
FOR IMMEDIATE RELEASE

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Oregon Start-up, Focal Technologies, Inc. Secures First Commercial Order for Large-Scale Green Hydrogen Generation System

*Berkeley Marine Places Landmark Order for 16-Foot Ray® Photocatalytic System
Hydrogen Fuel Generation System — Producing hydrogen fuel on-site for customers*

Focal Technologies, Inc., developer of the patented Ray® Photocatalytic System (RPS), today announced a landmark commercial order from Berkeley Marine (Berkeley, CA) for the company's first sale of a large-scale, 16-foot diameter RPS unit configured for on-site green hydrogen fuel generation.

The 16-foot Ray® RPS unit developed by Focal Technologies uses a concentrating lens to deliver solar wavelengths at a 400-to-1 solar concentration ratio — the equivalent of 12,000 suns into a single processing area. At 16-foot diameter, the refractor built for Berkeley Marine will be the largest solar concentrating lens in the world.

Using newly developed proprietary catalyst materials, the system splits water molecules into oxygen and hydrogen using targeted light-wavelength energy, with no electricity or fossil fuels required. The primary inputs are humid air and sunlight. The result: ultra-pure green hydrogen fuel generated on-site, on demand, eliminating the prohibitive storage and transportation costs that have historically constrained hydrogen fuel adoption.

The order will allow Berkeley Marine to provide hydrogen for fuel to be generated on site, for fuel cells it installs in custom sailing boats, eliminating the transportation cost and related emissions from trucking fuel from distributors.

California has mandated that sales of new petroleum-combustion vehicle sales end by **2035** — only nine years away — driving urgent demand for distributed, low-cost clean fuel infrastructure. The U.S. Department of Energy has identified distributed energy generation as a national investment priority. The Berkeley Marine deployment positions Focal Technologies at the intersection of these converging market forces, and the economics are further enhanced by the generation of carbon offset credits.

“We are very enthusiastic to be the first to use Focal’s mobile solar technology to generate green hydrogen on-site for our forward-thinking clients. This is an opportunity to deliver an economic benefit while being good stewards of the environment simultaneously. It is easy to envision many uses of this technology

across marine, industrial, and humanitarian applications — and we intend to be on the leading edge.” — Cree Partridge, CEO, Berkeley Marine

A Critical Green Fuel Design – Generating Onsite

Other ‘green’ hydrogen technologies rely on heavy electrical usage to generate hydrogen gas. They require complicated systems for high-pressure piping and storage, along with transportation by truck - adding a significant cost to the fuel. The Ray® system generates the green hydrogen on-site through the power of the sun at the customer location. This eliminates most of the transportation and storage costs, driving the retail price of green hydrogen down by a factor of 10.

Yale University catalyst scientist, Dr. Shu Hu, underscored the significance of the breakthrough:

“This is a remarkable development. Until now it has only been possible to generate small quantities of hydrogen via catalytic processes in laboratory settings, due to power-input constraints. The Ray® Photocatalytic System generates the energy required to split molecules at large throughput scale — without electricity or carbon-based fuels.” — Professor Shu Hu, Yale University

A Proven, Versatile Platform: Current Applications in Remediation

The Berkeley Marine order builds on a foundation of validated commercial deployments in water remediation. Ray® systems use a large lens structure to focus the energy of the sun towards the ground where the full solar spectrum, UV to IR, can be concentrated and used for processing applications. The energy delivery is tailored for the activation of photocatalytic materials that can produce electrochemical reactions. Ray® systems are currently treating contaminated wastewater for customers in California’s Central Valley by using concentrated solar light to kill pathogens, breakdown organic contaminants and destroy toxic chemical compounds - with demonstrated results across a range of the most challenging contaminants.

- In food and beverage processing, the system has reduced brewery, winery, and creamery waste by more than 60% with no added natural gas.
- In agricultural applications, Ray® eliminates up to 99.9% of E. coli and other pathogens in concentrated animal feeding operation (CAFO) runoff, while simultaneously cutting organic concentrations by over 70%. The system can also reduce pesticide contamination in runoff and ground water by over 80%.
- The technology has also demonstrated breakdown of chlorinated solvents (TCE) and PFOA/PFAS “forever chemicals” — one of the most pressing and difficult remediation challenges facing municipalities and industry today.

CEO Statement

“We are thrilled to be able to work with Berkeley Marine to introduce the versatility and sustainability of the Ray RPS technology to their customers and partners in the hydrogen markets. Marine fuel cells are an ideal application for the green hydrogen the unit will generate, and this installation will allow us to

showcase the Ray® units as a modular, passive and carbon neutral pathway to clean fuel generation using only the power of the sun.

– Eric Steinmeyer, Founder and CEO of Focal Technologies, Inc.

The 16-foot Berkeley Marine unit will expand the company's reach into energy production and gas reactions while also accelerating the scaling of Focal's remediation product line, unlocking larger system configurations and higher throughput capacity.

Industry Partner Commentary

"Our remediation customers have been consistently impressed by the Ray® system's performance. Configuring these units for remote hydrogen fuel generation addresses an urgent, market-driven need to produce clean fuel without the cost or carbon impact of conventional electricity generation."

– Jeff Pettey BSME, Owner, Gullywasher Environmental & Remediation (Seattle, WA & Huntington Beach, CA)

About Focal Technologies, Inc.

Focal Technologies, Inc. is an Oregon-based C corporation founded by Eric Steinmeyer and aerospace engineer Don Steinmeyer. The company develops and deploys the Ray® Photocatalytic System — a patented, solar-driven platform technology with applications in green hydrogen generation, industrial wastewater treatment, and environmental remediation. Ray® units are mobile, scalable, and operable with minimal external power. The company holds utility patents on system design, a patent on the process of concentrating light for material irradiation, and registered trademarks on Ray® and related marks. For more information, visit raymediate.com.

The Ray® system has drawn attention from leading research institutions, including Oregon State University, the Air Force Advanced Research Institute, UNLV, and the University of Washington Urban Waters Center.

About Berkeley Marine

Berkeley Marine is a custom boat builder and full-service marina located in Berkeley, California, specializing in electric and hydrogen marine propulsion systems for environmentally progressive clients. For more information, visit berkeleymarine.com/electric-propulsion.

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Press Inquiry

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