

October 28, 2022

**TO: Members of Proteum Energy, LLC**  
(via email distribution)

**RE: Q3 2022 CEO Letter to Members**

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Dear Members of Proteum Energy, LLC,

It is my pleasure to provide you this report about the progress we have made at Proteum Energy® in the third quarter of 2022 and our plans moving forward. As always, I would like to start by acknowledging and thanking our team and our hard-working board of directors. I would also like to thank those of you who participated in our Annual Meeting of the Members on October 13, 2022. We value the opportunity to be able to personally connect with so many of those who have invested in the work of Proteum.

**Re: Business Development** – Proteum Energy® has a technology platform focused on three target addressable markets: H2 Gas to Power, H2 Direct Pipeline Injection and H2 for Transportation / Mobility. These markets have received a significant boost in the US with the passage of the Inflation Reduction Act (IRA) and the initial request for proposals for regional Hydrogen Hub projects allocated \$8B under the 2021 Infrastructure Bill. These programs significantly benefit Proteum by providing (a) direct benefits of additional incentives for the investment and production of clean hydrogen and hydrogen-rich fuels, and (b) indirect benefits through support for the infrastructure and offtake of hydrogen production. Support of hydrogen production and distribution includes:

- Clean hydrogen production tax credit (PTC) up to \$3.00/kg of low-carbon H2 produced (§45V);
- Increased the investment tax credit (ITC) for Carbon Capture and Sequestration (CCS) from \$50/MT of CO<sub>2</sub> permanently stored to \$85/MT (§45Q);
- PTC of \$0.015/kWh+ for clean energy used to produce hydrogen (§§45 & 45Y);
- ITC for 30%+ of the cost of an “energy property” (a hydrogen plant can elect to be treated as an energy property) or energy storage property (possibly liquefaction plant) (§§48 & 48D)
- Sustainable Aviation Fuel PTC of \$1.25/gal+ (§40A); and
- An ITC for alternative fuel refueling facilities (§30C).

Although these credits cannot be stacked, they provide a set of tools that can be used in our project model to enhance the economics of each project based on project-specific feedstock, offtake and site considerations. These incentives, combined with state and local benefits such as California’s Low Carbon Fuel Standards (LCFS) and Cap and Trade significantly impact the specification and profitability of the plants we have in our pipeline.

**Re: Project Pipeline** - With fuel cell transportation being heavily incented in California, federally and internationally, our project pipeline reflects this market reality with fuel cell grade projects in California and sustainable aviation fuel. However, we are concurrently pursuing hydrogen production opportunities in pipeline injection internationally and power generation within regional hydrogen hubs. We also continue to look for opportunities to deploy our flare to fuel technology as restrictions on flaring become more severe.

**California Pipeline:** We are pursuing several opportunities for our first hydrogen production plant in California.

Hydrogen Offtake – Having a line of sight to hydrogen offtake is key to any clean hydrogen project. We're pleased to report preliminary agreement on a letter of intent with Nikola Motors for the purchase of a minimum of 15 metric tons of fuel cell grade clean hydrogen in Kern County, California. Although there are many details to be worked out before a purchase agreement can be entered, we are very excited to be working with Nikola to support its California refueling strategy in what Proteum envisions as a model that could be replicated across Nikola Energy's North American fueling infrastructure.

Having an offtake partner significantly enhances our stature in the growing clean hydrogen industry and we are looking for additional California off takers. Targets include truck OEMs Hyzon and Westport, and independent refueling companies such as First Element Fuel (a/k/a True Zero)/Air Water and RV Jensen, each of whom has expressed an interest in our hydrogen production.

Elk Hills Hydrogen – Elk Hills Field, CA – We are pleased to report significant discussions are underway toward a binding term sheet for a hydrogen production plant at Elk Hills Field off Interstate-5 near Bakersfield in Kern County, CA. California Resources Corporation (CRC) is developing a major carbon sequestration project at their Elk Hills Field property called the Carbon TerraVault 1. We have been working with CRC to provide land, CO<sub>2</sub> CCS and low-carbon intensity power or land for solar for production and liquefaction of clean hydrogen. We're encouraged by the fact that CRC could provide three of the four elements needed for a project (feedstock, CCS and low-carbon power) and optimistic about an Elk Hills project, but progress has been subject to "fits and starts" as CRC is starting up its Carbon TerraVault business and decides how to allocate its initial CCS "pore space" capacity. Despite a current halt of progress on the 45MM MT Carbon TerraVault1 project indicating potential delays, CRC is developing 200MM MT of CCS capacity this year with a business plan to expand to several times that capacity over time. As such, they are an ideal strategic partner for Proteum in California and we are pleased to report CRC is exploring additional plant locations at other CRC CCS facilities.

Golden State Hydrogen – Pixley / Delano, CA-99 Truck Corridor– We continue our discussions with Clean Energy Systems regarding development of a clean hydrogen production plant on the Golden State Freeway in Delano, CA. CES is currently focused on its Mendota, CA project, but continues to work on the Delano project along with its partners Microsoft, Chevron, Southern California Gas and Schlumberger. Ongoing negotiations include the right to reserve 13% of the site pore space for sequestration and storage of our produced CO<sub>2</sub>.

For more than a year we discussed partnering with Calgren Renewable Fuels. The intention has been for Calgren to provide ethanol feedstock for the Delano hydrogen production plant from Pixley, CA just 21 miles north of Delano on CA99. Those discussions have evolved into exploration of joint development of a CCS facility and clean hydrogen plant, with Calgren potentially providing ethanol feedstock and direct CCS pore space for our CO<sub>2</sub>. We are conducting due diligence on the availability of low-CI power and other project requirements and feasibility/sensitivity analysis. It's early in the process, but we are encouraged to be envisioning Pixley as a potential primary location for the CA99 project as Calgren, a leader in the renewable fuels industry has two of our project requirements (feedstock and CCS). It is also important to note, both the Elk Hills Hydrogen and Golden State Hydrogen locations are considered acceptable strategic locations for our transportation hydrogen off takers. This creates a built-in contingency strategy for Proteum.

Discussions with an interested liquefaction partner affiliated with the largest hydrogen fueling station network in California are ongoing, with offtake of as much as 30 tons per day of liquefied hydrogen production as the ultimate goal.

To support these projects, we have retained Radicle Balance for Lifecycle Carbon Analysis and QK engineers for environmental review and planning. We are evaluating potential engineering procurement, construction contractors (EPCs) with experience in Kern County (PCL Construction / Bakersfield, Agilus/Bechtel and Audubon) as well as an LCFS consultant/lobbyist (Tradesman Advisors).

**Production of Sustainable Aviation Fuel (SAF)-Texas** – World Energy, the world's largest producer of sustainable aviation fuel reached out to us after our presentation at the Fuel Ethanol Workshop about Proteum producing clean hydrogen required for its SAF. World Energy has an SAF production plant in Southern California and is planning a second plant in Texas. We are exploring Proteum providing renewable hydrogen produced from ethanol feedstock for the new Texas plant.

**Power Gen / Hydrogen Hub** – EPC Burns McDonnell (Burns) approached us to learn about whether SnMR would be a good technology to incorporate into the Nebraska Public Power District's (NPPD) plan for a hydrogen hub demonstration. With the abundance of locally-sourced ethanol and the low-carbon attributes of our reformation technology, Proteum's technology provides an appealing option to NPPD in the view of their consultant Burns. We're encouraged that Burns and NPPD are doing a deeper dive into potentially using one or more of the smaller HDF300 units for a pilot project.

**International Opportunities** – Development of hydrogen infrastructure and use in Europe and Asia is more advanced than most of the US. Regions like South America are also eager to develop a hydrogen economy. This momentum presents opportunity for Proteum, with its ready-to-deploy technology. We are currently in joint development term sheet discussions with two groups for potential projects internationally: Transitus and an international gas shipping company.

**UK and North Sea Straddle Plant** – Transitus is an English company working with producers and midstream strategic partners in the UK, Ireland, Norway and the Netherlands to identify opportunities to produce and deliver hydrogen. North Sea production includes a significant

amount of natural gas liquids (NGLs) which the SnMR™ can use as feedstock. Our technology opens new markets to them. We are negotiating a Letter of Understanding with Transitus outlining a strategy to jointly identify, finance and develop hydrogen production in these North Sea countries.

Ethane Reformation at Ports in Europe and South America – Our investment banker Michael Webber introduced Proteum to a large international LNG/ethane shipping company interested in delivering hydrogen to its customers in the EU and South America. The cost to ship ethane may be considered materially less than the cost to transport LNG for the production of hydrogen, potentially making the production of hydrogen from ethane attractive at the destination port. Mr. Webber is working with Proteum and the shipping company to accomplish (i) technical due diligence around our SnMR™, (ii) identify one or more port locations for a Proteum production plant, and (iii) provide an equity investment in Proteum as a strategic partner. The process is in its early stages, but Mr. Webber is pushing for a decision on joint development and equity participation by early next year.

**FTF / HDF 300 Flare Mitigation & Hydrogen Production** – We continue to explore opportunities to utilize the Company’s valuable IP and are working with potential partners interested in the FTF300 technology for flare to fuel applications. This quarter a major O&G producer evaluated our system for flare mitigation in its US producing basins. While the technical review was positive, the producer was not willing to be the first customer and is passing for now. Other producers in the US and internationally, including Oman, are also evaluating the technology to determine if it is the right fit for their flare mitigation.

We have also approached virtual pipeline companies about the ability to introduce small amounts of hydrogen into their CNG deliveries to prime movers in the Permian, Utica and Marcellus production basins. These discussions have been promising and we see a potential “virtual H2” pipeline market growing as producers look for ways to improve their ESG scores.

**Re: Market and Brand Development** - Proteum Energy® continues to elevate its branding efforts in the hydrogen industry to elevate the company’s exposure as a readily available and proven technology. This quarter, we presented and/or participated in the following:

- Presentation to Halliburton Labs on September 28, 2022
- Attended and presented to the Renewable Fuels Association in Milwaukee
- Invited to present at the 3<sup>rd</sup> Annual Hydrogen Forum in Houston in 2023
- Invited to submit abstracts for presentations at the 2023 PowerGen International Exhibition in Orlando and the 2023 Canadian Hydrogen Conference in Edmonton, Alberta

**Re: Intellectual Property** – This quarter Proteum added to its IP portfolio with the award of a patent by the Canadian Patent Office for NGL gas stream reforming technology. This patent relates primarily to the flare-to-fuel technology, with is a valuable application of our technology.

In other good news from Canada, it appears that they are moving forward quickly with our hydrogen patent. In an “office action,” the Canadian examiner found no “prior art” which would prevent our hydrogen patent from being issued (the internal PCT examiner came to the same

conclusion). We've made some clarifications to our application, per the request of the Examiner and our IP counsel is optimistic that a Canadian patent could issue soon. We're in a similar application process in the United States, but the examiner has not yet issued an office action, but IP counsel expects to see one soon.

**Re: Engineering, IP and Canadian Development** – Proteum's partnership with the University of Regina for testing and development of catalysts for use in our HDF reformers is progressing well. You will recall that our joint research is funded, in part, by a 3:1 matching grant from Mitacs in Canada. Extraordinary progress has been made between Proteum and the University of Regina research team, primarily for optimization of ethanol reformation catalysts and yields. We are hopeful that additional IP/Patents will result from this research.

**Re: Strategic Funding Initiatives** – As we explained at our investor meeting, Proteum is actively pursuing project financing and interim financing for pre-project development. I would like to thank Tom Niccoli, Executive Chairman, for his work in developing financing alternatives to enable the Company to continue to advance toward its goals.

1. **Interim Financing:** This Company is pursuing several options for interim financing in a potential amount of \$5MM up to \$50MM.

*Armistead Street Partners / Beech Hill Securities (Michael Webber)* is working on several funding opportunities for Proteum.

*An IP loan up to \$50MM secured primarily by insurance on our IP portfolio.* Three different insurance companies are in due diligence to potentially underwrite insurance based solely on the intrinsic value of our IP. Two different lending sources are in due diligence regarding terms of a loan to Proteum secured by IP insurance and our IP. This option could potentially minimize shareholder dilution, but may add potential complication to ultimate project financing, since such a loan will likely need to be paid off with subsequent project financing funds. However, we perceive a distinct and important first mover advantage that this kind of financing provides with the ability for Proteum to begin reactor and system fabrication as well as completion of project front-end engineering and design (FEED) studies.

*Equity sources and strategic equity investment.* As discussed above, Mr. Webber is working on a term sheet with an international shipping company for a strategic investment in Proteum tied to the prospect of jointly developed projects. This would provide a benefit to Proteum significantly greater than the capital alone. Mr. Webber has also reached out to well-qualified private equity / venture capital groups in the energy space, and we've had some very encouraging discussions about investment in Proteum. Also, Mr. Webber has identified a European broker-dealer who may be able to do a small equity round for the Company.

A second international alternative approved by the Board's Finance Subcommittee is LPFH Capital Management out of Ontario, Canada. This resource came highly recommended from the global insurance agency Marsh out of Chicago. LPFH has extensive institutional

and family office contacts, as well as clients who are hydrogen off take counterparties. In addition to an equity focus, LPFH has proposed an interim financing strategy where it procures a hydrogen offtake contract for Proteum and then secures a loan against the offtake contract. This type of financing could be in the \$50MM range.

The Board's Finance Subcommittee also approved Marquee Equity out of India (<https://marquee-equity.com/>) to assist as an international resource with a \$5-6MM private placement, if needed. This offering will be to non-US accredited investors in their network. Marquee has been successful in raising equity for early-stage companies and the size of such an offering is in their "sweet spot."

The Company is marketing for sale its ANGI compressor and compressed gas fueling system at Bryan Texas. This equipment is not used by Proteum and would be valuable to a "virtual pipeline" CNG transport company. With supply-chain interruptions and long lead times for new equipment, there has been significant interest in this CNG-compressions equipment. There is also interest in a sublease of a portion of our Bryan facility to compress and dispense CNG where the equipment is now. This may also open the door to Proteum to produce a hydrogen-methane designer fuel which can sold to the virtual pipeline and mixed into their CNG shipments.

*Re: Valuation and Warrants* - We have obtained three independent 3<sup>rd</sup> party valuations of Proteum. Each of these valuations came in well above the exercise price of the outstanding F&F warrants. Although these valuations are more art than science, and the value of Proteum is dependent on many factors beyond the control of the Company, we're encouraged by these very affirming valuation opinions.

As you may recall, there are more than 55MM warrants outstanding which were issued to those investors who participated in the Friends & Family Offering last year. At an exercise price of \$0.15/unit, those warrants could generate up to ~\$8.25MM of investment. We encourage each warrant holder to consider exercising their warrants or transferring them to a Member who may have such an interest. The warrants will expire on January 31, 2023.

2. **Project Financing:** The initial sources of Project Financing will be primarily debt with about 30% equity at the project Special Purpose Vehicle (SPV) level. We may also create a "development company" to facilitate institutional investment in several SPVs and minimize dilution at the parent (Proteum) level. The Company continues to pursue opportunities for minimally dilutive, in-kind and cash contributions to project SPVs from joint development partners as well. Future Project Financing will also include retained earnings as the Company gets into revenue.

The Company is actively lining up Project Financing debt, which includes an application for a loan guaranty with the DOE's Loan Program Office. Such a loan guarantee could be for up to 80% loan-to-cost (LTC) financing. The Company is actively engaged with private lenders, to potentially provide up to 70% LTC financing. Private lenders, such as Riverstone Holdings (<https://www.riverstonellc.com>, and others) have expressed interest in the possibility of

providing hybrid Project Financing, comprised of debt and some equity, to reduce the amount of project equity Proteum would need to provide.

**Re: Finance and Accounting** –Quarterly financial reports are attached showing the Company has sufficient cash to execute its plans for the next quarter. This is due to the successful F&F Offering, utilization of tax credits, the PPP Loan and concerted efforts to control costs. Lohman & Company continues to serve as a “fractional CFO” and I would like to thank Wendy Carrasco and Kim Pyrtle for their excellent work preparing the quarterly financials. I would also like to thank John Horton, Chairman of the Finance Committee, for his efforts to align our financial requirements with timely reporting. Included with this letter is a balance sheet, profit and loss statement, and statement of cash flows for your review. Additional pro forma information is available in the investor section of our website at <https://www.proteumenergy.com/>.

Proteum Energy® would like to point out that this letter and the other information provided to the Members in our 3Q22 report is confidential and based upon the best information and estimates available to the Company at this time. This information includes “forward-looking statements” regarding future events and performance which may not be borne out but may vary materially from our expectations. Nor is this letter and the information provided with it an offer to sell any security. Any decision to invest in the Company should only be made after a thorough review of the Company’s requisite private placement memorandum disclosures and in consultation with your investment and tax advisors. If you have any questions about this information, the Company’s private placement disclosures or our business plan, please do not hesitate to contact us.

In summary, it has been another productive quarter and I believe that the Company is making good progress on our top three most promising project opportunities in California, Texas and internationally. I’m encouraged by the progress and the interest we’ve garnered from significant strategic partners. Working in concert with our strategic partners, engineering team, offtake partners and project financing sources, we continue to build brand recognition and credibility in the growing hydrogen market.

In closing, I want to thank you, our members, our capable and active board, and our excellent engineering and operations team for completing a successful third quarter 2022.

Best regards,

/s/

Laurence B. Tree II  
President / CEO