

February 3, 2023

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

RE: Q4 2022 CEO Letter to Members

Dear Members of Proteum Energy, LLC,

I am excited to provide you this report about the progress Proteum Energy® made in the fourth 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 you, our investors, for your support of Proteum Energy® and your encouragement of management's efforts to move our business plan forward.

My quarterly letter is usually limited to a report on the events of the prior quarter, but I would like to begin my message with a preview of certain events and opportunities unfolding in this New Year. Most of these opportunities have taken months of effort, but a few have resulted from Proteum's broader market strategy to position itself as a credible hydrogen producer in the "rising tide" of the hydrogen market. Activity has picked up markedly in 2023 and is highlighted as follows:

- Second draft of a Term Sheet for a ~\$100MM loan secured by our intellectual property and IP Insurance. Loan terms are still under negotiation but indicate the following deal points: (i) a 5-year term with two 1-year extensions, (ii) an interest rate of ~7.5% (subject to change as capital markets fluctuate) plus points and fees, (iii) an abatement period before payments become due, and (iv) other terms to be determined. There will also be IP insurance to protect the lender's collateral; the premium would be paid out of loan proceeds. As we discussed on our January 12, 2023, Investor Call, the lender would be a newly-formed international clean energy financing platform with funding commitments from very significant multi-national companies and ultra-high net worth individuals. Our investment banker, Michael Webber, has informed us that Proteum's financing is at the head of the queue for their first funding. If the financing closes as proposed, it will enable Proteum to move forward with its projects. We imagine being part of the launch of this new platform to be a major endorsement of our technology in the industry.
- Mid-Continent Clean Hydrogen Hub (MCH2) with Nebraska Public Power District (NPPD). NPPD is the largest public utility in the State of Nebraska and is leading a public-private coalition from Nebraska, Iowa and Missouri in the MCH2 "Regional Hydrogen Hub" application to the Department of Energy (DOE). The DOE has up to \$8B in funding to award to 4-6 regional hubs under the Bipartisan Infrastructure Bill. MCH2 is one of 33 H2Hub applications encouraged by the DOE (46 were discouraged). NPPD's John Swanson and members of his team flew out to our office with their EPC, Burns & McDonnell, to discuss our technology and how Proteum might be involved in a demonstration or commercial pilot. NPPD envisioned several ways Proteum could fit into MCH2 and asked if they could write Proteum into their next submittal to the DOE in April. We are very encouraged to have such support and look forward to next steps in the weeks ahead. (To learn

more about the Mid-America Hydrogen Hub see
<https://www.youtube.com/watch?v=7BLiA48aweQ>.)

- Implementation of Proteum’s Golden State Hydrogen Strategy. We continue to move our Golden State Hydrogen Strategy forward with Calgren Renewable Fuels in Pixley, CA on CA-99 (the Golden State Freeway). To support that project, we executed an LOI with Nikola Motor Company to offtake 15 MT/day of clean hydrogen and we’re engaged in discussions with a potential liquefaction partner affiliated with significant hydrogen offtake capacity. We are also investigating renewable “green ammonia” as a hydrogen offtake to be sold into California’s robust ag market. (See discussion of Ammonia below.) Calgren has completed its geological studies and is prepared to begin the permit process for a carbon sequestration (CCS) Class VI well. We are coordinating with Calgren to evaluate technical and commercial synergies to support the CCS project.
- Potential North Dakota Project. One of our long-time midstream contacts identified Proteum as their preferred hydrogen production technology for a project they are negotiating with one of the largest natural gas producers in the Bakken production basin in North Dakota. Under their relationship with the producer—which we understand is now in final negotiations—the midstream plans to process and transport a significant amount of NGLs, a portion of which they want to allocate to clean hydrogen production. The oil and gas producer is very interested in hydrogen and the ESG benefit it would provide, and Proteum’s technology seems an ideal fit. The project timeline is less than 24 months so we’re anticipating three-way discussions with the midstream operator and producer to begin as soon as their commercial deal is finalized.
- Equity Investment by Third Parties. Our Investment Banker has introduced us to two potential strategic equity investors: (i) a clean energy fund with investment in midwestern CCS and CO2 technologies, and (ii) a very large international ethane / ethylene shipping company. Both of these groups bring expertise, capabilities and opportunities that could benefit Proteum, in addition to a capital contribution in the \$2MM-\$5MM range. We perceive the clean energy fund as the lowest hanging fruit, since it is closing out a fundraising round and has expressed an interest in deploying some of those funds for an equity investment in Proteum on the same terms of the Warrants. Such an investment, if it occurs, will bring operating capital and CO2 sequestration opportunities for our clean H2 production. An investment by the international shipping company will take more time and be more complex, but could be instrumental in opening foreign markets.
- Appalachian Hydrogen Hub Strategy. Appalachia has some of the largest natural gas reserves in the US (the Utica/Marcellus basins), yet struggles with infrastructure to get it to market. This results in areas of distressed ethane pricing. It also includes Senator Joe Manchin’s jurisdiction with two regional Hydrogen Hub applicants urged on by the DOE. Our efforts to penetrate this region are bearing fruit as we are now engaged in discussions with the largest natural gas producer in the US about our ethane-reforming technology, along with two site owner/operators regarding storage, transportation and production capacities.

Re: Potential Project Pipeline—Additional Opportunities:

In addition to the Golden State Hydrogen project in Pixley, California, the Nikola hydrogen offtake, and potential projects in North Dakota, Appalachia and Nebraska mentioned above, Proteum

continues to cultivate a robust pipeline of potential projects and strategic relationships. Some of those opportunities include:

UK and North Sea Straddle Plant – In the fourth quarter Proteum signed an LOI with Transitus Energy, Ltd., a UK 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 oil production includes a significant amount of residue natural gas liquids (NGLs) which the Proteum technology can use as feedstock. Our technology opens new markets and we are working with Transitus to jointly develop hydrogen production in these North Sea countries, with a target to identify up to four projects in the UK during 2023.

Ethane Reformation at Ports in Europe and South America – We continue our dialogue with a large international 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 to produce hydrogen, potentially making the production of hydrogen from ethane attractive at the destination port. The process is in its early stages, but Michael Webber is pushing them for a decision on joint development of one or more Proteum plants strategically located at or near European ports. These discussions include strategic equity participation.

Joint Promotion / Implementation of Our SnMR™ Technology with Large Producers – Proteum is engaged in conversations with two large oil and gas producers, each with a multi-faceted clean energy platform and funding, to explore the potential of adding Proteum's SnMR™ technology to their suite of clean energy offerings. We are optimistic our North Dakota project may add a third producer to this list. Such a relationship will not only enhance our project pipeline, but will greatly enhance our ability to ramp up to capture market share. It's early, but we want you to be aware of the quality of interest our technology is attracting.

We also want you to be aware that this past quarter Proteum stepped away from its proposed Elk Hills Hydrogen plant at California Resources Corporation's (CRC) plant in Kern County. Although CRC's management supports our technology and business model, CRC received an offer for its entire Carbon TerraVault I CCS capacity (5MM MT/year). The offer was too good to refuse, and CRC accepted. This meant there would be no CCS available for our project at that location. Accordingly, we had to pivot to our Pixley, California project, with the Delano as a secondary Golden State Hydrogen site. As both of these sites incorporate ethanol as a renewable feedstock, there may be (in the long term) an environmental attribute benefit, being in California, over the CRC ethane, non-renewable, fossil fuel-based feedstock.

A New Potential Market—Blue / Green Ammonia:

Ammonia is an excellent liquid hydrogen carrier and companies like Mitsubishi Power, Jera, and others view it as a gas-to-power fuel. However, according to industry experts, recent geopolitical events and energy market trends have elevated ammonia fertilizer prices both significantly and permanently. This economic reality has made ammonia a very interesting product for our technology platform. Not only could it be economically attractive, but there is significant market demand. In fact, the North Dakota Agriculture Commissioner is actively pursuing ammonia

production in his state (which produces only 20% of what it uses) and has offered to help Proteum produce ammonia for his constituents. Ammonia production could enhance the third leg of the “stool” in our business model—Hydrogen Offtake.

Terry Kennon and our team have identified modular technology that could be placed at the tailgate of our hydrogen production to produce 60MT/day or more of anhydrous ammonia. Although this would increase the CapEx and OpEx for ammonia product, adding ammonia to our offtake product offerings mitigates some of the risk about how quickly the hydrogen offtake market will develop. We also like the fact that our ethanol producer partners have a ready market for green ammonia with their corn feedstock growers. We see a symbiosis that benefits stakeholders in the entire value chain from farmers, to ethanol producers, to Proteum.

Incentives – Production of low-carbon “clean” hydrogen received a significant boost with the recent passage of the Inflation Reduction Act (IRA) providing up to \$8B in grant funding for Regional Hydrogen Hubs under the Bipartisan Infrastructure Bill. Most important for Proteum, the IRA provides a \$3.00/kg tax credit for production of very low carbon hydrogen, it increases the 45Q investment tax credit to \$85/MT of CO₂ permanently stored, and it provides a credit for electricity generated from renewable sources. Also significant is California’s Low Carbon Fuel Standard (LCFS), which provides credits for low-carbon fuel that displaces diesel or gasoline. Other potential benefits include: (a) an EPA proposal to update the federal Renewable Fuel Standard (RFS) to create valuable RINs¹ for transportation fuel hydrogen production, (b) “cap and trade” updates in California to credit CCS, when determining CO₂ emissions which would enable Proteum to sell additional credits to deficit emitters, (c) expansion of LCFS programs beyond California, (d) implementation of Canada’s emission reduction plan, and (e) ratcheting up the cost of the Carbon Tax on European emitters. These programs significantly benefit Proteum and its partners.

Re: Intellectual Property (IP) – This quarter Proteum added to its IP portfolio when Canada “allowed” its patent claims pertaining to the production of hydrogen. (The patent will issue in March.) This is very significant for Proteum, since it is the first patent specifically pertaining to hydrogen production (which I’m proud we filed back in 2020) and bodes well for similar patent applications in the United States and other jurisdictions.

Based upon this positive news and the international Patent Convention Treaty (PCT) clearing house examiner finding no “prior art,” Proteum leveraged its PCT application with international patent applications in 17 countries and the European Patent Office (EPO). Our plan is to leverage a successful EPO application to file a Unified Patent Application in six European countries.

Randolf Square, who is providing third party valuation of our IP portfolio for the platform lender (previously discussed) provided a professional opinion on the value of Proteum Energy’s IP assets to be sufficient collateral for a \$100MM+ loan at a 50% loan to value. Additionally, Randolf Square found that our patent applications have already been cited to prevent competitors from gaining similar patents. This further affirms the value of our IP at Proteum.

¹ RINs (Renewable Identification Numbers) is the primary incentive undergirding the Ethanol fuel industry. With Ethanol, it is a value assigned to each gallon of ethanol produced that can be sold to a gasoline producer to satisfy its minimum carbon offset requirements under the RFS.

Engineering, IP and Canadian Development – Proteum’s partnership with the University of Regina for testing and development of catalysts for use in our SnMR™ 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 hydrogen yields. We are hopeful additional IP/Patents will provide another positive outcome from this research.

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 described at the beginning of this letter.

A second international alternative approved by the Board’s Finance Subcommittee is *LPFH Capital Management* out of Ontario, Canada. 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.

Sapphire Gas Solutions, LLC has expressed an interest in acquiring our ANGI compressor and compressed gas fueling system, together with a strategic partnership for operating it at our 10 acre Bryan, Texas facility. The ANGI compressor requires certification that must be completed to demonstrate the system prior to terms being finalized. Certification of the unit is scheduled for next month. We intend to negotiate a structured sale and land lease terms with Sapphire, post certification.

Valuation and Friends and Family (F&F) Warrants - We have obtained three independent third-party valuations of Proteum. Each of these valuations came in well above the \$0.15/ Unit exercise price of the outstanding F&F warrants. We are very encouraged by these affirming valuation opinions. In addition, Randolph Square has provided a valuation of our assets in an amount sufficient to provide security for a \$~\$100MM IP loan at a 50% loan to value ratio.

With all of the positive activity generated over the past month, the Board of Directors voted to extend the expiration date of F&F Warrants from January 31, 2023 to April 1, 2023. This additional time will allow F&F Warrant holders time to evaluate these developments and decide whether to exercise or not. We encourage F&F Warrant holders deciding not to exercise, to consider assigning their warrants to other Members, as there are a number of Members who have expressed a desire to acquire additional units for \$0.15 / Unit under the terms of the F&F Warrants.

2. Project Financing: The initial sources of Project Financing will primarily be debt, with approximately 30% equity at the project Special Purpose Vehicle (SPV) level. We may also create a “development company” to facilitate expressed interest from institutional investors in several SPVs in order to minimize dilution at the parent (Proteum) level. The Company continues to develop Project Financing sources, including the DOE, institutional lenders and private lenders offering hybrid debt / equity Project Financing.

Re: Finance and Accounting –Quarterly / year-end financial reports are attached showing the Company has sufficient cash to execute its plans for the next quarter. This is due to early exercise of F&F Warrants, utilization of tax credits, the PPP Loan, and concerted efforts to control costs. Lohman & Company continues to serve as our “fractional CFO” and I would like to thank Wendy Carrasco and Kim Pyrtle for their excellent work preparing the financials. I would also like to thank John Horton, Chairman of the Finance Committee, for his diligent 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 4Q22 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. This letter and any information provided with it is not 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 promising project opportunities in California, Nebraska, North Dakota, Appalachia, Texas and Internationally. We are creating new markets by expanding our production capabilities with valuable low-carbon ammonia. We are also encouraged by the interest we’ve garnered from significant strategic partners as the hydrogen industry starts to hit its stride in 2023.

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 fourth quarter 2022 and an exciting launch of 2023.

Best regards,

/s/

Laurence B. Tree II
President / CEO