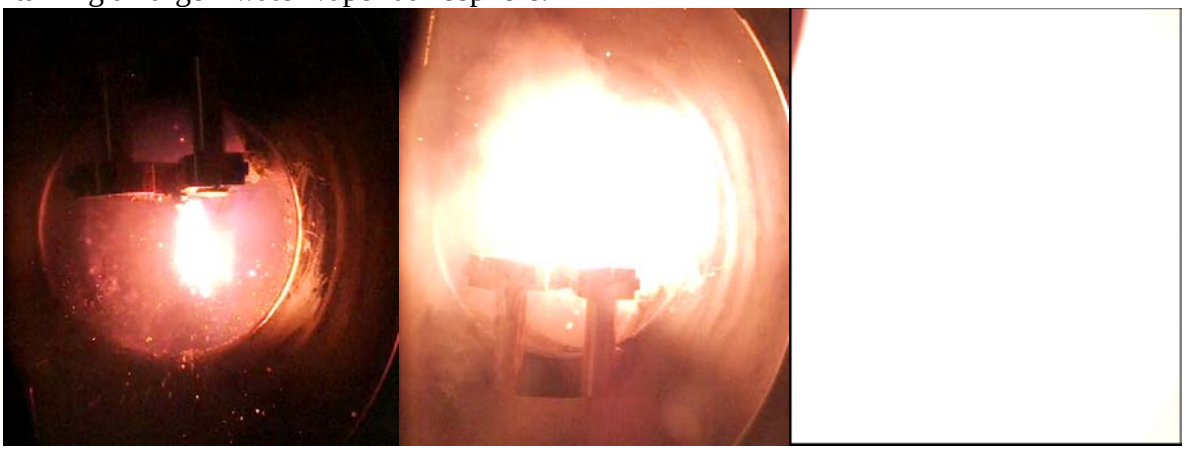


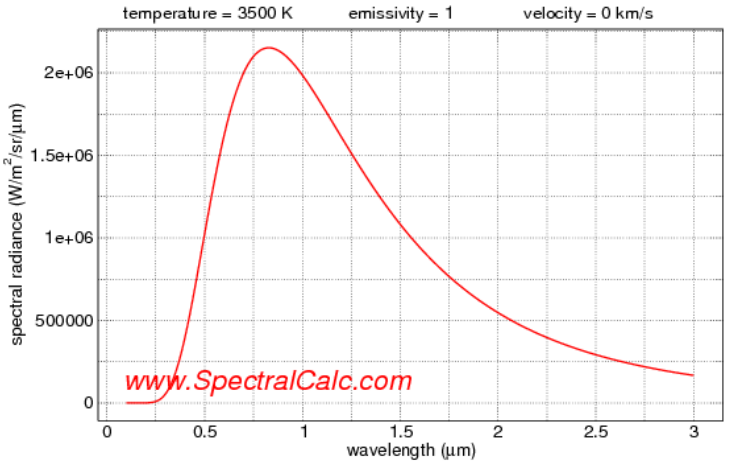
Figure 12. Emission transition from EUV and UV to 5000K blackbody radiation when the atmosphere became optically thick to the EUV and UV radiation with the vaporization of the silver that was electromagnetic pump injected into an ignition system maintained in a glove box containing an argon-water vapor atmosphere.



Using the measured blackbody temperature (T = 5000K) and the same emissivity as that of the Sun (e=1), the physical law of blackbody emission called the Stefan Boltzmann equation gives the power as 35.4 MW/m^2. Conservatively, using the emissivity of vaporized metal (e = 0.15) and the observed area of the blackbody plasma shown in Figure 9 of 0.5 square meters, the power is determined to be about 2.5 million watts.

In the blackbody mode of operation, the SunCell® power is in the form of light that has a similar spectral composition as sunlight. BrLP plans to adjust the emission spectrum to closely match the response of commercial PV cells such as ones comprising InGaAs and Ge as shown in Figure 7. The composition and emissivity of the SunCell® radiator may be selected to achieve a desired power spectral emission wherein materials may be selected that strongly favor emission at shorter blackbody wavelengths due to an inverse-wavelength-squared dependency of the emissivity. With the SunCell® radiator having an emissivity of one and the blackbody temperature maintained at 3500K (Figure 13), the radiant emission is 8.5 MW/m^2. The conversion efficiency is anticipated to be 35% to 45% with optimization at an incident light intensity of at least 1000 Suns. Then, the corresponding power converter of the SunCell® is similar to that mass-produced for the solar power industry.

Figure 13. The power spectrum of a blackbody radiator at a temperature of 3500K and an emissivity of one. The radiant emission is 8.5 MW/m^2.



With the discovery of the photovoltaic effect by Becquerel in 1839 and the invention of the first modern solar cell by Chapin, Fuller, and Pearson of Bell Labs, an era of cheap clean energy from the Sun was envisioned for mankind. Realization of that vision is enabled by the invention of the SunCell® that overcomes the impediment of the very low power density of sunlight. With advances since its inception, solar cells have demonstrated the capacity to convert light into electricity at thousands of times higher power levels than sunlight at much higher efficiency at high versus low light intensity. At over 1000 times brighter than sunlight, the corresponding reduction in the area of the photovoltaic converter gives rise to a projected cost of the SunCell® of about $50 to $100/kW compared to over ten times that for conventional power sources of electricity. In addition to pursuing commercial concentrator PV cell technology, BrLP has contracted with a leading university to produce the next generation PV technology that would convert the soft X-ray emission directly into electricity using similar diode structures and materials as those used in Blu-ray lasers such as gallium nitride based structures and materials.

Hydrino Dark Matter

Based on a vast body of data, the Hydrino product is very likely the dark matter of the universe (Figure 14), a form of matter so stable and inert that it has defied identification over decades despite the astronomical observation that it accounts for almost all of the mass of the universe. The terrestrial implications, confirmed by the Company's laboratory data, is that Hydrinos are safe and non-polluting, and the corresponding source of power is inexhaustible. The continuous autonomous generation of electricity from H_2O by a safe, nonpolluting, simple, reliable, sustainable, inexpensive system operating under standard conditions would be transformational to the energy industry.

Figure 14. Hubble Space Telescope image of galaxy cluster Cl 0024+17 shows a ghostly "ring" of dark matter, a prior unknown substance that pervades the universe. Courtesy of NASA/ESA, M.J. Jee and H. Ford (Johns Hopkins University), Nov. 2004.

Dark matter whose identity has been sought for decades is known to comprise almost all of the mass of the universe with the small balance of visible matter being ordinary hydrogen and all other elements, also observed on Earth, at relative trace abundance. Due to its conventional absolute lack of interaction with light, dark matter has resisted detection other than by its gravitational signatures on an astronomical scale. Brilliant Light's theoretical, spectroscopic, astronomical, and analytical data regarding Hydrinos and dark matter have been widely published in the scientific literature in about 100 articles and a comprehensive three-volume theory book. The prestigious European Physical Journal D selected as a highlighted article, the Company's results of the predicted characteristic high-energy light emission from hydrogen forming Hydrinos using a high-voltage pinched pulsed plasma source that further reported the replication of this signature at the Harvard-Smithsonian Center for Astrophysics (CfA) (Figure 15A-B). The brilliant plasma of the SunCell® (Figures 3, 9, 10, and 12) also produces the continuum radiation signature (Figures 4, 8, and 11).

Figure 15A. Hydrino continuum radiation (Upper curve) and helium control showing discrete line emission (Lower Curve) recorded at the Harvard Smithsonian Center for Astrophysics (CfA). (Since this light is not of visible wavelengths it is referred to as black light.)

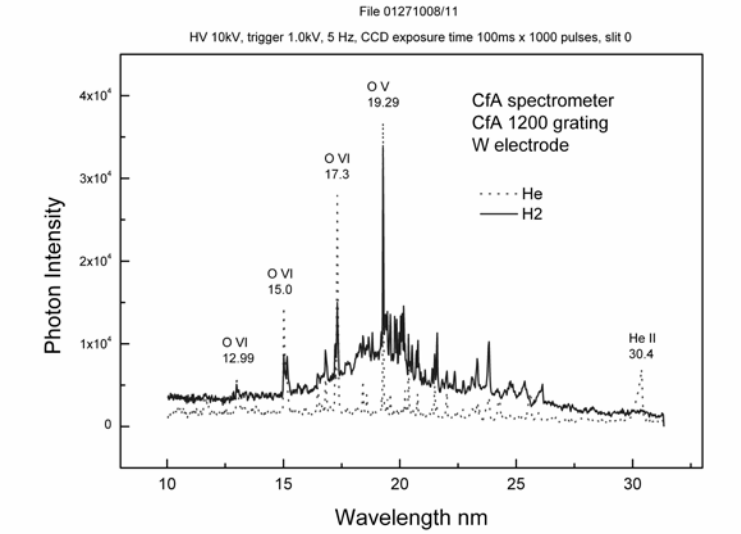
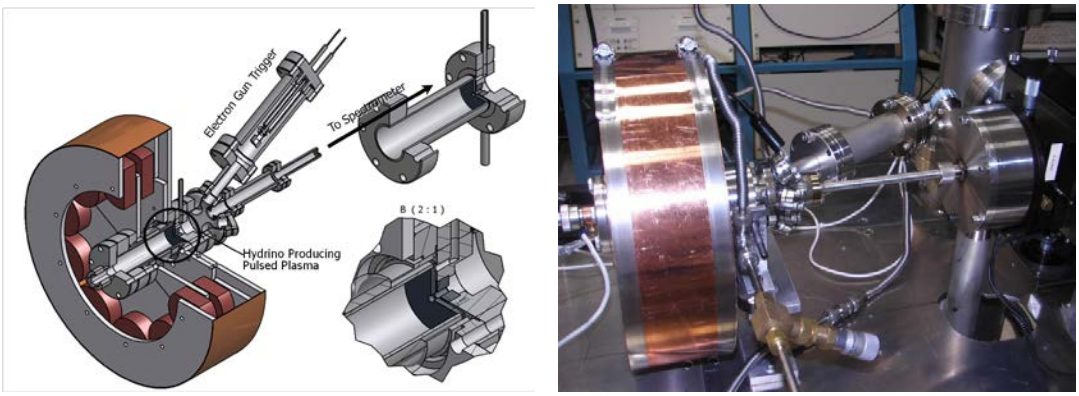


Figure 15B. Schematic and system for producing and recording the hydrino continuum radiation.



The hydrogen emission from forming Hydrinos is extraordinary being in the high-energy, vacuum ultraviolet region of the electromagnetic spectrum and uniquely comprises a continuum of wavelengths. In contrast, the prior known hydrogen light emission from the relaxation of excited electronics states comprises discrete wavelengths at much lower energies. Brilliant Light was the first to demonstrate that hydrogen emits higher energy light than previously thought possible based on the mathematical postulated lowest hydrogen energy level or ground state of quantum theory. Moreover, Brilliant Light has published evidence that Hydrinos are a natural constituent of the Earth. The Hydrino molecular product is safe being inert and is also much

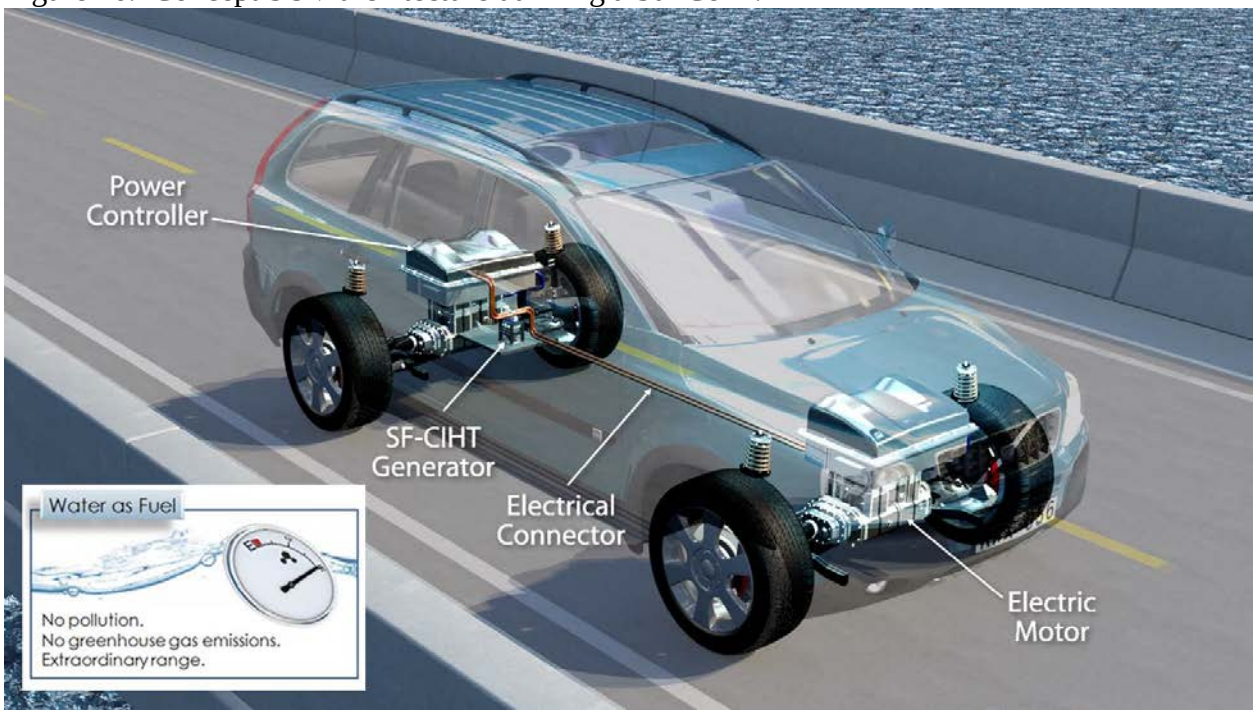
lighter than air; so, there is a fast rate of its escaping to space after being released into the atmosphere. Therefore, the Hydrino power-generating process does not give rise to pollution, greenhouse gases, or radiation as conventional systems do. Moreover the source of fuel to form Hydrinos, water, is the fundamental chemical of life and covers most of the Earth. The process of the conversion of water vapor (H_2O) to electricity and the products of oxygen and Hydrinos, dark matter form of H_2, has unsurpassed fuel cycle sustainability, availability, handling, cost, and environmental advantages.

Applications

The SunCell® is continuously regenerative and can provide essentially instantaneous power output. Thus, shortcomings of alternative power sources such as grid load leveling in stationary fuel cell applications and a battery assist in motive applications are eliminated. In power applications, a portion of the output can power the fuel ignition such that the system is an autonomous source of on-site power, independent of the grid or fuels infrastructure as well being constantly available unlike sun, wind, or other variable power sources.

Applications and markets for the SunCell® extend across the global power spectrum, including thermal, stationary electrical power, motive, motive to stationary, and defense. The SunCell® power source is a game changer for all forms of transportation: automobile, freight trucks, rail, marine, aviation, and aerospace in that the power density is much greater than that of any known power system or engine such as internal combustion and jet engines. Consider the automotive SunCell® application. Based on the hydrogen content of H_2O and the electricity that can be produced from the corresponding hydrogen, the theoretical range from a liter of water for a standard mid-sized car is over 1000 miles. A concept SunCell® electric vehicle is shown in Figure 16. Based on projections of the SunCell® power density and available materials, a SunCell® that could deliver 300 kW or 400 HP could have a significantly smaller displacement and weight that that of an internal combustion engine (ICE) of the same power. Unlike a gasoline-fired vehicle, the SunCell® is absent fuel costs and pollution of any kind including green house gases. Nor, does the SunCell®-powered car require an expensive, range limiting battery or electric charging as is the case of electric vehicles such as the Chevrolet Volt, Nissan Leaf, or Tesla. Another distinguishing SunCell® attribute over gas and electric powered vehicles is the absence of infrastructure costs. Essentially all power sources should be displaced by SunCell® technology untethered from an electrical distribution or fuel infrastructure.

Figure 16. Concept SUV architecture utilizing a SunCell®.



Business Model

SunCell® power is uniquely and inherently distributed with no need for fuels or grid infrastructure. Management believes that the most cost effective means to electrify the world is also the route of least regulatory impediment. During a short temporary learn-out phase, the Company plans to provide a portion of baseload power to a limited number of selected United States customers. The power will be supplied behind the meter; so, the grid may be available for back-up power. Grid power is prone to catastrophic regional storm failure and terrorism. Since the SunCell® has no moving primary parts and these parts have many years of durability, Management anticipates SunCell® electrical power to be more dependable than grid power. With the establishment of reliability, the Company plans to pursue a totally off-grid global deployment. Management's financial models demonstrate that providing cell redundancy, and smart controls and load sharing for reliability and peaking power is cheaper and potentially more reliable than a grid connection while avoiding utility regulatory leverage. Ganging a plurality of SunCells® further serves to achieve capacity for the commercial and industrial stationary, heavy marine, rail, and aviation applications. Moreover, since the SunCell® has the unique characteristics of producing no pollution at all and having no fuel cost, low capital costs, and high durability permitting low operating costs, the Company may achieve a further customer-satisfaction advantage and cost savings by switching to a flat daily lease charge with no metering. For stationary power, BrLP plans to sell power under equipment lease agreements and

charge a daily rate that on average amounts to about the same flat rate per kilowatt hour as about one half the cost of competing sources of delivered power. A representative United States rate for 50% utilization of the maximum leased capacity is $0.05/kWh total delivered cost. There is a one-time installment fee dependent on the unit's power capacity that is projected to be about the capital cost of the equipment (e.g. $50 to $100/kW). The maximum capacity may be based on the contracted load and historical norms. As a measure of return on investment (ROI), a unit could pay for itself in less than three months with the electrical power revenue. BrLP plans to maintain ownership of SunCells® while outsourcing the manufacturing, supply chain management, installation, maintenance and repairs, and billing. The SunCell® reduces all historic forms of power to a single fungible commodity enabling a fluid market with power sources being interchangeable and capable of multitasks wherein the traditional market distinctions dissolve.

Figure 17. Global established accessible market with expansion opportunities.

- Reinvent electrification as autonomous, completely off grid, mass-produced personal power.
- Flat daily lease charge with no metering.
- Using cell redundancy being off grid is much cheaper than any grid connection and avoids all related utility regulatory leverage.
- Behind the meter during a short temporary learn out phase in the United States, then global push.

As a strategic market consideration, 81% of the population of the United States (US) is urban, and the world as a whole reflects an increasing urbanization trend having with 53% of its population currently residing in cities. Urban centers typically are more developed and require

more intensive infrastructure such that 69% of global electrical demand is in urban regions. In any locality, concentrated power is also a feature of the industrial and commercial loads as well as high density residential such as apartment buildings. Industrial and commercial markets are attractive first opportunities representing 51% and 18% of the global markets, respectively. To decrease the number of support centers such as installation, dispatch maintenance and repair, and depot repair centers per capacity and lower sales and other operating costs, the Company plans to focus deployment in the order of large consolidated loads to smaller fragmented loads, and then small, undeveloped loads such as in developing countries.

BrLP plans to lease SunCells® installed in vehicles such as cars, buses, and trucks and charge by the mile or hour of usage to facilitate motive power. Motive power that currently represents 19% of the global power market further enables a further potential massive auxiliary market of SunCell® motive to stationary powering. The Company plans to initially focus on the electric bus and road freight applications wherein a typical bus or large truck can consume as much power and energy as a skyscraper. Experience in these markets will be utilized to enter the automotive and motive to stationary markets. Currently the annual world production of automobiles is about sixty million corresponding to about 20 trillion watts of power generation capacity. As a comparison the US grid capacity is less than one trillion watts or equivalent to less than three weeks of automotive engine (power plant) production. Based on its bill of materials (BOM), the PV converter drives the capital cost of the SunCell®. This component cost is expected to dramatically decrease with volume PV production and higher PV concentration. Management believes that the cost of the SunCell® as the motive engine will be similar to that of the internal combustion engine (ICE), the cost can be amortized over the much longer lifetime than that of an ICE, and the elimination of fuel costs and additional motive to stationary revenue result in the SunCell® having superior economics. Typically, a car engine only lasts about 2000 hours whereas the SunCell® PV is expected by Management to last 20 years with continuous operation based on solar industry PV experience. Moreover, an average ICE vehicle consumes about $30,000 in gasoline over its lifetime. In contrast, a 300 kW SunCell® car engine operating the 8760 hours in a year can generate over $100,000 in electricity sales per year at $0.05/kWh. The total projected cost of the SunCell® generator, control electronics, electric motors, and transmission, is projected by Management to be less than the cost of the of the ICE and drive train of a conventional gasoline-fired vehicle. The corresponding SunCell® economics forecast a shift from the fossil fuel business to vehicle SunCell® leasing with a more competitive mileage or hourly charge without the need to extract, refine, transport, or use gasoline with its unavoidable environmental damage.

The SunCell®'s greater period of capital asset amortization and auxiliary power generation capacity may be better utilized by bifurcating the motive "tool" such as a car, truck,

train, boat, ship, or plane from the "power source" being the SunCell®. Such a separation facilitates specialization between the two product fields. Moreover, none of the motive original equipment manufacturers (OEMs) currently have any manufacturing capacity for SunCells®. BrLP plans to control SunCell® manufacturing capacity, supply chains, parts, maintenance and repairs, and installation through outsourcing. This strategy enables at least two possibilities: (i) BrLP buys or leases electric cars or other motive tools from the OEMs at competitive pricing, has BrLP manufacturers install the SunCells®, and BrLP leases the powered vehicle or powered motive tool to consumers with a pass through of the motive OEM's warranty on the balance of plant, and (ii) motive tool OEMs build the balance of plant, sell it to consumers with a warranty, and BrLP separately leases the SunCells® to consumers. This scenario is very similar to buying or leasing a car and adding the gasoline. It is also similar to the electric vehicle battery-switching business and the natural gas tank swapping business. There are many examples of the tool versus the power source for the tool being separate and made by separate companies: flashlights, consumer electronics, laptops, all devices that plug into an electrical socket, lawn movers, cars, diesel trains, ships, central power plants, anything requiring fuel.

Management is planning for a scenario wherein the motive market such as the automotive market will split; so that the OEMs such as auto manufacturers sell just chassis, and BrLP separately leases the SunCell® power source and bills for usage. BrLP will then acquire direct billing, and maintenance and repair access to the consumers. As in the stationary case, BrLP plans to sell power under lease based on used capacity. This structure would also permit BrLP to directly control secondary applications of the SunCell® such as motive (car, truck, rail, marine, aviation) to stationary or motive to motive such as a car powering a car carrier such as a truck, ferry, or cargo ship. New applications of the inexpensive, clean massive motive to stationary power are anticipated such as water treatment, desalination, continuous hydroponic farming, fish farming, production of commodities and materials such as hydrogen, aluminum, steel, paper, and glass, land reclamation, super power intensive mass transit such as the Hyperloop and high speed rail (maglev) and defense applications such as energy-directed missile defense (e.g. free electron and other lasers and railguns).

BrLP is in negotiations with major power consumers for several early adopter lease agreements for deliver of purely green power from its new primary power technology wherein BrLP delivers and maintains equipment for a very competitive equivalent kWhe rate. BrLP is also negotiating contracts regarding the engineering and manufacture of the SunCell® comprising the light source and the photovoltaic converter. Specialized engineering companies and manufacturers will perform the engineering to optimize the SunCell® as a commercial product that has the capacity to have no primary moving parts and be very durable. These companies would then manufacture, supply chain manage, install, and perform in field maintenance and

repairs. BrLP is further negotiating with electrical contractors that have the required capacity to provide installation, maintenance, and repair services of the magnitude needed to meet national demand. The Company anticipates first equipment deployment in 2017. BrLP has existing relationships with (i) two engineering firms to design and fabricate a commercial product from BrLP's current SunCell® design, (ii) two photovoltaic cell engineering and manufacturing companies to engineer a commercial PV converter using concentrator PV cell and cooling technology, and (iii) a leading university to produce the next generation PV technology that would convert the soft X-ray emission directly into electricity.

BlackLight Innovation, Inc.

Prior to the SunCell® breakthrough, BrLP developed progenitor power-producing technologies that form Hydrinos through electrochemical and thermal mechanisms. BrLP has formed the whole-owned subsidiary BlackLight Innovation, Inc. to pursue commercialization of these technologies through government contracting as well defense applications of the BlackLight Process such as energetic materials. Specifically, electrochemical reactants and corresponding electrochemical reactions produce Hydrinos wherein only H_2O vapor is consumed to concomitantly directly produce electricity, and thermally regenerative solid fuels developed by the Company undergo a chemical reaction to transform hydrogen to Hydrinos and release a large gain in thermal power that can used directly in heating applications or to produce electricity using conventional steam-based power plant equipment. The solid fuels also have unique applications and potential for energetic materials for the military.

An electrochemical CIHT (Catalyst Induced Hydrino Transition) cell generates electricity from H_2O vapor that may be extracted from air using a charge and discharge cycle to convert the H_2O into Hydrinos, oxygen, and excess electricity. During a charging phase, hydrogen and oxygen are generated by electrolysis of H_2O at the anode and cathode, respectively. Then, the cell is discharged and Hydrinos are formed in an electrochemical reaction that consumes initially the hydrogen and then H_2O fed to the cell to produce a large gain in electrical output. The cost is forecast to be under $100 per kW compared to over $5000 per kW for a conventional hydrogen fuel cell. This is in part due to the CIHT cell's electrical energy released per hydrogen being over 200 times greater, and the CIHT materials being inexpensive. Moreover, fuel cells cannot utilize water as the source of hydrogen, since their product is water. For CIHT, no conventional fuel is required to provide autonomous continuous power for applications such as electronics, power tools, and sensors.

In addition, the Company has developed two power plant system designs that convert the thermal power from thermal producing solid fuel chemistries that in turn can be thermally regenerated into electricity. One comprises a multi-tube thermally interacting bundle of cells

wherein the Hydrino reactions are maintained and regenerated alternately in batch-mode in a given cell of the bundle of cells. Heat from the power production phase of a thermally reversible cycle provides the energy for regeneration of the initial reactants from the products. Since there are reactants undergoing both modes at any given time, the thermal power output of the system comprising a bundle of cells is constant. The capital cost is projected to be about $1400 per kW electric. The other system comprises an array of reactor cells wherein power and regeneration chemistries occur synchronously in each cell, and each cell outputs constant power. The capital cost is projected to be about $1050 per kW electric. Thus, the Company believes that continuous generation of power liberated by forming Hydrinos is commercially feasible using simplistic and efficient systems that concurrently maintain regeneration as part of the thermal energy balance. The system is closed except that only hydrogen consumed in forming Hydrinos needs to be replaced.

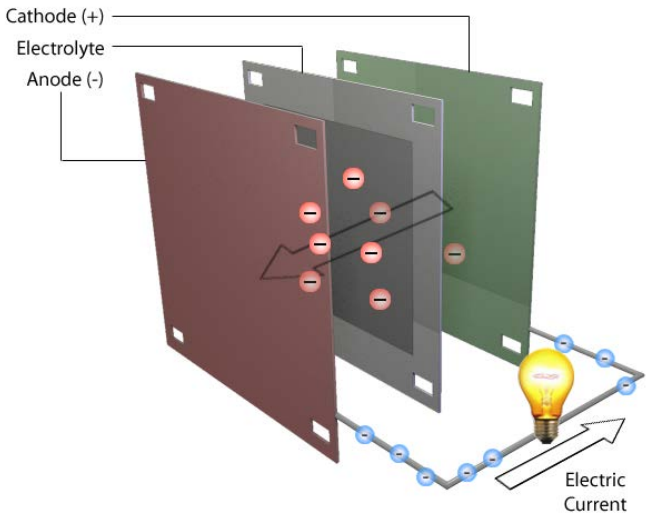
Catalyst Induced Hydrino Transition (CIHT) Electrochemical Cell

The CIHT electrochemical cell power-producing system converts ubiquitous H_2O vapor into electricity as the only source of fuel. As presented in six validation reports, independent leading scientists from academia and industry with PhDs from prestigious universities including the Massachusetts Institute of Technology and the California Institute of Technology have confirmed the CIHT cell. The well-known process of electrolysis extracts the hydrogen atoms (2H) of H_2O to serve as fuel to activate the cell. Then, H is converted to Hydrinos with a net release of multiple amounts of electricity than that of the activation wherein additional H_2O is directly converted to Hydrinos, oxygen, and electricity.

The CIHT cells are continuously regenerative and operate at essentially instantaneous constant power output during discharge over long duration. In power applications, a portion of a stack could provide electrolysis power for another such that the system is an autonomous source of on-site power, independent of the grid or fuels infrastructure as well being independent of the sun, wind, or other external variable power sources. The CIHT cell operates under conditions that are similar to those of existing technology such as fuel cells and batteries, but has extraordinary distinctions that define a new category for CIHT. For example, it does not require an external primary energy source of chemical fuels or electricity derived from chemical fuels, it creates power essentially instantaneously, and uses abundant, nontoxic, commodity chemicals that project a factor of 10 times reduction in capital costs relative to conventional electricity sources. With projected cheaper capital costs than any other electrochemical power source, no infrastructure costs, no fuels cost, and no pollution including green house gases, the CIHT cell, even in its current, non-optimized state, projects commercial competitiveness as stand-alone power in smaller-scale power markets such as portable electronics, power tools, and sensors.

Each CIHT cell comprises a positive electrode, the cathode, a negative electrode, the anode, and an electrolyte that also serves as a source of reactants to form Hydrinos. Due to oxidation-reduction half cell reactions, a Hydrino-producing reaction mixture is constituted with the migration of electrons through an external circuit and ion mass transport through a separate internal path through the electrolyte to complete an electrical circuit. The cells operate in an electrolytically regenerative manner wherein atomic hydrogen is formed by electrolysis of H_2O and supplied to the electrochemical process to initiate the conversion of H_2O to electricity wherein the hydrogen catalyst and subsequently Hydrinos are formed by a reaction of the reaction mixture during cell discharge with a net large gain of electrical output. A schematic is shown in Figure 18.

Figure 18. CIHT cell schematic.



Thermal Power Systems

In addition, to electrochemical systems, the Company has developed thermal producing solid fuel chemistries that in turn can be thermally regenerated. Thus, the Company believes that continuous generation of power liberated by forming Hydrinos is commercially feasible using simplistic and efficient systems that concurrently maintain regeneration as part of the thermal energy balance. The system is closed except that only hydrogen consumed in forming Hydrinos needs to be replaced. The solid fuel chemistries have been developed which are very efficient at liberating thermal energy from forming Hydrinos. In principle, green, thermal central and distributed power plants can be operated continuously as power and regeneration reactions of the fuel mixture are maintained in synchrony. Chemistries and engineering designs have been developed for two thermal-Rankine systems. One shown in Figures 19 and 20 comprises a

multi-tube thermally interacting bundle of cells wherein the Hydrino reactions are maintained and regenerated alternately in batch-mode in a given cell of the bundle of cells. Heat from the power production phase of a thermally reversible cycle provides the energy for regeneration of the initial reactants from the products. Since there are reactants undergoing both modes at any given time, the thermal power output of the system comprising a bundle of cells is constant. The capital cost is projected to be about $1400 per kW electric.

Figure 19. Schematic of a boiler housing thermally coupled multi-cell bundles.

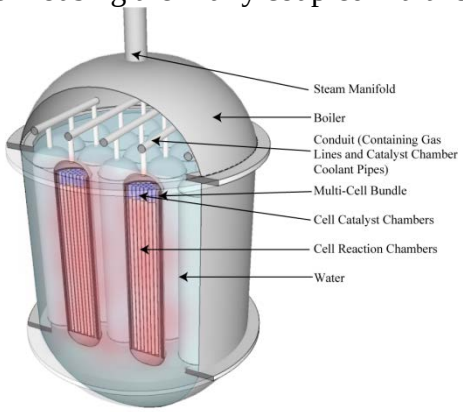
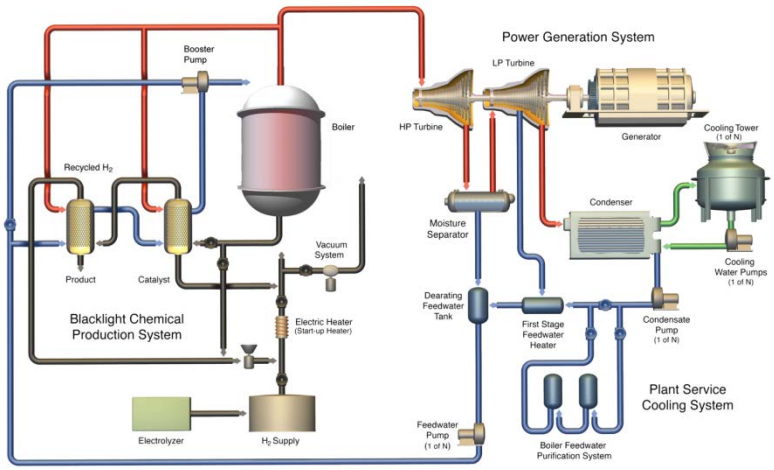


Figure 20. Schematic of a steam driven electrical power generation system having thermally-coupled cells in reactor bundles.



The other system shown in Figures 21 and 22 comprises an array of reactor cells wherein power and regeneration chemistries occur synchronously in each cell, and each cell outputs constant power. The capital cost is projected to be about $1050 per kW electric. Based on the observed energy gain and successful thermal regeneration of the solid fuel, the Company believes that environmentally friendly distributed and central power plants can be operated continuously as power and regeneration reactions are maintained in synchrony. The system may be self-contained except that only the hydrogen consumed in forming Hydrinos need be replaced as

molecular Hydrino is released. Due to the independence from fuels infrastructure and the absence of any pollution whatsoever, new power-generation business opportunities of distributed generation may exist even at thermal power scales that are achievable in the nearer term using modification of readily available commercial equipment. The system applications for distributed power (1 to 10 MW electric) and central generation retrofit and green-field projects are projected to be very competitive relative to existing power sources and systems.

Figure 21. Schematic of a boiler system having self thermally regenerative cells.

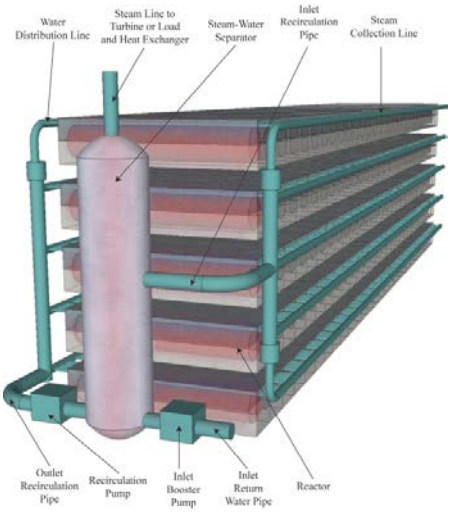
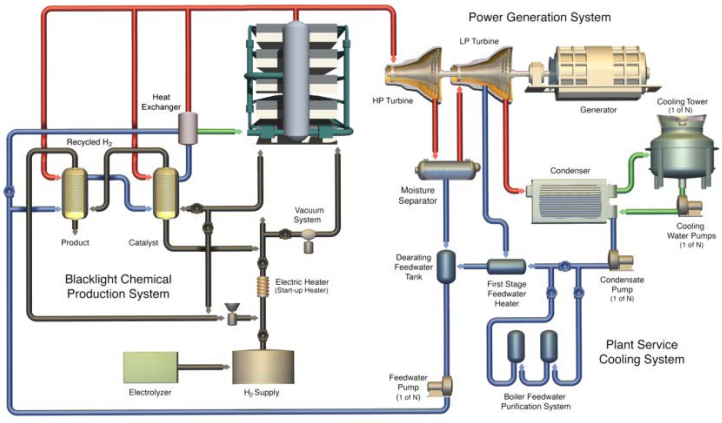


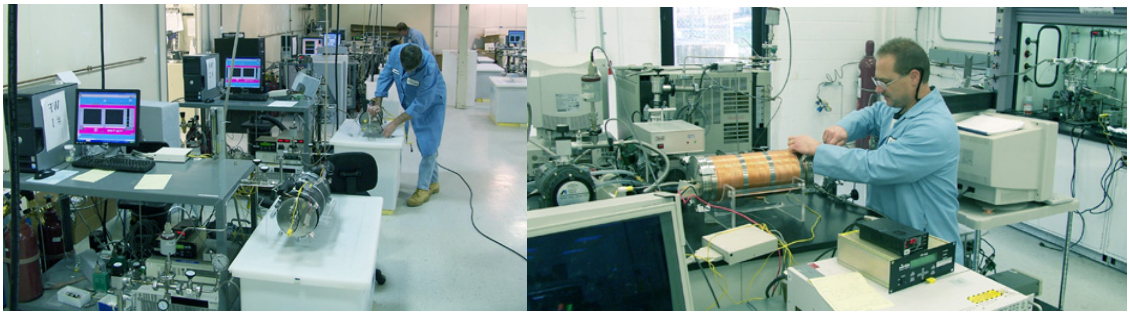
Figure 22. Schematic of a steam driven electrical power generation system having self thermally regenerative cells.



Brilliant Light has published in the engineering literature on power plant designs such as the one comprising a multi-tube thermally interacting bundle of cells wherein cells producing power provide heat to those undergoing regeneration and another comprising an array of reactor cells wherein power and regeneration chemistries occur synchronously. In recent work at

Brilliant Light, the application of the catalyst that enables the SF-CIHT and CIHT cells has given rise to a breakthrough in the development of commercially competitive thermally regenerative solid fuels for utilization in these plants. The high-energy gains observed on solid fuels reactions with instruments that operate like power equipment (Figure 23) have been confirmed. Independent off-site tests at several academic and industry laboratories using commercial instruments have confirmed that these new solid fuels release multiples of the maximum theoretical energy possible. Hydrinos were observed to have formed as a result of the heat release.

Figure 23. Calorimetric instruments for testing thermal power balance of solid fuels.



Thermal Business and Licensing

Brilliant Light's business model for thermal power using solid fuels is focused on developing the technology under government contracting and down-stream licensing power producers to utilize the BlackLight Process as a fuel/heat source replacement. The Company intends to license the BlackLight Process and its related energy technology to power producers and power users globally in all fields of power production and utilization in exchange for royalty fees and milestone payments. Brilliant Light is non-exclusively licensing its process to make power for a fixed royalty payment per kilowatt-hour of thermal or electric (e.g. $x per thermal kilowatt hour or $y per BTU). Brilliant Light anticipates licensees contracting for retrofit of existing plants and for turnkey plants to be built by engineering, procurement and construction (EPC) firms and OEMs. To date, the Company has licensed the rights to produce approximately 8,250 MW of new electrical power to seven companies, including five electrical utilities and two independent power producers. Collectively, these utility companies own, purchase, or manage electric power production of approximately 7,600 MW and service nearly one million customers. The avoided fuel costs from these agreements could be in excess of $2 billion per year.

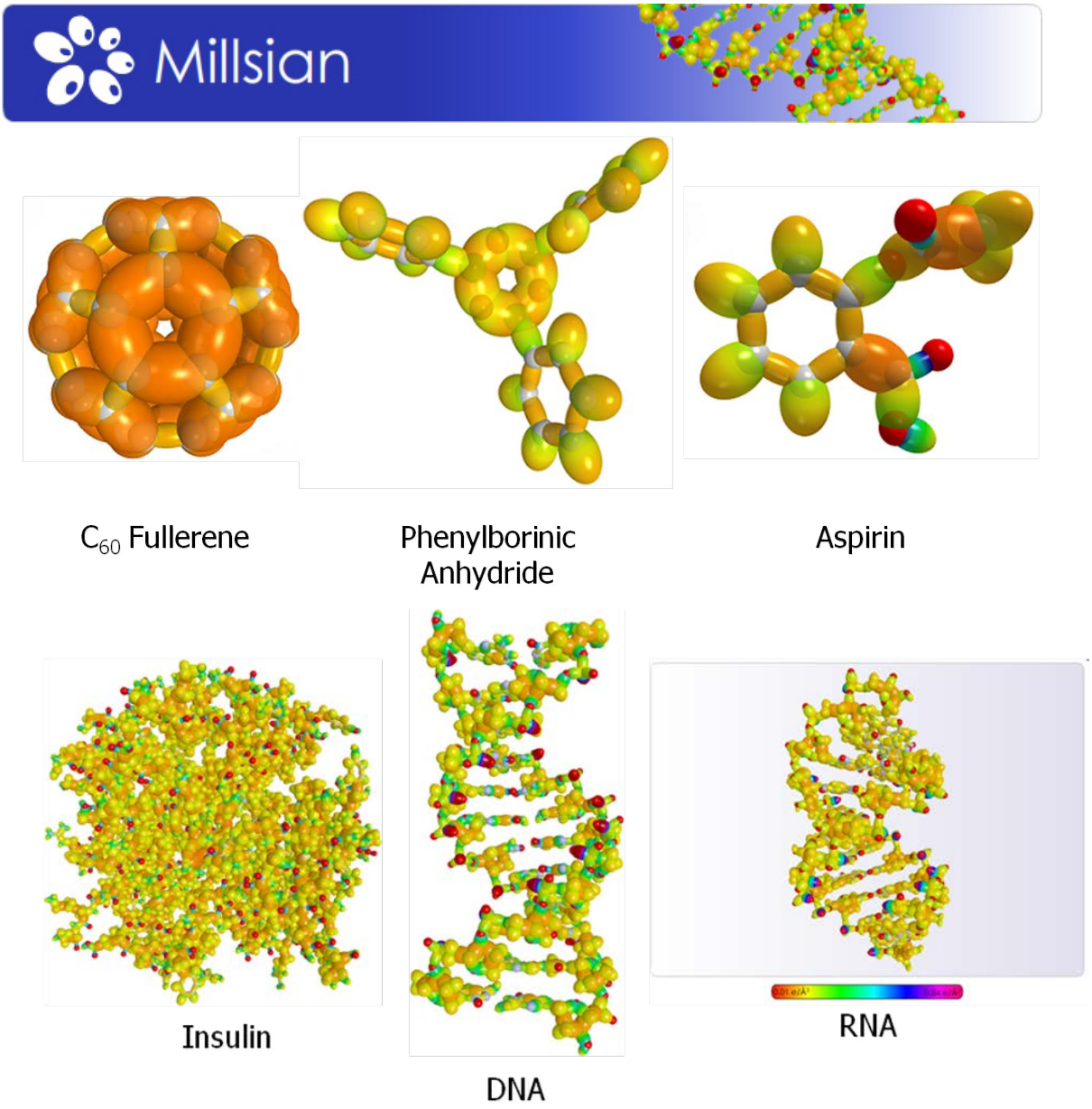
Classical Theory

The theory upon which Brilliant Light's technology has been developed is based on the classical laws of physics. Dr. Mills' Grand-Unified Theory of Classical Physics comprehensively addresses the basic problems in chemistry and physics using these physical laws in exact solutions. It solves the physical observables of the universe from the scale of subatomic particles to that of the cosmos—an unmatched range of 85 orders of magnitude (1 followed by 85 zeros). In contrast, the incumbent atomic theory of quantum mechanics only addressees atomic-scale problems and uses approximations and pure mathematics, devoid of physics. Brilliant Light's wholly owned subsidiary, Millsian, Inc., is dedicated to developing computational, chemical-design software tools based on solving molecular structures using these laws. The essentially real-time, analytical solutions of the precise physical structure of molecules of boundless extent and complexity, not possible using quantum mechanics, further validates the classical theory relied on by the Company.

Millsian

Brilliant Light's wholly owned subsidiary, Millsian, Inc., is dedicated to developing computational, chemical-design technology based on solving atomic and molecular structures using the classical laws of physics as applied in the GUT-CP. Millsian software is a molecular modeling tool built on those solutions. Millsian 2.0 beta software, released in July 2009, can build exact 3D structures and precisely calculate the total bond energy and the heat of formation of almost all organic molecules and the major classes of compounds, including complex proteins and DNA of interest to pharmaceutical researchers (Figure 24).

Figure 24. Drug molecules and small biomolecules rendered using Millsian.



In a further advancement, Millsian 2.1 beta software, released in January 2012 can also determine a very important parameter of potential drug molecules that is predictive of bioavailability. By contrast, the majority of competitor molecular modeling software is based on traditional quantum methods that resort to approximations for even the simplest systems and are not very predictive. The Company believes that Millsian software will become an invaluable tool for conducting research and development. Furthermore, the Millsian analytical results which are more competitive in accuracy and acquisition time relative to quantum-mechanical-

based algorithms that rely on approximations importantly validate the classical theory relied on by the Company. There are currently over 3,500 downloads of the Millsian software being used by academic and company notable groups.

Patents and Proprietary Technology

The Company's main priority is to file and obtain patents relating to the BlackLight Process, systems, and applications of the process. We have filed numerous patent applications worldwide regarding these embodiments to protect the technology as it has progressed to the current SunCell®, CIHT, and solid fuels technologies being pursued for commercial use.

Numerous patent applications have been filed worldwide. Sixty-six issued patents provide coverage in many major energy markets (4 in the U.S.), and greater than 100 pending applications have been filed with important applications in U.S.

World-wide applications related to the solid fuels process and thermal power plants were filed on April 24, 2008 and July 30, 2009.

An application regarding engineered thermal-to-electric systems and CIHT was filed on March 18, 2010.

A separate series of patent applications for protection of the underlying technology of Millsian software were also filed with the most recent filing on September 25, 2009.

Patents regarding CIHT were filed on March 17, 2011, the application on CIHT entitled "H_2O-Based Electrochemical Hydrogen-Catalyst Power System" was filed on March 30, 2012, and the application "CIHT Power System" was filed on May 21, 2013.

Worldwide applications on the breakthrough energetic plasma producing SunCells® were filed on January 10, 2014 as the application entitled "Power Generation Systems and Methods Regarding Same"; April 1, 2014 as the application entitled "Photovoltaic Power Generation Systems and Methods Regarding the Same"; May 29, 2015 as the application entitled "Electrical Power Generation System and Methods Regarding Same"; December 15, 2015 as the application entitled "Ultraviolet Electrical Generation System Methods Regarding Same", and January 8, 2016 as the application entitled Thermophotovoltaic Electrical Power Generator."

In addition to the patent applications pending or granted in the United States, corresponding applications have been filed or granted in over 50 foreign countries. The Company anticipates that the string of United States patent applications and foreign counterparts will provide broad patent protection of the Company's valuable technology, if these applications ultimately issue as patents. Brilliant Light's intellectual property counsel is Finnegan, Henderson, Farabow, Garret, & Dunner, LLP based in Washington, DC.

Facilities and Employees

Brilliant Light owns and occupies a 53,000 square foot modern research and development facility equipped with state-of-the-art laboratory equipment. The Company's technical core competencies are (i) SunCell® engineering, (ii) system engineering and development, (iii) photovoltaic power conversion, (iv) characterization of SunCell® chemical processes, (v) thermal power measurement, (vi) chemical, material, plasma characterization and spectroscopy, (vii) theoretical physics, and (viii) molecular modeling. Currently, the Company has twenty-two employees and eight consultants wherein the majority of employees and consultants are scientists and engineers. Brilliant Light is working on establishing a licensing office in Miami FL wherein it projects to hire 80 members of a global licensing team within the next 24 months. Brilliant Light plans to establish foreign offices to provide a regional presence as the licensing activity expands.