

PROSPECTUS SUPPLEMENT
(To Prospectus dated September 2, 2022)



\$10,000,000 of Common Stock

We have entered into a Sales Agreement (the "Sales Agreement"), dated October 21, 2024, with Roth Capital Partners, LLC (the "Sales Agent"), relating to the shares of our Common Stock, par value \$0.05 per share (the "Common Stock"), offered by this prospectus supplement. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our Common Stock having an aggregate offering price of up to \$10,000,000 from time to time through or to the Sales Agent, as agent or principal.

Sales of Common Stock, if any, under this prospectus supplement and the accompanying prospectus may be made in transactions that are deemed to be "at-the-market offerings" as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). The Sales Agent is not required to sell any specific number or dollar amount of shares, but will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

We will pay the Sales Agent a fixed commission, in an amount up to 3.0% of the gross sales price per share of Common Stock issued by us and sold through them as our Sales Agent under the Sales Agreement. In connection with the sale of Common Stock on our behalf, the Sales Agent will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation to the Sales Agent will be deemed to be underwriting commissions or discounts. We have also agreed to provide indemnification and contribution to the Sales Agent with respect to certain liabilities, including liabilities under the Securities Act.

As of October 17, 2024, we had 1,210,471 authorized but unissued shares of Common Stock available for issuance (after deducting the number of shares outstanding and reserved for issuance and (i) giving effect to the 1-for-50 reverse stock split, which became effective as of October 17, 2024, and (ii) giving effect to an aggregate of 110,982 shares of common stock issuable upon the exercise of any outstanding shares of preferred stock, equity incentive plan, equity stock purchase plans, SUNation inducement shares and convertible debt. Based on 1,210,471 authorized shares of Common Stock available for issuance and an assumed offering price of \$5.51 per share, which was the last reported sale price of our Common Stock on the Nasdaq Capital Market on October 17, 2024, we would be able to issue and sell shares under the Sales Agreement for a maximum of approximately \$6.67 million, notwithstanding the \$10,000,000 maximum aggregate offering amount set forth in this prospectus supplement. In no event will we sell, pursuant to the registration statement of which this prospectus supplement forms a part, more shares than we have available and authorized for issuance.

Our shares of Common Stock are traded on the Nasdaq Capital Market under the symbol "PEGY".

Investment in our Common Stock involves risks. See the section entitled "Risk Factors" on page S-10 of this prospectus supplement and the risk factors contained in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of certain factors which should be considered before investing in our Common Stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Roth Capital Partners

The date of this prospectus supplement is October 21, 2024.

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus supplement or the accompanying prospectus. You must not rely on any unauthorized information or representations. This prospectus supplement and the accompanying prospectus are an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus supplement and the accompanying prospectus is current only as of their respective dates.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or SEC, utilizing a “shelf” registration process. This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein. We have not authorized anyone to provide you with information that is different. The information contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our Common Stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. This prospectus supplement contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus supplement is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement and in the accompanying prospectus, respectively.

We are offering to sell, and seeking offers to buy, the securities offered by this prospectus supplement only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the securities offered by this prospectus supplement in certain jurisdictions may be restricted by law. For investors outside of the United States: neither we nor the Sales Agent have done anything that would permit this offering or possession or distribution of this prospectus supplement and accompanying prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the Common Stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

When used herein, unless the context requires otherwise, references to the “Company,” “we,” “our” and “us” refer to Pineapple Energy Inc., a Minnesota corporation.

All trademarks or trade names referred to in this prospectus are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the ® and ™ symbols, but such references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto. We do not intend the use or display of other companies’ trademarks and trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

Except as otherwise indicated, all information in this prospectus supplement gives effect to a 1-for-50 reverse stock split of our Common Stock, which became effective as of October 17, 2024. However, share and per share amounts in the accompanying prospectus and certain of the documents incorporated by reference herein prior to October 17, 2024, have not been adjusted to give effect to the reverse stock split.

CAUTIONARY NOTE ON FORWARD-LOOKING STATEMENTS

This prospectus supplement and the documents incorporated by reference in this prospectus supplement contain, and our officers and representatives may from time to time make, “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which include information relating to future events, future financial performance, financial projections, strategies, expectations, competitive environment and regulation. Words such as “may,” “should,” “could,” “would,” “predicts,” “potential,” “continue,” “expects,” “anticipates,” “future,” “intends,” “plans,” “believes,” “estimates,” “goal,” “seek,” “project,” “strategy,” “likely,” and similar expressions, as well as statements in future tense, identify forward-looking statements. Forward-looking statements are neither historical facts, nor should they be read as a guarantee of future performance or results and may not be accurate indications of when such performance or results will be achieved. Forward-looking statements are based on information we have when those statements are made or management’s good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- our growth strategy depends on the continued origination of solar installation agreements;
- if we fail to manage our operations and growth effectively, we may be unable to execute our business plan, maintain high levels of customer service or adequately address competitive challenges;
- we need to raise additional capital to fund our operations and repay our obligations, which funding may not be available on favorable terms or at all and may lead to substantial dilution to our existing shareholders. Further, there is substantial doubt about our ability to continue as a going concern, which conditions may adversely affect our stock price and our ability to raise capital;
- our Common Stock may be delisted from The Nasdaq Capital Market if we cannot increase the share price within the time period and for the duration as required by The Nasdaq Capital Market;
- we may face claims for monetary damages, penalties, and other significant items pursuant to existing contractual arrangements, as well as litigation or threatened litigations, which, if material, may strain our cashflow and operations, as well as take away substantial time and attention from management that is necessary to for business operations and potential growth opportunities;
- we depend on a limited number of suppliers of solar energy system components and technologies to adequately meet demand for our solar energy systems;
- increases in the cost of our solar energy systems due to tariffs and other trade restrictions imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations;
- our operating results and our ability to grow may fluctuate from quarter to quarter and year to year, which could make our future performance difficult to predict and could cause our operating results for a particular period to fall below expectations;
- we may have difficulty integrating any new businesses we may acquire with our existing operations or otherwise obtaining the strategic benefits of the acquisition;
- if we are unable to make acquisitions on economically acceptable terms, our future growth would be limited, and any acquisitions we may make could reduce, rather than increase, our cash flows;
- product liability and property damage claims against us or accidents could result in adverse publicity and potentially significant monetary damages;
- we will not be able to insure against all potential risks and we may become subject to higher insurance premiums;
- damage to our brand and reputation or change or loss of use of our brand could harm our business and results of operations;
- the loss of one or more members of our senior management or key employees may adversely affect our ability to implement our strategy;
- our inability to protect our intellectual property could adversely affect our business. We may also be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies;
- we may be subject to interruptions or failures in our information technology systems;
- our information technology systems may be exposed to various cybersecurity risks and other disruptions that could impair our ability to operate, adversely affect our business, and damage our brand and reputation;
- our failure to hire and retain a sufficient number of key employees, such as installers and electricians, would constrain our growth and our ability to timely complete projects;
- our business is concentrated in certain markets, putting us at risk of region-specific disruptions;
- if sufficient additional demand for residential solar energy systems does not develop or takes longer to develop than we anticipate, our ability to originate solar installation agreements may decrease;

- our business prospects are dependent in part on a continuing decline in the cost of solar energy system components and our business may be adversely affected to the extent the cost of these components stabilize or increase in the future;
- we face competition from centralized electric utilities, retail electric providers, independent power producers and renewable energy companies;
- developments in technology or improvements in distributed solar energy generation and related technologies or components may materially adversely affect demand for our offerings;
- a material reduction in the retail price of electricity charged by electric utilities or other retail electricity providers could harm our business, financial condition and results of operations;
- terrorist or cyberattacks against centralized utilities could adversely affect our business;
- climate change may have long-term impacts on our business, industry, and the global economy;
- increases in the cost of our solar energy systems due to tariffs imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations;
- we are not currently regulated as an electric public utility under applicable law, but may be subject to regulation as an electric utility in the future;
- electric utility policies and regulations, including those affecting electric rates, may present regulatory and economic barriers to the purchase and use of solar energy systems that may significantly reduce demand for our solar energy systems and adversely impact our ability to originate new solar installation agreements;
- we rely on net metering and related policies to sell solar systems to our customers in most of our current markets, and changes to policies governing net metering may significantly reduce demand for electricity from residential solar energy systems and thus for our installation services;
- a customer's decision to procure installation services from us depends in part on the availability of rebates, tax credits and other financial incentives. The expiration, elimination or reduction of these rebates, credits or incentives or our ability to monetize them could adversely impact our business;
- technical and regulatory limitations regarding the interconnection of solar energy systems to the electrical grid may significantly delay interconnections and customer in-service dates, harming our growth rate and customer satisfaction; and
- compliance with occupational safety and health requirements and best practices can be costly, and noncompliance with such requirements may result in potentially significant monetary penalties, operational delays and adverse publicity.

While we believe these expectations, assumptions, beliefs, estimates, projections, intentions and strategies are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, most of which are difficult to predict and many of which are beyond our control. Actual results and timing of certain events may differ materially from those anticipated in these forward-looking statements as a result of various factors. You should consider these factors carefully in evaluating forward-looking statements contained in this prospectus supplement and the documents incorporated by reference into this prospectus supplement and are cautioned not to place undue reliance on such statements, which speak only as of the date of this prospectus supplement.

We undertake no obligation to update forward-looking statements except as may be required under applicable securities laws. See an additional discussion under the heading "Risk Factors" in this prospectus supplement, any related free writing prospectus, and in our most recent Annual Report on Form 10-K and any subsequently filed Quarterly Reports on Form 10-Q.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights selected information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents incorporated by reference herein and therein. This summary is not complete and does not contain all the information you should consider before investing in our securities pursuant to this prospectus supplement and the accompanying prospectus. Before making an investment decision, to fully understand this offering and its consequences to you, you should carefully read this entire prospectus supplement and the accompanying prospectus, including "Risk Factors," the financial statements, and related notes, and the other information incorporated by reference herein and therein. When used herein, unless the context requires otherwise, references to the "Company," "we," "our" and "us" refer to Pineapple Energy Inc., a Minnesota corporation.

Company Overview

Our vision is to power the energy transition through grass-roots growth of solar electricity paired with battery storage. We are a growing domestic operator and consolidator of residential and commercial solar, battery storage, and grid services solutions. Our strategy is focused on acquiring, integrating, and growing leading local and regional solar, storage, and energy services companies nationwide.

Today, we are primarily engaged in the sale, design, and installation of photovoltaic solar energy systems and battery storage systems through our Hawaii-based Hawaii Energy Connection ("HEC") and New York-based SUNation (as defined below) entities. We install systems that provide clean, reliable solar energy typically at savings relative to traditional utility offerings. Our primary customers are residential homeowners, commercial owners, municipal and institutional customers, as well as owners of pre-existing photovoltaic and energy storage systems that are in need of service.

Through our E-Gear, LLC ("E-Gear") business, we also develop, manufacture, and sell patented technologies related to edge-of-grid energy management software and related hardware technology, such as energy management control devices. These products allow homeowners to get the most out of their installed photovoltaic solar energy systems and utility grid support benefits. Our primary customers for this technology are energy services companies and other utilities.

Corporate Information

We are currently a Minnesota corporation organized in 1969 that operates directly and through our subsidiaries located in the United States ("U.S."). On October 10, 2024, we filed a definitive proxy statement pursuant to which we have scheduled a special meeting of our shareholders to be held on November 4, 2024. At this meeting, our shareholders will be voting on three proposals: a proposal to re-domesticate the Company from Minnesota to Delaware, to change our Company name to SUNation Energy, Inc. and on an adjournment proposal, should we need to postpone or adjourn this special shareholder meeting for any reason. If our re-domestication proposal is approved, then we will no longer be a Minnesota corporation, and will instead be a Delaware corporation upon the filing of a certificate of incorporation with the Secretary of State of the state of Delaware. Our second proposal involves a change to our Company's name which, if approved, will be SUNation Energy, Inc. For more information about these proposals, and other information related thereto, please see our definitive proxy statement filed with the Securities and Exchange Commission, which can be found at www.sec.gov, as well as any amendments that may be made thereto.

On March 28, 2022, we completed our previously announced merger transaction with Pineapple Energy LLC ("Pineapple Energy") in accordance with the terms of that certain Agreement and Plan of Merger dated March 1, 2021, as amended by an Amendment No. 1 to Merger Agreement dated December 16, 2021 (collectively the "merger agreement"), by and among us, Helios Merger Co., a Delaware corporation and a wholly-owned subsidiary of ours (the "Merger Sub"), Pineapple Energy LLC, a Delaware limited liability company, Lake Street Solar LLC as the Members' Representative, and Randall D. Sampson as the Shareholders' Representative, pursuant to which the Merger Sub merged with and into Pineapple Energy, with Pineapple Energy surviving the merger as a wholly-owned subsidiary of ours (the "merger"). Following the closing of the merger, we changed our name from Communications Systems, Inc. to Pineapple Holdings, Inc. and commenced doing business using the Pineapple name, and subsequently, on April 13, 2022, changed our name to Pineapple Energy Inc.

In addition, on March 28, 2022 and immediately prior to the closing of the merger, Pineapple Energy completed its acquisition of substantially all of the assets of two Hawaii-based solar energy companies, HEC and E-Gear. On November 9, 2022, we purchased the equity of New York-based SUNation Solar Systems, Inc. and five of its affiliated entities (collectively "SUNation").

Recent Developments

Minnesota Lease Termination

On October 14, 2024, the Company entered into a lease termination agreement with our Minnesota office landlord for the property located at 10900 Red Circle Drive, Minnetonka, MN 55343, pursuant to which we will pay a termination fee totaling \$189,000 to be paid at \$13,500 per month for a period of fourteen (14) months from entry into this lease termination, as well as the Company waiving its right to its original security deposit provided at entry into the original lease in the amount of \$35,434. This lease termination will result in a net cost savings to the Company of approximately \$480,000 over the course of the lease agreement.

Principal Place of Business

As part of, and consistent with, our proposed re-domestication of the Company from Minnesota to Delaware, and with the changes in executive management that have taken place over the course of the past few months, we are in the process of transitioning our principal place of business from Minnesota to our New York office location located at 171 Remington Boulevard, Ronkonkoma, NY 11779.

Reverse Stock Split

On July 19, 2024, the Company's shareholders approved a reverse stock split of the Company's common stock at a ratio within a range of 1-for-2 and 1-for-200 and granted the Company's board of directors the discretion to determine the timing and ratio of the split within such range.

On October 2, 2024, the Company's board of directors determined to effectuate the reverse stock split of the common stock at a 1-for-50 ratio (the "Reverse Stock Split") and approved an amendment ("Reverse Stock Split Amendment") to the Fourth Amended and Restated Articles of Incorporation of the Company to effectuate the Reverse Stock Split. Effective October 17, 2024, the Company amended its Fourth Amended and Restated Articles of Incorporation to implement the Reverse Stock Split. The Company's common stock began trading on a split-adjusted basis when the market opened on October 17, 2024 (the "Effective Date"). The trading symbol for the Company's common stock will remain "PEGY." The Company was assigned a new CUSIP number (72303P404) in connection with the reverse split.

As a result of the Reverse Stock Split, at 12:01 a.m. Central Time on the Effective Date, every 50 shares of common stock then issued and outstanding automatically were combined into one share of common stock, with no change in par value per share. No fractional shares were outstanding following the Reverse Stock Split, and any fractional shares that would have resulted from the Reverse Stock Split were settled in cash. The number of shares of common stock outstanding was reduced from 67,260,696 to 1,345,214. The total number of shares authorized for issuance was reduced to 2,666,667 in proportion to the Reverse Stock Split ratio.

Effective as of the same time as the Reverse Stock Split, the number of shares of common stock available for issuance under the Company's equity compensation and incentive plans, shares of common stock issuable upon exercise or vesting of equity awards, exercise of any outstanding warrants, any outstanding shares of preferred stock, SUNation inducement shares and applicable portions of convertible debt were automatically reduced in proportion to the Reverse Stock Split ratio and caused a proportionate increase in exercise price or share-based performance criteria, if any, applicable to such awards, convertible or exercisable securities.

As more fully described on our Current Report on Form 8-K, dated October 4, 2024, we received a notification from Nasdaq's Listing Qualifications Department (the "Staff") of The Nasdaq Stock Market informing us that for the 30 consecutive business days through September 30, 2024, the Company's common stock had not maintained a minimum closing bid price of \$1.00 per share required for continued listing on The Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) ("Minimum Bid Price Requirement"). Accordingly, in response to and in compliance with the October 1, 2024 Staff letter, we have filed an appeal on October 8, 2024 with the Nasdaq hearing panel, which automatically stays any suspension or delisting action pending the hearing.

In relevant part, to this end, the board of directors of the Company determined to effectuate the stockholder approved stock split (noted above) on a 1-50 ratio, which has increased our price per common share above the Minimum Bid Price Requirement in the immediate term. In the event that the Company regains compliance with the Minimum Bid Price Requirement for a sufficient period of time prior to any scheduled hearing date, then a hearing may not be necessary, as the Company may be mooted out of the hearings process altogether.

Decathlon and Hercules Loan Amendment

Effective September 20, 2024, the Company entered into a third amendment to the Loan and Security Agreement, dated as of December 11, 2020, by and between Pineapple Energy LLC as Borrower and Hercules Capital, Inc. (“Hercules”) as lender and agent (as amended, the “Loan Agreement”) with Hercules (the “Third Amendment”). Pursuant to, and subject to the terms and conditions of, the Third Amendment, Hercules waived the payment of outstanding principal due and payable on October 1, 2024 pursuant to Section 2.1(c) of the Loan Agreement, effective September 20, 2024. Notwithstanding this waiver, Pineapple Energy LLC will continue to make payment of monthly interest due and payable on October 1, 2024, and will resume making regular monthly payments of principal on November 1, 2024, in each case, pursuant to Section 2.1(c) of the Loan Agreement.

Effective September 12, 2024, Decathlon Growth Credit, LLC (as assignee of Decathlon Specialty Finance, LLC (“Decathlon”)) entered into a Second Amendment (the “Second Amendment”) with respect to the Revenue Loan and Security Agreement dated June 1, 2023 among Decathlon (as lender), the Company (as borrower), and Pineapple Energy LLC, SUNation Solar Systems, Inc., SUNation Commercial, Inc., SUNation Service, LLC, SUNation Roofing, LLC and SUNation Energy, LLC (as guarantors) (the “Decathlon Agreement”) with the Company and the guarantors. Pursuant to the Second Amendment, Decathlon consented to the Company making its monthly payment under the Decathlon Agreement that was originally due on September 15, 2024 by or before October 15, 2024, which was made on September 30, 2024, and the payment due on October 15, 2024, may be made on or by October 31, 2024.

Conduit Agreement

As previously disclosed, on July 22, 2024, Pineapple Energy Inc. (the “Company”) obtained bridge loan financing for working capital purposes from Conduit Capital U.S. Holdings LLC (“Conduit”), an unaffiliated lender. On such date, Conduit loaned the principal sum of \$500,000 to the Company on an original issue (“OID”) basis of 20% and accordingly, Conduit advanced \$400,000 to the Company (the “Initial Conduit Loan”). The Initial Conduit Loan will accrue interest on the unpaid principal amount, without deduction for the OID, at an annual rate of 20%. Commencing on October 21, 2024 through and including July 21, 2025 (the “Maturity Date”), the Company may request that Conduit provide additional advances for working capital on identical terms, conditions and interest rate as the Initial Conduit Loan on an OID basis, up to an aggregate principal sum of \$500,000, and Conduit shall have the right, without commitment or obligation to make such requested loan(s) by advancing 80% of the principal thereof. All such loans are secured by a pledge of all of the Company’s assets. The agreement was evidenced by the Secured Credit Agreement, dated July 22, 2024, between the Company and Conduit and the Secured Credit Note, dated July 22, 2024, between the Company and Conduit (the “Original Note”).

On September 9, 2024, the Company and Conduit entered into an Amended and Restated Convertible Secured Note (the “First Amended Note”) which amended the Original Note, which provides for an additional principal advance of \$120,000 (the “Second Advance”). The First Amended Note also provides that Conduit may convert all or any portion of the Second Advance and all accrued but unpaid interest thereon into a number of shares (the “Note Conversion Shares”) of the Company’s common stock, par value \$0.05 per share (the “Common Stock”), calculated as the total dollar amount to be converted divided by \$22.50 (the “Conversion Price”).

On September 23, 2024, the Company and Conduit entered into a further amended and restated convertible secured credit note (the “Second Amended Note”), which amends and restates the First Amended Note. Under the terms of the Second Amended Note, Conduit loaned an additional principal sum of \$380,000 to the Company (the “Third Advance”) on an OID basis of 20%. Additionally, pursuant to the Second Amended Note, Conduit was granted a demand registration right, which is in addition to the piggyback registration rights set forth in the First Amended Note, which registration rights are inclusive of all convertible shares issuable for the Second Advance and Third Advance, if converted; however, all out of pocket costs and expenses incurred in connection with this demand registration right shall borne by Conduit. The Third Advance, together with all accrued but unpaid interest thereon, are convertible into shares of Common Stock at the Conversion Price.

Share Exchange

On September 9, 2024, the Company entered into a Securities Exchange Agreement with the holders of the Series A Preferred Stock and Warrants to cancel and retire the Series A Preferred Stock and the Warrants in exchange for shares of Series C Convertible Preferred Stock of the Company (the “Series C Preferred Stock”), convertible at the conversion price of \$22.50 per share (post reverse split) for up to an aggregate of 1,246,262 shares (post reverse split) of Common Stock (the “Exchange”). The Series C Preferred Stock does not contain any of the price resets set forth in the Series A Preferred Stock, except in the case of stock splits, recapitalizations and similar transactions by the Company. The Exchange transaction closed on September 10, 2024.

Quarterly Financial Update

We have not finalized our financial statements for the quarter ended September 30, 2024. Based upon our current preliminary estimates and information available to us as of the date of this prospectus supplement, we expect to report that we generated net sales of approximately \$14.0-\$15.0 million for the quarter ended September 30, 2024.

In addition, we expect to report that we had net cash, cash equivalents and restricted cash of approximately \$2.2 million as of September 30, 2024.

The estimates of our net sales for the quarter ended September 30, 2024 and our cash and cash equivalents as of September 30, 2024 are preliminary and actual amounts that we report will be subject to our financial closing procedures and any final adjustments that may be made prior to the time that our financial results for the year ended September 30, 2024 are finalized and filed with the Securities and Exchange Commission. The preliminary financial information included herein has been prepared by and is the responsibility of our management. UHY LLP has not audited, reviewed, compiled, or applied agreed-upon procedures with respect to the preliminary financial information and does not express an opinion or any other form of assurance with respect thereto. As we complete our financial closing procedures and finalize our financial results for the nine-months ended September 30, 2024, we will be required to make significant judgments in a number of areas. While we are currently unaware of any items that would require us to make adjustments to the financial information set forth above, it is possible that we may identify such items and that any resulting changes could be material. Accordingly, undue reliance should not be placed on these preliminary estimates. These preliminary estimates are not necessarily indicative of any future period and should be read together with “Risk Factors, and our financial statements and related notes included elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus.

The foregoing summary of recent developments is not complete and is not intended to be comprehensive. For additional material information about the Company, our business, operations, board, management and risk factors and more, all of which are incorporated by reference into this prospectus supplement, you should carefully review our annual report on Form 10-K, our quarterly reports on Form 10-Q, our Current Reports on Form 8-K and our proxy statements filed on Form 14A, in each case as amended and supplemented. You may obtain copies of those documents as described below under the heading “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement.

THE OFFERING

Issuer	Pineapple Energy Inc.
Common Stock offered by us	Shares of our Common Stock having an aggregate offering price of up to \$10,000,000
Common Stock to be outstanding after this Offering(1)	Up to 2,555,685 shares, after giving effect to the assumed sale of 1,210,471 shares of our Common Stock, which, at a price of \$5.51 per share, which was the closing price of our Common Stock on the Nasdaq Capital Market on October 17, 2024, would be the maximum amount of shares of Common Stock available for issuance (after giving effect to the reservation of 1,456,196 shares of Common Stock for issuance pursuant to outstanding securities, debt and equity incentive and compensation plans as of October 17, 2024 (as more set forth in the table below). The actual number of shares issuable in this Offering is limited by the number of authorized shares of Common Stock under our Articles of Incorporation (2,666,667), unless and until our proposal to redomesticate to the State of Delaware is approved by our stockholders in accordance with the definitive proxy statement, dated October 10, 2024, together with the Delaware certificate of incorporation included therein; and which will also depend on the price at which shares are sold from time to time during this offering
Form of Offering	At the market offering” of our Common Stock that may be made from time to time through or to the Sales Agent, as agent or principal. See “Plan of Distribution” on page S-16 of this prospectus supplement
Nasdaq Capital Market symbol	PEGY
Use of proceeds	We currently intend to use the net proceeds from this offering under this prospectus supplement for working capital and general corporate purposes. See “Use of Proceeds” on page S-15 of this prospectus supplement.
Risk Factors	See “Risk Factors” on page S-10 and the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of certain factors you should carefully consider before deciding to invest in shares of our Common.

The number of shares of Common Stock to be outstanding after this offering, as reflected above, is based on 1,345,214 shares of Common Stock outstanding at October 17, 2024 (as adjusted for the reverse stock split which became effective on October 17, 2024) and excludes the following:

- 75,521 shares of Common Stock issuable upon conversion of Series C Convertible Preferred Stock shares outstanding at a conversion price of \$22.50 per share
- 12,719 shares of Common Stock issuable pursuant to our 2022 Equity Incentive Plan
- 400 shares of Common Stock issuable pursuant to our 2022 Employee Stock Purchase Plan
- 120 shares of Common Stock issuable pursuant to our SUNation Inducement Grants
- 22,222 shares of Common Stock issuable pursuant to conversion of existing convertible debt

Except as otherwise indicated, all information in this prospectus supplement gives effect to a 1-for-50 reverse stock split of our Common Stock, which became effective as of October 17, 2024. However, share and per share amounts in the accompanying prospectus and certain of the documents incorporated by reference herein prior to October 17, 2024, have not been adjusted to give effect to the reverse stock split.

RISK FACTORS

You should carefully consider the risks described below before making an investment decision. The risks described below are not the only ones we face, and are in addition to the risk factors set forth in our annual report on Form 10-K and in our quarterly reports on Form 10-Q. Additional risks we are not presently aware of or that we currently believe are immaterial or very preliminary may also impair our business operations, financial condition or results of operations. Our business, financial condition or results of operations could be harmed by any of these risks. The trading price of our Common Stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the risk factors and other information contained or incorporated by reference into this prospectus supplement and the accompanying prospectus, specifically including the risk factors contained in our most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as filed with the SEC, which are incorporated in this prospectus by reference in their entirety, as well as any amendment or updates to our risk factors reflected in subsequent filings with the SEC, including any free writing prospectus that we may authorize for use in connection with this offering.

Risks Related to This Offering

Management will have broad discretion as to the use of the proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our Common Stock. Our failure to apply these funds effectively could have a material adverse effect on our business and cause the price of our Common Stock to decline.

The Common Stock offered hereby will be sold in “at the market offerings,” and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

You may experience future dilution as a result of future equity offerings and other issuances of our Common Stock or other securities, including securities that are exercisable for or convertible into Common Stock. In addition, this offering and future equity offerings and other issuances of our Common Stock or other securities may adversely affect our Common Stock price.

In order to raise additional capital, we may in the future offer additional shares of our Common Stock or other securities convertible into or exchangeable for our Common Stock at prices that may not be the same as the price per share in this offering. We may not be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our Common Stock or securities convertible into Common Stock in future transactions may be higher or lower than the price per share in this offering. You will incur dilution upon exercise of any outstanding stock options, warrants or upon the issuance of shares of Common Stock under our stock incentive programs. In addition, the sale of shares in this offering and any future sales of a substantial number of shares of our Common Stock in the public market, or the perception that such sales may occur, could adversely affect the price of our Common Stock. We cannot predict the effect, if any, that market sales of those shares of Common Stock or the availability of those shares of Common Stock for sale will have on the market price of our Common Stock.

You may experience immediate and substantial dilution in the book value per share of the Common Stock you purchase.

Because the price per share of our Common Stock being offered is substantially higher than the as adjusted net tangible book value per share of our Common Stock, you may suffer immediate and substantial dilution with respect to the net tangible book value of the Common Stock you purchase in this offering. After giving effect to the sale of 1,210,471 shares of Common Stock at an assumed price of \$5.51 per share, and after deducting the estimated offering-related expenses payable by us, our as adjusted net tangible book value as of June 30, 2024 would have been approximately \$(25.1) million, or \$(18.53) per share. This amount represents an immediate increase in the adjusted net tangible book value of \$24.04 per share to investors purchasing shares of our Common Stock in this offering. See “Dilution” for a more detailed discussion of the dilution you may incur in connection with this offering.

Sales of a substantial number of our shares of Common Stock in the public market could cause our stock price to fall.

We may issue and sell additional shares of Common Stock in the public markets, including during this offering. As a result, a substantial number of shares of our Common Stock may be sold in the public market. Sales of a substantial number of shares of our Common Stock in the public markets, including during this offering, or the perception that such sales could occur, could depress the market price of our Common Stock and impair our ability to raise capital through the sale of additional equity securities.

An active trading market for our Common Stock may not be sustained.

Although our Common Stock is listed on The Nasdaq Capital Market, the market for our Common Stock has demonstrated varying levels of trading activity. Furthermore, the current level of trading may not be sustained in the future. The lack of an active market for our Common Stock may impair investors' ability to sell their shares at the time they wish to sell them or at a price that they consider reasonable, may reduce the fair market value of their shares and may impair our ability to raise capital to continue to fund operations by selling shares and may impair our ability to acquire additional intellectual property assets by using our shares as consideration.

The exercise of our outstanding options, warrants and settlement of our outstanding convertible notes will dilute stockholders and could decrease our stock price.

The exercise of our outstanding options, warrants and the settlement of our outstanding convertible notes may adversely affect our stock price due to sales of a large number of shares or the perception that such sales could occur. These factors also could make it more difficult to raise funds through future offerings of our securities, and could adversely impact the terms under which we could obtain additional equity capital. Exercise of outstanding options, warrants and the settlement of our outstanding convertible notes or any future issuance of additional shares of Common Stock or other equity securities, including but not limited to options, warrants, restricted stock units or other derivative securities convertible into our Common Stock, may result in significant dilution to our stockholders and may decrease our stock price.

The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a sales notice to the Sales Agent at any time throughout the term of the Sales Agreement. The number of shares that are sold by the Sales Agent after delivery of a sales notice will fluctuate based on the market price of the Common Stock during the sales period and limits we set with the Sales Agent. Because the price per share of each share sold will fluctuate based on the market price of our Common Stock during the sales period, it is not possible at this stage to predict the number of shares that will ultimately be issued. In addition, dependent upon our per share stock price, we may not have a sufficient number of authorized shares to sell up to the maximum dollar amount under the Sales Agreement. If this were to occur, we may be faced with limited options to finance certain operations, to pay debt or expand operations or acquire entities in roll-up transactions involving our equity.

Our stock price may be subject to substantial volatility, and stockholders may lose all or a substantial part of their investment.

Our Common Stock currently trades on The Nasdaq Capital Market. There is limited public float, and trading volume historically has been low and sporadic. As a result, the market price for our Common Stock may not necessarily be a reliable indicator of our fair market value. The price at which our Common Stock trades may fluctuate as a result of a number of factors, including the number of shares available for sale in the market, quarterly variations in our operating results, actual or anticipated announcements of new releases by us or competitors, the gain or loss of significant customers, changes in the estimates of our operating performance, market conditions in our industry and the economy as a whole.

Because we do not anticipate paying any cash dividends on our Common Stock in the foreseeable future, capital appreciation, if any, will be your sole source of gain.

We have never paid or declared any cash dividends on our Common Stock. We currently intend to retain earnings, if any, to finance the growth and development of our business and we do not anticipate paying any cash dividends in the foreseeable future. As a result, only appreciation of the price of our Common Stock will provide a return to our stockholders.

Our failure to maintain compliance with the Nasdaq Stock Market's continued listing requirements could result in the delisting of our common stock.

Our common stock is currently listed on The Nasdaq Capital Market. In order to maintain this listing, we must satisfy minimum financial and other requirements. On October 1, 2024, we received a letter (the "Minimum Bid Price Deficiency Letter") from the Listing Qualifications Department (the "Staff") of The Nasdaq Stock Market ("Nasdaq") notifying the Company that, for the 30 consecutive business day period from August 16 through September 30, 2024, the Company's common stock had not maintained a minimum closing bid price of \$1.00 per share (the "Minimum Bid Price Requirement") required for continued listing on The Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2).

Pursuant to the previously disclosed Nasdaq hearing panel decision, dated July 18, 2024, the Company was subject to a mandatory panel monitor (“Panel”) under Nasdaq’s listing Rule 5815(d)(4)(B) for a period of one year. Accordingly, due to the most recent minimum bid price deficiency, the Staff notified the Company that it will not be afforded a 180-day cure period (as we had received for our prior minimum bid price deficiency). Instead, the Company was offered an opportunity to appeal any deficiency related to a delisting determination to Nasdaq by or before October 8, 2024, which appeal we timely filed on October 8, 2024.

The hearing request automatically stays any suspension or delisting action pending the hearing and the expiration of any additional extension period if granted by the Panel following the hearing. In the event that the Company regains compliance with the Minimum Bid Price Requirement prior to any scheduled hearing date, then a hearing may not be necessary, as the Company may be mooted out of the hearings process.

To this end, the stockholders of the Company had approved a share consolidation on July 19, 2024, pursuant to which the board of directors of the Company has effectuated a 1-50 reverse stock split on October 17, 2024 in relevant part to resolve the above noted Nasdaq listing compliance deficiency prior to such hearing date. There can be no assurance that the Panel will grant the Company an additional extension period or that the Company will ultimately regain compliance with all applicable requirements for continued listing on The Nasdaq Capital Market.

The perception among investors that we are at a heightened risk of delisting could negatively affect the market price and trading volume of our common stock. If our common stock is delisted from Nasdaq, the delisting could: substantially decrease trading in our common stock; adversely affect the market liquidity of our common stock as a result of the loss of market efficiencies associated with Nasdaq and the loss of federal preemption of state securities laws; adversely affect our ability to issue additional securities or obtain additional financing in the future on acceptable terms, if at all; result in the potential loss of confidence by investors, suppliers, partners and employees and fewer business development opportunities; and result in limited analyst interest. Additionally, the market price of our common stock may decline further, and shareholders may lose some or all of their investment.

Changes in our business strategy or restructuring of our businesses may increase our costs or otherwise affect our businesses.

We continually review our operations with a view toward reducing our cost structure, including, but not limited to, reducing our labor cost-to-revenue ratio, improving process and system efficiencies and increasing our revenues and operating margins. Despite these efforts, we have needed and may continue to need to adjust our business strategies to meet these changes, or we may otherwise find it necessary to restructure our operations or particular businesses or assets. When these changes or events occur, we may incur costs to change our business strategy and may need to write down the value of assets or sell certain assets. Additionally, any of these events could result in disruptions or adversely impact our relationships with our workforce, suppliers and customers. In any of these events our costs may increase, and we may have significant charges or losses associated with the write-down or divestiture of assets and our business may be materially and adversely affected.

We may not fully realize the anticipated benefits from our restructuring efforts.

In regard to our realigned strategy and exploration of strategic alternatives, we may not achieve the expected benefits of such activities. Our ability to achieve the anticipated cost savings and other benefits from our restructuring, or other efforts within expected time frames is subject to many estimates and assumptions, and may vary materially based on factors such as market conditions and the effect of our efforts on our work force. These estimates and assumptions are subject to significant economic, competitive and other uncertainties, some of which are beyond our control. There can be no assurance that we will fully realize the anticipated positive impacts to our operations, liquidity or future financial results from our current or future efforts. If our estimates and assumptions are incorrect or if other unforeseen events occur, we may not achieve the cost savings expected from such strategic alternative efforts, and our business and results of operations could be adversely affected.

We have significant obligations under payables and debt obligations and other contracts. Our ability to operate as a going concern are contingent upon successfully obtaining additional financing and/or renegotiating terms of selected existing indebtedness in the near future. Failure to do so could adversely affect our ability to continue or successfully grow our operations.

If capital is not available or we are not able to agree on reasonable terms with our lenders or creditors, we may then need to scale back or postpone our organic growth plans, reduce expenses, and/or curtail future acquisition plans to manage our liquidity and capital resources. From time to time, we receive claims for significant monetary damages, penalties, or seeking additional securities. Such claims, if material, and if accurate, can place significant pressure on our financials, cashflow, operations and place a strain on management's time and focus, each of which could result in a material adverse event in relation to our operations and future prospects. Additionally, as a result of certain prior securities offerings involving convertible or exercisable securities containing anti-dilution provisions that provided for significant per share price reset features, causing more shares to be issued than initially anticipated, we have faced periods of time where we were ultimately required to seek shareholder approval to increase our authorized share capital, in large measure to satisfy the conversion, exercise, exchange or delivery of such shares, which is a time consuming and costly approval processes. While we have ultimately satisfied our delivery obligations, including the issuance of shares under these securities, failing to satisfy or timely satisfy such contractual obligations could lead to material financial claims, and if proven accurate, could subject us to substantial financial penalties and damages, potentially materially impacting the Company's financial stability, interrupt operations and cause reputational harm. For example, we have informally received a financial claim alleging liquidated damages, which we have begun to investigate. If such preliminary claim is ultimately found accurate or substantial, we may not be able to timely pay, finance, refinance or otherwise extend or repay our past, current or future obligations if and as they arise, which could materially impact our ability to continue to operate as a going concern.

We need to obtain substantial additional financing arrangements to provide working capital and growth capital. If financing is not available to us on acceptable terms when needed, our ability to continue to fund our operations and grow our business would be materially adversely impacted.

Distributed solar power is a capital-intensive business that relies heavily on the availability of debt and equity financing sources to fund solar energy system purchase, design, engineering and other capital and operational expenditures. Our future success depends in part on our ability to raise capital from third-party investors and commercial sources, such as banks and other lenders, on competitive terms to help finance the deployment of our solar energy systems. We seek to minimize our cost of capital in order to improve profitability and maintain the price competitiveness of the electricity produced by the payments for and the cost of our solar energy systems. We rely on access to capital, including through equity financing, convertible notes, revenue loans and other forms of debt facilities, asset-backed securities and loan-backed securities, to cover the costs related to bringing our solar energy systems in service.

To meet the capital and liquidity needs of our business, we will need to obtain additional debt or equity financing from current and new investors. We have limited cash resources with which to operate our business and we may have difficulty in accessing financing on a timely basis or at all. The contract terms in certain of our existing investment and securities documents contain various conditions, penalty and liquidated damages clauses. If we are not able to satisfy such conditions due to events related to our business, a specific investment fund, developments in our industry, including tax or regulatory changes, or otherwise, and as a result, we are unable to draw on existing funding commitments or raise capital through equity, equity derivative or debt instruments, we could experience a material adverse effect on our business, liquidity, financial condition, results of operations and prospects. Any delays in accessing financing could have an adverse effect on our ability to pay our operational expenses, make capital expenditures, repay loans and fund other general corporate purposes. Further, our flexibility in planning for and reacting to changes in our business may be limited and our vulnerability to adverse changes in general economic, industry, regulatory and competitive conditions may be increased.

If any of our current debt or equity investors decide not to invest in us in the future for any reason or decide to invest at levels inadequate to support our anticipated needs or materially change the terms under which they are willing to provide future financing, we will need to identify new investors and financial institutions to provide financing and negotiate new financing terms. In addition, our ability to obtain additional financing through the asset-backed securities market, loan-backed securities market or other secured debt markets is subject to our having sufficient assets eligible for securitization as well as our ability to obtain appropriate credit ratings. If we are unable to raise additional capital in a timely manner, our ability to meet our capital needs and fund future growth and profitability may be limited.

Delays in obtaining financing could cause delays in expansion in existing markets or entering into new markets and hiring additional personnel. Any future delays in capital raising could similarly cause us to delay deployment of a substantial number of solar energy systems for which we have signed solar service agreements with customers. Our future ability to obtain additional financing depends on banks' and other financing sources' continued confidence in our business model and the renewable energy industry as a whole. It could also be impacted by the liquidity needs of such financing sources themselves. We face intense competition from a variety of other companies, technologies and financing structures for such limited investment capital. If we are unable to continue to offer a competitive investment profile, we may lose access to these funds or they may only be available to us on terms less favorable than those received by our competitors. Any inability to secure financing could lead us to cancel planned installations, impair our ability to accept new customers or increase our borrowing costs, any of which could have a material adverse effect on our business, financial condition and results of operations.

Litigation brought by third parties claiming breach of contract, contractual defaults or other claims for may be costly and time consuming.

Although we may, from time to time, be involved in litigation and government proceedings, as well as contractual financial claims arising in the course of business, we are not a party to any litigation or governmental or other proceeding that we believe will have a material adverse impact on our financial position, results of operations or liquidity. These claims have in the past, and may in the future, arise from a wide variety of business practices and initiatives, including current or new product releases, significant business transactions, securities offerings, convertible notes, warrants, loans, warranty or product claims, employment practices, and regulation, among other matters. Adverse outcomes in some or all of these claims may result in significant monetary damages or injunctive relief that could adversely affect our ability to conduct our business. Litigation threatened litigation and other claims are subject to inherent uncertainties and management's view of these matters may change in the future. A material adverse impact in our consolidated financial statements could occur for the period in which the effect of an unfavorable outcome becomes probable and reasonably estimable.

If we become involved in material litigation or a significant number of litigations, we may incur substantial expense defending these claims and the proceedings may divert the attention of management, even if we prevail. An adverse outcome could have a material adverse impact on our business, including causing us to seek protection under the bankruptcy laws, forcing us to reduce or discontinue our operations entirely, subject us to significant liabilities, allow our competitors to market competitive products without a license from us, prohibit us from marketing our products or require us to seek licenses from third parties that may not be available on commercially reasonable terms, if at all. If a judgment is entered against us, and we are unable to satisfy the judgment, a plaintiff may attempt to levy on our assets. We may be forced to sell material assets to satisfy such judgment, which may, in turn, force us to reduce or discontinue our operations.

USE OF PROCEEDS

We may issue and sell shares of our Common Stock having an aggregate gross offering price of up to \$10,000,000 from time to time using this prospectus supplement. The amount of proceeds we will receive from this offering, if any, will depend upon the number of shares of Common Stock sold and the market price at which they are sold. Because there is no minimum offering amount required as a condition to this offering, the actual total offering amount, commissions and proceeds to us, if any, are not determinable at this time. There can be no assurance that we will be able to sell any shares under or fully utilize the Sales Agreement with the Sales Agent.

We currently intend to use the net proceeds from the sale of the securities offered under this prospectus supplement for working capital and general corporate purposes. Although we may use a portion of the net proceeds of this offering for the acquisition or licensing, as the case may be, of additional technologies, other assets or businesses, to repay certain debt obligations, if triggered, or for other strategic investments or opportunities, we have no current understandings, agreements or commitments to do so.

Our management will have broad discretion in the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not positively impact our results of operations or increase the market value of our Common Stock. Pending any use, as described above, we plan to deposit the net proceeds in money market or similar interest-bearing accounts with our primary bank or otherwise invest the net proceeds in high-quality, short-term, interest-bearing securities.

DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the public offering price per share and the as adjusted net tangible book value per share after this offering. The net tangible book value of our common stock on June 30, 2024, was approximately \$(29.4) million, or approximately \$(202.88) per share of common stock on a post 1-for-50 reverse stock split adjusted basis. We calculate net tangible book value per share by dividing the net tangible book value, which is tangible assets less total liabilities, by the number of outstanding shares of our common stock. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the as adjusted net tangible book value per share of our common stock immediately after this offering.

After giving effect to an assumed sale of 544,465 shares of our common stock pursuant to this prospectus supplement and the accompanying prospectus in the aggregate amount of approximately \$3 million at an assumed price of \$5.51 per share, and after deducting commissions and estimated offering expenses payable by us (estimated at \$300,000), our as adjusted net tangible book value as of June 30, 2024 would have been approximately \$(26.7) million, or approximately \$(38.72) per share on a post 1-for-50 reverse stock split adjusted basis. This represents an immediate increase in net tangible book value of approximately \$164.16 per share of common stock to our existing stockholders and an immediate dilution in net tangible book value of approximately \$44.23 per share to purchasers of our common stock in this offering, as illustrated by the following table:

Assumed Public offering price per share			\$5.51
Historical net tangible book value per share as of June 30, 2024		\$(202.88)	
Increase in net tangible book value per share after giving effect to this offering		\$164.16	
As adjusted net tangible book value per share after this offering			\$(38.72)
Dilution per share to new investors in this offering			\$44.23

Based on 144,865 shares of common stock outstanding as of June 30, 2024. This information is supplied for illustrative purposes only, and will adjust based on the actual offering prices, the actual number of shares that we offer and sell in this offering and other terms of each sale of shares in this offering.

Except as otherwise indicated, all information in this Dilution section gives effect to the Company's 1-for-50 reverse stock split of its Common Stock, which became effective as of October 17, 2024.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our Board of Directors, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions, and other factors that our Board of Directors may deem relevant. In addition, the terms of our revolving credit facility place certain limitations on the amount of cash dividends we can pay, even if no amounts are currently outstanding.

PLAN OF DISTRIBUTION

We previously entered into the Sales Agreement with Roth Capital Partners, LLC, under which we may issue and sell shares of our Common Stock having an aggregate offering price of up to \$10,000,000 from time to time through or to the Sales Agent, as agent or principal.

The Sales Agreement provides that sales of our Common Stock, if any, under this prospectus supplement may be made in sales deemed to be "at the market offerings" as defined in Rule 415(a)(4) promulgated under the Securities Act.

The Sales Agent will offer shares of our Common Stock at prevailing market prices subject to the terms and conditions of the Sales Agreement as agreed upon by us and the Sales Agent. We will designate the number of shares which we desire to sell, the time period during which sales are requested to be made, any limitation on the number of shares that may be sold in one day and any minimum price below which sales may not be made. Subject to the terms and conditions of the Sales Agreement, the Sales Agent will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable laws and regulations to sell on our behalf all of the shares requested to be sold by us. We or the Sales Agent may suspend the offering of the shares of Common Stock being made through the Sales Agent under the Sales Agreement at any time upon proper notice to the other party.

Settlement for sales of Common Stock will occur on the first trading day, or any such shorter settlement cycle as may be in effect under Exchange Act Rule 15c6-1 from time to time, following the date on which any sales are made, or on some other date that is agreed upon by us and the Sales Agent in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of shares of our Common Stock as contemplated in this prospectus supplement and the accompanying base prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and the Sales Agent may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay the Sales Agent a commission in an amount up to 3.0% of the gross sales price of the shares of our Common Stock that the Sales Agent sells pursuant to the Sales Agreement. Because there is no minimum offering amount required as a condition to this offering, the actual total offering amount, commissions and proceeds to us, if any, are not determinable at this time. Pursuant to the terms of the Sales Agreement, we agreed to reimburse the Sales Agent for the documented fees and costs of its legal counsel reasonably incurred in connection with entering into the transactions contemplated by the Sales Agreement in an amount not to exceed \$50,000 in the aggregate. We will report at least quarterly the number of shares of our Common Stock sold through the Sales Agent under the Sales Agreement, the net proceeds to us and the compensation paid by us to the Sales Agent in connection with the sales of shares of our Common Stock.

In connection with the sales of shares of our Common Stock on our behalf, the Sales Agent will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation paid to the Sales Agent will be deemed to be underwriting commissions or discounts. We have agreed in the Sales Agreement to provide indemnification and contribution to the Sales Agent with respect to certain liabilities, including liabilities under the Securities Act.

The offering of shares of our Common Stock pursuant to this prospectus supplement will terminate upon the earlier of the sale of all of the shares of our Common Stock provided for in this prospectus supplement or termination of the Sales Agreement as permitted therein.

To the extent required by Regulation M, the Sales Agent will not engage in any market making activities involving our Common Stock while the offering is ongoing under this prospectus supplement.

The Sales Agent and certain of its affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. The Sales Agent and its affiliates may in the future receive customary fees and expenses for these transactions. In addition, in the ordinary course of its various business activities, the Sales Agent and its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans) for its own account and for the accounts of its customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The Sales Agent or its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

This prospectus supplement and the accompanying base prospectus may be made available in electronic format on a website maintained by the Sales Agent, and the Sales Agent may distribute this prospectus supplement and the accompanying base prospectus electronically.

The foregoing does not purport to be a complete statement of the terms and conditions of the Sales Agreement. A copy of the Sales Agreement is included as an exhibit to our Current Report on Form 8-K, filed with the SEC on October 21, 2024, which is incorporated by reference herein.

LEGAL MATTERS

The validity of the securities offered hereby will be passed upon for us by Rimon P.C. Certain legal matters with respect to this offering will be passed upon for the Sales Agent by Ellenoff Grossman & Schole LLP, New York, New York.

EXPERTS

The consolidated balance sheets of the Company and its subsidiaries as of December 31, 2023 and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for the year then ended have been audited by UHY LLP, independent registered public accounting firm, as stated in their report which is incorporated herein, which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern. Such financial statements are incorporated herein in reliance on the report of such firm given upon their authority as experts in accounting and auditing. The consolidated balance sheets of the Company and its subsidiaries as of December 31, 2022 and the related consolidated statements of operations and comprehensive loss, stockholders' equity, and cash flows for the year then ended have been audited by Baker Tilly US, LLP, independent registered public accounting firm, as stated in their report which is incorporated herein. Such financial statements are incorporated herein in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information and periodic reporting requirements of the Exchange Act, and we file annual, quarterly, and current reports, proxy statements and other information with the SEC. We also filed a registration statement on Form S-3, including exhibits, under the Securities Act with respect to the shares of Common Stock offered by this prospectus supplement. This prospectus supplement and the accompanying prospectus are a part of the registration statement, but do not contain all of the information included in the registration statement or the exhibits. The SEC maintains a web site, www.sec.gov, that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. You may review the registration statement and any other document we file on the SEC's web site. Our SEC filings are also available to the public on our website, <https://pineappleenergy.com/>. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus supplement. You may also request a copy of these filings, at no cost, by writing us at 171 Remington Boulevard, Ronkonkoma, NY 11779, Attention: Corporate Secretary.

We are "incorporating by reference" specified documents that we file with the SEC, which means:

- incorporated documents are considered part of this prospectus supplement;
- we are disclosing important information to you by referring you to those documents; and
- information that we file with the SEC will automatically update and supersede information contained in this prospectus supplement.

We incorporate by reference into this prospectus supplement the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of filing of the registration statement of which this prospectus supplement is a part and prior to the effectiveness of such registration statement, and (ii) on or after the date of this prospectus supplement until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus supplement is a part has been withdrawn:

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference the information and reports we file with it, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus supplement. We are incorporating by reference the documents listed below, which we have already filed with the SEC:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on [April 1, 2024](#), as amended on Form 10-K/A, filed with the SEC on [April 29, 2024](#)
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2024, filed with the SEC on [May 10, 2024](#), and June 30, 2024, filed with the SEC on [August 19, 2023](#)
- our Current Reports on Form 8-K, filed with the SEC on [April 15, 2024](#), [April 22, 2024](#), [May 17, 2024](#), [May 22, 2024](#), [May 22, 2024](#), [May 23, 2024](#), [June 3, 2024](#), [June 17, 2024](#), [July 1, 2024](#), [July 8, 2024](#), [July 25, 2024](#), [July 26, 2024](#), [August 23, 2024](#), [September 4, 2024](#), [September 9, 2024](#), [September 26, 2024](#), [October 4, 2024](#), [October 17, 2024](#) and [October 21, 2024](#) (other than any portions thereof deemed furnished and not filed)
- our definitive proxy statement on Schedule 14A filed with the SEC on [March 6, 2024](#), as amended on [March 29, 2024](#) and [April 8, 2024](#); definitive proxy statement on Schedule 14A filed with the SEC on [May 29, 2024](#), as amended on [June 12, 2024](#), [June 13, 2024](#), [June 13, 2024](#), [June 24, 2024](#), [June 25, 2024](#), [July 8, 2024](#) and [July 9, 2024](#); and definitive proxy statement on Schedule 14A filed with the SEC on [October 10, 2024](#), as amended on [October 18, 2024](#)
- the description of our Common Stock contained in our Form 8-A filed with the SEC on [December 30, 2009](#)

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of the offering (excluding any information furnished rather than filed) shall be deemed to be incorporated by reference into this prospectus supplement.

Notwithstanding the statements in the preceding paragraphs, no document, report or exhibit (or portion of any of the foregoing) or any other information, including any exhibits under Item 9.01, that we have “furnished” to the SEC pursuant to the Exchange Act shall be incorporated by reference into this prospectus.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference in this prospectus, including exhibits to these documents. You should direct any requests for documents to:

Pineapple Energy Inc.
171 Remington Blvd.
Ronkonkoma, NY 11779
Attention: Corporate Secretary
Telephone (631) 750 9454

You also may access these filings on our website at <https://pineappleenergy.com/>. We do not incorporate the information on our website into this prospectus or any supplement to this prospectus and you should not consider any information on, or that can be accessed through, our website as part of this prospectus or any supplement to this prospectus (other than those filings with the SEC that we specifically incorporate by reference into this prospectus or any supplement to this prospectus).

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus will be deemed modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus modifies, supersedes or replaces such statement.



Pineapple Energy Inc.

\$100,000,000

Preferred Stock

Common Stock

Debt Securities

Stock Purchase Contracts

Warrants

Rights

Units

9,411,744 Shares of Common Stock

Offered by the Selling Stockholders

We may offer and sell, from time to time in one or more offerings, up to \$100,000,000 in the aggregate of preferred stock, common stock, debt securities, stock purchase contracts, warrants, rights and units, in any combination. In addition, the selling stockholders may offer and sell, from time to time, up to an aggregate of 9,411,744 shares of common stock under this prospectus. We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders.

On September 15, 2021, we entered into an Amended and Restated Securities Purchase Agreement (the "securities purchase agreement") with the selling stockholders for a private placement of our Series A convertible preferred stock and common stock warrants. The number of shares of common stock offered for sale by the selling stockholders consists of 200% of the 2,352,936 shares of our common stock that may be issued upon conversion, at an initial conversion price of \$13.60 per share, of the Series A convertible preferred stock issued under the securities purchase agreement and 200% of the 2,352,936 shares of our common stock that may be issued, at an initial exercise price of \$13.60 per share, upon the exercise of warrants issued under the securities purchase agreement.

This prospectus provides you with a general description of the securities that may be offered. Each time either we or any of the selling stockholders offer and sell securities using this prospectus, we will provide a supplement to this prospectus that contains specific information about the offering, as well as the amounts, prices and terms of the securities. The supplement may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus and the applicable prospectus supplement before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers and agents, or directly to purchasers, or through a combination of these methods. In addition, the selling stockholders may offer and sell shares of our common stock from time to time, together or separately. If any underwriters, dealers or agents are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections of this prospectus entitled "About this Prospectus" and "Plan of Distribution" for more information. This prospectus may not be used to offer and sell our securities unless accompanied by a prospectus supplement describing the method and terms of the offering of such securities.

Investing in our securities involves risks. See “Risk Factors” beginning on page 5 of this prospectus and any similar section contained in the applicable prospectus supplement concerning factors you should consider before investing in our securities.

Our common stock is listed on the Nasdaq Capital Market under the symbol “PEGY.” On August 24, 2022 the last reported sale price of our common stock on the Nasdaq Capital Market was \$3.31 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is September 2, 2022.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, using a “shelf” registration process. By using a shelf registration statement, we may sell securities described in this prospectus from time to time and in one or more offerings up to a total dollar amount of \$100,000,000, and the selling stockholders may from time to time in one or more offerings sell up to 9,411,744 shares of our common stock.

Each time that we offer and sell securities using this prospectus, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement, provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date - for example, a document incorporated by reference in this prospectus or any prospectus supplement - the statement in the later- dated document modifies or supersedes the earlier statement.

The rules of the SEC allow us to incorporate by reference information into this prospectus. This information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC, to the extent incorporated by reference, will automatically update and supersede this information. See “Incorporation of Certain Information by Reference” on page 7 of this prospectus. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading “Where You Can Find More Information” on page 7 of this prospectus.

Neither we, nor the selling stockholders, have authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We and the selling stockholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, certain market and industry data obtained from independent market research, industry publications and surveys, governmental agencies and publicly available information. Industry surveys, publications and forecasts generally state that the information contained therein has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We believe the data from such third-party sources to be reliable. However, we have not independently verified any of such data and cannot guarantee its accuracy or completeness. Similarly, internal market research and industry forecasts, which we believe to be reliable based upon our management's knowledge of the market and the industry, have not been verified by any independent sources. While we are not aware of any misstatements regarding the market or industry data presented herein, our estimates involve risks and uncertainties and are subject to change based on various factors.

References in this prospectus to "Pineapple", "we", "our", "us" and the "Company" refer to Pineapple Energy Inc., a Minnesota corporation, and its subsidiaries.

PROSPECTUS SUMMARY

This summary highlights certain information about us and selected information contained elsewhere in or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding to invest in our common stock. For a more complete understanding of our company, we encourage you to read and consider carefully the more detailed information in this prospectus, including the information incorporated by reference in this prospectus, and the information under the heading "Risk Factors" in this prospectus, beginning on page 5, before making an investment decision.

Our Company

Overview

We are a growing domestic operator and consolidator of residential solar, battery storage, and grid service solutions. Our focus is acquiring and growing leading local and regional solar, storage and energy service companies nationwide. Through our HEC business, we also operate as a recognized solar integrator, dedicated to providing affordable energy solutions in Hawaii with our offerings of solar panels, communication filters, web monitoring systems, batteries, water heating systems, and other related products that help residential and commercial users reduce electric costs and earn tax credits related to installing renewable energy systems. Our E-Gear business is a renewable energy innovator that offers proprietary patented and patent pending edge-of-grid energy management and storage solutions that offer intelligent and real-time adaptive control, flexibility, visibility, predictability and support to energy consumers, energy service companies, and utilities.

Our Corporate Information

Our principal offices are located at 10900 Red Circle Drive Minnetonka, MN 55343 and the telephone number at that location is (952) 996-1674. Our website address is www.pineappleenergy.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider information contained on our website as part of this prospectus or part of any prospectus supplement.

The names "Pineapple Energy," "Sungevity," "Horizon Solar Power," "Hawaii Energy Connection" and "E Gear" and our logos are our material trademarks. All other trademarks and trade names appearing in this prospectus are the property of their respective owners.

Securities that may be Offered

Issuer	Pineapple Energy Inc.
Securities Offered	<p>We may offer up to \$100,000,000 of:</p> <ul style="list-style-type: none">• common stock;• preferred stock;• debt securities;• stock purchase contracts;• warrants;• rights; and• units. <p>We may also offer securities of the types listed above that are convertible or exchangeable into one or more of the securities listed above.</p> <p>In addition, the selling stockholders may offer and sell, from time to time, up to an aggregate of 9,411,744 shares of common stock under this prospectus. The number of shares of common stock offered for sale by the selling stockholders consists of (1) 200% of the 2,352,936 shares of our common stock that may be issued upon conversion, at an initial conversion price of \$13.60 per share, of the Series A convertible preferred stock issued under the securities purchase agreement and (2) 200% of the 2,352,936 shares of our common stock that may be issued, at an initial exercise price of \$13.60 per share, upon the exercise of warrants issued under the securities purchase agreement.</p>
Use of Proceeds	<p>We intend to use the net proceeds from the sale of any securities offered by us for general corporate purposes unless otherwise indicated in the applicable prospectus supplement.</p> <p>We will not receive any of the proceeds from the sale of shares of our common stock by the selling stockholders.</p>
Risk Factors	<p>Investing in our common stock involves a high degree of risk. See “Risk Factors” beginning on page 5 of this prospectus, and any other risk factors described in a prospectus supplement and in the documents incorporated herein and therein by reference, for a discussion of certain factors that you should carefully consider before deciding to invest in our common stock.</p>
Nasdaq Capital Market Symbol	PEGY

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves a high degree of risk. You should carefully consider the risk factors included in, or incorporated by reference into, this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement before acquiring any of such securities. Additional risks and uncertainties not presently known to us or that are currently not believed to be significant to our business may also affect our actual results and could harm our business, financial condition and results of operations. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

Risks Related to This Offering and Our Common Stock

The market price for our common stock has experienced significant price and volume volatility and is likely to continue to experience significant volatility in the future, which may cause the value of any investment in our common stock to decline.

Our stock price and the stock prices of companies similar to us have been highly volatile. In addition, stock markets generally have recently experienced volatility. Our stock price has experienced significant price and volume volatility, and our stock price is likely to experience significant volatility in the future. On January 3, 2022 (the first trading day of 2022), March 25, 2022 (the trading day prior to the closing of the merger of Commercial Systems, Inc. and Pineapple Energy LLC) and August 24, 2022, the last reported sale price for our common stock on the Nasdaq Capital Market was \$9.80, \$8.89 and \$3.31 per share, respectively. The price of our common stock may decline and the value of any investment in our common stock may be reduced regardless of our performance. Further, the daily trading volume of our common stock has historically been relatively low. As a result of the low volume, our shareholders may be unable to sell significant quantities of common stock in the public trading markets without a significant reduction in the price of our common shares. The trading price of our common stock may be influenced by factors beyond our control, such as the volatility of the financial markets in general, including in reaction to the ongoing COVID-19 pandemic, uncertainty surrounding the U.S. economy, conditions and trends in the markets we serve, changes in the estimation of the future size and growth rate of our markets, publication of research reports and recommendations by financial analysts relating to our business, the business of our competitors or the retail industry, changes in market valuation or earnings of our competitors or other small capitalization companies, sales of our common stock by our principal shareholders, and the trading volume of our common stock. The historical market prices of our common stock may not be indicative of future market prices and we may be unable to sustain or increase the value of our common stock. Further, we have historically used equity incentive compensation as part of our overall compensation arrangements. The effectiveness of equity incentive compensation in retaining key employees may be adversely impacted by volatility in our stock price. Significant declines in our stock price may also interfere with our ability, if needed, to raise additional funds through equity financing or to finance strategic transactions with our stock.

Any inability or perceived inability of investors to realize a gain on an investment in our common stock could have an adverse effect on our business, financial condition and results of operations by potentially limiting our ability to attract and retain qualified employees and to raise capital. In addition, there may be increased risk of securities litigation following periods of fluctuations in our stock price. Securities class action lawsuits are often brought against companies after periods of volatility in the market price of their securities. These and other consequences of volatility in our stock price which could be exacerbated by macroeconomic conditions that affect the market generally, or our industries in particular, could have the effect of diverting management's attention and could materially harm our business.

Management will have broad discretion as to the use of the proceeds from an offering, and we may not use the proceeds effectively.

You will be relying on the judgment of our management with regard to the use of net proceeds from an offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. Our management will have broad discretion in the application of the net proceeds from an offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business and cause the price of our common stock to decline.

You may experience dilution as a result of this or future offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing our shares or other securities in the future could have rights superior to existing shareholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

Resales of our common stock in the public market during an offering by our stockholders may cause the market price of our common stock to fall.

We may issue common or preferred stock from time to time in connection with an offering. This issuance from time to time of these new shares, or our ability to issue these shares in this offering, could result in resales of our by our current stockholders concerned about the potential dilution of their holdings. In turn, these resales could have the effect of depressing the market price for our common stock.

We are not currently paying dividends and will likely continue not paying cash dividends on our common stock for the foreseeable future.

We have never paid cash dividends on our common stock and do not anticipate paying any cash dividends on our common stock for the foreseeable future. Investors should not rely on an investment in us if they require income generated from dividends paid on our capital stock. Any income derived from our common stock may only come from a rise in the market price of our common stock, which is uncertain and unpredictable.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the information reporting requirements of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and, in accordance with these requirements, we are required to file periodic reports and other information with the SEC. The SEC maintains an Internet website at www.sec.gov that contains our filed reports, proxy and information statements, and other information we file electronically with the SEC.

Additionally, we make our SEC filings available, free of charge, on our website at www.pineappleenergy.com as soon as reasonably practicable after we electronically file such materials with, or furnish them to, the SEC. The information on our website, other than the filings incorporated by reference in this prospectus, is not, and should not be, considered part of this prospectus, is not incorporated by reference into this document, and should not be relied upon in connection with making any investment decision with respect to the securities.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We “incorporate by reference” into this prospectus certain information we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. Some information contained in this prospectus updates the information incorporated by reference, and information that we file subsequently with the SEC will automatically update this prospectus as well as our other filings with the SEC. In other words, in the case of a conflict or inconsistency between information set forth in this prospectus and information incorporated by reference into this prospectus, you should rely on the information contained in the document that was filed later. We incorporate by reference the documents listed below and any filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (i) following the date of the registration statement that contains this prospectus but prior to the effectiveness of such registration statement or (ii) after the date of this prospectus and prior to the time that all the securities offered by this prospectus are sold (in each case, other than any portions of any such documents that are not deemed “filed” under the Exchange Act in accordance with the Exchange Act and applicable SEC rules):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2021, filed with the SEC on March 14, 2022;
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended [March 31, 2022](#) and [June 30, 2022](#);
- our [prospectus](#), dated February 3, 2022, filed with the SEC on February 3, 2022 pursuant to Rule 424(b) under the Securities Act, relating to our registration statement on Form S-4, as amended (File No. 333-260999);
- our Current Reports on Form 8-K (other than portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits accompanying such reports that are related to such items) filed with the SEC on [January 4, 2022](#), [February 9, 2022](#), [February 15, 2022](#), [February 16, 2022](#), [February 28, 2022](#), [March 16, 2022](#), [March 18, 2022](#), [March 23, 2022](#), [March 25, 2022](#), [March 29, 2022](#), [April 13, 2022](#), [April 28, 2022](#), [May 19, 2022](#), [June 8, 2022](#) and [June 15, 2022](#); and

- the description of our common stock contained in our registration statement on [Form 8-A](#), which was filed with the SEC on January 24, 2003, including any amendment or report filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents. You may request a copy of these filings, other than an exhibit to a filing unless that exhibit is specifically incorporated by reference into that filing, at no cost, by writing to or telephoning us at the following:

Pineapple Energy Inc.
10900 Red Circle Drive
Minnetonka, MN 55343
Attention: Corporate Secretary
(952) 996-1674

You should rely only on the information incorporated by reference or presented in this prospectus or the applicable prospectus supplement. Neither we nor any underwriters or agents have authorized anyone else to provide you with different information. We are not making an offer of these securities in any jurisdiction where the offer is not permitted. You should not assume that the information in this prospectus or the applicable prospectus supplement is accurate as of any date other than the dates on the front of those documents.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. The forward-looking statements involve substantial risks and uncertainties. All statements, other than statements related to present facts or current conditions or of historical facts, contained in this prospectus, including statements regarding our strategy, future operations, future financial position, future revenues, and projected costs, prospects, plans and objectives of management, are forward-looking statements. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would,” or the negative of these terms or other comparable terminology are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout our SEC reports, and in particular those factors discussed under the heading “Risk Factors” beginning on page 5 of this prospectus and in the other documents incorporated herein by reference, as the same may be updated from time to time by our future filings under the Exchange Act.

You should assume that the information appearing in this prospectus, any accompanying prospectus supplement, any related free writing prospectus and any document incorporated herein by reference is accurate as of its date only. Because the risk factors referred to above could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements made by us or on our behalf, you should not place undue reliance on any forward-looking statements. Further, any forward-looking statement speaks only as of the date on which it is made. New factors emerge from time to time, and it is not possible for us to predict which factors will arise. In addition, we cannot assess the impact of each factor on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. All written or oral forward-looking statements attributable to us or any person acting on our behalf made after the date of this prospectus are expressly qualified in their entirety by the risk factors and cautionary statements contained in and incorporated by reference into this prospectus. Unless legally required, we do not undertake any obligation to release publicly any revisions to such forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events.

Factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, the following:

- our competitive position and other key competitive factors;
- the market for renewable energy, including solar energy;
- the reduction, elimination, or expiration of government subsidies, policies, and support programs for solar energy projects;
- the impact of public policies, such as tariffs or other trade remedies imposed on solar cells and modules;
- our ability to consummate successful acquisitions;
- our ability to raise capital to finance acquisitions;
- the severity and duration of the COVID-19 pandemic, including its potential impact on our business, financial condition, and results of operations;
- interest rate fluctuations and our customers' ability to secure financing;
- our ability to execute on our long-term strategic plans;
- the inability of our customers and counterparties to perform under their contracts with us;
- our ability to attract new customers and to develop and maintain existing customer and supplier relationships;
- the supply and price of components and raw materials;
- supply chain disruption, including canceled shipments by logistic providers, and the cost of fuel;
- our ability to protect our intellectual property;
- our continued investment in R&D;
- our ability to attract and retain key executive officers and associates;
- changes in, or the failure to comply with, government regulations and environmental, health, and safety requirements;

- general economic and business conditions, including those influenced by U.S., international, and geopolitical events;
- our environmental responsibility;
- our ability to prevent and/or minimize the impact of cyber-attacks or other breaches of our information systems;
- effects arising from pending litigation; and
- all other matters discussed in our other filings with the SEC.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities for general corporate purposes unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include the repayment of outstanding indebtedness, working capital, general and administrative expenses, capital expenditures and acquisitions. We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities.

We will not receive any proceeds from the sale of shares of our common stock by the selling stockholders.

SELLING STOCKHOLDERS

The common stock being offered by the selling stockholders pursuant to this prospectus consists of (1) 200% of the 2,352,936 shares of our common stock that may be issued upon conversion, at an initial conversion price of \$13.60 per share, of the Series A convertible preferred stock issued under the securities purchase agreement and (2) 200% of the 2,352,936 shares of our common stock that may be issued, at an initial exercise price of \$13.60 per share, upon the exercise of warrants issued under the securities purchase agreement. We previously registered 10,614,239 shares of our common stock for resale by the selling stockholders (the "Previously Registered Shares") pursuant to a registration statement on Form S-3 (Registration Statement No. 333-262893) that was declared effective on March 24, 2022 (the "Previous Registration Statement"). The 10,614,239 shares of common stock consisted of (1) 200% of the 2,352,936 shares of our common stock that may be issued upon conversion, at an initial conversion price of \$13.60 per share, of the Series A convertible preferred stock issued under the securities purchase agreement, (2) 200% of the 2,352,936 shares of our common stock that may be issued, at an initial exercise price of \$13.60 per share, upon the exercise of warrants issued under the securities purchase agreement, and (3) the aggregate 1,202,495 shares of our common stock that may be purchased by the selling stockholders under certain stock transfer agreements. The number of shares that were registered pursuant to the Previous Registration Statement was based on our good faith estimate of the maximum number of shares that could be sold by the selling stockholders at the time of filing. However, because the trading price of our common stock on the Nasdaq Capital Market has decreased since the effective date of the Previous Registration Statement our good faith estimate of the maximum number of shares that could be issued upon the conversion of the Series A convertible preferred stock and the exercise of the warrants has increased, as the conversion and exercise price of each security, respectively, is subject to downward adjustment in the event that we sell, enter into an agreement to sell, grant any option to purchase or sell or grant any right to reprice or otherwise dispose of or issue (or announce any sale, grant or any option to purchase or other disposition), any common stock or common stock equivalents entitling any person to acquire shares of common stock at an effective price per share that is lower than the then conversion price of \$13.60 of the Series A convertible preferred stock or the exercise price of \$13.60 of the warrants, subject to certain exceptions. The conversion price and/or exercise price would be adjusted to the lower of (i) the price in such dilutive issuance or (ii) the lowest volume-weighted average price of our common stock in the five consecutive trading dates following the announcement of such dilutive issuance. The last reported sale price of our common stock on the Nasdaq Capital Market on the effective date of the Previous Registration Statement was \$8.56 per share, while the last reported sale price of our common stock on August 24, 2022 was \$3.31 per share.

We are registering these shares of common stock in order to permit the selling stockholders to offer for resale from time to time the shares that they may acquire upon conversion of the Series A convertible preferred stock or the exercise of the warrants issued pursuant to the securities purchase agreement. Except for the executing the securities purchase agreement and other documentation related to such offering, the selling stockholders have not had any material relationship within the past three years with us or any of our affiliates.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder as of August 15, 2022. In accordance with the rules of the SEC, beneficial ownership includes voting or investment power with respect to securities and includes the shares issuable pursuant to securities that are exercisable within 60 days of August 15, 2022. Shares issuable pursuant to securities are deemed outstanding for computing the percentage of the person holding securities but are not outstanding for computing the percentage of any other person. The percentage ownership information in the third column is based on the 7,435,586 shares of common stock outstanding as of August 15, 2022.

The fourth column lists the shares of common stock being offered by this prospectus by the selling stockholders. In accordance with the terms of a registration rights agreement with the selling stockholders, this prospectus covers the resale of the sum of:

- 200% of the 2,352,936 shares of our common stock that may be issued upon conversion, at an initial conversion price of \$13.60 per share, of the Series A convertible preferred stock issued under the securities purchase agreement; and
- 200% of the 2,352,936 shares of our common stock that may be issued, at an initial exercise price of \$13.60 per share, upon the exercise of warrants issued under the securities purchase agreement.

For purposes of the fifth and sixth column, we have assumed that each selling stockholder will have sold all of our common stock covered by this prospectus upon the completion of the offering. However, the selling stockholders may sell all, some or none of their shares in this offering. See "Plan of Distribution".

Under the terms of the Certificate of Designation with respect to the Series A convertible preferred stock, a selling stockholder may not convert the Series A convertible preferred stock to the extent such conversion would cause such selling stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock which would exceed 4.99% or 9.99%, as applicable, of our then outstanding common stock following such conversion, excluding for purposes of such determination shares of common stock issuable upon conversion of shares of Series A convertible preferred stock which have not been converted and issuable upon exercise of warrants which have not been exercised. Also, under the warrants, a selling stockholder may not exercise the warrant to the extent such exercise would cause such selling stockholder, together with its affiliates and attribution parties, to beneficially own a number of shares of common stock which would exceed 4.99% or 9.99%, as applicable, of our then outstanding common stock following such conversion, excluding for purposes of such determination shares of common stock issuable upon conversion of shares of Series A convertible preferred stock which have not been converted and issuable upon exercise of warrants which have not been exercised. The number of shares in the second and fifth columns do not reflect these limitations, but the percentages set forth in the third and sixth columns give effect to these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See "Plan of Distribution."

Name of Selling Stockholder	Shares Beneficially Owned Prior to the Offering		Number of Shares Being Offered	Shares Beneficially Owned After Completion of the Offering	
	Number	Percentage	Offered	Number	Percentage
Bigger Capital Fund LP (1)	238,970	3.11%	477,940	0	0%
Cavalry Fund I LP (2)	160,146	2.11%	320,292	0	0%
Cavalry Investment Fund LP (3)	82,500	1.10%	165,000	0	0%
Anson East Master Fund LP (4)	183,822	2.41%	367,644	0	0%
Anson Investments Master Fund LP (5)	551,470	4.99%	1,102,940	0	0%
Sabby Volatility Warrant Master Fund, LTD (6)	955,882	4.99%	1,911,764	0	0%
Empery Asset Master LTD (7)	327,204	4.22%	654,408	0	0%
Empery Tax Efficient LP (8)	87,940	1.17%	175,880	0	0%
Empery Tax Efficient III, LP (9)	99,558	1.32%	199,116	0	0%
Hudson Bay Master Fund Ltd. (10)	735,294	9.00%	1,470,588	0	0%
CVI Investments, Inc. (11)	750,000	4.99%	1,500,000	0	0%
Evergreen Capital Management LLC (12)	294,116	3.81%	588,232	0	0%
District 2 Capital Fund LP (13)	238,970	3.11%	477,940	0	0%

(1) The number of shares in the second column includes (a) 119,485 shares of common stock issuable upon conversion of 1,625 shares of Series A convertible preferred stock, and (b) 119,485 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 238,970 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 1,625 shares of Series A convertible preferred stock, and (b) 238,970 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Bigger Capital Fund GP, LLC (“Bigger GP”) is a general partner of Bigger Capital Fund, LP (“Bigger Capital”) and District 2 Capital LP (“District 2”) is the investment manager of District 2 Capital Fund LP (“District 2 CF”). Michael Bigger is the managing member of Bigger GP and District and District 2 Holdings LLC (“District 2 Holdings”), which is the managing member of District 2 GP LLC (“District 2 GP”), the general partner of District 2 CF. Therefore, Mr. Bigger, District 2, District 2 Holdings and District 2 CF may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by District 2 CF and Mr. Bigger and Bigger GP may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by Bigger Capital and District 2 CF.

(2) The number of shares in the second column includes (a) 80,073 shares of common stock issuable upon conversion of 1,089 shares of Series A convertible preferred stock, and (b) 80,073 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 160,146 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 1,089 shares of Series A convertible preferred stock, and (b) 160,146 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Cavalry Fund I Management LLC is the general partner of Cavalry Fund I, LP. Thomas Walsh is the Manager of Cavalry Fund I Management, LLC. As such Cavalry Fund I Management, LLC and Mr. Walsh may be deemed to beneficially own the securities held by Cavalry Fund I, LP. Mr. Walsh has sole voting and dispositive power with respect to the shares of common stock held by Cavalry Fund I LP. The address of Cavalry Fund I LP is 82 E. Allendale Road, Suite 5B, Saddle River, New Jersey 07458.

- (3) The number of shares in the second column includes (a) 41,250 shares of common stock issuable upon conversion of 561 shares of Series A convertible preferred stock, and (b) 41,250 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 82,500 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 561 shares of Series A convertible preferred stock, and (b) 82,500 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Cavalry Fund I Management LLC is the general partner of Cavalry Fund I, LP. Thomas Walsh is the Manager of Cavalry Fund I Management, LLC. As such Cavalry Fund I Management, LLC and Mr. Walsh may be deemed to beneficially own the securities held by Cavalry Fund I, LP. Mr. Walsh has sole voting and dispositive power with respect to the shares of common stock held by Cavalry Fund I LP. The address of Cavalry Fund I LP is 82 E. Allendale Road, Suite 5B, Saddle River, New Jersey 07458.
- (4) The number of shares in the second column includes (a) 91,911 shares of common stock issuable upon conversion of 1,250 shares of Series A convertible preferred stock, and (b) 91,911 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 183,822 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 1,250 shares of Series A convertible preferred stock, and (b) 183,822 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Anson Advisers Inc. and Anson Funds Management LP, the Co-Investment Advisers of Anson East Master Fund LP (“Anson”), hold voting and dispositive power over the Common Shares held by Anson. Bruce Winson is the managing member of Anson Management GP LLC, which is the general partner of Anson Funds Management LP. Moez Kassam and Amin Nathoo are directors of Anson Advisers Inc. Mr. Wilson, Mr. Kassam and Mr. Nathoo each disclaim beneficial ownership of these Common Shares except to the extent of their pecuniary interest therein. The principal business address of Anson is Walkers Corporate Limited, Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9008, Cayman Islands.
- (5) The number of shares in the second column includes (a) 275,735 shares of common stock issuable upon conversion of 3,750 shares of Series A convertible preferred stock, and (b) 275,735 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 551,470 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 3,750 shares of Series A convertible preferred stock, and (b) 551,470 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Anson Advisers Inc. and Anson Funds Management LP, the Co-Investment Advisers of Anson Investments Master Fund LP (“Anson”), hold voting and dispositive power over the Common Shares held by Anson. Bruce Winson is the managing member of Anson Management GP LLC, which is the general partner of Anson Funds Management LP. Moez Kassam and Amin Nathoo are directors of Anson Advisers Inc. Mr. Winson, Mr. Kassam and Mr. Nathoo each disclaim beneficial ownership of these Common Shares except to the extent of their pecuniary interest therein. The principal business address of Anson is Walkers Corporate Limited, Cayman Corporate Centre, 27 Hospital Road, George Town, Grand Cayman KY1-9008, Cayman Islands.

- (6) The number of shares in the second column includes (a) 477,941 shares of common stock issuable upon conversion of 6,500 shares of Series A convertible preferred stock, and (b) 477,941 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 955,882 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 6,500 shares of Series A convertible preferred stock, and (b) 955,882 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Sabby Management, LLC is the investment manager of Sabby Volatility Warrant Master Fund, Ltd. and shares voting and investment power with respect to these shares in this capacity. As manager of Sabby Management, LLC, Hal Mintz also shares voting and investment power on behalf of Sabby Volatility Warrant Master Fund, Ltd. The address of the Sabby Volatility Warrant Master Fund, Ltd. is c/o Sabby Management, LLC, 10 Mountainview Road, Suite 205, Upper Saddle River, NJ 07458. Each of Sabby Management, LLC and Hal Mintz disclaims beneficial ownership over the securities listed except to the extent of their pecuniary interest therein.
- (7) The number of shares in the second column includes (a) 163,602 shares of common stock issuable upon conversion of 2,225 shares of Series A convertible preferred stock, and (b) 163,602 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 327,204 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 2,225 shares of Series A convertible preferred stock, and (b) 327,204 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Empery Asset Management LP, the authorized agent of Empery Asset Master Ltd (“EAM”), has discretionary authority to vote and dispose of the shares held by EAM and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by EAM. EAM, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares.
- (8) The number of shares in the second column includes (a) 43,970 shares of common stock issuable upon conversion of 598 shares of Series A convertible preferred stock, and (b) 43,970 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 87,940 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 598 shares of Series A convertible preferred stock, and (b) 87,940 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Empery Asset Management LP, the authorized agent of Empery Tax Efficient, LP (“ETE”), has discretionary authority to vote and dispose of the shares held by ETE and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by ETE. ETE, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares.

- (9) The number of shares in the second column includes (a) 49,779 shares of common stock issuable upon conversion of 677 shares of Series A convertible preferred stock, and (b) 49,779 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 99,558 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 677 shares of Series A convertible preferred stock, and (b) 99,558 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Empery Asset Management LP, the authorized agent of Empery Tax Efficient III, LP (“ETE III”), has discretionary authority to vote and dispose of the shares held by ETE III and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by ETE III. ETE III, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares.
- (10) The number of shares in the second column includes (a) 367,647 shares of common stock issuable upon conversion of 5,000 shares of Series A convertible preferred stock, and (b) 367,647 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 735,294 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 5,000 shares of Series A convertible preferred stock, and (b) 735,294 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Hudson Bay Capital Management LP, the investment manager of Hudson Bay Master Fund Ltd., has voting and investment power over these securities. Sander Gerber is the managing member of Hudson Bay Capital GP LLC, which is the general partner of Hudson Bay Capital Management LP. Each of Hudson Bay Master Fund Ltd. and Sander Gerber disclaims beneficial ownership over these securities. The business address for this selling stockholder is c/o Hudson Bay Capital Management LP, 28 Havemeyer Place, 2nd Floor, Greenwich, CT 06830.
- (11) The number of shares in the second column includes (a) 375,000 shares of common stock issuable upon conversion of 5,100 shares of Series A convertible preferred stock, and (b) 375,000 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 750,000 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 5,100 shares of Series A convertible preferred stock, and (b) 750,000 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Heights Capital Management, Inc., the authorized agent of CVI Investments, Inc. (“CVI”), has discretionary authority to vote and dispose of the shares held by CVI and may be deemed to be the beneficial owner of these shares. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., may also be deemed to have investment discretion and voting power over the shares held by CVI. Mr. Kobinger disclaims any such beneficial ownership of the shares. CVI Investments, Inc. is affiliated with one or more FINRA member, none of whom are currently expected to participate in the resales pursuant to this prospectus.

- (12) The number of shares in the second column includes (a) 147,058 shares of common stock issuable upon conversion of 2,000 shares of Series A convertible preferred stock, and (b) 147,058 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 294,116 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 2,000 shares of Series A convertible preferred stock, and (b) 294,116 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Jeffrey Pazdro is the managing member of Evergreen Capital Management LLC (“Evergreen”) and has sole voting control and investment discretion over the securities held by Evergreen. Mr. Pazdro disclaims beneficial ownership over the securities listed except to the extent of his pecuniary interest therein. The principal business address of Evergreen is 156 West Saddle River Road, Saddle River, NJ 07458.
- (13) The number of shares in the second column includes (a) 119,485 shares of common stock issuable upon conversion of 1,625 shares of Series A convertible preferred stock, and (b) 119,485 shares of common stock issuable upon exercise of warrants. The number of shares in the fourth column includes (a) 238,970 shares of common stock, representing 200% of the number of shares of common stock issuable upon conversion of 1,625 shares of Series A convertible preferred stock, and (b) 238,970 shares of common stock, representing 200% of the number of shares of common stock issuable upon exercise of warrants. Bigger Capital Fund GP, LLC (“Bigger GP”) is a general partner of Bigger Capital Fund, LP (“Bigger Capital”) and District 2 Capital LP (“District 2”) is the investment manager of District 2 Capital Fund LP (“District 2 CF”). Michael Bigger is the managing member of Bigger GP and District and District 2 Holdings LLC (“District 2 Holdings”), which is the managing member of District 2 GP LLC (“District 2 GP”), the general partner of District 2 CF. Therefore, Mr. Bigger, District 2, District 2 Holdings and District 2 CF may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by District 2 CF and Mr. Bigger and Bigger GP may be deemed to be the beneficial owner, and have the shared power to dispose of or direct the disposition, of the shares reported as beneficially owned by Bigger Capital and District 2 CF.

DESCRIPTION OF SECURITIES

The following summary of the general terms and provisions of our capital stock does not purport to be complete and is based upon and qualified by reference to our amended and restated articles of incorporation, restated bylaws and the certificate of designation for our Series A convertible preferred stock (the "CoD"). We encourage you to read our amended and restated articles of incorporation, restated bylaws, the CoD and the applicable provisions of the Minnesota Business Corporation Act, or MBCA, for additional information.

Authorized Shares of Capital Stock

As of the date hereof, our authorized is 37,500,000 shares of common stock, par value \$0.05 per share and 3,000,000 shares of preferred stock, \$1.00 par value per share. As of August 15, 2022, we had 7,435,586 shares of common stock outstanding and 32,000 shares of Series A convertible preferred stock outstanding.

Preferred Stock

The following is a summary of material terms of our Series A convertible preferred stock.

Generally, holders of the Series A convertible preferred stock are not entitled to voting rights. However, as long as any shares of Series A convertible preferred stock are outstanding, we may not, without the affirmative vote of the Required Holders (as defined in the CoD):

- alter or change adversely the powers, preferences or rights given to the Series A convertible preferred stock or alter or amend the CoD;
- authorize or create any class of stock ranking as to redemption senior to the Series A convertible preferred stock;
- amend our amended and restated articles of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series A convertible preferred stock;
- increase the number of authorized shares of Series A convertible preferred stock; or
- enter into any agreement with respect to any of the foregoing.

Each share of Series A convertible preferred stock will be convertible, at any time after issuance and at the option of the holder, into a number of shares of our common stock determined by dividing the "Stated Value" of such share by the "Conversion Price." The Stated Value per share of Series A convertible preferred stock is \$1,000 and the Conversion Price per share of Series A convertible preferred stock is \$13.60, subject to adjustment. The shares of common stock issuable upon conversion of the Series A convertible preferred stock are referred to as the "conversion shares."

The conversion price is subject to adjustment if, at any time while the Series A convertible preferred stock is outstanding, we issue, sell, publicly announces the contemplated issuance or sale of, or are deemed to have issued or sold, any shares of common stock or common stock equivalents for an effective price per share that is lower than the then conversion price, subject to limited exceptions for exempt issuances. In the case of any such dilutive issuance, the conversion price then in effect will be reduced to an amount equal to the lesser of the effective price per share in such dilutive issuance and the lowest volume weighted average price (VWAP) of our common stock on any trading day during the 5 trading days immediately following the public announcement of the execution of the dilutive issuance. If we enter into a Variable Rate Transaction, despite the prohibition set forth in the securities purchase agreement, we will be deemed to have issued common stock or common stock equivalents at the lowest possible price, conversion price or exercise price at which such securities may be issued, converted or exercised.

We will not effect any conversion of the Series A convertible preferred stock, and a holder will not have the right to convert any portion of the Series A convertible preferred stock, to the extent that, after giving effect to the conversion, such holder together with such holder's affiliates and other attribution parties would beneficially own in excess of the beneficial ownership limitation. The beneficial ownership limitation is 4.99% (or, upon election by a holder prior to the issuance of any Series A convertible preferred stock, 9.99%) of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock issuable upon conversion of the Series A convertible preferred stock held by the applicable holder. A holder, upon notice to us, may increase or decrease its applicable beneficial ownership limitation provided that the beneficial ownership limitation in no event exceeds 9.99% of the number of shares of common stock outstanding immediately after giving effect to the issuance of shares of common stock upon conversion of Series A convertible preferred stock held by the holder. Any increase in the beneficial ownership limitation will not be effective until the 61st day after such notice is delivered to us and will only apply to the holder giving the notice and no other holder.

If we fail to deliver the conversion shares by the required delivery date and shares of common stock are purchased to deliver in satisfaction of a sale by such converting holder of the conversion shares, we will have an obligation to make a cash payment and, that the converting holder's option, to issue shares to that holder. The cash obligation will be equal to the amount, if any, by which (x) such holder's total purchase price (including any brokerage commissions) for the common stock so purchased exceeds (y) the product of (1) the aggregate number of shares of common stock that such holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions). If the converting holder requires us to issue shares, then we must either reissue (if surrendered) the shares of Series A convertible preferred stock equal to the number of shares of Series A convertible preferred stock submitted for conversion (in which case, such conversion will be deemed rescinded) or deliver to such holder the number of shares of common stock that would have been issued if we had timely complied with its delivery requirements.

If after the 10th trading day following the effective date of the registration statement for the conversion shares, the volume weighted average price (VWAP) for each trading day during any 10 consecutive trading day period exceeds 200% of the then effective conversion price and the daily dollar trading volume for our common stock exceeds \$5 million on each trading day during this period, we may require each holder to convert all or part of such holder's Series A convertible preferred stock plus all accrued but unpaid dividends thereon and all liquidated damages and other amounts due in respect of the Series A convertible preferred stock. For any shares of Series A convertible preferred stock that remain unconverted and outstanding because of the beneficial ownership limitation, we may elect to repurchase all or a portion of such unconverted shares from each such holder at a price per unconverted share of Series A convertible preferred stock equal to the quotient obtained by dividing the stated value by the then-current conversion price and then multiplying such quotient by the greater of (i) the closing sale price of the common stock on the date of the forced conversion and (ii) the closing sale price of the common stock as of the trading day immediately prior to the date of the notice of repurchase.

If there is any Fundamental Transaction (as defined in the CoD) while the Series A convertible preferred stock is outstanding, then, upon any subsequent conversion of the Series A convertible preferred stock, the holder will have the right to receive, for each conversion share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any beneficial ownership limitation), the number of shares of common stock of the successor or acquiring corporation or of us, if it is the surviving corporation, and any additional consideration receivable as a result of such Fundamental Transaction by a holder of the number of shares of common stock for which the Series A convertible preferred stock is convertible immediately prior to such Fundamental Transaction (without regard to any beneficial ownership limitation). We must cause any successor entity in a Fundamental Transaction in which we are not the survivor to assume in writing all of the obligations of us under the CoD. The CoD provides that the consummation of the transactions contemplated by the merger agreement will not be deemed a Fundamental Transaction. The term Fundamental Transaction has substantially the same meaning as in the warrant issued in the PIPE Offering.

Common Stock

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the shareholders and do not have cumulative voting rights. Except as otherwise provided by law, our amended and restated articles of incorporation or our restated bylaws, matters will generally be decided by the vote of the holders of a majority of the voting power present in person (which includes attendance by means of remote communication) or represented by proxy. Our restated bylaws provide that the authorized number of directors will be fixed by the shareholders at each annual meeting and that either the shareholders or the board of directors may increase or decrease the number of directors. Our board of directors is not classified.

Holders of our common stock are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends. In the event of any liquidation, dissolution or winding-up of our affairs, holders of common stock will be entitled to share ratably in our assets that are remaining after payment or provision for payment of all of our debts and obligations.

Holders of common stock have no preemptive, conversion or subscription rights, and there are no redemption provisions applicable to the common stock.

All outstanding shares of our common stock are fully paid and nonassessable.

The transfer agent and registrar for our common stock is Equiniti Trust Company, 1110 Centre Pointe Curve, Suite 101, South St. Paul, Minnesota 55120-4100.

Our common stock is currently listed on The Nasdaq Stock Market LLC under the trading symbol "PEGY."

Registration Rights Agreement

In connection with the securities purchase agreement, we entered into a registration rights agreement dated September 15, 2021 with the selling stockholders. Pursuant to the registration rights agreement, we agreed to file a registration statement to register for resale common stock issuable upon conversion of the Series A convertible preferred stock and the common stock issuable upon exercise of the warrants issued pursuant to the securities purchase agreement.

Anti-Takeover Effects of Provisions of Our Amended and Restated Articles of Incorporation, the Restated Bylaws and Minnesota Law

Specific provisions of Minnesota law, our amended and restated articles of incorporation and restated bylaws may be deemed to have an anti-takeover effect.

Our restated bylaws establish an advance notice procedure with regard to (i) certain business to be brought before our annual meeting of shareholders and (ii) the nomination by shareholders of candidates for election as directors.

Properly Brought Business

Our restated bylaws provide that at the annual meeting only such business may be conducted as is of a nature that is appropriate for consideration at an annual meeting and has been either specified in the notice of the meeting, otherwise properly brought before the meeting by or at the direction of our board of directors, or otherwise properly brought before the meeting by a shareholder who has given timely written notice to our Secretary of the shareholder's intention to bring the business before the meeting. To be timely, the notice must be given by such shareholder to our Secretary not less than 45 days or more than 75 days prior to a meeting date corresponding to the previous year's annual meeting. Notice relating to the conduct of such business at an annual meeting must contain certain information as described in our restated bylaws, which are available for inspection by shareholders at our principal executive offices pursuant to Section 302A.441, subd. 4 of the Minnesota Statutes. Nothing in our restated bylaws precludes discussion by any shareholder of any business properly brought before the annual meeting in accordance with the restated bylaws.

Shareholder Nominations

Our restated bylaws provide that a notice of proposed shareholder nominations for the election of directors must be timely given in writing to our Secretary prior to the meeting at which directors are to be elected. To be timely, the notice must be given by the shareholder to our Secretary not less than 45 days or more than 75 days prior to a meeting date corresponding to the previous year's annual meeting. The notice to us from a shareholder who intends to nominate a person at the meeting for election as a director must contain certain information as described in our restated bylaws, which are available for inspection by shareholders as described above. If the presiding officer of a meeting of shareholders determines that a person was not nominated in accordance with the foregoing procedure, that person will not be eligible for election as a director.

Shareholder Meetings

Under our restated bylaws, regular meetings of our shareholders may be called only by our board of directors, or by written consent of all the shareholders entitled to vote at the annual meeting. If the board fails to designate a time for a regular meeting for any consecutive period of 15 months, the board must cause such regular meeting to be called within 90 days of receipt of the written demand of any shareholder owning one percent or more of all voting shares of the corporation

Under our restated bylaws, special meetings of our shareholders may be called by the chief executive officer, the chief financial officer, any two or more directors, or upon request by shareholders holding ten percent or more of the voting power of the shareholders.

Voting Percentage Approval Required for Designated Actions

In addition to any affirmative vote required by law or our amended and restated articles of incorporation, the following actions require the affirmative vote of not less than two-thirds of the votes entitled to be cast by the holders of all then outstanding shares of voting stock, voting together as a single class:

(a) any sale, lease, mortgage, pledge, transfer, exchange or other disposition of all or substantially all of the property and assets of the corporation to any person;

(b) any reclassification of securities (including any combination of shares or reverse stock split), or recapitalization or reorganization of the corporation, or any merger, consolidation or statutory exchange of shares of the corporation or any subsidiary with any other corporation (other than a merger of a wholly owned subsidiary of the corporation into the corporation or the merger of two or more wholly owned subsidiaries of the corporation);

(c) the adoption of plan or proposal for the liquidation or dissolution of the corporation; and

(d) any agreement, contract or other arrangement or understanding providing for one or more of the foregoing.

In addition to any affirmative vote required by law or our amended and restated articles of incorporation, a Business Combination (as defined in the amended and restated articles of incorporation) requires the affirmative vote of not less than 80% of the votes entitled to be cast by the holders of all then outstanding shares of voting stock, voting together as a single class. This requirement is not applicable, however, if the particular Business Combination is either (a) approved by a majority of the Continuing Directors (as defined in our amended and restated articles of incorporation), or (b) meets specific requirements with respect to price and approval process. Repeal or amendment of this requirement in the amended and restated articles of incorporation requires affirmative vote of not less than 80% of the votes entitled to be cast by the holders of all then outstanding shares of voting stock, voting together as a single class.

Provisions of Minnesota Law

The following provisions of the MBCA may have an effect of delaying, deterring or preventing an unsolicited takeover of us or make an unsolicited takeover of us more difficult.

- MBCA Section 302A.553, (Power to acquire shares) subd 3, limitation on share purchases prohibits a publicly held corporation such as us from purchasing shares entitled to vote for more than market value from a person that beneficially owns more than 5% of the voting power of the corporation if the shares have been beneficially owned for less than two years unless the purchase or agreement to purchase is approved at a meeting of shareholders by the affirmative vote of the holders of a majority of the voting power of all shares entitled to vote or the corporation makes an offer, of at least equal value per share, to all shareholders for all other shares of that class or series and any other class or series into which they may be converted.
- MBCA Section 302A.671 (Control share acquisitions) provides that shares of an “issuing public corporation,” such as us, acquired by an “acquiring person” in a “control share acquisition” that exceed the threshold of voting power of any of the three ranges identified below will not have voting rights, unless the issuing public company’s shareholders vote to accord these shares the voting rights normally associated with these shares. A “control share acquisition” is an acquisition, directly or indirectly, by an “acquiring person” (as defined in the MBCA) of beneficial ownership of shares of an issuing public corporation that, but for Section 302A.671, would, when added to all other shares of the issuing public corporation beneficially owned by the acquiring person, entitle the acquiring person, immediately after the acquisition, to exercise or direct the exercise of a new range of voting power of the issuing public corporation with any of the following three ranges: (i) at least 20 percent but less than 33-1/3 percent; (ii) at least 33-1/3 percent but less than or equal to 50 percent; and (iii) over 50 percent. The issuing public company also has an option to call for redemption all, but not less than all, shares acquired in the control share acquisition that exceed the threshold of voting power of any of the specified ranges at a price equal to the fair market value of the shares at the time the call is given if (i) the acquiring person fails to deliver the information statement to the issuing public company by the tenth day after the control share acquisition; or (ii) shareholders have voted not to accord voting rights to the shares acquired in the control share acquisition.
- MBCA Section 302A.673 (Business combinations) prohibits a public Minnesota corporation, such as us, from engaging in a business combination with an interested shareholder for a period of four years after the date of the transaction in which the person became an interested shareholder, unless either (i) the business combination or (ii) the acquisition by which the person becomes an interested shareholder is approved in a prescribed manner before the person became an interested shareholder. The term “business combination” includes mergers, asset sales and other transactions resulting in a financial benefit to the interested shareholder. An “interested shareholder” is a person who is the beneficial owner, directly or indirectly, of 10% or more of a corporation’s voting stock, or who is an affiliate or associate of the corporation, and who, at any time within four years before the date in question, was the beneficial owner, directly or indirectly, of 10% or more of the corporation’s outstanding voting stock.

- If a takeover offer is made for our stock, MBCA Section 302A.675 (Takeover offer; fair price) precludes the offeror from acquiring additional shares of stock (including in acquisitions pursuant to mergers, consolidations or statutory share exchanges) within two years following the completion of the takeover offer, unless shareholders selling their shares in the later acquisition are given the opportunity to sell their shares on terms that are substantially the same as those contained in the earlier takeover offer. A “takeover offer” is a tender offer that results in an offeror who owned ten percent or less of a class of our shares acquiring more than ten percent of that class, or that results in the offeror increasing its beneficial ownership of a class of our shares by more than ten percent of the class, if the offeror owned ten percent or more of the class before the takeover offer. Section 302A.675 does not apply if a committee of our board of directors formed in accordance with Section 302A.675 approves the proposed acquisition before any shares are acquired pursuant to the earlier tender offer.

DESCRIPTION OF DEBT SECURITIES

This section describes the general terms and provisions of our debt securities, which could be senior debt securities or subordinated debt securities. A prospectus supplement will describe the specific terms of the debt securities offered through that prospectus supplement and any general terms outlined in this section that will not apply to those debt securities.

The senior debt securities will be issued under an indenture, referred to herein as the “senior indenture,” between us and the trustee named in the applicable prospectus supplement. The subordinated debt securities will be issued under an indenture, referred to herein as the “subordinated indenture,” between us and the trustee named in the applicable prospectus supplement.

We have summarized the anticipated material terms and provisions of the senior and subordinated indentures in this section. We have also filed the forms of the indentures summarized in this section as exhibits to the registration statement of which this prospectus is a part. You should read the applicable indenture for additional information before you buy any debt securities. The summary that follows includes references to section numbers of the indentures so that you can more easily locate these provisions.

General

The debt securities will be our direct unsecured obligations. Neither of the indentures limits the amount of debt securities that we may issue. Both indentures permit us to issue debt securities from time to time and debt securities issued under an indenture will be issued as part of a series that has been established by us under such indenture.

The senior debt securities will be unsecured and will rank equally with all of our other unsecured unsubordinated debt. The subordinated debt securities will be unsecured and will rank equally with all of our other subordinated debt securities and, together with such other subordinated debt securities, will be subordinated to all of our existing and future Senior Debt (as defined below). See “- Subordination” below.

The debt securities are our unsecured senior or subordinated debt securities, as the case may be, but our assets include equity in our subsidiaries. As a result, our ability to make payments on our debt securities may depend in part on our receipt of dividends, loan payments and other funds from our subsidiaries. In addition, if any of our subsidiaries becomes insolvent, the direct creditors of that subsidiary will have a prior claim on its assets. Our rights and the rights of our creditors, including your rights as an owner of our debt securities, will be subject to that prior claim, unless we are also a direct creditor of that subsidiary. This subordination of creditors of a parent company to prior claims of creditors of its subsidiaries is commonly referred to as structural subordination.

Unless otherwise specified in the applicable prospectus supplement, we may, without the consent of the holders of a series of debt securities, issue additional debt securities of that series having the same ranking and the same interest rate, maturity date and other terms (except for the price to public and issue date) as such debt securities. Any such additional debt securities, together with the initial debt securities, will constitute a single series of debt securities under the applicable indenture. No additional debt securities of a series may be issued if an event of default under the applicable indenture has occurred and is continuing with respect to that series of debt securities.

A prospectus supplement relating to a series of debt securities being offered will include specific terms relating to the offering. These terms will include some or all of the following:

- the title and type of the debt securities;
- any limit on the total principal amount of the debt securities of that series;
- the price at which the debt securities will be issued;
- the date or dates on which the principal of and premium, if any, on the debt securities will be payable;
- the maturity date or dates of the debt securities or the method by which those dates can be determined;
- if the debt securities will bear interest:
- the interest rate on the debt securities or the method by which the interest rate may be determined;
- the date from which interest will accrue;
- the record and interest payment dates for the debt securities; and
- the first interest payment date;
- the place or places where:
- we can make payments on the debt securities;
- the debt securities can be surrendered for registration of transfer or exchange; and
- notices and demands can be given to us relating to the debt securities and under the applicable indenture;
- any optional redemption provisions that would permit us to elect redemption of the debt securities, or the holders of the debt securities to elect repayment of the debt securities, before their final maturity;
- any sinking fund provisions that would obligate us to redeem the debt securities before their final maturity;
- whether the debt securities will be convertible and, if so, the terms and conditions of any such conversion;

- if the debt securities will be issued in bearer form, the terms and provisions contained in the bearer securities and in the applicable indenture specifically relating to the bearer securities;
- whether all or part of the debt securities will not be issued as permanent global securities and the extent to which the description of the book-entry procedures described below under “- Book- Entry, Delivery and Form” will not apply to such global securities - a “global security” is a debt security that we issue in accordance with the applicable indenture to represent all or part of a series of debt securities;
- whether all or part of the debt securities will be issued in whole or in part as temporary global securities and, if so, the depositary for those temporary global securities and any special provisions dealing with the payment of interest and any terms relating to the ability to exchange interests in a temporary global security for interests in a permanent global security or for definitive debt securities;
- whether any additional amounts will be payable;
- the denominations of the debt securities, if other than \$1,000 and any integral multiple thereof for registered securities, and \$5,000 for bearer securities;
- any portion of the principal amount of debt securities that shall be payable upon acceleration;
- the currency or currencies in which the debt securities will be denominated and payable, if other than U.S. dollars and, if a composite currency, any special provisions relating thereto;
- any circumstances under which the debt securities may be paid in a currency other than the currency in which the debt securities are denominated and the manner in which the exchange rate shall be determined;
- whether the provisions described below under the heading “- Defeasance” will not apply to the debt securities;
- any events of default that will apply to the debt securities in addition to those contained in the applicable indenture;
- any additions or changes to the covenants contained in the applicable indenture and the ability, if any, of the holders to waive our compliance with those additional or changed covenants;
- the identity of the trustee, security registrar and paying agent for the debt securities;
- any material tax implications of the debt securities;

- any special provisions relating to the payment of any additional amounts on the debt securities; and
- any other terms of the debt securities.

When we use the term “holder” in this prospectus with respect to a registered debt security, we mean the person in whose name such debt security is registered in the security register.

Exchange and Transfer

At the option of the holder, any debt securities of a series can be exchanged for other debt securities of that series so long as the other debt securities are denominated in authorized denominations and have the same aggregate principal amount and same terms as the debt securities that were surrendered for exchange, subject to limitations with respect to bearer securities in global form. The debt securities may be presented for registration of transfer, duly endorsed or accompanied by a satisfactory written instrument of transfer, at the office or agency maintained by us for that purpose in any place of payment that we may designate. However, holders of global securities may transfer and exchange global securities only in the manner and to the extent set forth under “- Book-Entry, Delivery and Form” below. There will be no service charge for any registration of transfer or exchange of the debt securities, but we may require holders to pay any tax or other governmental charge payable in connection with a transfer or exchange of the debt securities. If the applicable prospectus supplement refers to any office or agency, in addition to the security registrar, initially designated by us where holders can surrender the debt securities for registration of transfer or exchange, we may at any time rescind the designation of any such office or agency or approve a change in the location. However, we will be required to maintain an office or agency in each place of payment for that series.

We will not be required to:

- issue, register the transfer of or exchange debt securities to be redeemed for a period of 15 calendar days preceding the mailing of the relevant notice of redemption; or
- register the transfer of or exchange any registered debt security selected for redemption, in whole or in part, except the unredeemed or unpaid portion of that registered debt security being redeemed in part.

Interest and Principal Payments

Payments. Holders may present debt securities for payment of principal, premium, if any, and interest, if any, register the transfer of the debt securities and exchange the debt securities at the agency maintained by us for such purpose and identified in the applicable prospectus supplement. We refer to the applicable trustee acting in the capacity of a paying agent for the debt securities as the “paying agent.”

Any money that we pay to the paying agent for the purpose of making payments on the debt securities and that remains unclaimed two years after the payments were due will, at our request, be returned to us and after that time any holder of a debt security can only look to us for the payments on the debt security.

Recipients of Payments. The paying agent will pay interest to the person in whose name the debt security is registered at the close of business on the applicable record date. However, upon maturity, redemption or repayment, the paying agent will pay any interest due to the person to whom it pays the principal of the debt security. The paying agent will make the payment on the date of maturity, redemption or repayment, whether or not that date is an interest payment date. An “interest payment date” for any debt security means a date on which, under the terms of that debt security, regularly scheduled interest is payable.

Book-Entry Debt Securities. The paying agent will make payments of principal, premium, if any, and interest, if any, to the account of The Depository Trust Company, referred to herein as “DTC,” or other depository specified in the applicable prospectus supplement, as holder of book-entry debt securities, by wire transfer of immediately available funds. The “depository” means the depository for global securities issued under the applicable indenture and, unless provided otherwise in the applicable prospectus supplement, means DTC. We expect that the depository, upon receipt of any payment, will immediately credit its participants’ accounts in amounts proportionate to their respective beneficial interests in the book-entry debt securities as shown on the records of the depository. We also expect that payments by the depository’s participants to owners of beneficial interests in the book-entry debt securities will be governed by standing customer instructions and customary practices and will be the responsibility of those participants.

Certificated Debt Securities. Except as indicated below for payments of interest at maturity, redemption or repayment, the paying agent will make payments of interest either:

- by check mailed to the address of the person entitled to payment as shown on the security register; or
- by wire transfer to an account designated by a holder, if the holder has given written notice not later than 10 calendar days prior to the applicable interest payment date.

Redemption and Repayment of Debt Securities

Optional Redemption by Us. If applicable, the prospectus supplement will indicate the terms of our option to redeem the debt securities. We will mail a notice of redemption to each holder which, in the case of global securities, will be the depository, as holder of the global securities, by first-class mail, postage prepaid, at least 30 days and not more than 60 days prior to the date fixed for redemption, or within the redemption notice period designated in the applicable prospectus supplement, to the address of each holder as that address appears upon the books maintained by the security registrar.

A partial redemption of the debt securities may be effected by such method as required by us, the registrar or the trustee, and may provide for the selection for redemption of a portion of the principal amount of debt securities held by a holder equal to an authorized denomination. If we redeem less than all of the debt securities and the debt securities are then held in book-entry form, the redemption will be made in accordance with the depository’s customary procedures. We have been advised that it is DTC’s practice to determine by the lot the amount of each participant in the debt securities to be redeemed.

Unless we default in the payment of the redemption price, on and after the redemption date interest will cease to accrue on the debt securities called for redemption.

Repayment at Option of Holder. If applicable, the prospectus supplement relating to a series of debt securities will indicate that the holder has the option to have us repay a debt security of that series on a date or dates specified prior to its stated maturity date. Unless otherwise specified in the applicable prospectus supplement, the repayment price will be equal to 100% of the principal amount of the debt security, together with accrued interest to the date of repayment.

Each holder desiring to exercise such holder's option for repayment shall surrender the debt security to be repaid, together with written notice of the exercise, at least 30 days but not more than 45 days prior to the repayment date, at any of our offices or agencies in a place of payment, setting forth the principal amount of the debt security, the principal amount of the debt security to be repaid, and in the case of partial repayment, shall specify the denomination or denominations of the debt securities of the same series and the portion of the principal amount which is not to be repaid.

Exercise of the repayment option by the holder of a debt security will be irrevocable. The holder may exercise the repayment option for less than the entire principal amount of the debt security but, in that event, the principal amount of the debt security remaining outstanding after repayment must be an authorized denomination.

If a debt security is represented by a global security, the depository or the depository's nominee will be the holder of the debt security and therefore will be the only entity that can exercise a right to repayment. In order to ensure that the depository's nominee will timely exercise a right to repayment of a particular debt security, the beneficial owner of the debt security must instruct the broker or other direct or indirect participant through which it holds an interest in the debt security to notify the depository of its desire to exercise a right to repayment. Different firms have different cut-off times for accepting instructions from their customers and, accordingly, each beneficial owner should consult the broker or other direct or indirect participant through which it holds an interest in a debt security in order to ascertain the cut-off time by which an instruction must be given in order for timely notice to be delivered to the depository.

We may purchase debt securities at any price in the open market or otherwise. Debt securities so purchased by us may, at our discretion, be held or resold or surrendered to the applicable trustee for cancellation.

Denominations

Unless we state otherwise in the applicable prospectus supplement, the debt securities may be issued in registered form in denominations of \$1,000 each and integral multiples of \$1,000 in excess thereof, or in bearer form in denominations of \$5,000.

Consolidation, Merger or Sale

Each of the indentures permits a consolidation or merger between us and another entity, subject to certain conditions. They also permit the sale or transfer by us of all or substantially all of our property and assets. These transactions are permitted if:

- the resulting or acquiring entity, if other than us, is organized and existing under the laws of a domestic jurisdiction and assumes all of our responsibilities and liabilities under the applicable indenture, including the payment of all amounts due on the debt securities and performance of the covenants in the applicable indenture; and
- immediately after giving effect to the transaction, no event of default under the applicable indenture exists.

If we consolidate or merge with or into any other entity or sell or lease all or substantially all of our assets according to the terms and conditions of the indentures, the resulting or acquiring entity will be substituted for us in the indentures with the same effect as if it had been an original party to the indentures. As a result, such successor entity may exercise our rights and powers under the indentures, in our name and, except in the case of a lease of all or substantially all of our properties, we will be released from all our liabilities and obligations under the indentures and under the debt securities.

Modification and Waiver

Under each of the indentures, certain of our rights and obligations and certain of the rights of holders of the debt securities may be modified or amended with the consent of the holders of at least a majority of the aggregate principal amount of the outstanding debt securities of all series of debt securities affected by the modification or amendment, acting as one class. However, the following modifications and amendments will not be effective against any holder without its consent:

- a change in the stated maturity date of any payment of principal or interest;
- a reduction in payments due on the debt securities;
- a change in the place of payment or currency in which any payment on the debt securities is payable;
- a limitation of a holder's right to sue us for the enforcement of payments due on the debt securities;
- a reduction in the percentage of outstanding debt securities required to consent to a modification or amendment of the applicable indenture or required to consent to a waiver of compliance with certain provisions of the applicable indenture or certain defaults under the applicable indenture;
- a reduction in the requirements contained in the applicable indenture for quorum or voting;

- a limitation of a holder's right, if any, to repayment of debt securities at the holder's option; and
- a modification of any of the foregoing requirements contained in the applicable indenture.

Under each of the indentures, the holders of at least a majority of the aggregate principal amount of the outstanding debt securities of all series of debt securities affected by a particular covenant or condition, acting as one class, may, on behalf of all holders of such series of debt securities, waive compliance by us with any covenant or condition contained in the applicable indenture unless we specify that such covenant or condition cannot be so waived at the time we establish the series.

In addition, under each of the indentures, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series of debt securities may, on behalf of all holders of that series, waive any past default under the applicable indenture, except:

- a default in the payment of the principal of or any premium or interest on any debt securities of that series; or
- a default under any provision of the applicable indenture which itself cannot be modified or amended without the consent of the holders of each outstanding debt security of that series.

Events of Default

Unless otherwise specified in the applicable prospectus supplement, an "event of default," when used in the senior indenture or the subordinated indenture with respect to any series of debt securities issued thereunder, means any of the following:

- failure to pay interest on any debt security of that series for 30 days after the payment is due;
- failure to pay the principal of or any premium on any debt security of that series when due;
- failure to deposit any sinking fund payment on debt securities of that series when due;
- failure to perform any other covenant in the applicable indenture that applies to debt securities of that series for 90 days after we have received written notice of the failure to perform in the manner specified in the applicable indenture;
- certain events in bankruptcy, insolvency or reorganization; or
- any other event of default that may be specified for the debt securities of that series when that series is created.

If an event of default for any series of debt securities occurs and continues, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the series may declare the entire principal of all the debt securities of that series to be due and payable immediately. If such a declaration occurs, the holders of a majority of the aggregate principal amount of the outstanding debt securities of that series can, subject to conditions, rescind the declaration.

Each of the indentures requires us to file an officers' certificate with the applicable trustee each year that states, to the knowledge of the certifying officers, whether or not any defaults exist under the terms of the applicable indenture. The applicable trustee may withhold notice to the holders of debt securities of any default, except defaults in the payment of principal, premium, interest or any sinking fund installment, if it considers the withholding of notice to be in the interest of the holders. For purposes of this paragraph, "default" means any event which is, or after notice or lapse of time or both would become, an event of default under the applicable indenture with respect to the debt securities of the applicable series.

Other than its duties in the case of a default, a trustee is not obligated to exercise any of its rights or powers under the applicable indenture at the request, order or direction of any holders, unless the holders offer that trustee security or indemnity satisfactory to the trustee. If satisfactory indemnification is provided, then, subject to other rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series may, with respect to the debt securities of that series, direct the time, method and place of:

- conducting any proceeding for any remedy available to the trustee; or
- exercising any trust or power conferred upon the trustee.

The holder of a debt security of any series will have the right to begin any proceeding with respect to the applicable indenture or for any remedy only if:

- the holder has previously given the trustee written notice of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made a written request of, and offered reasonable indemnification to, the trustee to begin such proceeding;
- the trustee has not started such proceeding within 60 days after receiving the request; and
- the trustee has not received directions inconsistent with such request from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series during those 60 days.

However, the holder of any debt security will have an absolute right to receive payment of principal of and any premium and interest on the debt security when due and to institute suit to enforce this payment, subject to limitations with respect to subordinated debt securities.

Defeasance

Defeasance and Discharge. At the time that we establish a series of debt securities under the applicable indenture, we can provide that the debt securities of that series are subject to the defeasance and discharge provisions of that indenture. Unless we specify otherwise in the applicable prospectus supplement, the debt securities offered thereby will be subject to the defeasance and discharge provisions of the applicable indenture, and we will be discharged from our obligations on the debt securities of that series if:

- we deposit with the applicable trustee, in trust, sufficient money or, if the debt securities of that series are denominated and payable in U.S. dollars only, Eligible Instruments, to pay the principal, any interest, any premium and any other sums due on the debt securities of that series, such as sinking fund payments, on the dates the payments are due under the applicable indenture and the terms of the debt securities;
- we deliver to the applicable trustee an opinion of counsel that states that the holders of the debt securities of that series will not recognize income, gain or loss for federal income tax purposes as a result of the deposit and will be subject to federal income tax on the same amounts and in the same manner and at the same times as would have been the case if no deposit, defeasance and discharge had been made; and
- if the debt securities of that series are listed on any domestic or foreign securities exchange, the debt securities will not be delisted as a result of the deposit.

When we use the term “Eligible Instruments” in this section, we mean monetary assets, money market instruments and securities that are payable in U.S. dollars only and essentially risk free as to collection of principal and interest, including:

- monetary assets, money market instruments and securities that are payable in U.S. dollars only and essentially risk free as to collection of principal and interest; or
- direct obligations of the United States for the payment of which its full faith and credit is pledged, or obligations of a person controlled or supervised by and acting as an agency or instrumentality of the United States if the timely payment of the obligation is unconditionally guaranteed as a full faith and credit obligation by the United States.

In the event that we deposit money and/or Eligible Instruments in trust and discharge our obligations under a series of debt securities as described above, then:

- the applicable indenture, including, in the case of subordinated debt securities, the subordination provisions contained in the subordinated indenture, will no longer apply to the debt securities of that series; however, certain obligations to compensate, reimburse and indemnify the trustee, to register the transfer and exchange of debt securities, to replace lost, stolen or mutilated debt securities, to maintain paying agencies and the trust funds and to pay additional amounts, if any, required as a result of U.S. withholding taxes imposed on payments to non-U.S. persons will continue to apply; and

- holders of debt securities of that series can only look to the trust fund for payment of principal, any premium and any interest on the debt securities of that series.

Defeasance of Certain Covenants and Certain Events of Default. At the time that we establish a series of debt securities under the applicable indenture, we can provide that the debt securities of that series are subject to the covenant defeasance provisions of that indenture. Unless we specify otherwise in the applicable prospectus supplement, the debt securities offered thereby will be subject to the covenant defeasance provisions of the applicable indenture, and if we make the deposit and deliver the opinion of counsel described above in this section under the heading “- Defeasance and Discharge,” we will not have to comply with any covenant we designate when we establish the series of debt securities. In the event of a covenant defeasance, our obligations under the applicable indenture and the debt securities, other than with respect to the covenants specifically designated upon establishing the debt securities, will remain in effect.

If we exercise our option not to comply with certain covenants as described above and the debt securities of the series become immediately due and payable because an event of default has occurred, other than as a result of an event of default specifically relating to any of such covenants, the amount of money and/or Eligible Instruments on deposit with the applicable trustee will be sufficient to pay the principal, any interest, any premium and any other sums, due on the debt securities of that series, such as sinking fund payments, on the date the payments are due under the applicable indenture and the terms of the debt securities, but may not be sufficient to pay amounts due at the time of acceleration. However, we would remain liable for the balance of the payments.

Subordination

The subordinated debt securities will be subordinate to all of our existing and future Senior Debt, as defined below. Our “Senior Debt” includes the senior debt securities and means the principal of, premium, if any, and interest on, rent under, and any other amounts payable on or in or in respect of any of our indebtedness (including, without limitation, any obligations in respect of such indebtedness and any interest accruing after the filing of a petition by or against us under any bankruptcy law, whether or not allowed as a claim after such filing in any proceeding under such bankruptcy law), whether outstanding on the date of the senior indenture or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by us (including all deferrals, renewals, extensions, refinancings or refundings of, or amendments, modifications or supplements to the foregoing). However, Senior Debt does not include:

- any liability for federal, state, local or other taxes owed or owing by us;
- our indebtedness to any of our subsidiaries;
- our trade payables and accrued expenses (including, without limitation, accrued compensation) for goods, services or materials purchased or provided in the ordinary course of business; and

- any particular indebtedness in which the instrument creating or evidencing the same expressly provides that such indebtedness shall not be senior in right of payment to, or is pari passu with, or is subordinated or junior to, the subordinated debt securities.

If certain events in bankruptcy, insolvency or reorganization occur, we will first pay all Senior Debt, including any interest accrued after the events occur, in full before we make any payment or distribution, whether in cash, securities or other property, on account of the principal of or interest on the subordinated debt securities. In such an event, we will pay or deliver directly to the holders of Senior Debt any payment or distribution otherwise payable or deliverable to holders of the subordinated debt securities. We will make the payments to the holders of Senior Debt according to priorities existing among those holders until we have paid all Senior Debt, including accrued interest, in full. Notwithstanding the subordination provisions discussed in this paragraph, we may make payments or distributions on the subordinated debt securities so long as:

- the payments or distributions consist of securities issued by us or another company in connection with a plan of dissolution, reorganization, readjustment or winding up; and
- payment on those securities is subordinate to outstanding Senior Debt and any securities issued with respect to Senior Debt under such plan of dissolution, reorganization, readjustment or winding up at least to the same extent provided in the subordination provisions of the subordinated debt securities.

If such events in bankruptcy, insolvency or reorganization occur, after we have paid in full all amounts owed on Senior Debt:

- the holders of subordinated debt securities,
- together with the holders of any of our other obligations ranking equal with those subordinated debt securities,

will be entitled to receive from our remaining assets any principal, premium or interest due at that time on the subordinated debt securities and such other obligations before we make any payment or other distribution on account of any of our capital stock or obligations ranking junior to those subordinated debt securities.

If we violate the subordinated indenture by making a payment or distribution to holders of the subordinated debt securities before we have paid all of the Senior Debt in full, then such holders of the subordinated debt securities will be deemed to have received the payments or distributions in trust for the benefit of, and will have to pay or transfer the payments or distributions to, the holders of the Senior Debt outstanding at the time. The payment or transfer to the holders of the Senior Debt will be made according to the priorities existing among those holders. Notwithstanding the subordination provisions discussed in this paragraph, holders of subordinated debt securities will not be required to pay, or transfer payments or distributions to, holders of Senior Debt so long as:

- the payments or distributions consist of securities issued by us or another company in connection with a plan of reorganization or readjustment; and
- payment on those securities is subordinated to outstanding Senior Debt and any securities issued with respect to Senior Debt under such plan of reorganization or readjustment at least to the same extent provided in the subordination provisions of those subordinated debt securities.
- Because of the subordination, if we become insolvent, holders of Senior Debt may receive more, ratably, and holders of the subordinated debt securities having a claim pursuant to those securities may receive less, ratably, than our other creditors.

We may modify or amend the subordinated indenture as provided under “- Modification and Waiver” above. However, the modification or amendment may not, without the consent of the holders of all Senior Debt outstanding, modify any of the provisions of the subordinated indenture relating to the subordination of the subordinated debt securities in a manner that would adversely affect the holders of Senior Debt.

Payment of Additional Amounts

Unless we specify otherwise in the applicable prospectus supplement, we will not pay any additional amounts on the debt securities offered thereby to compensate any beneficial owner for any United States tax withheld from payments on such debt securities.

Book-Entry, Delivery and Form

We have obtained the information in this section concerning DTC, Clearstream Banking S.A., or “Clearstream,” and Euroclear Bank S.A./N.V., as operator of the Euroclear System, or “Euroclear,” and the book-entry system and procedures from sources that we believe to be reliable, but we take no responsibility for the accuracy of this information. This information could change at any time. In addition, we have no control over DTC, Clearstream or Euroclear, or any of their participants, and therefore we take no responsibility for their activities.

Unless otherwise specified in the applicable prospectus supplement, the debt securities will be issued as fully registered global securities that will be deposited with, or on behalf of, DTC and registered, at the request of DTC, in the name of Cede & Co. Beneficial interests in the global securities will be represented through book-entry accounts of financial institutions acting on behalf of beneficial owners as direct or indirect participants in DTC. The direct and indirect participants will remain responsible for keeping account of their holdings on behalf of their customers. Investors may elect to hold their interests in the global securities through either DTC (in the United States) or (in Europe) through Clearstream or through Euroclear. Investors may hold their interests in the global securities directly if they are participants of such systems, or indirectly through organizations that are participants in these systems. Interests held through Clearstream and Euroclear will be recorded on DTC’s books as being held by the U.S. Depository for each of Clearstream and Euroclear (the “U.S. Depositories”), which U.S. Depositories will, in turn, hold interests on behalf of their participants’ customers’ securities accounts. Unless otherwise specified in the applicable prospectus supplement, beneficial interests in the global securities will be held in denominations of \$1,000 and multiples of \$1,000 in excess thereof. Except as set forth below, the global securities may be transferred, in whole and not in part, only to another nominee of DTC or to a successor of DTC or its nominee.

Debt securities represented by a global security can be exchanged for definitive securities in registered form only if:

- DTC notifies us that it is unwilling or unable to continue as depository for that global security and we do not appoint a qualified successor depository within 90 days after receiving that notice;
- at any time DTC ceases to be a clearing agency registered under the Exchange Act and we do not appoint a successor depository within 90 days after becoming aware that DTC has ceased to be registered as a clearing agency;
- we in our sole discretion determine that such global security will be exchangeable for definitive securities in registered form or elect to terminate the book-entry system through DTC and notify the applicable trustee of our decision; or
- an event of default with respect to the debt securities represented by that global security has occurred and is continuing.

A global security that can be exchanged as described in the preceding sentence will be exchanged for definitive securities issued in authorized denominations in registered form for the same aggregate amount. The definitive securities will be registered in the names of the owners of the beneficial interests in the global security as directed by DTC.

We will make principal and interest payments on all debt securities represented by a global security to the paying agent which in turn will make payment to DTC or its nominee, as the case may be, as the sole registered owner and the sole holder of the debt securities represented by a global security for all purposes under the applicable indenture. Accordingly, we, the applicable trustee and any paying agent will have no responsibility or liability for:

- any aspect of DTC's records relating to, or payments made on account of, beneficial ownership interests in a debt security represented by a global security;
- any other aspect of the relationship between DTC and its participants or the relationship between those participants and the owners of beneficial interests in a global security held through those participants; or
- the maintenance, supervision or review of any of DTC's records relating to those beneficial ownership interests.

We understand that DTC's current practice is to credit direct participants' accounts on each payment date with payments in amounts proportionate to their respective beneficial interests in the principal amount of such global security as shown on DTC's records, upon DTC's receipt of funds and corresponding detail information. The underwriters or agents for the debt securities represented by a global security will initially designate the accounts to be credited. Payments by participants to owners of beneficial interests in a global security will be governed by standing instructions and customary practices, as is the case with securities held for customer accounts registered in "street name," and will be the sole responsibility of those participants, and not of DTC or its nominee, the trustee, any agent of ours, or us, subject to any statutory or regulatory requirements. Book-entry notes may be more difficult to pledge because of the lack of a physical note.

DTC

So long as DTC or its nominee is the registered owner of a global security, DTC or its nominee, as the case may be, will be considered the sole owner and holder of the debt securities represented by that global security for all purposes of the debt securities. Owners of beneficial interests in the debt securities will not be entitled to have debt securities registered in their names, will not receive or be entitled to receive physical delivery of the debt securities in definitive form and will not be considered owners or holders of debt securities under the applicable indenture. Accordingly, each person owning a beneficial interest in a global security must rely on the procedures of DTC and, if that person is not a DTC participant, on the procedures of the participant through which that person owns its interest, to exercise any rights of a holder of debt securities. The laws of some jurisdictions may require that certain purchasers of securities take physical delivery of the securities in certificated form. These laws may impair the ability to transfer beneficial interests in a global security. Beneficial owners may experience delays in receiving distributions on their debt securities since distributions will initially be made to DTC and must then be transferred through the chain of intermediaries to the beneficial owner's account.

We understand that, under existing industry practices, if we request holders to take any action, or if an owner of a beneficial interest in a global security desires to take any action which a holder is entitled to take under the applicable indenture, then DTC would authorize the participants holding the relevant beneficial interests to take that action and those participants would authorize the beneficial owners owning through such participants to take that action or would otherwise act upon the instructions of beneficial owners owning through them.

Beneficial interests in a global security will be shown on, and transfers of those ownership interests will be effected only through, records maintained by DTC and its participants for that global security. The conveyance of notices and other communications by DTC to its participants and by its participants to owners of beneficial interests in the debt securities will be governed by arrangements among them, subject to any statutory or regulatory requirements in effect.

We understand that DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered under the Exchange Act. DTC is a wholly owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries.

DTC holds the securities of its participants and facilitates the clearance and settlement of securities transactions among its participants in such securities through electronic book-entry changes in accounts of its participants. The electronic book-entry system eliminates the need for physical certificates. DTC's participants include securities brokers and dealers, including underwriters, banks, trust companies, clearing corporations and certain other organizations, some of which, and/or their representatives, own DTCC. Banks, brokers, dealers, trust companies and others that clear through or maintain a custodial relationship with a participant, either directly or indirectly, also have access to DTC's book-entry system. The rules applicable to DTC and its participants are on file with the SEC.

The above information with respect to DTC has been provided for informational purposes only and is not intended to serve as a representation, warranty or contract modification of any kind.

Clearstream

We understand that Clearstream was incorporated under the laws of Luxembourg as an international clearing system. Clearstream holds securities for its participating organizations, or "Clearstream Participants," and facilitates the clearance and settlement of securities transactions between Clearstream Participants through electronic book-entry changes in accounts of Clearstream Participants, thereby eliminating the need for physical movement of certificates. Clearstream provides to Clearstream Participants, among other things, services for safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Clearstream interfaces with domestic securities markets in several countries. As a professional depository, Clearstream is subject to regulation by the Luxembourg Commission for the Supervision of the Financial Sector (*Commission de Surveillance du Secteur Financier*). Clearstream Participants are recognized financial institutions around the world, including underwriters, securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. Clearstream's U.S. Participants are limited to securities brokers and dealers and banks. Indirect access to Clearstream is also available to others, such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a Clearstream Participant either directly or indirectly.

Distributions with respect to debt securities held beneficially through Clearstream will be credited to cash accounts of Clearstream Participants in accordance with its rules and procedures, to the extent received by the U.S. Depository for Clearstream.

Euroclear

We understand that Euroclear was created in 1968 to hold securities for participants of Euroclear, or "Euroclear Participants," and to clear and settle transactions between Euroclear Participants through simultaneous electronic book-entry delivery against payment, thereby eliminating the need for physical movement of certificates and any risk from lack of simultaneous transfers of securities and cash. Euroclear performs various other services, including securities lending and borrowing and interacts with domestic markets in several countries. Euroclear is operated by Euroclear Bank S.A./N.V., or the "Euroclear Operator," under contract with Euroclear plc, a U.K. corporation. All operations are conducted by the Euroclear Operator, and all Euroclear securities clearance accounts and Euroclear cash accounts are accounts with the Euroclear Operator, not Euroclear plc. Euroclear plc establishes policy for Euroclear on behalf of Euroclear Participants. Euroclear Participants include banks, including central banks, securities brokers and dealers and other professional financial intermediaries. Indirect access to Euroclear is also available to other firms that clear through or maintain a custodial relationship with a Euroclear Participant, either directly or indirectly. Euroclear is an indirect participant in DTC.

The Euroclear Operator is a Belgian bank. As such it is regulated by the Belgian Banking and Finance Commission and the National Bank of Belgium.

Securities clearance accounts and cash accounts with the Euroclear Operator are governed by the Terms and Conditions Governing Use of Euroclear and the related Operating Procedures of the Euroclear System, and applicable Belgian law, which we will refer to herein as the “Terms and Conditions.” The Terms and Conditions govern transfers of securities and cash within Euroclear, withdrawals of securities and cash from Euroclear, and receipts of payments with respect to securities in Euroclear. All securities in Euroclear are held on a fungible basis without attribution of specific certificates to specific securities clearance accounts. The Euroclear Operator acts under the Terms and Conditions only on behalf of Euroclear Participants, and has no record of or relationship with persons holding through Euroclear Participants.

Distributions with respect to debt securities held beneficially through Euroclear will be credited to the cash accounts of Euroclear Participants in accordance with the Terms and Conditions, to the extent received by the Euroclear Operator.

We further understand that investors that acquire, hold and transfer interests in the debt securities by book-entry through accounts with the Euroclear Operator or any other securities intermediary are subject to the laws and contractual provisions governing their relationship with their intermediary, as well as the laws and contractual provisions governing the relationship between such an intermediary and each other intermediary, if any, standing between themselves and the global securities.

Global Clearance and Settlement Procedures

Unless otherwise specified in the applicable prospectus supplement, initial settlement for the debt securities will be made in immediately available funds. Secondary market trading between DTC participants will occur in the ordinary way in accordance with DTC rules and will be settled in immediately available funds using DTC’s Same-Day Funds Settlement System. Secondary market trading between Clearstream Participants and/or Euroclear Participants will occur in the ordinary way in accordance with the applicable rules and operating procedures of Clearstream and Euroclear and will be settled using the procedures applicable to conventional eurobonds in immediately available funds.

Cross-market transfers between persons holding directly or indirectly through DTC, on the one hand, and directly or indirectly through Clearstream Participants or Euroclear Participants, on the other, will be effected through DTC in accordance with DTC rules on behalf of the relevant European international clearing system by its U.S. Depository; however, such cross-market transactions will require delivery of instructions to the relevant European international clearing system by the counterparty in such system in accordance with its rules and procedures and within its established deadlines (European time). The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its U.S. Depository to take action to effect final settlement on its behalf by delivering or receiving debt securities through DTC, and making or receiving payment in accordance with normal procedures for same-day funds settlement applicable to DTC. Clearstream Participants and Euroclear Participants may not deliver instructions directly to their respective U.S. Depositories.

Because of time-zone differences, credits of debt securities received through Clearstream or Euroclear as a result of a transaction with a DTC participant will be made during subsequent securities settlement processing and dated the business day following the DTC settlement date. Such credits or any transactions in such debt securities settled during such processing will be reported to the relevant Euroclear Participants or Clearstream Participants on such business day. Cash received in Clearstream or Euroclear as a result of sales of debt securities by or through a Clearstream Participant or a Euroclear Participant to a DTC participant will be received with value on the DTC settlement date but will be available in the relevant Clearstream or Euroclear cash account only as of the business day following settlement in DTC.

If the debt securities are cleared only through Euroclear and Clearstream (and not DTC), you will be able to make and receive through Euroclear and Clearstream payments, deliveries, transfers, exchanges, notices, and other transactions involving any securities held through those systems only on days when those systems are open for business. Those systems may not be open for business on days when banks, brokers, and other institutions are open for business in the United States. In addition, because of time-zone differences, U.S. investors who hold their interests in the securities through these systems and wish to transfer their interests, or to receive or make a payment or delivery or exercise any other right with respect to their interests, on a particular day may find that the transaction will not be effected until the next business day in Luxembourg or Brussels, as applicable. Thus, U.S. investors who wish to exercise rights that expire on a particular day may need to act before the expiration date.

Although DTC, Clearstream and Euroclear have agreed to the foregoing procedures in order to facilitate transfers of debt securities among participants of DTC, Clearstream and Euroclear, they are under no obligation to perform or continue to perform such procedures and such procedures may be modified or discontinued at any time. Neither we nor any paying agent will have any responsibility for the performance by DTC, Euroclear or Clearstream or their respective direct or indirect participants of their obligations under the rules and procedures governing their operations.

Conversion and Exchange

If any offered debt securities are convertible at the option of the holders or exchangeable at our option, the prospectus supplement relating to those debt securities will include the terms and conditions governing any conversions and exchanges.

Governing Law

The indentures are, and the debt securities will be, governed by and will be construed in accordance with New York law.

DESCRIPTION OF WARRANTS

Outstanding Warrants

As of August 15, 2022, we had 2,352,936 shares of the common stock that may be issued upon the exercise of outstanding warrants, of which 2,352,936 are fully exercisable (our “outstanding warrants”). The warrants expire five years from the date of the grant. The following table summarizes information regarding warrants outstanding at August 15, 2022:

<u>Grant Date</u>	<u>Warrants Outstanding</u>	<u>Warrants Exercisable</u>	<u>Exercise Price (Per Share)</u>	<u>Expiration Date</u>
March 28, 2022	2,352,936	2,352,936	\$13.60	March 28, 2027

The exercise price of our outstanding warrants is subject to adjustment if, after September 15, 2021, we issue, sell, publicly announce the contemplated issuance or sale of, or are deemed to have issued or sold, any shares of common stock for a consideration per share less than a price equal to the exercise price in effect immediately prior to such issuance or sale or deemed issuance or sale. In the case of any such dilutive issuance, the exercise price then in effect will be reduced to an amount equal to the lesser of the consideration per share in such dilutive issuance and the lowest volume weighted average price (“VWAP”) of our common stock on any trading day during the five trading days immediately following the public announcement of the execution of the dilutive issuance. Additionally, the number of warrant shares issuable under an outstanding warrant will be increased such that the aggregate exercise price payable under the warrant, after taking into account the decrease in the exercise price in connection with the dilutive issuance, will be equal to the aggregate exercise price prior to such adjustment.

An outstanding warrant may be exercised by payment of the aggregate exercise price in cash or, if the exercise of the warrant occurs after the deadline for effectiveness of the registration statements required by the registration rights agreement entered into with the warrant holders and a registration statement covering the issuance or resale of the shares of common stock issuable upon exercise of the warrant is not available for the issuance or resale, by a cashless exercise in which the holder will receive a net number of shares of common stock upon exercise.

The outstanding warrants contain a call provision under which we may call for cancellation of all or any portion of a warrant for which an exercise notice has not yet been delivered for consideration equal to \$0.001 per warrant share. This call right may be exercised by us upon proper notice only if:

- the VWAP of our common stock for each of 10 consecutive trading days exceeds 300% of the then current exercise price;
- the average daily dollar volume for such 10 consecutive trading day measurement period exceeds \$5,000,000 per trading day; and

- the holder of the warrant is not in possession of any information that constitutes, or might constitute, material, non-public information which was provided by our company, any of our subsidiaries, or any of their officers, directors, employees, agents or affiliates.

We may not enter into or be party to a Fundamental Transaction (as further described below) unless the successor entity to such Fundamental Transaction assumes in writing all of our obligations under the warrants. In addition, prior to the consummation of any Fundamental Transaction pursuant to which holders of our common stock are entitled to receive securities, cash, assets or other property with respect to or in exchange for the our common stock, we must make appropriate provision to ensure that, and any applicable successor entity must ensure that, the warrant holder will thereafter have the right to receive upon exercise of the warrant at any time after the consummation of such event, shares of common stock or capital stock of the successor entity or, if so elected by the warrant holder, in lieu of the shares of common stock (or other securities, cash, assets or other property) issuable upon exercise of the warrant prior to such event, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the warrant holder would have been entitled to receive upon the consummation of such event or the record date resulting in such event, had the warrant been exercised immediately prior to such event or the record date such event (without regard to any limitations on exercise of the warrant). In the event of a change of control, at the request of the warrant holder or at our election delivered before the 60th day after the consummation of such change of control, we (or the successor entity) will purchase the warrant from the warrant holder by paying to the holder cash in an amount equal to the Black-Scholes value of the remaining unexercised portion of the warrant on the date of such change of control.

Under the Outstanding Warrants, the term Fundamental Transaction includes one or more related transactions in which we, directly or indirectly, will:

- consolidate or merge with or into (whether or not we are the surviving corporation) another entity; or
- sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of company or any of our “significant subsidiaries” to one or more entities; or
- make, or allow one or more entities to make, or allow our company to be subject to or have shares of common stock be subject to or party to one or more entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (i) 50% of the outstanding shares of common stock, (ii) 50% of the outstanding shares of common stock calculated as if any shares of common stock held by all entities making or party to, or affiliated with any entities making or party to, such offer were not outstanding; or (iii) such number of shares of common stock such that all entities making or party to, or affiliated with any entity making or party to, such offer, become collectively the beneficial owners of at least 50% of the outstanding shares of common stock; or

- consummate a stock purchase agreement or other business combination with one or more entities whereby all such entities, individually or in the aggregate, acquire, either (i) at least 50% of the outstanding shares of common stock, (ii) at least 50% of the outstanding shares of common stock calculated as if any shares of common stock held by all the entities making or party to, or affiliated with any entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (iii) such number of shares of common stock such that the entities become collectively the beneficial owners of at least 50% of the outstanding shares of common stock; or
- reorganize, recapitalize or reclassify shares of common stock; or
- allow any entity individually or the entities in the aggregate to be or become the beneficial owner, directly or indirectly, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of common stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of common stock not held by all such entities as of the date of the securities purchase agreement calculated as if any shares of common stock held by all such entities were not outstanding, or (iii) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of common stock or other equity securities of sufficient to allow such entities to effect a statutory short form merger or other transaction requiring other shareholders to surrender their common stock without approval of our shareholders.

The outstanding warrants contain provisions limiting the exercise by a holder based on beneficial ownership. Specifically, a holder will be prohibited, subject to certain exceptions, from exercising a warrant to the extent that immediately prior to or after giving effect to such exercise, the holder, together with its affiliates and other attribution parties, would own more than 4.99% of the total number of shares of common stock then issued and outstanding, which percentage may be changed at the holder's election to a lower percentage at any time or to a higher percentage not to exceed 9.99% upon 61 days' notice to us.

Additionally, so long as the warrant remains outstanding, we are obligated to at all times keep reserved for issuance a number of shares of common stock at least equal to 200% of the maximum number of shares of common stock as are issuable upon exercise of the outstanding warrants without regard to any limitations on exercise.

Additional Warrants

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following summary of material provisions of the warrants and warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;
- the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;
- the terms of any rights to redeem or call the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- a discussion of certain United States federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled to:

- vote, consent or receive dividends;
- receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
- exercise any rights as stockholders of Pineapple.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

DESCRIPTION OF STOCK PURCHASE CONTRACTS

We may issue stock purchase contracts, including contracts obligating holders to purchase from us and contracts obligating us to sell to the holders, a specified number of shares of common stock or other securities at a future date or dates. The price per share of the securities and the number of shares of the securities may be fixed at the time the stock purchase contracts are issued or may be determined by reference to a specific formula set forth in the stock purchase contracts. The stock purchase contracts may be issued separately or as part of units consisting of a stock purchase contract and warrants or other securities or debt obligations of third parties, including U.S. treasury securities, securing the holders' obligations to purchase the securities under the stock purchase contracts. The stock purchase contracts may require us to make periodic payments to the holders of the stock purchase contracts or vice versa, and such payments may be unsecured or prefunded on some basis. They may also require holders to secure their obligations thereunder in a specified manner and in certain circumstances we may deliver newly issued prepaid stock purchase contracts, or prepaid securities, upon release to a holder of any collateral securing such holder's obligations under the original stock purchase contract.

The stock purchase contracts, and, if applicable, collateral or depository arrangements will be filed with the SEC in connection with the offering of stock purchase contracts. The prospectus supplement and any incorporated documents relating to any stock purchase contracts that we offer will include specific terms relating to the offering, including, among other matters:

- If applicable, a discussion of material U.S. federal income tax considerations; and
- Any other information we think important about the stock purchase contracts.

DESCRIPTION OF RIGHTS

We may issue rights to purchase our common stock. The rights may or may not be transferable by the persons purchasing or receiving the rights. In connection with any rights offering, we may enter into a standby underwriting or other arrangement with one or more underwriters or other persons pursuant to which such underwriters or other persons would purchase any offered securities remaining unsubscribed for after such rights offering. Each series of rights will be issued under a separate rights agent agreement to be entered into between us and one or more banks, trust companies or other financial institutions, as rights agent, that we will name in the applicable prospectus supplement. The rights agent will act solely as our agent in connection with the rights and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights.

The prospectus supplement and any incorporated documents relating to any rights that we offer will include specific terms relating to the offering, including, among other matters:

- the date of determining the security holders entitled to the rights distribution;
- the aggregate number of rights issued and the aggregate number of shares of common stock purchasable upon exercise of the rights;
- the exercise price;
- the conditions to completion of the rights offering;
- the date on which the right to exercise the rights will commence and the date on which the rights will expire; and
- a discussion of certain United States federal income tax consequences applicable to the rights offering.

Each right would entitle the holder of the rights to purchase for cash shares of common stock at the exercise price set forth in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement. After the close of business on the expiration date, all unexercised rights will become void.

If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than our security holders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

PLAN OF DISTRIBUTION

We or the selling stockholders may sell securities in any one or more of the following ways from time to time:

- to or through agents;
- to or through underwriters (including through syndicates or acting alone for resale);
- to or through brokers or dealers;
- directly by us to purchasers, including through a specific bidding, auction or other process;
- upon the exercise of subscription rights that may be distributed to our stockholders;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise; or
- through a combination of any of these methods of sale; or
- by any other method permitted by law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus. If the shares of common stock are sold by the selling stockholders through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent's commissions. Further, the selling stockholders may sell all, some or none of the shares registered pursuant to this prospectus.

The applicable prospectus supplement and/or other offering material will contain the terms of the transaction, name or names of any underwriters, dealers, or agents and the respective amounts of securities underwritten or purchased by them, the initial public offering price of the securities, and the applicable agent's commission, dealer's purchase price or underwriter's discount. Any dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts.

Sales of the securities may be effected from time to time in one or more transactions, including negotiated transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to prevailing market prices;
- at varying prices determined at the time of sale; or
- at negotiated prices.

Any initial offering price, dealer purchase price, discount or commission may be changed from time to time. The securities may be distributed from time to time in one or more transactions, at negotiated prices, at a fixed price or fixed prices (that may be subject to change), at market prices prevailing at the time of sale, at various prices determined at the time of sale or at prices related to prevailing market prices.

Offers to purchase securities may be solicited directly by us, the selling stockholders, or by agents designated by us or the selling stockholders from time to time. Any such agent may be deemed to be an underwriter, as that term is defined in the Securities Act, of the securities so offered and sold.

If underwriters or dealers acting as principal are utilized in the sale of any securities in respect of which this prospectus is being delivered, such securities will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at fixed public offering prices or at varying prices determined by the underwriters or dealers at the time of sale. Securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more underwriters. If any underwriter or underwriters are utilized in the sale of securities, unless otherwise indicated in the applicable prospectus supplement and/or other offering material, the obligations of the underwriters are subject to certain conditions precedent, and the underwriters will be obligated to purchase all such securities if any are purchased.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. Transactions through brokers or dealers may include block trades in which brokers or dealers will attempt to sell shares as agent but may position and resell as principal to facilitate the transaction or in crosses, in which the same broker or dealer acts as agent on both sides of the trade. Any such dealer may be deemed to be an underwriter, as such term is defined in the Securities Act, of the securities so offered and sold.

Offers to purchase securities may be solicited directly by us or the selling stockholders and the sale thereof may be made directly to institutional investors or others, who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale thereof.

If so indicated in the applicable prospectus supplement and/or other offering material, we or the selling stockholders may authorize agents and underwriters to solicit offers by certain institutions to purchase securities at the public offering price set forth in the applicable prospectus supplement and/or other offering material pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the applicable prospectus supplement and/or other offering material. Such delayed delivery contracts will be subject only to those conditions set forth in the applicable prospectus supplement and/or other offering material.

Agents, underwriters and dealers may be entitled under relevant agreements to indemnification against certain liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which such agents, underwriters and dealers may be required to make in respect thereof. The terms and conditions of any indemnification or contribution will be described in the applicable prospectus supplement and/or other offering material.

We or the selling stockholders may also sell shares of our common stock through various arrangements involving mandatorily or optionally exchangeable securities, and this prospectus may be delivered in connection with those sales.

We or the selling stockholders may enter into derivative, sale or forward sale transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement and/or other offering material indicates, in connection with those transactions, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement and/or other offering material, including in short sale transactions and by issuing securities not covered by this prospectus but convertible into, or exchangeable for or representing beneficial interests in such securities covered by this prospectus, or the return of which is derived in whole or in part from the value of such securities. The third parties may use securities received under derivative, sale or forward sale transactions, or securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those transactions to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and will be identified in the applicable prospectus supplement (or a post-effective amendment) and/or other offering material.

Underwriters, broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from us or the selling stockholders. Underwriters, broker-dealers or agents may also receive compensation from the purchasers of shares for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular underwriter, broker-dealer or agent might be in excess of customary commissions and will be in amounts to be negotiated in connection with transactions involving shares. In effecting sales, broker-dealers may arrange for other broker-dealers to participate in the resales.

Each series of securities will be a new issue and, other than the common stock, which is listed on the Nasdaq Capital Market, will have no established trading market. We may elect to list any series of securities on an exchange, and in the case of the common stock, on any additional or substitute exchange, but, unless otherwise specified in the applicable prospectus supplement and/or other offering material, we shall not be obligated to do so. No assurance can be given as to the liquidity of the trading market for any of the securities.

Agents, underwriters and dealers may engage in transactions with, or perform services for us and our respective subsidiaries in the ordinary course of business.

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be.

If commenced, the underwriters may discontinue any of the activities at any time. An underwriter may carry out these transactions on the Nasdaq Capital Market, any additional or substitute exchange on which our common stock is listed, in the over-the-counter market or otherwise. We and the selling stockholders do not make any representation or prediction as to the direction or magnitude of any effect that the transactions described above might have on the price of the securities. In addition, we do not make any representation that underwriters will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

The place and time of delivery for securities will be set forth in the accompanying prospectus supplement and/or other offering material for such securities.

To comply with applicable state securities laws, the securities offered by this prospectus will be sold, if necessary, in such jurisdictions only through registered or licensed brokers or dealers. In addition, securities may not be sold in some states unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

LEGAL MATTERS

Faegre Drinker Biddle & Reath LLP will pass upon the validity of the securities offered hereby, unless otherwise indicated in the applicable prospectus supplement. Additional legal matters may be passed upon for us, the selling stockholders or any underwriters, dealers or agents, by counsel named in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 14, 2022, and the financial statements incorporated in this prospectus by reference from our Current Report on Form 8-K, filed on May 19, 2022, have been audited by Baker Tilly US, LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

2,702,703 Shares of Common Stock



PROSPECTUS SUPPLEMENT

Sole Placement Agent

Roth Capital Partners

The date of this prospectus supplement is October 21, 2024
