Outlook

Future Energy eNews

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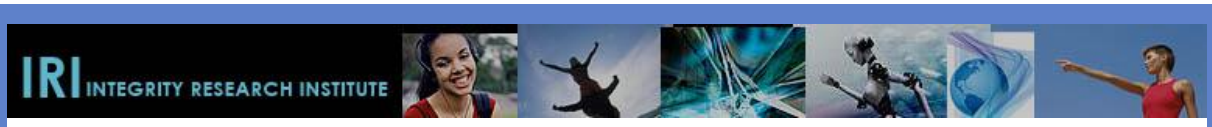

Future Energy eNews

November 2025 Vol.26
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Greetings!

We recently watched the new movie "Blue Planet Red" streaming on Amazon Prime video that features a famous friend and colleague of mine, Dr. John Brandenburg, who has written several books on Mars, including several journal articles as well. While it is a documentary, it is well stocked with science but also short surveys of the public on the street (probably unnecessary). Most importantly, it slowly presents the shocking anomaly that occurred about 50 million years ago in two regions of Mars that still have very high Xe129 radioactive decay residue that even the US DOD had to clear before it was made public.

Our latest Biomedical Journal article is now available in a readable booklet format. Click here (Full screen option is in the 3 dots)

Story #1 advances a lot of our interests in wireless power transmission with a new power breakthrough, beating DARPA's previous achievement. Rather than working with microwaves in space, a grid of solar panels power an optical multi-spectrum laser that can be aimed at a client satellite. The frequencies are the optimum for the satellites solar panels as well. The new record by Starcatcher (https://www.star-catcher.com/) in an optical power beaming test at Kennedy Space Center is over a kilowatt.

Story #2 is exciting since it attacks the CO2 accumulation problem as well as producing useful fuel. Using microwaves, a research team including scientists from the University of Tokyo developed a method to focus heat only where it is needed. The illustration shows the catalytic advantage of this method Click here to see enlarged diagram

Story #3 is an amazing invention for those who like seeing their house built in one day! Using Perlite, **System 3E.com** uses interlocking blocks that are insulating composed of a naturally occurring

volcanic glass. No mortar is necessary and the YouTube video shows the Lego-style of construction which is actually entertaining: See construction video here and amazingly inexpensive. Contact them using the online form "Build With Us" at https://www.system3e.com/.

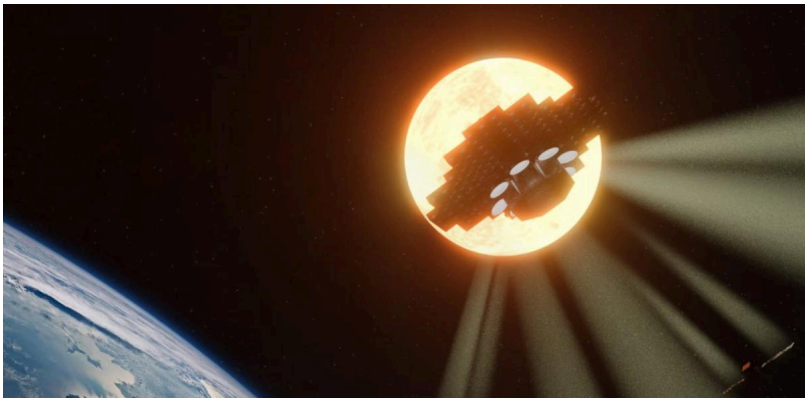
Story #4 is another step in the direction of seeing hot fusion generators providing electrical power to the world. Operating the Fusion Z-pinch Experiment 3, known as FuZE-3, **ZapEnergy.com** has produced plasmas with electron pressures reaching 830 megapascals (MPa), or 1.6 gigapascals (GPa) in total. These pressures are similar to those found far beneath Earth's crust. This achievement marks the highest pressure ever recorded in a sheared-flow-stabilized Z pinch and represents a meaningful step toward reaching scientific energy gain, or Q>1.

Story #5 might be the most unusual energy generator on the planet. Converting a home basement wall, for example, this innovation combines cement, water, ultra-fine carbon black, and electrolytes to form a conductive nanonetwork inside the concrete matrix. That network enables the material to act as a supercapacitor, with enough power (about 10 kWh) to run major appliances. Developed by MIT, it is called "ec3" and the promise of using concrete in this novel way could lead to a future where buildings are not just passive structures but active participants in energy management, as long as the source of energy is also available, such as solar, wind, geothermal, or the natural gas generated electrical utility as a last resort, charging up the batteries in off-peak hours.

With gratitude during this Thanksgiving season,

Thomas Valone, PhD,
Editor

1) Star Catcher breaks DARPA's record for beaming power wireless



NewAtlas.com November 2025

Star Catcher Industries has set a new record for beaming power at a distance. Its Star Catcher Network technology beamed 1.1 kW of power at NASA's Kennedy Space Center in Florida using off-the-shelf solar panel components.

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2) New Microwave Technique Could Turn CO2 Into Fuel Far More Efficiently

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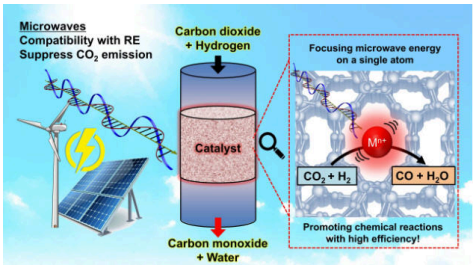
Their approach uses microwaves, similar to those in a household microwave oven, to excite specific elements within the target materials. The new system achieved energy efficiencies about 4.5 times higher than conventional techniques.



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3) Build a house for $8000

The company is in Poland and parts are in US.
https://www.system3e.com/ . With elements already being shipped to the country and plans to build a factory in the US for local production. The company is also seeking investors to support its expansion in the American market. Initial availability: The first shipment of SYSTEM 3E elements was sent to Miami, marking the company's entry into the US market. Future plans: The company plans to build a factory in the United States to produce elements locally, which will enable more efficient execution of customer orders.

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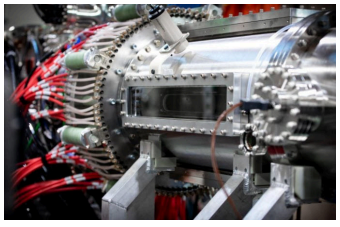
4) FuZE3 Hits Gigapascal Plasma in Fusion Energy Milestone



Scitech November 2025

Zap Energy’s FuZE-3 device has reached giga-pascal-level plasma pressures thanks to a novel design that independently tunes acceleration and compression. These early results suggest rapid progress toward fusion conditions once thought achievable only with massive, expensive systems.

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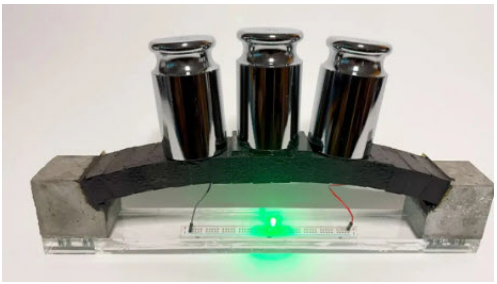
5) Concrete Battery by MIT Researchers

Impact Labs.com November 2025



Imagine driving past a building and not just seeing its windows, doors, and facade—but glimpsing the stored energy humming inside its very walls. In a radical shift from mere structure to energy infrastructure, MIT researchers have developed a new form of concrete—electron-conducting carbon concrete (ec^3)—that stores and discharges electricity, elevating walls, sidewalks, and foundations into living batteries. Their latest prototype improves energy density ten-fold over prior versions.

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