

Executive Summary: Breakthrough Zero-CO₂ Distributed Power Source

Brilliant Light Power, Inc. (BLP) has developed a new, zero-pollution, primary energy source based on a proprietary hydrogen plasma reaction that releases 200 times the energy of burning hydrogen that can be obtained from water. Our SunCell® having a capital cost of less than 1/10th that of solar was invented and engineered to harness this new source of power. Specifically, BLP is operating a SunCell® at commercial scale (250 kW) producing power levels that, upon finalization of engineering and design, can power essentially all power applications with no fuels or grid connection, projected \$20/kW cap cost, \$0.001 kW/h generation cost with no transmission, distribution, or demand charges, no supply chain issues, and zero pollution including CO₂. Our global and significant patent portfolio protects our leading technology position and products.

Our theoretically predicted energy breakthrough is based on reacting atomic hydrogen with a catalyst to cause the atom's electron to transition to a lower-energy orbital forming Hydrino®, a more stable chemical form of hydrogen. Hydrino® has been trapped in inorganic crystals and as a cryogenically condensed gas permitting independent validation of the existence of Hydrino involving 23 types of methodologies and spectroscopies run at BLP and leading universities showing characteristic signatures that do not match any other known species. The peer-reviewed, enabling, and predictive theory based on classical physical laws has been successful at analytically solving the major problems and mysteries of physics and chemistry from the subatomic to the cosmological scales including molecules of boundless extent and complexity. BLP has published over 100 peer-reviewed journal articles and preformed many validation studies with independent leading experts.

The SunCell® comprises a plasma cell that injects hydrogen and catalyst, and two electromagnetic pumps serve as electrodes by injecting intersecting molten tin streams from corresponding reservoirs wherein the connected streams carry a low voltage, high current to form a Hydrino®-reaction plasma in a reaction chamber. The SunCell® is an optical power source that is mated with a commercial dense receiver array (DRA) comprising an ensemble of concentrator photovoltaics cells (CPV) that operate at 1000 times the light intensity of solar-farm PV cells to produce electrical power for total electrification of essentially all power loads. The autonomous SunCell® (i) comprises standard recyclable materials with no expected supply chain issues, (ii) it is manufacturable with known commercial vendor-supplied components, and (iii) upon successful commercialization, it will be able to service all major energy markets: thermal, electrical, and electric motive (e.g. automotive, truck, rail, marine, aviation, aerospace) using existing electrical devices and systems.

Optical power or radiation transfers power at 10 to 100 times the power per area compared to conduction and convection of combustion and nuclear power plants. The 3000-5000K SunCell® plasma emits radiation at a power density of 4.6 to 35 MW/m², corresponding to an extraordinary 150 kW to 1.14 MW, respectively, transmitted through an 8-inch diameter window. With light recycling, the transmitted radiation incident a CPV DRA can be converted from optical to electrical power at over 50% efficiency enabling extraordinary performance, logistics, low capital cost, and projected electricity costs of less than \$0.001/kWh.

Essentially every imaginable power consuming device in the world can be electrified with proven, cost competitive, reliable, safe, UL approved, warranted systems, mass produced and supported by the world's OEMs. The SunCell® can power these devices completely autonomously of fuels and grid infrastructure, operating in essentially any environment at greater power density and power to weight ratio than any prior known power source.

With one-year's possible production, the 15TW peak generating capacity of the world can be supplied by 60M, 250kW SunCell® without any pollution including greenhouse gases-climate change crisis gone.



Brilliant Light plans to make the breakthrough Hydrino green energy and climate change solution widely available by outsourcing manufacturing, installation, and maintenance of the SunCells[®] provided under a power generator lease. Autonomous SunCells[®] can be ganged to any scale, and the power conditioned to any characteristic required to serve essentially all thermal, cooling, and stationary and motive electrical markets of all scales to meet industry sustainability goals at vastly lower cost and greater logistical flexibility.

Supporting Documents

Business

Full Business Presentation

https://brilliantlightpower.com/pdf/Business_Presentation.pdf

Overview Business Presentation

https://brilliantlightpower.com/pdf/Overview_Presentation.pdf

New Developments

<https://brilliantlightpower.com/news/>

Patents (slide 43)

https://brilliantlightpower.com/pdf/Overview_Presentation.pdf

Power and Engineering

SunCell[®] 275 kW Continuous Steam Production Validation

<https://brilliantlightpower.com/validation-reports/>

[https://brilliantlightpower.com/pdf/Report_on_Water_Bath_Calorimetry_\(031621\)_rev.pdf](https://brilliantlightpower.com/pdf/Report_on_Water_Bath_Calorimetry_(031621)_rev.pdf)

Additional Validation Reports

<https://brilliantlightpower.com/validation-reports/>

SunCell[®] Operational Videos

<https://brilliantlightpower.com/plasma-video/>

Exemplary Steam Boiler Video

<https://www.youtube.com/watch?v=hRGAQilVvqA>

Hydrino

Hagen EPR paper

https://assets.researchsquare.com/files/rs-144403/v1_stamped.pdf

The “Hydrino States of Hydrogen” review paper

<https://brilliantlightpower.com/hydrino-states-of-hydrogen/>

https://brilliantlightpower.com/pdf/Hydrino_States_of_Hydrogen.pdf



Analytical Presentation

https://brilliantlightpower.com/pdf/Analytical_Presentation.pdf

Theory

Grand Unified Theory of Classical Physics

<https://brilliantlightpower.com/GUT/GUT-CP-2020-Ed-Web.pdf>

Atomic Theory Presentation

<https://brilliantlightpower.com/wp-content/uploads/theory/TheoryPresentationPt1-web-032017.pdf>

Molecular Theory Presentation and Millsian

<https://brilliantlightpower.com/wp-content/uploads/theory/TheoryPresentationPt2-web-032017.pdf>

Collective Phenomena, High Energy Physics & Cosmology

<https://brilliantlightpower.com/wp-content/uploads/theory/TheoryPresentationPt3-web-032017.pdf>

Millsian Exact Molecular Solutions Software

<https://millsian.com/>

Exemplary Theory Journal Articles

https://www.dropbox.com/sh/qucggr3sbtnmiw/AAA9g_idEnX74c5YD2l8b1HMa?dl=0

Peer Review Reports

<https://brilliantlightpower.com/theory/>

at

[Reviews by Dr. Randy Booker and Dr. Mark Nansteel](#)

Simulations and Support Materials

<https://brilliantlightpower.com/atomic-theory/>

<https://brilliantlightpower.com/molecular-physics/>

<https://brilliantlightpower.com/cosmology/>

Journal Publications

Peer Reviewed Publications List

<https://brilliantlightpower.com/pdf/Publications.pdf>

Exemplary Peer Reviewed Articles

<https://www.dropbox.com/sh/proq7b4ur0vttl5/AACk3xqTrew9A7DyZfAgaGsia?dl=0>