



2023 ANNUAL REPORT TO STOCKHOLDERS



April 26, 2024

Dear Fellow Stockholder,

**Letter From Our
Chief Executive
Officer**



For more than 25 years, Plug Power Inc. (“we,” “us,” “our,” or “Plug”) has been dedicated to pioneering the global hydrogen industry. We have positioned ourselves as a worldwide leader by creating a market for fuel cells, electrolyzers, cryogenic equipment and hydrogen production. Our journey has purposefully progressed toward establishing a fully integrated green hydrogen ecosystem. This progression is powered by our comprehensive market knowledge and a profound understanding of our customers' needs, enabling us to spearhead innovation across the hydrogen economy.

Doing big, new things will always come with challenges, but our dedication to Plug’s long-term vision of becoming a global leader in end-to-end integrated hydrogen solutions remains unwavering.

In the near-term, our priority is strengthening our financial position by managing cash effectively and enhancing profitability. This strategic focus has driven us to recalibrate our business model at the start of 2024. To further improve our financial standing, we’ve adjusted our pricing and sales structure for material handling clients with a view to improve margins and unlock more restricted cash. In addition, we’re pursuing growth in our energy equipment segment, particularly in electrolyzers and cryogenic equipment, which should also allow us to optimize inventory and working capital in the upcoming quarters. These initiatives will foster continuous innovation and market leadership and align with Plug’s overarching vision to become the foremost provider of integrated hydrogen solutions worldwide.

Achieving our objectives depends crucially on our hydrogen production facilities. Earlier this year, we initiated liquid hydrogen production at our plants in Camden, Georgia, and Charleston, Tennessee. Currently, both facilities are operating at full capacity, contributing a combined total of 25 tons per day (TPD) of liquid hydrogen to our green hydrogen production network. This output meets approximately 50% of our current customer demand. The expansion of our production network has enabled Plug to reduce hydrogen costs significantly, marking a vital step towards our goal of profitable growth. Our fleet of cryogenic trailers is actively distributing liquid hydrogen to Plug customers throughout the United States. Additionally, once our St. Gabriel, Louisiana plant—a joint venture with Olin Corporation—is online, we expect it to contribute an additional 15 TPD of liquid hydrogen to our network. This would increase our total liquid hydrogen capacity to 40 TPD, thereby satisfying the majority of our current customer demand. Plug is also focused on building out hydrogen plants in Texas, and internationally in Europe such as Antwerp, Belgium and Kristinestad, Finland.

We view electrolyzers sales as one of the biggest near-term opportunities for Plug, leveraging our fifty years of experience in developing and manufacturing Proton Exchange Membrane (PEM) electrolyzers. Our electrolyzer stacks for these products are manufactured in our leading-edge facility in Rochester, New York. We've already made substantial strides in expanding our electrolyzer business over the year. Some of these achievements include:

- Executed on a 100-megawatt (MW) PEM electrolyzer project for Galp, an oil & gas company in southern Europe, that is expected to produce 43 tons of green hydrogen daily to replace gray hydrogen in the oil refining process.
- Awarded to supply a 280 MW PEM electrolyzer to Arcadia eFuels for their Vordingborg plant, powering the largest sustainable aviation fuel project.
- Secured over 3 gigawatts of Basic Engineering Design Package for various projects, including a 500 MW PEM electrolyzer project in Europe.

Our leadership in deploying hydrogen fuel cells is unmatched. To date, we have deployed more than 69,000 fuel cell systems and over 250 fueling stations – more than anyone else in the world – and have operated over one billion hours of runtime for our material handling customers. We have grown our material handling installed base with existing key customers and expanded our product portfolio with customers such as Amazon, installing a 1 MW electrolyzer to enable on-site green hydrogen generation for use in material handling equipment.

Our stationary product line is demonstrating potential, with a top advisory firm in the hydrogen sector suggesting it could emerge as one of Plug's most significant market opportunities. This potential is particularly notable when these products are paired with sales of liquid hydrogen and used to enhance wind and solar energy in the power grid. Near term this product is ideal for data centers and applications in which grid power is not available such as charging fleet electric vehicles.

Additionally, Plug is starting to deploy fuel cell electric vehicles with our partner Renault and our joint venture (HyVia), as well as bus applications with our JV partner SK (HyVerse).

Our facilities in Rochester and Albany, NY set us apart with state-of-the-art scaled manufacturing for electrolyzer and fuel cell products. Along with project partners, we were recently selected for awards by the United States Department of Energy (DOE) for grants of up to \$163 million for use in Clean Hydrogen Electrolysis, Manufacturing, and Recycling projects. These projects were awarded through a highly competitive process and will help drive Plug's technology and manufacturing advancements and promote American manufacturing and commitment to sustainable energy. By advancing Plug's fuel cell and electrolyzer manufacturing capacities, we believe these cost-shared programs will create good paying jobs. Plug is also connected to all seven hubs of the Regional Clean Hydrogen Hubs program announced in 2023 aimed at advancing the hydrogen economy.

In recent years, there has been significant activity with respect to U.S. policy regarding clean hydrogen. For example, the Inflation Reduction Act's clean hydrogen production tax credit acts as a catalyst for the hydrogen industry, fostering the development and adoption of hydrogen infrastructure while offering financial incentives for businesses engaged in low-carbon hydrogen fuel production. Plug's current focus lies in advocating for practical guidance within the IRA's framework, and we believe the finalized guidelines will spur the development of hydrogen infrastructure and expedite the shift from fossil fuels to low-carbon alternatives like green hydrogen.

Looking ahead, the potential for clean gas is tremendous, with Bloomberg NEF predicting that by 2050, hydrogen could supply up to 24% of the world's energy needs. We believe Plug is strategically positioned to capitalize on this opportunity. As we harness valuable insights and

expertise gained from our Georgia plant, our sights are set on scaling this success throughout North America and Europe and building out a clean hydrogen network of production plants.

We understand that success in establishing a new clean energy category takes time, but with the increasing global commitments to green hydrogen, Plug is equipped with the products, vision, market knowledge, offerings, and customer portfolio necessary to foster unprecedented industry growth.

Nobody around the world has done what Plug has done.

Thank you for your continued support and belief in Plug.

Regards,

A handwritten signature in black ink, appearing to read "A. Marsh". The signature is fluid and cursive, with the first letter of the first name being a large, stylized capital 'A'.

Andrew J. Marsh

This annual report contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are subject to risks and uncertainties including regarding: Plug's ability to establish a fully integrated hydrogen ecosystem; Plug's ability to strengthen its financial position, improve margins and unlock more restricted cash; Plug's ability to optimize inventory and working capital; Plug's expectation that its initiatives will foster continues innovation and market leadership; Plug's expectations regarding its plants, including the amount of liquid hydrogen produced and ability to meet current customer demand; Plug's beliefs with respect to market opportunities for its electrolyzer sales and stationary product line; Plug's expectations with respect to grants awarded by the United States Department of Energy (DOE); Plug's beliefs with respect to the Inflation Reduction Act; and Plug's belief that it is strategically positions to capitalize on the potential for clean gas and hydrogen supply. You can identify forward-looking statements by words such as "believe," "expect," "anticipate," "intend," "plan," "aim," "will," "may," "should," "could," "would," "likely," "estimate," "predict," "potential," "continue," or other similar expressions. Actual results may differ from those set forth in the forward-looking statements due to a variety of factors, including those contained in Plug's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 and Plug's other filings with the Securities and Exchange Commission (the "SEC"). You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date on which they are made. We undertake no obligation to update or revise any forward-looking statements, unless required by law.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2023

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT

For the transition period from to

Commission file number: 1-34392

Plug Power Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation or Organization)

22-3672377
(I.R.S. Identification
Number)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, par value \$.01 per share	PLUG	The NASDAQ Capital Market

968 ALBANY SHAKER ROAD, LATHAM, NEW YORK 12110

(Address of Principal Executive Offices, including Zip Code)

(518) 782-7700

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Sections 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated Filer Non-accelerated filer Smaller reporting company Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. Yes No

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the registrant's voting and non-voting common stock held by non-affiliates of the registrant was approximately \$4,557,037,812 based on the last reported sale of the common stock on The NASDAQ Capital Market on June 30, 2023, the last business day of the registrant's most recently completed second fiscal quarter.

As of February 27, 2024, 684,255,083 shares of the registrant's common stock were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission relative to the registrant's 2024 Annual Meeting of Stockholders are incorporated by reference into Items 10, 11, 12, 13 and 14 of Part III of this annual report on Form 10-K.

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General

References in this Annual Report on Form 10-K to “Plug,” the “Company,” “we,” “our,” or “us” refer to Plug Power Inc., including as the context requires, its subsidiaries.

PART I

Forward-Looking Statements

The following discussion should be read in conjunction with our consolidated financial statements and notes thereto included within this Annual Report on Form 10-K. In addition to historical information, this Annual Report on Form 10-K and the following discussion contain statements that are not historical facts and are considered forward-looking within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These forward-looking statements contain projections of our future results of operations or of our financial position or state other forward-looking information. In some cases you can identify these statements by forward-looking words such as “anticipate,” “believe,” “could,” “continue,” “estimate,” “expect,” “intend,” “may,” “should,” “will,” “would,” “plan,” “potential,” “project,” or the negative of such words or other similar words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Investors are cautioned not to unduly rely on forward-looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to:

- the actual savings and costs associated with the strategic initiative that we announced in February 2024;
- the anticipated benefits and actual cost savings resulting from the implementation of the strategic initiative described above;
- the risk that we continue to incur losses and might never achieve or maintain profitability;
- the risk that we will need to raise additional capital to fund our operations and such capital may not be available to us;
- the risk that we may not be able to expand our business or manage our future growth effectively;
- the risk of loss related to an inability to remediate the material weaknesses identified in internal control over financial reporting as of December 31, 2023 or inability to otherwise maintain an effective system of internal control over financial reporting;
- the risk that delays in or not completing our product development and hydrogen plant construction goals may adversely affect our revenue and profitability;
- the risk that we may not be able to obtain from our hydrogen suppliers a sufficient supply of hydrogen at competitive prices or the risk that we may not be able to produce hydrogen internally at competitive prices;
- our ability to achieve the forecasted revenue and costs on the sale of our products;
- the risk that we may not be able to convert all of our estimated future revenue into revenue and cash flows;
- the risk that purchase orders may not ship, be installed and/or converted to revenue, in whole or in part;
- the risk that some or all of the recorded goodwill, intangible assets and property, plant, and equipment could be subject to impairment;
- the risks associated with global economic uncertainty, including inflationary pressures, fluctuating interest rates, currency fluctuations, and supply chain disruptions;
- the risk of elimination, reduction of, or changes in qualifying criteria for government subsidies and economic incentives for alternative energy products, including with regards to the impact of the Inflation Reduction Act on our business;
- the risk that our lack of extensive experience in manufacturing and marketing of certain of our products may impact our ability to manufacture and market said products on a profitable and large-scale commercial basis;
- the risk that a sale or issuance of a significant number of shares of stock could depress the market price of our common stock;
- the risk of dilution to our stockholders and/or impact to our stock price should we need to raise additional capital;
- the risk that negative publicity related to our business or stock could result in a negative impact on our stock value and profitability;

- our ability to leverage, attract and retain key personnel;
- the risk of increased costs associated with legal proceedings and legal compliance;
- the risk that a loss of one or more of our major customers, or the delay in payment or the failure to pay receivables by one of our major customers, could have a material adverse effect on our financial condition;
- the risk of potential losses related to any contract disputes;
- the risk of potential losses related to any product liability claims;
- the cost and timing of developing, marketing, and selling our products;
- the risks involved with participating in joint ventures, including our ability or inability to execute our strategic growth plan through joint ventures;
- our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers;
- the cost and availability of fuel and fueling infrastructures for our products;
- the risk that our convertible senior notes, if settled in cash, could have a material adverse effect on our financial results;
- the risk that our convertible note hedges may affect the value of our convertible senior notes and our common stock;
- the risks related to the use of flammable fuels in our products;
- the risks, liabilities, and costs related to environmental, health, and safety matters;
- market acceptance of our products and services;
- our ability to establish and maintain relationships with third parties with respect to product development, manufacturing, distribution, and servicing, and the supply of key product components;
- the risk that we may be unable to successfully pursue, integrate, or execute upon our new business ventures;
- the cost and availability of components and parts for our products;
- the risk that possible new tariffs could have a material adverse effect on our business;
- our ability to develop commercially viable products;
- our ability to reduce product and manufacturing costs;
- our ability to successfully market, distribute and service our products and services internationally;
- our ability to improve system reliability for our products;
- competitive factors, such as price competition and competition from other traditional and alternative energy companies;
- our ability to protect our intellectual property;
- the risks related to our operational dependency on information technology and the risk of the failure of such technology, including failure to effectively prevent, detect, and recover from security compromises or breaches, including cyber-attacks;
- the cost of complying with current and future federal, state and international governmental regulations;
- the risks associated with past and potential future acquisitions;
- the risks associated with geopolitical instability, including the conflicts in the Middle East and between Russia and Ukraine as well as tensions between U.S. and China and neighboring regions; and
- the volatility of our stock price.

The risks included here are not exhaustive, and additional factors could adversely affect our business and financial performance, including factors and risks included in other sections of this Annual Report on Form 10-K, including under Item 1A, “Risk Factors”. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for management to predict all such risk factors, nor can we assess the impact of all such risk factors 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. While forward-looking statements reflect our good faith beliefs, they are not guarantees of future performance. These forward-looking statements speak only as of the date on which the statements were made. Except as may be required by applicable law, we do not undertake or intend to update any forward-looking statements after the date of this Annual Report on Form 10-K.

Summary of Risk Factors

The risk factors detailed in Item 1A titled “Risk Factors” in this Annual Report on Form 10-K are the risks that we believe are material to our investors and a reader should carefully consider them. Those risks are not all of the risks we face and other factors not presently known to us or that we currently believe are immaterial may also affect our business if they occur. The following is a summary of the risk factors detailed in Item 1A:

- We have incurred losses and anticipate continuing to incur losses;
- We will have to raise additional capital to expand our business and such capital may not be available to us or, if received, may not be available to us on favorable terms;
- We may not be able to expand our business or manage our future growth effectively;
- We identified material weaknesses in our internal control over financial reporting. If we do not effectively remediate these material weaknesses or if we otherwise fail to maintain effective internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud;
- We may be unable to successfully execute and operate our hydrogen production projects and such projects may cost more and take longer to complete than we expect;
- Delays in or not completing our product and project development goals may adversely affect our revenue and profitability;
- Our products and performance depend largely on the availability of hydrogen and recent insufficient supplies of hydrogen have negatively affected, and any continued insufficient supply of hydrogen could negatively affect our sales and deployment of our products and services;
- Our estimated future revenue may not be indicative of actual future revenue or profitability;
- Our purchase orders may not ship, be commissioned or installed, or convert to revenue, which could have an adverse impact on our revenue and cash flow;
- Recent inflationary trends, economic uncertainty, market trends, political instability and other conditions affecting the profitability and financial stability of us and our customers could negatively impact our sales growth and results of operations;
- Volatility in commodity prices and product shortages may adversely affect our gross margins and financial results;
- The reduction or elimination of government subsidies and economic incentives for alternative energy technologies, or the failure to renew such subsidies and incentives, could reduce demand for our products, lead to a reduction in our revenues and adversely impact our operating results and liquidity. The Company’s ability to benefit from these subsidies and incentives, in particular the Section 45V Credit for Production of Clean Hydrogen, is not guaranteed and is dependent upon the federal government’s forthcoming and ongoing implementation, guidance, regulations, and/or rulemakings that have been the subject of substantial public interest and debate;
- Our future plans could be harmed if we are unable to attract or retain key personnel;
- We are subject to legal proceedings and legal compliance risks that could harm our business;
- We depend on a concentration of pedestal customers for the majority of our revenues and the loss of any of these customers would adversely affect our business, financial condition, results of operations and cash flows;
- Our ability to source parts and raw materials from our suppliers could be disrupted or delayed in our supply chain which could adversely affect our results of operations;
- We face risks associated with our plans to market, distribute and service our products and services internationally;
- Changes in U.S. or foreign trade policies, treaties, tariffs and taxes as well as geopolitical conditions and other factors could have a material adverse effect on our business;
- Our investments in joint ventures may involve numerous risks that may affect the ability of such joint ventures to make distributions to us;
- If we cannot obtain financing to support the sale of our products and service to customers or our power purchase agreements with customers, such failure may adversely affect our liquidity and financial position;
- Our indebtedness could adversely affect our liquidity, financial condition, and our ability to fulfill our obligations and operate our business;
- The accounting method for convertible debt securities that may be settled in cash could have a material effect on our reported financial results;
- The convertible note hedges may affect the value of our common stock;

- We are subject to counterparty risk with respect to the convertible note hedge transactions;
- Certain component quality issues have resulted in adjustments to our warranty accruals and the accrual for loss contracts;
- We are dependent on information technology in our operations and the failure of such technology may adversely affect our business. Security breaches of our information technology systems, including cyber-attacks, ransomware attacks, or use of malware or phishing or other malicious techniques by threat actors, have in the past, and could in the future impact our operations or lead to liability, or damage our reputation and financial results;
- The implementation of a new enterprise resource planning system could cause disruption to our operations;
- Our products and services face intense competition;
- We may not be able to protect important intellectual property and we could incur substantial costs defending against claims that our products infringe on the proprietary rights of others;
- Our financial results may be adversely affected by changes in accounting principles generally accepted in the United States;
- If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our operating results could fall below expectations of investors, resulting in a decline in our stock price;
- Our products use, or generate, flammable fuels that are inherently dangerous substances, which could subject our business to product safety, product liability, other claims, product recalls, negative publicity, or heightened regulatory scrutiny of our products;
- We are subject to various federal, state, local and non-U.S. environmental and human health and safety laws and regulations that could impose significant costs and liabilities on us;
- Our business may become subject to increased government regulation;
- Changes in tax laws or regulations or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our operating results and financial condition;
- The changes in the carryforward/carryback periods as well as the new limitations on use of net operating losses may significantly impact our valuation allowance assessments for net operating losses;
- We will continue to be dependent on certain third-party key suppliers for components of our products, hydrogen generation projects, and manufacturing facilities, and failure of a supplier to develop and supply components in a timely manner or at all, or our inability to substitute sources of these components on a timely basis or on terms acceptable to us, could impair our ability to manufacture our products, increase our cost of production, or affect our ability to generate hydrogen, which would in turn negatively affect our sales and deployment of our products and services;
- We may be unable to establish or maintain relationships with third parties for certain aspects of continued product developments, manufacturing, distribution, sale, servicing, and the supply of key components for our products;
- We may be unable to successfully pursue, integrate, or execute upon new business ventures;
- We may be unable to make attractive acquisitions or successfully integrate acquired businesses, assets, or properties, and any inability to do so may disrupt our business and hinder our ability to grow, divert the attention of key personnel, disrupt our business, and impair our financial results;
- Our stock price and stock trading volume have been and could remain volatile, and the value of your investment could decline;
- Sales of substantial amounts of our common stock in the public markets, or the perception that such sales might occur, could reduce the price that our common stock might otherwise attain and may dilute your voting power and your ownership interest in us;
- If securities analysts do not maintain coverage of us or if they publish unfavorable or inaccurate research or reports about our business, our stock, or our industry, the price of our stock and the trading volume could decline;
- Provisions in our charter documents and Delaware law may discourage or delay an acquisition of the Company by a third party that stockholders may consider favorable;
- We do not anticipate paying any dividends on our common stock;
- Our amended and restated bylaws provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, and the exclusive forum in the Delaware federal courts for the resolution of any complaint asserting a cause of action under the Securities Act, which may limit a stockholder's ability to bring a claim in a forum a stockholder finds favorable; and
- Climate change and climate change policies might affect our business, our industry, and the global economy.

Item 1. Business

Background

Plug is building an end-to-end clean hydrogen ecosystem, from production, storage, and delivery to energy generation, to help its customers meet their business goals and decarbonize the economy. In creating the first commercially viable market for hydrogen fuel cells, the Company has deployed more than 69,000 fuel cell systems for forklifts and more than 250 fueling stations. Plug intends to deliver its hydrogen solutions directly to its customers, and through joint venture partners into multiple environments, including material handling, supply chain and logistics, e-mobility, stationary power generation, on-road electric vehicles (“EVs”) and industrial applications.

Plug is focused on delivering a number of hydrogen solutions to its customers. Its vertically integrated end-to-end hydrogen solutions, which are designed to fit individual customer needs, include hydrogen production equipment or the delivery of hydrogen fuel, including:

- **Fuel cells:** Plug offers stationary and mobile fuel cell products to its customers. Fuel cells are electrochemical devices that combine hydrogen and oxygen to produce electricity and heat without combustion. Plug’s fuel cells power material handling vehicles (forklifts), replacing lead-acid batteries. Plug supports customers at multi-shift high volume manufacturing and high throughput distribution sites where Plug’s fuel cell products provide a unique combination of productivity, flexibility, and environmental benefits.
- **Proton exchange membrane (“PEM”) electrolyzers:** Plug electrolyzers use clean electricity to split water into hydrogen and oxygen. Using electrolyzers, customers can generate hydrogen for a variety of applications. PEM technology delivers high power density, carries low weight and volume and operates at relatively low temperatures which allows it to start quickly and cause less wear and tear on the system. In support of the market growth and its own ambitions, Plug has built a state-of-the-art gigafactory to produce electrolyzer stacks in Rochester, New York.
- **Hydrogen liquefiers:** Plug has a core competency in liquefaction systems known for their operational efficiency, flexibility and reliability. Plug’s hydrogen liquefaction system has one of the most energy-efficient designs on the market utilizing hydrogen as the refrigerant in the main liquefaction cycle.
- **Liquid hydrogen cryogenic solutions:** Plug has expertise designing and manufacturing cryogenic solutions, including liquid storage tanks, delivery trailers, vaporizers, portable equipment, and integrated control systems. The Plug hydrogen tanker is one of the largest and lightest trailers currently manufactured, with significant over-the-road payloads.
- **Hydrogen production:** Plug began producing liquid hydrogen at its hydrogen production facility in Kingsland, Georgia in January 2024. In addition, Plug has construction underway for several new hydrogen plants throughout the United States, including in New York, Louisiana and Texas.

We were organized as a corporation in the State of Delaware on June 27, 1997.

Unless the context indicates otherwise, the terms “Company,” “Plug,” “we,” “our,” or “us” as used herein refer to Plug Power Inc. and its subsidiaries.

Business Strategy

Plug understands that green hydrogen is integral to addressing climate change in both the short and long term. Indeed, decarbonization is our very mission. To reach this goal, Plug’s business strategy is focused on the following:

- Expanding hydrogen production, with a focus on both output capabilities and geography. In addition to our milestone achievement in January 2024 at our hydrogen facility in Georgia, Plug restarted operation of its hydrogen plant in Tennessee in February 2024.
- Building out a clean hydrogen network of production plants. Plug is committed to building a network across the United States. Plug is also planning to build out a clean hydrogen network in Europe, with plans for a hydrogen production plant at the Port of Antwerp-Bruges and three plants in Finland.
- Scaling production through electrolyzer and fuel cell gigafactories. In 2022, Plug expanded manufacturing capacity at our gigafactory in Rochester, New York and subsequently opened our 407,000-square-foot

facility in Slingerlands, New York, which includes a 350,000-square-foot world-class fuel cell manufacturing facility to support the growing demand for fuel cells.

- Scaling Plug’s electrolyzer program to provide comprehensive and economical solutions focused on our 5-megawatt (“MW”) and 10MW offerings and using these building blocks to reach into the gigawatt-scale electrolyzer market. Electrolyzers are integral to Plug’s clean hydrogen ecosystem.
- Expanding into the on-road vehicles market, including delivery vans/light commercial vehicles with HyVia, our joint venture with Renault SAS (“Renault”), while continuing to explore the aviation market (commuter and cargo planes and drones) and the expansion of available applications in the on-road vehicle market (such as yard tractors, cargo vans, buses, and Class 6, 7 or 8 trucks).
- Expanding into the large-scale stationary power market, including backup and continuous power applications, including data centers, microgrids, distribution centers and EV charging.
- Expanding into new regions that require decarbonization, including in Europe and Asia. Plug entered into joint ventures with Renault in France, Acciona Generación Renovable, S.A. (“Acciona”) in Spain, and SK E&S Co., Ltd. (“SK E&S”) in South Korea.
- Plug’s operating strategy objectives include decreasing product and service costs, while improving system reliability.

We believe continued investment in research and development is critical to the development and enhancement of innovative products, technologies, and services.

Business Organization

In 2023, the Company continued to evolve its organizational design to meet the growing needs of the business and product offerings and align with the strategy discussed above. Our organization is managed from a sales perspective based on “go-to-market” sales channels, emphasizing shared learning across end-user applications and common supplier/vendor relationships. These sales channels are structured to serve a range of customers for our products and services. As a result of this structure, we concluded that we have one operating and reportable segment — the design, development and sale of hydrogen products and solutions that help customers meet their business goals while decarbonizing their operations. Our chief executive officer was identified as the chief operating decision maker (CODM). All significant operating decisions made by management are largely based upon the analysis of Plug on a total company basis, including assessments related to our incentive compensation plans. The current organizational structure is designed to help Plug achieve its goals and establish Plug as a world leader in clean hydrogen solutions.

Products and Services

Plug is facilitating the paradigm shift to an increasingly electrified world by innovating cutting-edge hydrogen and fuel cell solutions.

While we continue to develop commercially viable hydrogen and fuel cell product solutions, we have expanded our offerings to support a variety of commercial operations that can be powered with clean hydrogen. We provide electrolyzers that allow customers — such as refineries, producers of chemicals, steel, fertilizer and commercial refueling stations — to generate hydrogen on-site. We are focusing our efforts on (a) industrial mobility applications, including electric forklifts and electric industrial vehicles, at multi-shift high volume manufacturing and high throughput distribution sites where we believe our products and services provide a unique combination of productivity, flexibility, and environmental benefits; (b) production of hydrogen; and (c) stationary power systems that will support critical operations, such as data centers, microgrids, and generation facilities, in either a backup power or continuous power role, and replace batteries, diesel generators or the grid for telecommunication logistics, transportation, and utility customers. Plug expects to support these products and customers with an ecosystem of vertically integrated products that produce, transport, store and handle, dispense, and use hydrogen for mobility and power applications.

Our current product and service portfolio includes:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling EVs, including Class 1, 2, 3 and 6 electric forklifts, automated guided vehicles, and ground support equipment.

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors; our GenSure High Power Fuel Cell Platform supports large scale stationary power and data center markets.

Progen: Progen is our fuel cell stack and engine technology currently used globally in mobility and stationary fuel cell systems, and as engines in electric delivery vans. This includes Plug’s membrane electrode assembly (“MEA”), a critical component of the fuel cell stack used in zero-emission fuel cell EV engines.

GenFuel: GenFuel is our liquid hydrogen fueling, delivery, generation, storage, and dispensing system.

GenCare: GenCare is our ongoing “Internet of Things”-based maintenance and on-site service program for GenDrive fuel cell systems, GenSure fuel cell systems, GenFuel hydrogen storage and dispensing products and Progen fuel cell engines.

GenKey: GenKey is our vertically integrated “turn-key” solution combining either GenDrive or GenSure fuel cell power with GenFuel fuel and GenCare aftermarket service, offering complete simplicity to customers transitioning to fuel cell power.

Electrolyzers: The design and implementation of 5MW and 10MW electrolyzer systems that are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and “green” hydrogen is generated by using renewable energy inputs, such as solar or wind power.

Liquefaction Systems: Plug’s 15 ton-per-day and 30 ton-per-day liquefiers are engineered for high efficiency, reliability, and operational flexibility — providing consistent liquid hydrogen to customers. This design increases plant reliability and availability while minimizing parasitic losses like heat leak and seal gas losses.

Cryogenic Equipment: Engineered equipment including trailers and mobile storage equipment for the distribution of liquified hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

Liquid Hydrogen: Liquid hydrogen provides an efficient fuel alternative to fossil-based energy. We produce liquid hydrogen through our electrolyzer systems and liquefaction systems. Liquid hydrogen supply will be used by customers in material handling operations, fuel cell electric vehicle fleets, and stationary power applications.

We provide our products and solutions worldwide through our direct sales force, and by leveraging relationships with original equipment manufacturers (“OEMs”) and their dealer networks. Plug is currently targeting Asia, Australia, Europe, Middle East and North America for expansion in adoption. The European Union (the “EU”) has rolled out ambitious targets for the hydrogen economy, with the United Kingdom also taking steps in this direction, and Plug is seeking to execute on our strategy to become one of the European leaders in the hydrogen economy. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business.

We manufacture our commercially viable products in Latham, New York; Rochester, New York; Slingerlands, New York; Houston, Texas; Lafayette, Indiana; and Spokane, Washington, and support liquid hydrogen production and logistics in Charleston, Tennessee and Kingsland, Georgia.

Markets, Geography and Customer Concentration

The Company’s products and services predominantly serve the North American, European and Asian material handling markets, and primarily support large to mid-sized fleet, multi shift operations in high volume manufacturing and

high throughput distribution centers. The Company has historically experienced fluctuations in its quarterly operating results, with more revenue typically recognized in the second half of the fiscal year as compared to the first half.

Customer demand for clean hydrogen has grown as a low-carbon energy source for hard-to-decarbonize industries, such as heavy-duty transportation, heavy manufacturing (steel, cement, aluminum, and chemicals), stationary power generation, and aviation. Orders for the Company's products and services approximated \$1.2 billion as of the year ended December 31, 2023. The Company's orders at any given time are comprised of fuel cells, hydrogen installations, maintenance services, electrolyzers, liquefiers, hydrogen trailers, and hydrogen fuel deliveries. The specific elements of the orders have varied terms of timing of delivery and can vary between 90 days to 10 years, with fuel cells and hydrogen installations being delivered near term and maintenance services and hydrogen fuel deliveries being delivered over a longer period of time.

For the year ended December 31, 2023, Walmart, Inc. ("Walmart"), accounted for 23.4% of our total consolidated revenues, which included a provision for warrant charge of \$5.9 million. Additionally, 10.9% of our total consolidated revenues were associated with our second largest customer.

We assemble our products at our manufacturing facilities in Latham, New York; Rochester, New York; Slingerlands, New York; Houston, Texas; Lafayette, Indiana; and Spokane, Washington; and provide our services and installations at customer locations and our service center in Dayton, Ohio. In addition, we have hydrogen production plants in Charleston, Tennessee, and Kingsland, Georgia. In 2022, we opened a warehouse and logistics center in Duisburg, Germany.

Working Capital Items

We currently maintain inventory levels adequate for our short-term needs based upon present levels of production and for the purposes of global supply chain risk management. We consider the component parts of our different products to be generally available and current suppliers to be reliable and capable of satisfying anticipated needs. However, we have seen shortages of materials needed to produce fuel cell and hydrogen generation equipment components due to constraints in the production of global semiconductors, MEA components, and due to general supplier performance, labor shortages, increasing energy prices, supply chain constraints and logistical challenges. These material shortages have also negatively impacted the pricing of materials and components sourced or used by the Company.

Distribution, Marketing and Strategic Relationships

We have developed strategic relationships with established companies in key areas including distribution, service, marketing, supply, technology development and product development. We sell our products worldwide, with a primary focus on North America, Europe, and Asia, through our direct product sales force, OEMs, and their dealer networks. We operate in Europe under the name Plug Power Europe to develop and sell hydrogen fuel cell systems for the European material handling market.

Our wholly-owned subsidiary, Plug Power LA JV, LLC, created a joint venture with Niloco Hydrogen Holdings LLC, a wholly-owned subsidiary of Olin Corporation ("Olin"), named "Hidrogenii" in the third quarter of 2022. We believe Hidrogenii will support reliability of supply and speed to market for hydrogen throughout North America and set the foundation for broader collaboration between Plug and Olin. Hidrogenii began construction of a 15-ton-per-day hydrogen plant in St. Gabriel, Louisiana. Hidrogenii is owned 50% by Plug Power LA JV, LLC and 50% by Niloco Hydrogen Holdings LLC.

Our wholly-owned subsidiary, Plug Power France, entered into a joint venture with Renault named HyVia in the second quarter of 2021. HyVia plans to manufacture and sell fuel cell powered electric light commercial vehicles ("FCE-LCVs") and to supply hydrogen fuel and fueling stations to support the FCE-LCV market, in each case primarily in Europe. HyVia has received funding and is owned 50% by Plug Power France and 50% by Renault.

Our wholly-owned subsidiary, Plug Power España S.L. ("Plug Power Spain"), entered into a joint venture with Acciona, named AccionaPlug S.L., in the fourth quarter of 2021. The joint venture intends to develop clean hydrogen projects in Spain and Portugal. AccionaPlug S.L. has received funding and is owned 50% by Plug Power Spain and 50% by Acciona.

Plug Power Inc. entered into a joint venture with SK E&S named SK Plug Hyverse Co. Ltd. (“SK Plug Hyverse”), which was initially funded in the first quarter of 2022. SK Plug Hyverse seeks to accelerate the use of hydrogen as an alternative energy source in selected Asian markets. This collaboration aims to provide hydrogen fuel cell systems, fueling stations, electrolyzers and clean hydrogen to the Korean and other selected Asian markets. The partnership will leverage SK E&S’s leadership in chemicals, petroleum and energy as well as Plug’s leading hydrogen platform. This joint venture is owned 49% by Plug Power Inc. and 51% by SK E&S.

Plug Power Inc. has also invested in a hydrogen infrastructure and growth equity fund, Clean H2 Infra Fund, a special limited partnership registered in France, since the fourth quarter of 2021. The Clean H2 Infra Fund is focused on clean hydrogen infrastructure through financing projects in the production, storage and distribution of clean hydrogen. As of December 31, 2023 the Company’s ownership percentage in the Clean H2 Infra Fund was approximately 5%.

In addition, we believe Plug’s acquisitions over the last several years are enhancing Plug’s position in the hydrogen industry, complementing the Company’s industry-leading position in the design, construction, and operation of customer-facing hydrogen fueling stations. These acquisitions are expected to further establish a pathway for Plug to transition from low-carbon to zero-carbon hydrogen solutions.

Competition

We experience competition in all areas of our business. The markets we address for motive and backup power are characterized by the presence of well-established battery and combustion generator products. We also face competition from companies that offer other carriers of energy, such as solar, wind and batteries, integrated gas companies, and companies offering products similar to ours, such as hydrogen generation via Steam Methane Reformers. We believe the principal competitive factors in the markets in which we operate include product features, including size and weight, relative price and performance, lifetime operating cost, including any maintenance and support, product quality and reliability, safety, ease of use, footprint, rapid integration with existing equipment and processes, customer support design innovation, marketing and distribution capability, service and support and corporate reputation. For example:

- *Material handling* – We face competition from technologies that require electrical infrastructure at distribution centers. These are largely lithium ion and lead-acid batteries. Our main differentiation from these technologies is that we offer increased productivity at our customer sites. For example, our technologies provide more sustained power than batteries, recharge more quickly and also do not require our customers’ distribution centers to draw significant power from a local electrical grid.
- *Stationary products* – In backup and intermittent power applications, such as EV charging, we face competition from diesel generators provided by large corporations around the world. With respect to charging EVs, we fulfill a niche segment that allows customers to power vehicles while not being connected to the electrical grid. In continuous power applications, we provide a new alternative to distributed energy, such as natural gas turbines.
- *Hydrogen generation and storage* – We face competition from companies offering products similar to ours. For example, we face competition from legacy industrial gas companies that also produce hydrogen, and there are other companies that produce PEM electrolyzers, liquefiers and cryogenic transportation and storage equipment. Our products are designed to be more efficient on operating costs and we offer vertically integrated end-to-end hydrogen solutions. For example, our hydrogen liquefaction system has one of the most energy-efficient designs in the market utilizing hydrogen as the refrigerant in the main liquefaction cycle, and our hydrogen tanker is one of the largest and lightest trailers currently being manufactured, with significant over-the-road payloads.

Intellectual Property

We believe that neither we nor our competitors can achieve a significant proprietary position on the basic technologies currently used in PEM fuel cell systems. However, we believe the design and integration of our system and system components, as well as some of the low-cost manufacturing processes that we have developed, are intellectual property that can be protected. Our intellectual property portfolio covers, among other things: fuel cell components that reduce manufacturing part count; fuel cell system designs that lend themselves to mass manufacturing; improvements to fuel cell system efficiency, reliability and system life; and control strategies, such as added safety protections and operation under extreme conditions. In general, our employees are party to agreements providing that all inventions, whether patented or not, made or conceived while being our employee, which are related to or result from work or research that we perform, will remain our sole and exclusive property.

We have a total of 50 issued patents currently active with the United States Patent and Trademark Office (“USPTO”), expiring between 2024 and 2041. At the close of 2023, we had 35 U.S. patent applications pending. Additionally, we have 18 trademarks registered with the USPTO due for renewal between 2025 and 2031, and 3 trademark applications pending.

Government Regulation

Our fuel cell, electrolyzer, and hydrogen products, their installations, and the operations at our facilities are subject to oversight and regulation at the international level, as well as federal, state, and local levels in accordance with statutes and ordinances relating to, among others, building codes, fire codes, public safety, electrical and gas pipeline connections and hydrogen siting. The level of regulation may depend, in part, upon where a system is located — both domestically and abroad.

In addition, product safety standards have been established by the American National Standards Institute (“ANSI”), covering the overall fuel cell system. The class 1, 2, and 3 GenDrive products are designed with the intent of meeting the requirements of UL 2267 “Fuel Cell Power Systems for Installation in Industrial Electric Trucks” and NFPA 505 “Fire Safety Standard for Powered Industrial Trucks”. The hydrogen tanks used in these systems have been either certified to ANSI/CSA NGV2-2007 “Compressed Natural Gas Vehicle Fuel Containers” or ISO/TS 15869 “Gaseous hydrogen and hydrogen blends—Land vehicle fuel tanks”. We will continue to design our GenDrive products to meet ANSI and/or other applicable standards. We certified several models of class 1, 2, and 3 GenDrive products to the requirements of the CE mark with guidance from a European certified body. The hydrogen tanks used in these systems are certified to the Pressure Equipment Directive by a European certified body. The GenFuel hydrogen storage and dispensing products are designed with the intent of meeting the requirements of NFPA 2 “Hydrogen Technologies Code”. We are also subject to standards as applied to the design of our electrolyzer products, both domestically and abroad. Such standards include, but are not limited to, “Hydrogen Generators Using Water Electrolysis” (ISO 22734), “Hydrogen Technologies Code” (NFPA 2), “Explosive Atmospheres” requirements (UL 60079), CE product standards within the European Commission, and AS/NZS standards for our products within each jurisdiction, as applicable. As our Company increasingly expands to new markets and jurisdiction, we also become currently subject to new and different regulations in such jurisdictions.

We are subject to various federal, state, local, and non-U.S. environmental and human health and safety laws and regulations, including laws and regulations relating to the use, handling, storage, transportation, disposal and human exposure to hazardous substances and wastes, product safety, and emissions of pollution into the environment, and the remediation of contamination. Our facilities in the United States are subject to regulation by the Occupational Safety and Health Administration (“OSHA”), which regulates the protection of the health and safety of workers. In addition, the OSHA hazard communication standard requires that we maintain information about hazardous materials used or produced in our operations and that we provide this information to employees, state and local governmental authorities and local residents. We are also subject to occupational safety regulations in other countries. In addition, certain environmental laws and regulations impose liability and responsibility on present and former operators or users of facilities and sites for contamination at such facilities and sites without regard to causation or knowledge of contamination. Compliance with environmental laws and regulations can significantly increase the costs of our operations. Violations of environmental laws and regulations can subject us to additional costs and expenses, including defense costs and expenses and civil and criminal penalties. Environmental laws and regulations are becoming increasingly stringent, and compliance costs are significant and will continue to be significant in the foreseeable future. Additionally, new environmental laws and regulations could restrict or prohibit the uses of certain materials, chemicals, and/or components that are needed for our products and technologies. There can be no assurance that existing or future environmental and human health and safety laws and regulations will not have a material effect on our business.

As our business expands — particularly as part of our clean hydrogen production strategy — we will continue to evaluate the potential impact such provisions will have on our business, as applied to each relevant jurisdiction in which we conduct business. In addition, existing or pending climate change legislation, regulation, or international treaties or accords could have a material effect in the foreseeable future on our business or markets that we serve, or on our results of operations, capital expenditures or financial position. There is no guarantee that any such legislation, regulation, or international treaties or accords will be favorable to our business. We will continue to monitor emerging developments in this area.

At this time we do not know what additional requirements, if any, may be imposed on our products or their installation. We also do not know the extent to which any new regulations may impact our ability to distribute, install, and service our products. As we continue distributing our systems to our target markets, federal, state, local, or foreign government entities may seek to impose regulations or competitors may seek to influence regulations through lobbying efforts.

See Item 1A, “Risk Factors” for a description of these governmental regulations and other material risks to us, including, to the extent material, to our competitive position.

Inflation, Material Availability and Labor Shortages

Most components essential to our business are generally available from multiple sources; however, we believe there are some component suppliers and manufacturing vendors, particularly those suppliers and vendors that supply materials in very limited supply worldwide or supply commodities that have a high degree of volatility, whose loss to us or general unavailability could have a material adverse effect upon our business and financial condition. For example, although we believe the recent liquid hydrogen supply challenge to be a transitory issue, we have experienced supply chain issues relating to the availability of hydrogen, including but not limited to suppliers utilizing force majeure provisions under existing contracts, which has negatively impacted the amount of hydrogen we have been able to provide under certain of our supply and other agreements. Furthermore, global commodity pricing has been volatile and has been influenced by political events and worldwide economic trends, which has impacted our sourcing strategies, resulting in adverse impacts on our business and financial condition. We have mitigated and are continuing to mitigate these risks by continuing to diversify our supply chain, including diversifying our global supply chain and implementing alternate system architectures that we expect will allow us to source from multiple fuel cell, electrolyzer stack and air supply component vendors. While we continue to invest in our supply chain to improve its resilience with a focus on automation, dual sourcing of critical components, insourcing and localized manufacturing when feasible, we are also working closely with these vendors and other key suppliers on coordinated product introduction plans, product and sales forecasting, strategic inventories, and internal and external manufacturing schedules and levels. However, ongoing changes to, and evolution of, our products designs such as simultaneous design/build efforts and new product serviceability trends, or incorrect forecasting or updates to previously forecasted volumes could present challenges to those strategies despite best efforts in leveraging supplier relationships and capabilities. With respect to production, although cost pressures from global energy prices and inflation have been less volatile than previous years, an increase in cost pressures or a rise in inflation could negatively affect our business again, which could have a pricing impact on our key raw materials. We have a regionally diverse supply chain, and in cases where we have single sourced suppliers (typically due to new technology and products or worldwide shortages due to global demand), we work to engineer alternatives in our product design or develop new supply sources while covering short- and medium-term risks with supply contracts, building up inventory, and development partnerships. However, if we are unable to reduce such inventory, that could tie up working capital.

In addition, we have continued discussions with suppliers to modify terms of our supply agreements, which may impact the timing of when we receive shipments of certain supplies or result in other supply chain issues. For example, we have experienced pricing impacts from vendors and suppliers due to the recent fluctuations in interest rates and increases in cost of capital, among other factors. However, we continue to take proactive steps through our supply chain team to limit the impact of supplier challenges generally and we continue to work closely with our suppliers and transportation vendors to ensure availability of products and implement other cost savings initiatives.

With respect to our service business, we have experienced inflationary increases in labor, parts and related overhead. This has contributed to the increase in our estimated projected costs to service fuel cell systems and related infrastructure, which resulted in an increase in the provision for loss contracts related to service during 2023. If these trends continue, we may have to record additional service loss provisions in the future. We anticipate bookings and revenue will be uneven in the near-term while we pursue sales opportunities.

Additionally, we, as well as our suppliers and vendors, have observed an increasingly competitive labor market. Tight labor markets have resulted in longer times to fill open positions for us and our suppliers and vendors. Increased employee turnover, reassessment of employee responsibilities given current business needs, changes in the availability of our workers as well as labor shortages have resulted in, and could continue to result in, increased costs which could negatively affect our component or raw material purchasing abilities, and in turn, our financial condition, results of operations, or cash flows.

Research and Development

Because the fuel cell industry is still in the early state of adoption, our ability to compete successfully is heavily dependent upon our ability to ensure a continual and timely flow of competitive products, services, and technologies to the marketplace. We continue to develop new products and technologies and to enhance existing products in the areas of cost, size, weight, and in supporting service solutions in order to drive further commercialization.

We may also expand the range of our product offerings and intellectual property through licensing and/or acquisition of third-party business and technology. Our research and development expense totaled \$113.7 million, \$99.6 million, and \$64.8 million during the years ended December 31, 2023, 2022 and 2021, respectively.

Human Capital Resources

As of December 31, 2023, we had 3,868 employees, of which 181 are temporary employees, with 3,373 located in the United States and 495 located outside of the United States. In February 2024, we announced a cost-reduction initiative that included strategic workforce adjustments. As of February 24, 2024, we had approximately 3,570 employees. We will continue to evaluate our workforce needs as we complete the strategic workforce adjustments. None of our employees are represented by a collective bargaining unit, and we believe that our relationship with our employees is positive.

Diversity, Equity and Inclusion

The Company is dedicated to fostering a culture of diversity and committed to hiring talented individuals from all backgrounds and perspectives to which the Company's ultimate success is linked.

We are an Equal Opportunity/Affirmative Action Employer and actively seek to maintain a workplace that is free from discrimination on the basis of race, color, religion, sex, sexual orientation, nationality, disability or protected veteran status.

At Plug, we appreciate the collective differences of our employees, and we value different perspectives to solve complex problems and bring innovative solutions. We endeavor to champion inclusivity, to respect each other, and to celebrate our differences as we build an environment in which we are all proud to be a part.

- **Diversity:** We embrace the unique characteristics and social identities of our employees. Collectively, these individual differences enhance our culture and company achievements. We believe that our strength comes from our intellectual and social diversity and that diversity powers innovation and inspires our team.
- **Equity:** All employees have equal opportunity to advance. People are the power of Plug, and we are committed to the investment in our employees. We seek to provide everyone at Plug with equal opportunity to grow and develop, leveraging the unique skills and differences of their individual background, characteristics, and aspirations.
- **Inclusion:** We strive to cultivate inclusivity as an organization. At Plug, we are transparent and collaborative, welcoming ideas, thoughts, and questions from everyone. We respect different strengths and viewpoints, understanding that we are stronger together.

To progress further on our Diversity, Equity and Inclusion (“DEI”) initiatives such as recruitment, talent development, and equitable compensation packages, we have established a Diversity, Equity and Inclusion Policy, which sets out the principles and framework by which we, our Board of Directors (the “Board” or “Board of Directors”), management, employees and stakeholders strive to foster a diverse, equitable and inclusive culture. We intend to continue conducting human capital management activities, including recruitment, career development and advancement, role design and compensation in a manner reflective of our commitment to diversity, equity and inclusion. The Company also strives to promote diversity on its Board of Directors and in leadership roles throughout the Company. Currently, four of the Company's nine directors self-identify as female, an under-represented minority or LGBTQ+.

Community Involvement

We recognize the importance of supporting our local communities as we continue to grow as an organization. For example, we donate to our local communities, facilitate employee donations through United Way, and have initiated a Community Relations Program to evaluate deserving nonprofit organizations to boost our corporate giving program. Also, each Plug employee is provided 16 hours per year paid time off to volunteer with a not-for-profit organization of his or her choice.

Performance Management, Compensation and Benefits

Our performance management process incorporates annual goals for the Company, as well as departmental and individual employee goals. Employees and their managers are accountable for goals and must review performance against the goals on an ongoing basis. We provide employees base wages that are competitive and consistent with employee positions, skill levels, experience, and location. Additionally, employees may also be granted annual short-term incentive compensation and equity compensation awards with multi-year vesting for retention.

As part of our commitment to our people, Plug offers employees competitive pay and benefits, including health, vision, and dental plans, flexible spending accounts, comprehensive life insurance (including company-provided life insurance), disability coverage and a 401(k) retirement program. Additionally, employees are offered a vacation and holiday package, and paid parental leave to aid in bonding time for new parents. To encourage savings, we auto-enroll all employees in our 401(k)-retirement savings plan after 60 days of employment.

Talent and Training

Our talent strategy is a balance of attracting external talent, combined with the possibility of upward mobility that encourages career growth and opportunity to progress within Plug. We leverage both internal and external recruitment resources and incentivize our current employees through our employee referral program to refer talent they recommend as future employees of Plug.

A key component to planning for individual career growth aligned with organizational growth is learning and development. For example, our educational assistance program offers financial assistance to encourage employees to continue their education and support their continuous enhancement of their knowledge and skills. Besides job-specific safety training, we offer personal development training on many topics, including sustainability and wellness. Online participation in internally developed business-related courses called Plugology is encouraged for all employees and helps newly hired employees assimilate to the business.

Health, Safety and Wellness

We strive to create a safe working environment, promoting environmental and employee health and safety awareness, and seek to undertake appropriate actions to reduce health and safety risks and establish procedures with appropriate protection for the safety of our employees. In addition, we undertake to safeguard the health and well-being of our employees by providing them with access to health and wellness programs that are designed to promote long-term healthy and active lifestyles. For example, in 2024, we plan to launch a Global Employee Assistance Program to help with mental health, coaching and therapy services.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, including exhibits, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act are available free of charge, other than an investor's own internet access charges, on the Company's website at www.plugpower.com as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the Securities and Exchange Commission (the "SEC"). The information contained on our website is not included as a part of, or incorporated by reference into, this Annual Report on Form 10-K. The SEC also maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The SEC's website address is <http://www.sec.gov>.

We may announce material business and financial information to the public about us, our products and services, and other matters through a variety of means, including filings with the SEC, press releases, public conference calls, webcasts, the investor relations section of our website (www.ir.plugpower.com) and our X (formerly Twitter) account at @PlugPowerInc in order to achieve broad, non-exclusionary distribution of information to the public and for complying with our disclosure obligations under Regulation FD. We encourage investors, the media, and others interested in Plug to follow the foregoing channels and review the information that we make available on such channels, in addition to following our filings with the SEC.

Item 1A. Risk Factors

The following risk factors should be considered carefully in addition to the other information in this Annual Report on Form 10-K. The occurrence of any of the following material risks could harm our business and future results of operations and could result in the trading price of our common stock declining and a partial or complete loss of your investment. These risks are not the only ones that we face. Additional risks not presently known to us or that we currently consider immaterial may also impair our business operations and trading price of our common stock. The discussion contained in this Annual Report on Form 10-K contains “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve risks and uncertainties. Refer to the section entitled “Forward-Looking Statements”.

A. MARKET RISKS

We may be unable to successfully execute and operate our hydrogen production projects and such projects may cost more and take longer to complete than we expect.

As part of our vertical integration strategy, the Company is developing and constructing hydrogen production facilities at locations across the United States and Europe. Our ability to successfully complete, operate these projects and obtain green certification for some of these facilities is not guaranteed. These projects will impact our ability to meet and supplement the hydrogen demands for our products and services, for both existing and prospective customers. Our hydrogen production projects are dependent, in part, upon our ability to meet our internal demand for electrolyzers required for such projects. The timing and cost to complete the construction of our hydrogen production projects are subject to a number of factors outside of our control and such projects may take longer and cost more to complete and become operational than we expect. For example, construction at our Georgia plant took longer than we expected before becoming operational in 2024.

The viability and competitiveness of our hydrogen production facilities will depend, in part, upon favorable laws, regulations, and policies related to hydrogen production such as the Section 45V Credit for Production of Clean Hydrogen, among others. Some of these laws, regulations, and policies are nascent, and there is no guarantee that they will be favorable to our projects. For further information on risks associated with government regulations, see “Regulatory Risks”. Additionally, our facilities will be subject to numerous and new permitting, regulations, laws, and policies, many of which might vary by jurisdiction. Hydrogen production facilities are also subject to robust competition from well-established multinational companies in the energy industry. There is no guarantee that our hydrogen production strategy will be successful, amidst this competitive environment.

Our products and performance depend largely on the availability of hydrogen and recent insufficient supplies of hydrogen have negatively affected, and any continued insufficient supply of hydrogen could negatively affect our sales and deployment of our products and services.

Our products and services depend largely on the availability of hydrogen. Although we are in the process of building multiple hydrogen production plants, our business could be materially and adversely affected by an inadequate availability of hydrogen or our failure to secure hydrogen supply at competitive prices. We commenced producing liquid hydrogen at our Georgia facility in January 2024. There is no assurance that our hydrogen production will scale at the rate we anticipate or that we will complete additional hydrogen production plants on schedule or at all. Additionally, we are dependent upon hydrogen suppliers to provide us with hydrogen for the commercialization of our products and services. We have experienced supply chain issues relating to the availability of hydrogen, including but not limited to suppliers utilizing force majeure provisions under existing contracts, which has led to volume constraints, delay in our deployments and service margin improvements, and negatively impacted the amount of hydrogen we have been able to provide under certain of our supply and other agreements. If hydrogen suppliers elect not to participate in the material handling market,

or if supply chain issues relating to the availability of hydrogen continue, insufficient supplies of hydrogen may result. If hydrogen is not readily available or if hydrogen prices are such that energy produced by our products costs more than energy provided by other sources, then our products could be less attractive to potential users and our products' value proposition could be negatively affected which could materially and adversely affect our sales and the deployment of our products and services.

Recent inflationary trends, economic uncertainty, market trends, political instability, and other conditions affecting the profitability and financial stability of us and our customers could negatively impact our sales growth and results of operations.

Recent economic conditions and political instability in the geographic markets we serve, such as tight credit markets, inflation, low consumer confidence, limited capital spending, and changes in government priorities, could have a material adverse effect on our business, financial condition and results of operations. For example, factors such as increased interest rates have made it more difficult for us to find debt capital solutions efficiently. In addition, if there is a government shutdown in the United States, especially a prolonged shutdown, it could have a material adverse effect on our business, financial condition and results of operations. For example, the Inflation Reduction Act ("IRA"), which contains numerous credits and tax incentives that may be beneficial to us, was adopted in August 2022 and interagency guidance processes were ongoing through 2023, but final regulations are still pending. A prolonged U.S. government shutdown could cause uncertainty or delay in such determinations, which could impact the timing of any benefits we anticipate receiving under the IRA. In addition, a government shutdown may impact the availability and administration of government funding, which may impact our ability to secure a loan with the U.S. Department of Energy, or our ability to access the public markets and obtain necessary capital in order to properly capitalize and continue our operations.

With respect to our customers, the demand for our products and services is sensitive to their production activity, capital spending and demand for their products and services. In the past couple of years, we have observed increased economic uncertainty in the United States and abroad, including inflation and higher interest rates. Impacts of such economic weakness include falling overall demand for goods and services, leading to reduced profitability, reduced credit availability, higher borrowing costs, reduced liquidity, volatility in credit, equity and foreign exchange markets, and bankruptcies. These developments have led to supply chain disruption and transportation delays which have caused incremental freight charges, which have negatively impacted our business and our results of operations. In addition, as our customers react to global economic conditions, we have seen them reduce spending on our products and take additional precautionary measures to limit or delay expenditures and preserve capital and liquidity. In recent months, we have pursued price increases across our offerings including equipment, service and hydrogen fuel, which may cause customers to change or delay their purchasing decisions with us. Reductions in customer spending on our solutions, delays in customer purchasing decisions, lack of renewals, inability to attract new customers, uncertainty about business continuity as well as pressure for extended billing terms or pricing discounts, could limit our ability to grow our business and negatively affect our operating results and financial condition.

Additionally, many of our customers operate in markets that may be impacted by market uncertainty, trade and tariff policies, costs of goods sold, currency exchange rates, central bank interest rate changes, foreign competition, offshoring of production, oil and natural gas prices, geopolitical developments, labor shortages, inflation, and a variety of other factors beyond our control. Any of these factors could cause customers to idle or close facilities, delay purchases, reduce production levels, or experience reductions in the demand for their own products or services, and other conditions affecting the profitability and financial stability of our customers could negatively impact our sales growth and results of operations.

Inflation may adversely affect our financial results.

Since 2008, the U.S. Federal Reserve System has generally maintained policies producing a historically low-interest-rate environment. The U.S. Federal Reserve System raised interest rates throughout 2022 and 2023 in response to concerns about inflation, and there can be no assurance as to what actions the U.S. Federal Reserve System will take in the future. To the extent such inflation continues or there is a market expectation that such inflation will continue or increase, it may increase our cost of borrowing and result in limitations on our ability to access credit or otherwise raise debt and equity capital. In addition, the market prices of certain materials and components used by us and/or our suppliers in manufacturing the products we sell can be volatile. Significant increases in inflation, particularly increases in the cost of raw materials, and the expenses associated with the distribution and transportation of these materials and products we sell, can have an adverse impact on the business, financial condition, and results of operations of us or our suppliers. Our

ability to pass on such increases in costs in a timely manner depends on market conditions, and the inability to pass along cost increases could result in lower gross margins. Increases in interest rates, especially if coupled with reduced government spending and volatility in financial markets, may have the effect of further increasing economic uncertainty and heightening these risks. In an inflationary environment, we may be unable to raise the sales prices of our products and services at or above the rate at which our costs increase, which could reduce our profit margins and have a material adverse effect on our financial results. For example, with respect to our service business, we have experienced inflationary increases in labor, parts and related overhead. This has contributed to the increase in our estimated projected costs to service fuel cell systems and related infrastructure, which resulted in an increase in the provision for loss contracts related to service during the fourth quarter of 2023. If these trends continue, we may have to record additional service loss provisions in the future. We also may experience lower than expected sales and potential adverse impacts on our competitive position if there is a decrease in consumer spending or a negative reaction to our pricing. A reduction in our revenue would be detrimental to our financial condition and could also have an adverse impact on our future growth.

Volatility in commodity prices and product shortages may adversely affect our gross margins and financial results.

Some of our products contain commodity-priced materials. Commodity prices and supply levels affect our costs. For example, nickel, platinum, titanium and iridium are key materials in our PEM fuel cells, electrolyzers, and hydrogen infrastructure. Platinum, titanium, and iridium are scarce natural resources, and we are dependent upon a sufficient supply of these commodities. These resources may become increasingly difficult to source due to various cost, geopolitical, or other reasons, which in turn might have a material adverse effect on our business.

While we do not anticipate significant near- or long-term supply shortages with respect to our demand of platinum, titanium, or iridium, a shortage could adversely affect our ability to produce commercially viable PEM fuel cells, PEM electrolyzers, or hydrogen production facilities, or raise our cost of producing such products and services. In addition, global inflationary pressures have recently increased, which could potentially increase commodity price volatility. Our ability to pass on such increases in costs in a timely manner depends on market conditions, and the inability to pass along cost increases could result in lower gross margins.

We depend on a concentration of pedestal customers for the majority of our revenues and the loss of any of these customers would adversely affect our business, financial condition, results of operations, and cash flows.

We sell most of our products to a range of customers that include a concentration of pedestal customers, and while we are continually seeking to expand our customer base, we expect this will continue for the next several years. For example, total revenue in 2023 associated with our top three customers was \$390.5 million, which included a provision for warrant charges in the aggregate of \$11.2 million. For the year ended December 31, 2023, such customers accounted for 43.8% of our total consolidated revenues. Total revenue in 2022 associated with our top three customers was \$359.0 million, which included a provision for warrant charges in the aggregate of \$12.7 million. For the year ended December 31, 2022, such customers accounted for 51.2% of our total consolidated revenues.

Any decline in business with our significant customers could have an adverse impact on our business, financial condition, and results of operations. Our future success is dependent upon the continued purchases of our products by a small number of customers. If we are unable to broaden our customer base and expand relationships with potential customers, our business will continue to be impacted by demand fluctuations due to our dependence on a small number of customers. Demand fluctuations can have a negative impact on our revenues, business, financial condition, results of operations and cash flows. Our dependence on a small number of major customers exposes us to additional risks. A slowdown, delay or reduction in a customer's orders could result in excess inventories or unexpected quarterly fluctuations in our operating results and liquidity. Each of our major customers has significant purchasing leverage over us to require changes in sales terms including pricing, payment terms and product delivery schedules, which could adversely affect our business, financial condition, results of operations and cash flows.

In addition, as of December 31, 2023, our top customer comprised approximately 21.5% of the total accounts receivable balance. At December 31, 2022, our top customer comprised approximately 24.9% of the total accounts receivable balance. If our major customers delay payment of or are unable to pay their receivables, that could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our ability to source parts and raw materials from our suppliers could be disrupted or delayed in our supply chain which could adversely affect our results of operations.

Our operations require significant amounts of necessary parts and raw materials. Most components essential to our business are generally available from multiple sources; however, we believe there are some component suppliers and manufacturing vendors, particularly those suppliers and vendors that supply materials in very limited supply worldwide or supply commodities that have high degree of volatility, whose loss to us or general unavailability could have a material adverse effect upon our business and financial condition. If we are unable to source these parts or raw materials, our operations may be disrupted, or we could experience a delay or halt in certain of our manufacturing operations. We believe that our supply management and production practices are based on an appropriate balancing of the foreseeable risks and the costs of alternative practices. Nonetheless, reduced availability or interruption in supplies, whether resulting from more stringent regulatory requirements, supplier financial condition, increases in duties and tariff costs, disruptions in transportation, an outbreak of a severe public health pandemic, severe weather, or the occurrence or threat of wars or other conflicts, could have an adverse effect on our financial condition, results of operations and cash flows. For example, we have experienced and may continue to experience supply chain issues, including but not limited to shortages in the supply of liquid hydrogen due to suppliers utilizing force majeure provisions under existing contracts. These volume constraints have delayed our deployments and service margin improvements, and negatively impacted the amount of hydrogen we have been able to provide under certain of our supply and other agreements. Furthermore, ongoing global economic trends have caused significant challenges for global supply chains resulting in inflationary cost pressures, component shortages, and transportation delays, which have impacted our business.

We face risks associated with our plans to market, distribute, and service our products and services internationally.

We market, distribute, sell and service our product offerings internationally and expect to continue investing in our international operations. We have limited experience operating internationally, including developing and manufacturing our products to comply with the commercial and legal requirements of international markets. Our success in international markets will depend, in part, on our ability and that of our partners to secure relationships with foreign sub-distributors, and our ability to manufacture products that meet foreign regulatory and commercial requirements. Additionally, our planned international operations are subject to other inherent risks, including potential difficulties in enforcing contractual obligations and intellectual property rights in foreign countries, and could be adversely affected due to, among other things, fluctuations in currency exchange rates, political and economic instability, acts or threats of terrorism, changes in governmental policies or policies of central banks, expropriation, nationalization and/or confiscation of assets, price controls, fund transfer restrictions, capital controls, exchange rate controls, taxes, unfavorable political and diplomatic developments, changes in legislation or regulations and other additional developments or restrictive actions over which we will have no control.

Doing business in foreign markets requires us to be able to respond to rapid changes in market, legal, and political conditions in these countries. As we expand in international markets, including but not limited to joint ventures involving business activities in Europe and South Korea, and potential business activities in South America, Europe, Asia, the Middle East, Australia and elsewhere, we may face numerous challenges. Such challenges might include unexpected changes in regulatory requirements; potential conflicts or disputes that countries may have to deal with, among other things, data privacy requirements; labor laws and anti-competition regulations; export or import restrictions; laws and business practices favoring local companies; fluctuations in currency exchange rates; longer payment cycles and difficulties in collecting accounts receivables; difficulties in managing international operations; potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements and other trade barriers; restrictions on repatriation of earnings; and the burdens of complying with a wide variety of international laws. We face risks associated with our plans to market, distribute, and service our products and services internationally and any of these factors could adversely affect our results of operations and financial condition. The success of our international expansion will depend, in part, on our ability to succeed in navigating the different legal, regulatory, economic, social, and political environments.

Our investments in joint ventures may involve numerous risks that may affect the ability of such joint ventures to make distributions to us.

We currently conduct some of our operations through joint ventures, with such partners including SK E&S, Renault, Acciona, and Olin in which we share control with our joint venture participants. Investments in joint ventures may involve risks not present when a third party is not involved, including the possibility that our joint venture participants might experience business or financial stress that impact their ability to effectively operate the joint venture, or might

become bankrupt or may be unable to meet their economic or other obligations, in which case the joint venture may be unable to access needed growth capital without additional funding from us. In addition, our joint venture participants may have economic, tax, business or legal interests or goals that are inconsistent with ours, or those of the joint venture, and may be in a position to take actions contrary to our policies or objectives. Furthermore, joint venture participants may take actions that are not within our control, which may expose our investments in joint ventures to the risk of lower values or returns. Disputes between us and co-venturers may result in litigation or arbitration that could increase our expenses and prevent our officers and/or directors from focusing their time and efforts on our day-to-day business. In addition, we may, in certain circumstances, be liable for the actions of our co-venturers. Each of these matters could have a material adverse effect on us.

We made certain assumptions and projections regarding the future of the markets served by our joint venture investments that included projected raw material availability and pricing, production costs, market pricing and demand for the joint venture's products. These assumptions were an integral part of the economics used to evaluate these joint venture investment opportunities prior to consummation. To the extent that actual market performance varies from our models, our ability to achieve projected returns on our joint venture investments may be impacted in a materially adverse manner. Failure by us, or an entity in which we have a joint venture interest, to adequately manage the risks associated with such joint ventures could have a material adverse effect on the financial condition or results of operations of our joint ventures and, in turn, our business and operations. In addition, should any of these risks materialize, it could have a material adverse effect on the ability of the joint venture to make future distributions to us.

Our products and services face intense competition.

The markets for energy products, including PEM fuel cells, electrolyzers, and hydrogen production are intensely competitive. Our recent expansion into electrolyzer manufacturing and hydrogen production similarly faces robust competition — both from incumbent companies and new emerging business interests in the United States and abroad. Some of our competitors are much larger than we are and may have the manufacturing, marketing and sales capabilities to complete research, development, and commercialization of products more quickly and effectively than we can. There are many companies engaged in all areas of traditional and alternative energy generation in the United States and abroad, including, among others, major electric, oil, chemical, natural gas, battery, generator and specialized electronics firms, as well as universities, research institutions and foreign government-sponsored companies. These firms are engaged in forms of power generation such as advanced battery technologies, generator sets, fast charged technologies and other types of fuel cell technologies. Well established companies might similarly seek to expand into new types of energy products, including PEM fuel cells, electrolyzers, or hydrogen production. Additionally, some competitors may rely on other different competing technologies for fuel cells, electrolyzers, or hydrogen production. We believe our technologies have many advantages. In the near future, we expect the demand for our products — electrolyzers in particular — to largely offset any hypothetical market preference for competing technologies. However, changes in customer preferences, the marketplace, or government policies could favor competing technologies. The primary current value proposition for our fuel cell customers stems from productivity gains in using our solutions. Longer term, given evolving market dynamics and changes in alternative energy tax credits, if we are unable to successfully develop future products that are competitive with competing technologies in terms of price, reliability and longevity, customers may not buy our products. Technological advances in alternative energy products, battery systems or other fuel cell, electrolyzer, or hydrogen technologies may make our products less attractive or render them obsolete.

We will continue to be dependent on certain third-party key suppliers for components of our products, hydrogen generation projects, and manufacturing facilities. The failure of a supplier to develop and supply components in a timely manner or at all, or our inability to obtain substitute sources of these components on a timely basis or on terms acceptable to us, could impair our ability to manufacture our products, could increase our cost of production or could affect our ability to generate hydrogen, which would in turn negatively affect our sales and deployment of our products and services.

We rely on certain key suppliers for critical components in our products, and there are numerous other components for our products that are sole sourced. If we fail to maintain our relationships with our suppliers or build relationships with new suppliers, or if suppliers are unable to meet our demand, we may be unable to manufacture our products, or our products may be available only at a higher cost or after a delay. The Company has experienced and may continue to experience supply chain-related delays for components of our products, hydrogen generation projects, and manufacturing facilities. In addition, to the extent that our supply partners use technology or manufacturing processes that are proprietary, we may be unable to obtain comparable components from alternative sources. Furthermore, we may

become increasingly subject to domestic content sourcing requirements and Buy America preferences, as required by federal infrastructure funding and various tax incentives in the United States, and we may become subject in the future to domestic sourcing requirements that may become relevant to the European Union. Domestic content preferences potentially mandate our Company to source certain components and materials from United States-based suppliers and manufacturers. Conformity with these provisions potentially depends upon our ability to increasingly source components or materials from within the United States. An inability to meet these requirements could have a material adverse effect on the Company's ability to successfully leverage tax incentives or compete for certain federal infrastructure funding sources imposing such mandates.

In addition, the failure of a supplier to develop and supply components in a timely manner or at all, or to develop or supply components that meet our quality, quantity and cost requirements, or our inability to obtain substitute sources of these components on a timely basis or on terms acceptable to us, could impair our ability to manufacture our products or could increase our cost of production. If we cannot obtain substitute materials or components on a timely basis or on acceptable terms, we could be prevented from delivering our products to our customers within required timeframes. Any such delays have resulted and could continue to result in sales and installation delays, cancellations, penalty payments or loss of revenue and market share, any of which could have a material adverse effect on our business, results of operations, and financial condition.

B. FINANCIAL AND LIQUIDITY RISKS

We have incurred losses and anticipate continuing to incur losses.

We have not achieved operating profitability in any quarter since our formation and we will continue to incur net losses until we can produce sufficient revenue to cover our costs. As of December 31, 2023, we had an accumulated deficit of \$4.5 billion. We have continued to experience negative cash flows from operations and net losses. Our net losses were \$1.4 billion, \$724.0 million and \$460.0 million for the years ended December 31, 2023, 2022 and 2021, respectively. The net cash used in operating activities was \$1.1 billion, \$828.6 million and \$358.2 million for the years ended December 31, 2023, 2022 and 2021, respectively. We expect to generate operating losses for the foreseeable future as we continue to devote significant resources to optimize our current production and manufacturing capacity, construct hydrogen plants and manage inventory to deliver our end-products and related services.

We anticipate that we will continue to incur losses until we can produce and sell our products and services on a large-scale and cost-effective basis. We cannot guarantee when we will operate profitably, if ever. In order to achieve profitability, we must successfully execute our planned path to profitability in the early adoption markets on which we are focused. The profitability of our products depends largely on material and manufacturing costs and the market price of hydrogen. The hydrogen infrastructure that is needed to support our growth readiness and cost efficiency must be available and cost efficient. We must continue to shorten the cycles in our product roadmap with respect to improvement in product reliability and performance that our customers expect. We must execute on successful introduction of our products into the market. We must accurately evaluate our markets for, and react to, competitive threats in both other technologies (such as advanced batteries) and our technology field. Finally, we must continue to lower our products' build costs and lifetime service costs. If we are unable to successfully take these steps, we may never operate profitably, and, even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future.

We will have to raise additional capital to expand our business and such capital may not be available to us or, if received, may not be available to us on favorable terms.

As of December 31, 2023, we had cash and cash equivalents of \$135.0 million, restricted cash of \$1.0 billion and net working capital of \$822.2 million (which was comprised of the net amount of current assets of \$1.8 billion and current liabilities of \$964.8 million). This compares to cash and cash equivalents of \$690.6 million, restricted cash of \$858.7 million and net working capital of \$2.7 billion (which was comprised of the net amount of current assets of \$3.3 billion and current liabilities of \$635.3 million) as of December 31, 2022. In addition, we had available-for-sale securities and equity securities of \$1.3 billion and \$134.8 million, respectively, as of December 31, 2022.

Our cash requirements relate primarily to working capital needed to operate and grow our business, including funding operating expenses, managing our inventory to support both shipments of new units and servicing the installed base, supporting equipment leased and equipment related to PPAs for customers under long-term arrangements, funding our GenKey "turn-key" solution, which includes the installation of our customers' hydrogen infrastructure as well as

delivery of the hydrogen fuel, continued expansion of our markets, such as Europe and Asia, continued development and expansion of our products, such as Progen, payment of lease obligations under sale/leaseback financings, mergers and acquisitions, strategic investments and joint ventures, liquid hydrogen plant construction, expanding production facilities and the repayment or refinancing of our long-term debt. Our ability to meet future liquidity needs and capital requirements will depend upon numerous factors, including the timing and quantity of product orders and shipments; attaining and expanding positive gross margins across all product lines; the timing and amount of our operating expenses; the timing and costs of working capital needs, including our ability to manage inventory; the timing and costs of building a sales base; the ability of our customers to obtain financing to support commercial transactions; our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers, and the terms of such agreements that may require us to pledge or restrict substantial amounts of our cash to support these financing arrangements; the timing and costs of developing marketing and distribution channels; the timing and costs of product service requirements; the timing and costs of hiring and training product staff; the extent to which our products gain market acceptance; the timing and costs of product development and introductions; the extent of our ongoing and new research and development programs; and changes in our strategy or our planned activities.

In addition, we will have to raise additional capital to expand our business. There can be no assurance that we will have access to the capital we need on favorable terms when required or at all. In periods when the capital and credit markets experience significant volatility, the amounts, sources and cost of capital available to us may be adversely affected. For example, we are party to certain agreements with collateral requirements and capital or margin calls, and we cannot predict when and what amounts may be called. We primarily use external financing to provide working capital needed to operate and grow our business. Sufficient sources of external financing may not be available to us on cost effective terms. If we cannot raise additional funds when we need them, our financial condition and business could be materially adversely affected.

Our estimated future revenue may not be indicative of actual future revenue or profitability.

Our estimated future revenue represents, as of a point in time, expected future revenue from work not yet completed under executed contracts. As of December 31, 2023, our estimated future revenue was approximately \$1.2 billion. While we anticipate a significant amount of our estimated future revenue will be recognized as revenue over one to ten years, our estimated future revenue is subject to order cancellations and delays. We or our customers may attempt to cancel or modify orders in estimated future revenue, and we may not be able to convert all of our estimated future revenue into revenue and cash flows. In addition, if production of products are delayed resulting from parts availability and other constraints stemming from supply chain disruptions, revenue recognition can occur over longer periods of time, and products may remain in estimated future revenue for extended periods of time. If we receive relatively large orders in any given quarter, fluctuations in quarterly levels of estimated future revenue can result because the estimated future revenue may reach levels which may not be sustained in subsequent quarters. Our estimated future revenue should not be relied on as a measure of actual future revenue or profitability.

If we cannot obtain financing to support the sale of our products and service to our customers or our power purchase agreements with customers, such failure may adversely affect our liquidity and financial position.

Customers representing most of our revenue access our products through Power Purchase Agreements (“PPAs”), rather than a direct purchase. Historically, we have obtained or provided third-party financing sources to finance these PPA arrangements. We have experienced, and may experience in the future, difficulty in obtaining or providing adequate financing for these arrangements on acceptable terms, or at all. Failure to obtain or provide such financing has impacted our product sales and results of operations, and may result in the loss of material customers, which could have a material adverse effect on our business, financial condition, and results of operations. Further, we have been required, and may be required in the future, to continue to pledge or restrict substantial amounts of our cash to support these financing arrangements. As a result, such cash will not be available to us for other purposes, which may have a material adverse effect on our liquidity and financial position. For example, as of December 31, 2023, approximately \$1.0 billion of our cash is restricted to support such leasing arrangements, comprised of cash deposits and collateralizing letters of credit, which prevents us from using such cash for other purposes. Because we are currently focusing more on cash generation, we have paused new PPAs in the fourth quarter of 2023 and have shifted our approach to enable customers to deal directly with banks, which may temper short-term revenue growth. Although we expect PPAs to become a cash source in the near-term and for restricted cash to be released over time, our ability to realize these benefits is not guaranteed.

Our indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business.

At December 31, 2023, our total outstanding indebtedness was approximately \$567.6 million, \$195.3 million of the \$200.0 million in aggregate principal amount of 3.75% Convertible Senior Notes due June 1, 2025 (the “3.75% Convertible Senior Notes”), \$3.9 million of long-term debt, and \$368.4 million of finance obligations consisting primarily of debt associated with sale of future revenues and sale/leaseback financings.

Our indebtedness could have negative consequences on our future operations, including:

- we may have difficulty satisfying our obligations with respect to our outstanding debt;
- we may have difficulty obtaining financing in the future for working capital, capital expenditures, acquisitions, or other purposes;
- our vulnerability to general economic downturns and adverse industry conditions could increase;
- our flexibility in planning for, or reacting to, changes in our business and in our industry in general could be limited; and
- our amount of debt and the amount we must pay to service our debt obligations could place us at a competitive disadvantage compared to our competitors that may have less debt.

Our ability to generate cash to repay our indebtedness is subject to the performance of our business, as well as general economic, financial, competitive, and other factors that are beyond our control. If our business does not generate sufficient cash flow from operating activities or if future borrowings are not available to us in amounts sufficient to enable us to fund our liquidity needs, our operating results, and financial condition may be adversely affected.

The accounting method for convertible debt securities that may be settled in cash, such as the 3.75% Convertible Senior Notes, could have a material effect on our reported financial results.

Under Accounting Standards Codification (“ASC”) 470-20, *Debt with Conversion and Other Options*, or ASC 470-20, an entity must separately account for the liability and equity components of the convertible debt instruments (such as the 3.75% Convertible Senior Notes) that may be settled entirely or partially in cash upon conversion in a manner that reflects the issuer’s economic interest cost. The effect of ASC 470-20 on the accounting for the convertible senior notes is that the equity component is required to be included in the additional paid-in capital section of stockholders’ equity on our consolidated balance sheet at the issuance date and the value of the equity component would be treated as debt discount for purposes of accounting for the debt component of the convertible senior notes. As a result, we are required to record a non-cash interest expense as a result of the amortization of the discounted carrying value of the convertible senior notes to their face amount over the term of the convertible senior notes. As a result, we report larger net losses (or lower net income) in our financial results because ASC 470-20 requires interest to include the amortization of the debt discount, which could adversely affect our reported or future financial results or the trading price of our common stock.

In addition, on January 1, 2021, we early adopted Accounting Standards Update (“ASU”) No. 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40)* using the modified retrospective approach. Consequently, the 3.75% Convertible Senior Notes is now accounted for as a single liability measured at its amortized cost. This accounting change removed the impact of recognizing the equity component of the Company’s convertible notes at issuance and the subsequent accounting impact of additional interest expense from debt discount amortization. The cumulative effect of the accounting change upon adoption on January 1, 2021 increased the carrying amount of the 3.75% Convertible Senior Notes by \$120.6 million, reduced accumulated deficit by \$9.6 million and reduced additional paid-in capital by \$130.2 million. Future interest expense of the convertible notes will be lower as a result of adoption of this guidance and net loss per share will be computed using the if-converted method for convertible instruments.

The convertible note hedges may affect the value of our common stock.

In conjunction with the pricing of the 3.75% Convertible Senior Notes, the Company entered into privately negotiated capped call transactions (the “3.75% Notes Capped Call”) with certain counterparties at a price of \$16.3 million. The 3.75% Notes Capped Call cover, subject to anti-dilution adjustments, the aggregate number of shares of the Company’s common stock that underlie the initial 3.75% Convertible Senior Notes and is generally expected to reduce potential dilution to the Company’s common stock upon any conversion of the 3.75% Convertible Senior Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the converted notes, as

the case may be, with such reduction and/or offset subject to a cap based on the cap price. The cap price of the 3.75% Notes Capped Call is initially \$6.7560 per share, which represents a premium of approximately 60% over the last then-reported sale price of the Company's common stock of \$4.11 per share on the date of the transaction and is subject to certain adjustments under the terms of the 3.75% Notes Capped Call. The 3.75% Notes Capped Call becomes exercisable if the conversion option is exercised.

The option counterparties and/or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives with respect to our common stock and/or purchasing or selling our common stock in secondary market transactions prior to the maturity of the 3.75% Convertible Senior Notes (and are likely to do so during any observation period related to a conversion of 3.75% Convertible Senior Notes or following any repurchase of 3.75% Convertible Senior Notes by us on any fundamental change repurchase date or otherwise). This activity could also cause or avoid an increase or a decrease in the market price of our common stock. In addition, if any such convertible note hedge transaction fails to become effective, the option counterparties may unwind their hedge positions with respect to our common stock, which could adversely affect the value of our common stock. The potential effect, if any, of these transactions and activities on the market price of our common stock will depend in part on market conditions and cannot be ascertained at this time. Any of these activities could adversely affect the value of our common stock.

We are subject to counterparty risk with respect to the convertible note hedge transactions.

The option counterparties are financial institutions or affiliates of financial institutions and are subject to the risk that one or more of such option counterparties may default under the convertible note hedge transactions. Our exposure to the credit risk of the option counterparties is not secured by any collateral. If any option counterparty becomes subject to bankruptcy or other insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under our transactions with that option counterparty. Our exposure will depend on many factors but, generally, an increase in our exposure will be correlated to an increase in our common stock market price and in the volatility of the market price of our common stock. In addition, upon a default by an option counterparty, we may suffer adverse tax consequences and dilution with respect to our common stock. We can provide no assurance as to the financial stability or viability of any option counterparty.

Unfavorable developments affecting the banking and financial services industry could adversely affect our business, liquidity and financial condition, and overall results of operations.

Actual events, concerns or speculation about disruption or instability in the banking and financial services industry, such as liquidity constraints or lack of available credit, the failure of individual institutions, or the inability of individual institutions or the banking and financial service industry generally to meet their contractual obligations, could significantly impair our access to capital, delay access to deposits or other financial assets, or cause actual loss of funds subject to cash management arrangements. Similarly, these events, concerns or speculation could result in less favorable financing terms, including higher interest rates or costs and tighter financial and operating covenants, or systemic limitations on access to credit and liquidity sources, thereby making it more difficult for us to acquire financing on acceptable terms or at all. Additionally, our customers, suppliers and other business partners also could be adversely affected by these risks as described above, which in turn could result in their committing a breach or default under their contractual agreements with us, their insolvency or bankruptcy, or other adverse effects.

Any decline in available funding, lack of credit in the market, or access to cash and liquidity resources, or non-compliance of banking and financial services counterparties with their contractual commitments to us, our customers, suppliers and other partners could, among other risks, have material adverse impacts on our ability to meet our operating expenses and other financial needs, could result in breaches of our financial and/or contractual obligations, and could have material adverse impacts on our business, financial condition and results of operations.

C. OPERATIONAL RISKS

We may not be able to expand our business or manage our future growth effectively.

We may not be able to expand our business or manage future growth. We plan to continue to improve our manufacturing processes, which will require successful execution of:

- expanding our existing customers and expanding to new markets;
- ensuring manufacture, delivery, and installation of our products;
- ensuring timely construction and completion of hydrogen generation projects, which may be delayed due to the Company's inexperience with these project types, supply chain issues, and federal, state, and local permitting and regulatory issues;
- implementing and improving additional and existing administrative, financial and operations systems and procedures and controls;
- integration of acquisitions;
- leveraging existing personnel and/or hiring additional employees;
- expanding and upgrading our technological capabilities;
- managing relationships with our customers and suppliers and strategic partnerships with other third parties;
- maintaining adequate liquidity and financial resources; and
- continuing to increase our revenues from operations.

Ensuring delivery of our products is subject to many market risks, including scarcity, significant price fluctuations, and competition. Maintaining adequate liquidity is dependent upon a variety of factors, including continued revenues from operations, working capital improvements, and compliance with our debt instruments. We may not be able to achieve our growth strategy and increase production capacity as planned during the foreseeable future. If we are unable to manage our growth effectively, we may not be able to take advantage of market opportunities, develop new products, satisfy customer requirements, execute our business plan, or respond to competitive pressures. For further information on risks associated with new business ventures, see “— Strategic Risks — *We may be unable to successfully pursue, integrate, or execute upon our new business ventures.*”

We identified material weaknesses in our internal control over financial reporting. If we do not effectively remediate these material weaknesses or if we otherwise fail to maintain effective internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud and be subject to fines, penalties or judgments, which can harm our reputation or otherwise cause a decline in investor confidence.

Management identified material weaknesses in our internal control over financial reporting as of December 31, 2023 and previously identified material weaknesses in our internal control over financial reporting as of December 31, 2022, 2021, 2020, 2019, and 2018. See Item 9A, “Controls and Procedures”, in this Annual Report on Form 10-K for information regarding the identified material weaknesses and our actions to date to remediate the material weaknesses. If we do not effectively remediate these material weaknesses or if we otherwise fail to maintain effective internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud and be subject to fines, penalties or judgments, which can harm our reputation or otherwise cause a decline in investor confidence.

Although we plan to complete the remediation process with respect to the material weaknesses in our internal control over financial reporting as of December 31, 2023 as quickly as possible, we cannot at this time estimate how long it will take, and our remediation measures may not prove to be successful in remediating these material weaknesses. If our remedial measures are insufficient to address the material weaknesses, or if additional material weaknesses or significant deficiencies in our internal control over financial reporting are discovered or occur in the future, our consolidated financial statements may contain material misstatements and we may be required to restate our financial results, which can subject us to fines, penalties or judgments, which can harm our reputation or otherwise cause a decline in investor confidence. In addition, if we are unable to successfully remediate our material weaknesses by June 30, 2024, we will have to pay the SEC an additional civil monetary penalty in the amount of \$5.0 million in connection with the SEC settlement.

Delays in or not completing our product and project development goals or products experiencing technical defects may adversely affect our revenue and profitability.

Delays in meeting our development goals (including delivery of electrolyzers to customers, as well as the completion of hydrogen generation projects), products experiencing technical defects, or delays in meeting cost or performance goals (including power output) will delay the profitable commercialization of our products. If such an event or events occur, potential purchasers of our products may choose alternative technologies and any delays could allow potential competitors to gain market advantages. We cannot assure that we will successfully meet our commercialization schedule in the future.

Periodically, we may enter into contracts with our customers for certain products that have not been developed or produced. There can be no assurance that we will complete the development of these products and meet the specifications required to fulfill customer agreements and deliver products on schedule. Pursuant to such agreements, the customers would have the right to provide notice to us if, in their good faith judgment, we have materially deviated from such agreements. Should a customer provide such notice, and we cannot mutually agree to a modification to the agreement, then the customer may have the right to terminate the agreement, which could have a material adverse effect upon our future business.

Other than our current products, which we believe to be commercially viable at this time, we do not know when or whether we will successfully complete research and development of other commercially viable products that could be critical to our future. If we are unable to develop additional commercially viable products we may not be able to become profitable. The profitable commercialization of our products depends on our ability to reduce the costs of our components and subsystems, and we cannot assure you that we will be able to sufficiently reduce these costs. In addition, the profitable commercialization of our products requires achievement and verification of their overall reliability, efficiency and safety targets, and we cannot assure you that we will be able to develop, acquire or license the technology necessary to achieve these targets. We must complete additional research and development to fill our product portfolios and deliver enhanced functionality and reliability in order to manufacture additional commercially viable products in commercial quantities. In addition, while we continue to conduct tests to predict the overall life of our products, we may not have run our products over their projected useful life prior to large-scale commercialization. As a result, we cannot be sure that our products will last as long as predicted, resulting in possible warranty claims and commercial failures.

Our purchase orders may not ship, be commissioned or installed, or convert to revenue, which could have an adverse impact on revenue and cash flow.

Some of the orders we accept from customers require certain conditions or contingencies to be satisfied, or may be cancelled, prior to shipment or prior to commissioning or installation, some of which are outside of our control. Orders for the Company's products and services approximated \$1.2 billion as of the year ended December 31, 2023. The time periods from receipt of an order to shipment date and installation vary widely and are determined by a number of factors, including the terms of the customer contract and the customer's deployment plan. For example, we have experienced delays in product launches, and there may also be product redesign or modification requirements that must be satisfied prior to shipment of units under certain of our agreements. If the designs are not finalized on schedule or the redesigns or modifications are not completed, some or all of our orders may not ship or convert to revenue. In certain cases, we disclose anticipated, pending orders with prospective customers for our various products, including PEM fuel cell, electrolyzer, stationary product and hydrogen sales; however, those prospective customers may require certain conditions or contingencies to be satisfied prior to entering into a purchase order with us, some of which are outside of our control. Such conditions or contingencies that may be required to be satisfied before we receive a purchase order may include, but are not limited to, successful product demonstrations or field trials. Converting orders into revenue is also dependent upon our customers' ability to obtain financing. Some conditions or contingencies that are out of our control may include, but are not limited to, government tax policy, government funding programs, and government incentive programs. Additionally, some conditions and contingencies may extend for several years. We may have to compensate customers, by either reimbursement, forfeiting portions of associated revenue, or other methods depending on the terms of the customer contract, based on the failure on any of these conditions or contingencies. While not probable, this could have an adverse impact on our revenue and cash flow.

Our future plans could be harmed if we are unable to leverage, attract or retain key personnel.

We have attracted a highly skilled management team and specialized workforce, including scientists, engineers, researchers, manufacturing, and marketing and sales professionals. Our future success will depend, in part, on our ability to leverage, attract and retain qualified management and technical personnel. However, we do not know whether we will be successful in leveraging or retaining qualified personnel. Furthermore, our ability to retain key employees could be adversely impacted if we do not have a sufficient number of shares available under our equity incentive plan to issue to our employees, or if our stockholders do not approve requested share increases or a new equity incentive.

In February 2024, we announced a cost-reduction initiative that included strategic workforce adjustments. These expense reduction measures may not achieve the anticipated benefits and may yield unintended consequences and costs, such as the loss of institutional knowledge and expertise, attrition beyond our intended workforce adjustments, a reduction in morale among our remaining employees and adverse impact to our reputation as an employer, which could make it difficult for us to retain remaining employees or hire new employees in the future. In addition, although positions have been eliminated, the duties performed in these positions remain, and we may be unsuccessful in distributing the duties and obligations of departed employees among our remaining employees or to external service providers. If we are not able to successfully manage the above, there may be a material adverse impact on our business, financial condition and results of operations. In addition, we may need to undertake additional workforce reductions or restructuring activities in the future.

In general, our industry continues to experience change and be subject to significant competitive pressures with respect to the retention of top talent. The loss of key employees may occur due to perceived opportunity for promotion, compensation levels or composition of compensation, work environment or other individual reasons. In the past, we have from time-to-time experienced labor shortages and other labor-related issues. A number of factors might adversely affect the labor force available to us in one or more of our markets, including high employment levels, federal unemployment subsidies, and other government regulations, which include laws and regulations related to workers' health and safety, wage and hour practices and immigration, and such factors can also impact the cost of labor. For example, the recently enacted Inflation Reduction Act includes certain prevailing wage requirements related to tax credit availability which may impact labor costs of the Company and our contractors and subcontractors going forward. An increase in labor costs and the unavailability of skilled labor (including apprentices) or increased turnover could have a material adverse effect on our results of operations. The loss or interruption of the services by any of our key employees, the inability to identify, attract or to hire qualified personnel in the future, the inability to successfully implement executive officer, key employee or other personnel transitions, or delays in hiring qualified personnel could materially and adversely affect our development and profitable commercialization plans and, therefore, our business prospects, results of operations and financial condition.

We are subject to legal proceedings and legal compliance risks that could harm our business.

We are currently, and in the future may continue to be, subject to commercial disputes and litigation. In connection with any disputes or litigation in which we are involved, we may incur costs and expenses in connection with defending ourselves or in connection with the payment of any settlement or judgment or compliance with any ruling in connection therewith. The expense of defending litigation may be significant. The amount of time to resolve lawsuits is unpredictable and defending ourselves may divert management's attention from the day-to-day operations of our business, which could adversely affect our business, financial condition, results of operations and cash flows. In addition, an unfavorable outcome in any such litigation could have a material adverse effect on our business, results of operations, financial condition and cash flows. See Part I, Item 3, "Legal Proceedings".

Certain component quality issues have resulted in adjustments to our warranty reserves and the accrual for loss contracts.

In the past, quality issues have arisen with respect to certain components in certain products that are currently being used at customer sites. Under the terms of our extended maintenance contracts, we have had to retrofit units subject to component quality issues with replacement components to improve the reliability of our products for our customers. We recorded a provision for loss contracts related to service in the current and prior years. Though we continue to work with our vendors on these component issues to improve quality and reliability, unanticipated additional quality issues or warranty claims may arise, and additional material charges may be incurred in the future. Quality issues also could cause profitable maintenance contracts to become unprofitable.

In addition, we may from time to time experience other unexpected design, manufacturing or product performance issues. We make significant investment in the continued improvement of our products and maintain appropriate warranty reserves for known and unexpected issues; however, unknown malfunctions or defects could result in unexpected material liabilities and could adversely affect our business, financial condition, results of operation, cash flows and prospects. In addition, an actual or perceived problem could adversely affect the market's perception of our products resulting in a decline in demand for our products and could divert the attention of our management, which may materially and adversely affect our business, financial condition, results of operations, cash flows, and prospects.

We are dependent on information technology in our operations and the failure of such technology may adversely affect our business. Security breaches of our information technology systems, including cyber-attacks, ransomware attacks, or use of malware or phishing or other malicious techniques by threat actors, have in the past and could in the future impact our operations or lead to liability, or damage our reputation and financial results.

We have in the past experienced and may in the future experience problems with the operation of our current information technology systems or the technology systems of third parties on which we rely, as well as the development and deployment of new information technology systems, that could adversely affect, or even temporarily disrupt, all or a portion of our operations until resolved. The inability to implement new systems or delays in implementing new information technology systems may also affect our ability to realize projected or expected cost savings. Additionally, the inability to implement or any delays in implementing new security measures can also affect our ability to protect against increasingly sophisticated threat actors. Any systems failures could impede our ability to timely collect and report financial results in accordance with applicable laws.

Information technology system and/or network disruptions could harm the Company's operations. Failure to effectively prevent, detect, and recover from security compromises or breaches, including cyber-attacks, could result in the misuse of company assets, unauthorized use or publication of our trade secrets and confidential business information, disruption to the company, diversion of management resources, regulatory inquiries, legal claims or proceedings, reputational damage, loss of sales, reduction in value of our investment in research and development, among other costs to the company. We have experienced and may continue to experience both successful and unsuccessful attempts to gain unauthorized access to our information technology systems on which we maintain proprietary and confidential information. For example, in or around March 2023, an unauthorized actor accessed our computer network and executed a ransomware attack, resulting in the encryption of certain of our computer systems, including systems used to store proprietary and confidential data, and exfiltration of personal information related to certain individuals. Upon detection, we took immediate steps to contain, assess and remediate the incident, including engaging outside legal counsel and external forensic investigators. We restored the affected systems and our business remained operational with no material disruption during the restoration period. Based on information available to date, we do not believe the ransomware event has had a material impact on our business. However, as a result of the incident, we have incurred costs in addressing the incident, including costs related to investigation, containment, restoration, and remediation.

The risk of a security compromise, breach, or disruption, particularly through cyber-attacks, or cyber intrusion, including by computer hackers, insider threats, and cyber terrorists, has generally increased as cyber-attacks have become more prevalent and harder to detect and fight against and threat actors continue to become more sophisticated in their malicious techniques. Additionally, outside or unauthorized parties may attempt to access our confidential information through other means, for example by fraudulently inducing our employees to disclose confidential information through phishing emails or deceptive advertising campaigns. We actively seek to prevent, detect, and investigate any unauthorized access. These threats are also continually evolving, and as a result, will become increasingly difficult to detect. In addition, the increased prevalence of employees working from home may exacerbate the aforementioned cybersecurity risks. Despite the implementation of network security measures, our information technology system have been and could be penetrated by outside or unauthorized parties. Going forward, we may expend additional resources, expenses, and legal and professional fees to further enhance the security of our information technology systems and continually assess our current security measures. In addition, we may be subject to governmental investigations, enforcement actions, regulatory fines or litigation, or we may suffer from reputational damage or public statements against us as a result of unauthorized access to our information technology systems.

The implementation of a new enterprise resource planning system could cause disruption to our operations.

We are planning to implement a new enterprise resource planning ("ERP") system, which is currently scheduled to be implemented in the near- to mid-term. We have in the past and may in the future experience difficulties in

implementing the new ERP system. If the implementation of the ERP system does not proceed as expected, it could impede our ability to manufacture products, order materials, generate management reports, invoice customers, and comply with laws and regulations. Any of these types of disruptions could have a material adverse effect on our net sales and profitability. In addition, the implementation of the new ERP system will require significant investment of human and financial resources. We may experience delays, increased costs and other difficulties, including potential design defects, miscalculations, testing requirements, re-work due to changes in business plans or reporting standards, and the diversion of management's attention from day-to-day business operations. Extended delays could include operational risk, including cybersecurity risks, and other complications. If we are unable to implement the new ERP system as planned, the effectiveness of our internal control over financial reporting could be adversely affected, our ability to assess those controls adequately could be delayed, and our business, results of operations, financial condition and cash flows could be negatively impacted.

We may not be able to protect important intellectual property and we could incur substantial costs defending against claims that our products infringe on the proprietary rights of others.

PEM fuel cell technology was first developed in the 1950s, and fuel processing technology has been practiced on a large scale in the petrochemical industry for decades. Accordingly, we do not believe that we can establish a significant proprietary position in the fundamental component technologies in these areas. However, our ability to compete effectively will depend, in part, on our ability to protect our proprietary system-level technologies, systems designs and manufacturing processes. We rely on patents, trademarks, trade secrets, and other policies and procedures related to confidentiality to protect our intellectual property. However, some of our intellectual property is not covered by any patent or patent application. Moreover, we do not know whether any of our pending patent applications will issue or, in the case of patents issued or to be issued, that the claims allowed are or will be sufficiently broad to protect our technology or processes. Even if all of our patent applications are issued and are sufficiently broad, our patents may be challenged or invalidated. We could incur substantial costs in prosecuting or defending patent infringement suits or otherwise protecting our intellectual property rights. For example, we have been subject to a lawsuit against Joule Processing, LLC and Plug Power Inc., which alleges misappropriation of trade secrets under the federal Defend Trade Secrets Act of 2016, among other complaints. See Part I, Item 3, "Legal Proceedings". While we have attempted to safeguard and maintain our proprietary rights, we do not know whether we have been or will be completely successful in doing so. Moreover, patent applications filed in foreign countries may be subject to laws, rules and procedures that are substantially different from those of the United States, and any resulting foreign patents may be difficult and expensive to obtain and enforce. In addition, we do not know whether the USPTO will grant federal registrations based on our pending trademark applications. Even if federal registrations are granted to us, our trademark rights may be challenged. It is also possible that our competitors or others will adopt trademarks similar to ours, thus impeding our ability to build brand identity and possibly leading to customer confusion. We could incur substantial costs in prosecuting or defending trademark infringement suits.

Furthermore, we might encounter difficulties protecting intellectual property rights in foreign jurisdictions. Certain jurisdictions do not favor the enforcement of patents, trade secrets, and other intellectual property protection. Enforcement of our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and adverse impacts to our intellectual property rights.

Further, our competitors may independently develop or patent technologies or processes that are substantially equivalent or superior to ours. If we are found to be infringing third party patents, we could be required to pay substantial royalties and/or damages, and we do not know whether we will be able to obtain licenses to use such patents on acceptable terms, if at all. Failure to obtain needed licenses could delay or prevent the development, manufacture or sale of our products, and could necessitate the expenditure of significant resources to develop or acquire non-infringing intellectual property.

We may need to pursue lawsuits or legal action in the future to enforce our intellectual property rights, to protect our trade secrets and domain names, and to determine the validity and scope of the proprietary rights of others. If third parties prepare and file applications for trademarks used or registered by us, we may oppose those applications and be required to participate in proceedings to determine the priority of rights to the trademark. Similarly, competitors may have filed applications for patents, may have received patents and may obtain additional patents and proprietary rights relating to products or technology that block or compete with ours. We may have to participate in interference proceedings to determine the priority of invention and the right to a patent for the technology. Litigation and interference proceedings, even if they are successful, are expensive to pursue and time consuming, and we could use a substantial amount of our management and financial resources in either case.

Confidentiality agreements to which we are party may be breached, and we may not have adequate remedies for any breach. Our trade secrets may also be known without breach of such agreements or may be independently developed by competitors. Our inability to maintain the proprietary nature of our technology and processes could allow our competitors to limit or eliminate any competitive advantages we may have.

Our financial results may be adversely affected by changes in accounting principles generally accepted in the United States.

Generally accepted accounting principles in the United States (“GAAP”) is subject to interpretation by the FASB, the American Institute of Certified Public Accountants, the SEC and various bodies formed to promulgate and interpret appropriate accounting principles. See Note 2, “Summary of Significant Accounting Policies”, to our consolidated financial statements included in this Annual Report on Form 10-K regarding the effect of new accounting pronouncements on our financial statements. Any difficulties in implementing these pronouncements could cause us to fail to meet our financial reporting obligations, which could result in regulatory discipline and harm investors’ confidence in us. Further, the implementation of new accounting pronouncements or a change in other principles or interpretations could have a significant effect on our financial results.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our operating results could fall below expectations of investors, resulting in a decline in our stock price.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. For example, our revenue recognition, loss accrual for service contracts, goodwill and impairment of long-lived assets policies are complex, and we often must make estimates and assumptions that could prove to be incorrect. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Significant assumptions and estimates used in preparing our consolidated financial statements include those related to revenue recognition, valuation of inventories, loss accrual for service contracts, impairment of long-lived assets, and provision for common stock warrants. Our operating results may be adversely affected if our assumptions change or if actual circumstances differ from those in our assumptions, which could cause our operating results to fall below the expectations of investors, resulting in a decline in our stock price.

Our products use, or generate, flammable fuels that are inherently dangerous substances, which could subject our business to product safety, product liability, other claims, product recalls, negative publicity, or heightened regulatory scrutiny of our products.

Our fuel cell systems use hydrogen gas in catalytic reactions. While our products do not use this fuel in a combustion process, hydrogen gas is a flammable fuel that could leak and combust if ignited by another source. Further, any such accidents involving our products or other products using similar flammable fuels could materially suppress demand for, or heighten regulatory scrutiny of, our products. Our expansion into electrolyzer manufacturing, hydrogen production, and the transport of hydrogen fuel similarly involve hydrogen in either gaseous or liquified form. Additionally, the production of hydrogen through electrolysis also results in the generation of oxygen. As a result, oxygen must be separated and controlled during the hydrogen production process. Such activities are subject to potential risks and liabilities associated with flammable gases.

The risk of product liability claims and associated adverse publicity is inherent in the development, manufacturing, marketing and sale of fuel cell products, electrolyzers, hydrogen production, and in products fueled by hydrogen, which is a flammable gas. Any liability for damages resulting from malfunctions or design defects could be substantial and could materially adversely affect our business, financial condition, results of operations and prospects. In addition, an actual or perceived problem with our products could adversely affect the market’s perception of our products resulting in a decline in demand for our products, which may materially and adversely affect our business, financial condition, results of operations and prospects. See Part I, Item 3, “Legal Proceedings”.

Our success depends on our ability to improve our financial and operational performance and execute our business strategy.

If we fail to implement our business strategy, our financial condition and results of operations could be adversely affected. Our future financial performance and success depend in large part on our ability to successfully implement our

business strategy. We cannot assure you that we will be able to successfully implement our business strategy or be able to continue improving our operating results. In particular, we cannot assure you that we will be able to successfully execute our ongoing, or any future, investments, achieve operating cost savings targeted through focused improvements and capacity optimization, including improvements to service performance through scale of manufacturing and vertical integration, and opportunistically pursue strategic transactions. Implementation of our business strategy may be impacted by factors outside of our control, including competition, commodity price fluctuations, industry, legal and regulatory changes or developments and general economic and political conditions. Any failure to successfully implement our business strategy could adversely affect our financial condition and results of operations. We may, in addition, decide to alter or discontinue certain aspects of our business strategy at any time.

Although we have undertaken and expect to continue to undertake productivity and manufacturing system and process transformation initiatives to improve service performance, we cannot assure you that all of these initiatives will be completed or that any estimated cost savings from such activities will be fully realized. Even when we are able to generate new efficiencies in the short- to medium-term, we may not be able to continue to reduce costs and increase productivity over the long-term. There can be no assurance if and when any of these initiatives will be successfully and fully executed or completed.

D. REGULATORY RISKS

The reduction or elimination of government subsidies and economic incentives for alternative energy technologies, or the failure to renew such subsidies and incentives, could reduce demand for our products, lead to a reduction in our revenues, and adversely impact our operating results and liquidity. The Company's ability to benefit from these subsidies and incentives, in particular the Section 45V Credit for Production of Clean Hydrogen, is not guaranteed and is dependent upon the federal government's forthcoming and ongoing implementation, guidance, regulations, and/or rulemakings that have been the subject of substantial public interest and debate.

We believe that the near term growth of alternative energy technologies will be affected by the availability and size of government and economic incentives. Many of these government incentives expire, phase out over time, may be reduced or discontinued, no longer have available funding, may be implemented differently by changes in administrative agencies, or require renewal by the applicable authority. For example, in August 2022, President Biden signed the IRA into law. The IRA contains hundreds of billions in credits and incentives for the development of renewable energy, clean hydrogen, clean fuels, EVs and supporting infrastructure and carbon capture and sequestration, among other provisions. The IRA contains numerous credits and tax incentives that may be relevant to us, including: (i) a new Section 45V Credit for Production of Clean Hydrogen, which provides a production tax credit of up to \$3 per kg of qualified clean hydrogen over a 10-year credit period for the production of qualified clean hydrogen at a qualified facility in the United States; (ii) an extension and amendment of the Section 48 Investment Tax Credit for Qualified Fuel Cell Properties, which provides a tax credit based on capital investment in a variety of renewable and conventional energy technologies to incentive investment in new energy resources and more efficient use of fuel, including fuel cell technology; (iii) a new Section 48 Investment Tax Credit for Energy Storage Technologies, which expands the applicability of the investment tax credit to include standalone energy storage projects, among other things; (iv) an amended Section 48C Qualified Advanced Energy Project Credit, which provides an investment tax credit through a competitive application process administered through the Department of Energy equal to 6% or 30% of the investment with respect to advanced energy projects; (v) a new Section 45X Advanced Manufacturing Production Credit, which provides varying credit amounts with respect to the production of certain components manufactured in the United States; and (vi) a new Section 48E Clean Electricity Investment Tax Credit, which provides a tax credit for investment in facilities that generate clean electricity, among other provisions.

There is uncertainty as to how the provisions under the IRA will be interpreted and implemented. The Company's ability to ultimately benefit from IRA tax credits and incentives, including the aforementioned, is not guaranteed and is dependent upon the implementation, guidance, rulemakings, and/or regulations from the federal government. Several of these credits and tax incentives, in particular the new Section 45V Credit for Production of Clean Hydrogen, have received substantial public interest and have been subject to debate, and divergent views on potential implementation, guidance, rules, and regulatory principles by a diverse group of interested parties – some of whom are advocating for limitations to Section 45V that could be materially adverse to the Company and its near term hydrogen generation projects. Specifically, guidance, rules, or regulations limiting a hydrogen production facility's use of renewable energy credits, environmental attributes, and grid electricity could limit the Company's ability to benefit from the Section 45V Credit for Production of Clean Hydrogen. As the Company has endeavored numerous hydrogen generation projects prior to the promulgation of

Section 45V's guidance, there is no guarantee that the Company's projects will comply with the final eligibility requirements of Section 45V. Furthermore, the U.S. Department of Treasury issued a notice of proposed rulemaking on the Section 45V Credit for Production of Clean Hydrogen in December 2023. The notice contained draft regulatory requirements that, if finalized, could have material adverse impacts to the Company's hydrogen generation projects – both current and planned. In particular, the draft regulation contains numerous provisions unfavorable for the use of grid electricity and renewable energy credits, which are essential to the Company's ability to claim the Section 45V credit for hydrogen produced at our projects. Relatedly, draft regulations on the Section 48 Investment Tax Credit for Energy Storage Technology contain provisions preventing taxpayers from claiming the energy storage credit for hydrogen storage property not exclusively used for energy-related purposes; and further, draft regulations on the Section 45X Advancement Manufacturing Production Credit are not favorable for fulsome inclusion of fuel cells, electrolyzer, and hydrogen technologies. There is no guarantee that the U.S. Treasury Department's final regulations will be more advantageous for the Company; and in fact, the final regulatory requirements could become less favorable than the draft regulation in the notice of proposed rulemaking. The effect of the final regulations on our business is not yet known but if we are not able to comply with the final eligibility requirements and our competitors are able to do so, our business may be adversely affected.

Furthermore, future legislative enactments, administrative actions, changes or amendments to clean energy tax credits, policies or other incentives might be more favorable to other technologies or could limit, amend, repeal, or terminate policies or other incentives that the Company currently hopes to leverage. Any reduction, elimination, or discriminatory application of expiration of tax incentives or other government subsidies and economic incentives, or the failure to renew such tax credits, governmental subsidies, or economic incentives, may result in the diminished economic competitiveness of our products to our customers and could materially and adversely affect the growth of alternative energy technologies, including our products, as well as our future operating results and liquidity.

Changes in U.S. or foreign trade policies, treaties, tariffs and taxes as well as geopolitical conditions and other factors could have a material adverse effect on our business.

Our business is dependent on the availability of raw materials and components for our products, particularly electrical components common in the semiconductor industry. Our business is subject to risks generally associated with doing business abroad, such as U.S. and foreign governmental regulation in the countries in which we operate and the countries in which our manufacturers, component suppliers, and other business partners are located. For example, tensions between the United States and China have led to the United States' imposition of a series of tariffs, sanctions, and other restrictions on imports from China and sourcing from certain Chinese persons or entities, as well as other business restrictions. Additionally, an open conflict or war across any region could affect our ability to obtain raw materials. The extent and duration of the military conflict involving Russia and Ukraine, resulting sanctions and future market or supply disruptions in the regions are impossible to predict, but could be significant and may have a severe adverse effect on the region. Separately, in early October 2023, Hamas, a militant group in control of Gaza, and Israel began an armed conflict in Israel, the Gaza Strip, and surrounding areas, which threatens to spread to other Middle Eastern countries including Lebanon, Syria and Iran. The Hamas-Israel military conflict is ongoing, and its length and outcome are highly unpredictable. Although we have not experienced any material adverse effect on our results of operations, financial condition or cash flows as a result of these conflicts or the resulting volatility as of the date of this Annual Report on Form 10-K, the broader consequences of these conflicts remain uncertain and may include further sanctions, regional instability and geopolitical shifts, increased prevalence and sophistication of cyberattacks, heightened regulatory scrutiny related to sanctions compliance, further increases or fluctuations in commodity and energy prices, further disruptions to the global supply chain and other adverse effects on macroeconomic conditions.

Beyond tariffs and sanctions, countries also could adopt other measures, such as taxes or controls on imports or exports of goods, which could adversely affect our operations and supply chain. We cannot predict whether, and to what extent, there may be changes to international trade agreements or whether quotas, duties, tariffs, exchange controls or other restrictions on our products will be changed or imposed. These kinds of restrictions could be adopted with little to no advanced notice, and we may not be able to effectively mitigate the adverse impacts from such measures. Although we currently maintain alternative sources for raw materials, if we are unable to source our products from the countries where we wish to purchase them, either because of the occurrence or threat of wars or other conflicts, regulatory changes or for any other reason, or if the cost of doing so increases, it could have a material adverse effect on our business, financial condition and results of operations. Disruptions in the supply of raw materials and components could temporarily impair our ability to manufacture our products for our customers or require us to pay higher prices to obtain these raw materials or components from other sources, which could have a material adverse effect on our business and our results of operations.

We are subject to various federal, state, local and non-U.S. environmental and human health and safety laws and regulations that could impose significant costs and liabilities on us.

Our operations are subject to federal, state, local and non-U.S. environmental and human health and safety laws and regulations, including laws and regulations relating to the use, handling, storage, transportation, disposal and human exposure to hazardous substances and wastes, product safety, emissions of pollution into the environment, and human health and safety. We have incurred, and expect to continue to incur, costs to comply with these laws and regulations. These costs and obligations are likely to expand and change as our Company grows, makes acquisitions, and conducts business in new locations. Furthermore, federal, state, and local governments are increasingly regulating and restricting the use of certain chemicals, substances, and materials. Some of these policy initiatives could foreseeably be impactful to our business. For example, laws, regulations, or other policy initiatives might address substances found within component parts to our products, in which event our Company would be required to comply with such requirements.

Our facilities in the U.S. are subject to regulation by OSHA, which regulates the protection of the health and safety of workers. In addition, the OSHA hazard communication standard requires that we maintain information about hazardous materials used or produced in our operations and that we provide this information to employees, state and local governmental authorities and local residents. We are also subject to occupational safety regulations in other countries. Our failure to comply with government occupational safety regulations, including OSHA requirements, or general industry standards relating to employee health and safety, keep adequate records or monitor occupational exposure to regulated substances could expose us to liability, enforcement, and fines and penalties, and could have a material adverse effect on our business, operating results, cash flows, or financial condition. Violation of these laws or regulations or the occurrence of an explosion or other accident in connection with our fuel cell systems at our properties or at third party locations could lead to injuries, property damage, litigation, substantial liabilities and sanctions, including fines and penalties, cleanup costs, manufacturing delays or the requirement to undertake corrective action. Further, environmental laws and human health and safety and regulations, and the administration, interpretation, and enforcement thereof, are subject to change and may become more stringent in the future, each of which could materially adversely affect our business, financial condition, and results of operations. Each of these considerations is further magnified by our expansion into new regulatory jurisdictions with which we may be unfamiliar.

Additionally, certain environmental laws impose liability, which can be joint and several, as well as strict, on current and previous owners and operators of real property for the cost of removal or remediation of hazardous substances and damage to natural resources. These laws often impose liability even if the owner or operator did not know of, or was not responsible for, the release of such hazardous substances. They can also assess liability on persons who arrange for hazardous substances to be sent to disposal or treatment facilities when such facilities are found to be contaminated, and such persons can be responsible for cleanup costs even if they never owned or operated the contaminated facility. Our liabilities arising from past or future releases of, or exposure to, hazardous substances may adversely affect our business, financial condition, and results of operations.

Our business may become subject to increased government regulation.

Our products are subject to certain federal, state, local, and non-U.S. laws and regulations, including, for example, state and local ordinances relating to building codes, fire codes, public safety, electrical and gas pipeline connections, hydrogen transportation and siting and related matters. See Item 1, “Business — Government Regulations” for additional information. In certain jurisdictions, these regulatory requirements may be more stringent than those in the United States. Further, as products are introduced into the market commercially, governments may impose new regulations. We do not know the extent to which any such regulations may impact our ability to manufacture, distribute, install and service our products. Any regulation of our products, whether at the federal, state, local or foreign level, including any regulations relating to the production, operation, installation, and servicing of our products may increase our costs and the price of our products, and noncompliance with applicable laws and regulations could subject us to investigations, sanctions, enforcement actions, fines, damages, civil and criminal penalties, or injunctions. Furthermore, certain business activities may require the Company to navigate a myriad of state or local-level laws and regulations. If any governmental sanctions are imposed, our business, operating results, and financial condition could be materially adversely affected. In addition, responding to any action will likely result in a significant diversion of management’s attention and resources and an increase in professional fees. Enforcement actions and sanctions could harm our business, operating results and financial condition.

There is no guarantee that local, state, federal, or international jurisdictions will adopt laws, regulations and policies that are favorable to hydrogen or fuel cell technologies. As various jurisdictions pursue climate change and decarbonization policies, hydrogen and fuel cell technologies may be subject to increased regulatory scrutiny and oversight.

Changes in tax laws or regulations or adverse outcomes resulting from examination of our income or other tax returns could adversely affect our operating results and financial condition.

We are subject to income taxes in the United States and various foreign jurisdictions. A number of factors may adversely affect our future effective tax rates, such as the jurisdictions in which our profits are determined to be earned and taxed; changes in the valuation of our deferred tax assets and liabilities; adjustments to estimated taxes upon finalization of various tax returns; changes in available tax credits, grants and other incentives; changes in stock-based compensation expense; the availability of loss or credit carryforwards to offset taxable income; changes in tax laws, regulations, accounting principles or interpretations thereof; or examinations by US federal, state or foreign jurisdictions that disagree with interpretations of tax rules and regulations in regard to positions taken on tax filings. A change in any of our effective tax rates due to any of these factors may adversely affect the carrying value of our tax assets and our future results from operations.

In addition, as our business grows, we are required to comply with increasingly complex taxation rules and practices. We are subject to tax in multiple U.S. tax jurisdictions and in foreign tax jurisdictions as we expand internationally, which requires additional expertise to ensure compliance with various domestic and international tax laws. The development of our global tax footprint and compliance with these laws may impact how we conduct our business and affect our financial position, operating results, and cash flows.

The changes in the carryforward/carryback periods as well as the new limitation on use of net operating losses (“NOLs”) may significantly impact our valuation allowance assessments for NOLs.

Changes in U.S. federal income or other tax laws or the interpretation of tax laws, including the Inflation Reduction Act, as passed by Congress in August 2022, may impact our tax liabilities. As of December 31, 2023, we had federal NOL carryforwards of \$2.2 billion, which begin to expire in various amounts and at various dates in 2034 through 2037 (other than federal NOL carryforwards generated after December 31, 2017, which are not subject to expiration). As of December 31, 2023, we also had federal research and development tax credit carryforwards of \$20.7 million, which begin to expire in 2033. Utilization of our NOLs and research and development tax credit carryforwards may be subject to a substantial annual limitation if the ownership change limitations under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the “Code”), and similar state provisions are triggered by changes in our ownership. In general, an ownership change occurs if there is a cumulative change in the ownership of the Company by “5-percent shareholders” that exceed 50 percentage points over a rolling three-year period. Based on studies of the changes in ownership of the Company, it has been determined that a Section 382 ownership change occurred in 2013 that limited the amount of pre-change NOLs that can be used in future years. NOLs incurred after the most recent ownership change are not subject to Section 382 of the Code and are available for use in future years. If we undergo any ownership changes, our ability to utilize our NOL carryforwards or research and development tax credit carryforwards could be further limited by Sections 382 and 383 of the Code. In addition, future changes in our stock ownership, many of which are outside of our control, could result in an ownership change under Sections 382 and 383 of the Code. Any such limitation may significantly reduce our ability to utilize our NOL carryforwards and research and development tax credit carryforwards before they expire. Our NOL carryforwards and research and development tax credit carryforwards may also be impaired under state law. Accordingly, we may not be able to utilize a material portion of our NOL carryforwards or research and development tax credit carryforwards.

The Coronavirus Aid, Relief and Economic Security Act modified, among other things, rules governing NOLs. NOLs arising in tax years beginning after December 31, 2017 are subject to an 80% of taxable income limitation (as calculated before taking the NOLs into account) for tax years beginning after December 31, 2020. In addition, NOLs arising in tax years 2018, 2019, and 2020 are subject to a five year carryback and indefinite carryforward, while NOLs arising in tax years beginning after December 31, 2020 also are subject to indefinite carryforward but cannot be carried back. In future years, if and when the valuation allowance related to our NOLs is partially or fully released, the changes in the carryforward/carryback periods as well as the new limitation on use of NOLs may significantly impact our valuation allowance assessments for NOLs generated after December 31, 2017.

We are exposed to fluctuations in currency exchange rates, which could negatively affect our operating results.

Our contracts are primarily denominated in U.S. dollars, and therefore substantially all of our revenue is not subject to foreign currency risk. However, a strengthening of the U.S. dollar could increase the real cost of our offerings to our customers outside of the United States, which could adversely affect our operating results. In addition, an increasing portion of our operating revenues and operating expenses are earned or incurred outside of the United States, and an increasing portion of our assets are held outside of the United States. These operating revenues, expenses, and assets are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates. If we are not able to successfully hedge against the risks associated with currency fluctuations, our operating results could be adversely affected.

Additionally, global events as well as geopolitical developments, including regional conflicts in Europe, fluctuating commodity prices, trade tariff developments, and inflation have caused, and may in the future cause, global economic uncertainty and uncertainty about the interest rate environment, which could amplify the volatility of currency fluctuations. We have not engaged in the hedging of foreign currency transactions to date, so we may not be able to effectively offset the adverse financial impacts that may result from unfavorable movements in foreign currency exchange rates, which could adversely affect our operating results.

Climate change and climate change policies might affect our business, our industry, and the global economy.

We acknowledge the significant challenge presented by climate change, and see our transformational work in developing cost-effective, renewable hydrogen, and fuel cell energy as part of the solution. Our commitment to sustainability is deeply rooted in our products, mission, core values, and people. However, we acknowledge that climate change will potentially have wide-ranging impacts, including potential impacts to our Company. Unanticipated environmental, societal, economic, or geopolitical effects of climate change might affect business operations. For example, increasingly severe and frequent weather events might disrupt our supply chain or adversely affect our customers. Relatedly, government policies addressing climate change could similarly impact our business operations. We believe that many of these policies will be favorable for our fuel cell systems and hydrogen solutions. However, there is no guarantee that such potential changes in laws, regulations, or policies will be favorable to our Company, our technologies, to existing or future customers, or to large-scale economic, environmental, or geopolitical conditions.

E. STRATEGIC RISKS

We may be unable to establish or maintain relationships with third parties for certain aspects of continued development, manufacturing, distribution, sale, servicing, and the supply of key components for our products and projects.

We will need to maintain and may need to enter into additional strategic relationships in order to complete our current development and commercialization plans regarding our fuel cell products, electrolyzers, hydrogen production, and potential new business markets. We may also require partners to assist in the sale, servicing, and supply of components for our current and anticipated products and projects, which are in development. If we are unable to identify, negotiate, enter into, and maintain satisfactory agreements with potential partners, including those relating to the supply, distribution, service and support of our current and anticipated products and projects, we may not be able to complete our product development and commercialization plans on schedule or at all. We may also need to scale back these plans in the absence of needed partners, which could adversely affect our future prospects for development and commercialization of future products and projects. While we have entered into relationships with suppliers of some key components for our products, we do not know when or whether we will secure supply relationships for all required components and subsystems for our products, or whether such relationships will be on terms that will allow us to achieve our objectives. Our business prospects, results of operations, and financial condition could be harmed if we fail to secure relationships with entities that can develop or supply the required components for our products and provide the required distribution and servicing support. Additionally, the agreements governing our current relationships allow for termination by our partners under certain circumstances, some of which are beyond our control. If any of our current strategic partners were to terminate any of its agreements with us, there could be a material adverse impact on the continued development and profitable commercialization of our products and the operation of our business, financial condition, results of operations, and prospects.

We may be unable to successfully pursue, integrate, or execute upon our new business ventures.

As part of our vertical integration strategy, we may pursue, acquire or execute upon our new business ventures. For example, in 2022 and 2021, we acquired two subsidiaries of Cryogenic Industrial Solutions, LLC, which are Alloy Custom Products, LLC and WesMor Cryogenics, LLC (collectively, “CIS”), as well as the entities Joule Processing LLC (“Joule”), Applied Cryo Technologies, Inc. (“Applied Cryo”), and Frames Holding B.V. (“Frames”). The execution of the Company’s vertical integration strategy, as well as scaling its manufacturing capabilities, is impactful to the performance of the Company and customer experience. Failure to improve overall service performance and scale sourcing effectively can limit growth and adversely impact our customer experience.

Each aspect of our vertical integration strategy, including manufacturing of electrolyzers, mobility fuel cell products, stationary fuel cell products, liquefaction equipment, and cryogenic equipment, as well as servicing customer sites, is dependent upon our ability to integrate and execute these new business ventures. This vertical integration strategy may be unsuccessful, or we may be unable to successfully or timely execute upon its vertical integration strategy, which may adversely impact customer experience and, in turn, our operations, business, or financial results. There can be no assurances that we will be able to successfully integrate or execute new business ventures or successfully operate within this industry.

Furthermore, we may expend substantial time and resources in research and development for new potential markets. There is no guarantee that these research and development initiatives will be successful or implemented as commercial products. For further information on risks associated with acquisitions, see the risk factor entitled “*We may be unable to make attractive acquisitions or successfully integrate acquired businesses, assets or properties, and any inability to do so may disrupt our business and hinder our ability to grow, divert the attention of key personnel, disrupt our business and impair our financial results.*”

We may be unable to make attractive acquisitions or successfully integrate acquired businesses, assets or properties, and any inability to do so may disrupt our business and hinder our ability to grow, divert the attention of key personnel, disrupt our business, and impair our financial results.

As part of our business strategy, we intend to consider acquisitions of companies, technologies, and products. We may not be able to identify such attractive acquisition opportunities. Acquisitions, involve numerous risks, any of which could harm our business, including, among other things:

- difficulty in integrating the technologies, products, operations, and existing contracts of a target company and realizing the anticipated benefits of the combined businesses;
- mistaken assumptions about volumes or the timing of those volumes, revenues or costs, including synergies;
- negative perception of the acquisition by customers, financial markets or investors;
- difficulty in supporting and transitioning customers, if any, of the target company;
- inability to achieve anticipated synergies or increase the revenue and profit of the acquired business;
- the assumption of unknown liabilities;
- exposure to potential lawsuits;
- limitations on rights to indemnity from the seller;
- the diversion of management’s and employees’ attention from other business concerns;
- unforeseen difficulties operating in new geographic areas;
- customer or key employee losses at the acquired businesses;
- the price we pay or other resources that we devote may exceed the value we realize; or
- the value we could have realized if we had allocated the purchase price or other resources to another opportunity and inability to generate sufficient revenue to offset acquisition costs.

In addition, if we finance acquisitions by issuing equity securities, our existing stockholders may be diluted. As a result, if our forecasted assumptions for these acquisitions and investments are not accurate, we may not achieve the anticipated benefits of any such acquisitions, and we may incur costs in excess of what we had anticipated.

F. RISKS RELATED TO THE OWNERSHIP OF OUR COMMON STOCK

Our stock price and stock trading volume have been and could remain volatile, and the value of your investment could decline.

The market price of our common stock has historically experienced and may continue to experience significant volatility. During 2022 and 2023, the sales price of our common stock fluctuated from a high of \$31.75 per share to a low of \$3.42 per share. Our progress in developing and commercializing our products, our quarterly operating results, announcements of new products by us or our competitors, our perceived prospects, changes in securities analysts' recommendations or earnings estimates, changes in general conditions in the economy or the financial markets, adverse events related to our strategic relationships, significant sales of our common stock by existing stockholders, including one or more of our strategic partners, events relating to our determination to restate certain of our previously issued consolidated financial statements, and other developments affecting us or our competitors could cause the market price of our common stock to fluctuate substantially. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has affected the market prices of securities issued by many companies for reasons unrelated to their operating performance and may adversely affect the price of our common stock. Such market price volatility could adversely affect our ability to raise additional capital. Furthermore, technical factors in the public trading market for our common stock may produce price movements that may or may not comport with macro, industry or company-specific fundamentals, including, without limitation, the sentiment of retail investors (including as may be expressed on financial trading and other social media sites), the amount and status of short interest in our securities, access to margin debt, trading in options and other derivatives on our common stock and any related hedging or other technical trading factors. For example, we are subject to securities class action litigation filed after a drop in the price in our common stock in March 2021 and March 2023, which could result in substantial costs and diversion of management's attention and resources and could harm our stock price, business, prospects, results of operations and financial condition.

Sales of substantial amounts of our common stock in the public markets, or the perception that such sales might occur, could reduce the price that our common stock might otherwise attain and may dilute your voting power and your ownership interest in us.

Sales of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could adversely affect the market price of our common stock and may make it more difficult for you to sell your common stock at a time and price that you deem appropriate. As of December 31, 2023, there were approximately 39,170,766 shares of common stock issuable upon conversion of the 3.75% Convertible Senior Notes at a conversion price of \$5.03 per share. In addition, as of December 31, 2023, we had outstanding options exercisable for an aggregate of 39,261,362 shares of common stock at a weighted average exercise price of \$16.93 per share and 78,561,263 shares of common stock issuable upon the exercise of warrants, of which 42,192,479 were vested as of December 31, 2023.

Moreover, subject to market conditions and other factors, we may conduct future offerings of equity or debt securities. Sales of substantial amounts of our common stock in the public market, or the perception that these sales could occur, could reduce the market price of our common stock to decline. In addition, the conversion of the notes or preferred stock or the exercise of outstanding options and warrants and future equity issuances will result in dilution to investors. The market price of our common stock could fall as a result of resales of any of these shares of common stock due to an increased number of shares available for sale in the market.

If securities analysts do not maintain coverage of us or if they publish unfavorable or inaccurate research or reports about our business, our stock, or our industry, the price of our stock and the trading volume could decline.

We expect that the trading market for our common stock will be affected by research or reports that industry or financial analysts publish about us or our business. There are many large, well-established companies active in our industry and portions of the markets in which we compete, which may mean that we receive less widespread analyst coverage than our competitors. If one or more of the analysts who covers us downgrades their evaluations or lowers their expectations of our Company, our stock, or our industry, the price of our stock could decline. If one or more of these analysts cease coverage of our Company, our stock may lose visibility in the market, which in turn could cause our stock price to decline.

Provisions in our charter documents and Delaware law may discourage or delay an acquisition of the Company by a third party that stockholders may consider favorable.

Our amended and restated certificate of incorporation, our amended and restated bylaws, and Delaware corporate law contain provisions that could have an anti-takeover effect and make it harder for a third party to acquire us without the consent of our Board. These provisions may also discourage proxy contests and make it more difficult for our stockholders to take some corporate actions, including the election of directors. These provisions include, but are not limited to: the ability of our Board to issue shares of preferred stock in one or more series and to determine the terms of those shares, including preference and voting rights, without a stockholder vote; the exclusive right of our Board to elect a director to fill a vacancy created by the expansion of our Board or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our Board; the inability of stockholders to call a special meeting of stockholders; the prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders; advance notice informational and procedural requirements for nominations for election to our Board or for proposing business to be brought before a stockholder meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us; a prohibition against stockholders nominating a number of their own nominees at the annual meeting of the stockholders that exceeds the number of directors to be elected at such annual meeting; the ability of our Board, by majority vote and without shareholder approval, to amend the bylaws, which may allow our Board to take additional actions to prevent an unsolicited takeover and inhibit the ability of an acquirer to amend the bylaws to facilitate an unsolicited takeover attempt; and staggered terms for our directors, which effectively prevents stockholders from electing a majority of the directors at any one annual meeting of stockholders.

In addition, as a Delaware corporation, we are subject to Section 203 of the Delaware General Corporation Law. These provisions may prohibit large stockholders, in particular those owning 15% or more of our outstanding voting stock, from merging or combining with us for a certain period of time.

We do not anticipate paying any dividends on our common stock.

We do not anticipate paying any cash dividends on our common stock in the foreseeable future. If we do not pay cash dividends, you would receive a return on your investment in our common stock only if the market price of our common stock is greater at the time you sell your shares than the market price at the time you bought your shares.

Our amended and restated bylaws provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, and the exclusive forum in the Delaware federal courts for the resolution of any complaint asserting a cause of action under the Securities Act, which may limit a stockholder's ability to bring a claim in a forum a stockholder finds favorable.

Our amended and restated bylaws provide that unless the Company consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for any state law claims for: (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of, or a claim based on, a breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or the Company's amended and restated certificate of incorporation or amended and restated bylaws, or (iv) any other action asserting a claim governed by the internal affairs doctrine. The amended and restated bylaws further provide that unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States of America will be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act and any person or entity purchasing or otherwise acquiring or holding any interest in shares of capital stock of the Company will be deemed to have notice of and consented to these provisions.

We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. If a court were to find the choice of forum provision that is contained in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, results of operations, and financial condition. For example, Section 22 of the Securities Act provides that state and federal courts have concurrent

jurisdiction over claims to enforce any duty or liability created by the Securities Act or the rules and regulations promulgated thereunder. Accordingly, there is uncertainty as to whether a court would enforce such a forum selection provision as written in connection with claims arising under the Securities Act.

Because the choice of forum provisions in our amended and restated bylaws may have the effect of severing certain causes of action between federal and state courts, stockholders seeking to assert claims against us or any of our current or former director, officer, other employee, agent, or stockholder, may be discouraged from bringing such claims due to a possibility of increased litigation expenses arising from litigating multiple related claims in two separate courts. The choice of forum provisions may therefore limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our current or former director, officer, other employee, agent, or stockholder. Alternatively, if a court were to find the choice of forum provisions contained in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations, and financial condition.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 1C. Cybersecurity

Cybersecurity Risk Management

We face a number of cybersecurity risks in connection with our business and recognize the growing threat within the general marketplace and our industry. Additionally, in the ordinary course of our business, we use, store, and process data, including data of our employees, partners, collaborators, and vendors. To help the Company identify, assess, and mitigate risks to this data and our systems, we have implemented a cybersecurity risk management program that is informed by recognized industry standards and frameworks and incorporates elements of the same.

Our cybersecurity risk management program includes a number of components, including information security program assessments and continuous monitoring of critical risks from cybersecurity threats using automated tools. We periodically engage third parties to conduct risk assessments on our systems, including penetration testing and other vulnerability analyses. For example, in 2023 we engaged several third parties to assist with implementing processes regarding endpoint detection and response, logging and monitoring, multi-factor authentication, business continuity and disaster recovery, and internet proxies. Additionally, we have implemented an employee education program whereby employees are able to attend cybersecurity awareness training during the onboarding process.

Although we believe risks from cybersecurity threats have not to date materially affected us, including our business strategy, results of operations, or financial condition, we have, from time to time, experienced threats to and breaches of our data and systems, including ransomware attacks and phishing attacks. For more information about the cybersecurity risks we face, see the risk factor entitled "We are dependent on information technology in our operations, and the failure of such technology may adversely affect our business. Security breaches of our information technology systems, including cyber-attacks, ransomware attacks, or use of malware or phishing or other malicious techniques by threat actors, have in the past and could in the future lead to liability, impact our operations, or damage our reputation and financial results" in Item 1A, "Risk Factors".

Governance

The Vice President of Information Technology ("VP of IT") oversees the daily operations of our cybersecurity risk management program and plays a central role in assessing and managing critical risks from cybersecurity threats with the support of additional IT professionals. The VP of IT role is currently held by an individual who has approximately twenty years of experience in information security management, application portfolio management, and IT governance, risk, and compliance. The VP of IT periodically reports on the cybersecurity program to the Chief Financial Officer ("CFO").

Our governance framework includes oversight by the Audit Committee of the Board of Directors. The Audit Committee meets quarterly with the CFO regarding the cybersecurity risk management program, including as relates to critical cybersecurity risks and cybersecurity initiatives and strategies. Additionally, on an annual basis, the VP of IT reports the current state of cybersecurity risk management to the full Board of Directors. The Board of Directors, as a whole and through its committees, has responsibility for the oversight of risk management.

Item 2. Properties

The following table sets forth information regarding our principal operating properties and other significant properties as of December 31, 2023, which we use of our single operating segment. In February 2024, we announced a cost-reduction initiative that will include consolidation of operations. In connection with such consolidation, we may terminate some property leases to eliminate redundancies. In general, our operating properties are well maintained, suitably equipped, and in good operating condition:

Continent	Location	Facility	Size	Ownership Status
North America				
	New York			
	Latham	Manufacturing, research and development, and warehousing	111,405 sq ft	Lease
	Rochester	Manufacturing, research and development, and office	155,979 sq ft	Lease
	Latham - 8BA	Corporate offices	51,438 sq ft	Lease
	Latham - 6BA	Office	19,100 sq ft	Lease
	Slingerlands	Manufacturing, warehousing, and office	407,000 sq ft	Lease
	Washington			
	Spokane	Manufacturing	46,600 sq ft	Lease
	Massachusetts			
	Concord	Manufacturing	33,000 sq ft	Lease
	Ohio			
	Dayton	Service center	43,200 sq ft	Lease
	Pennsylvania			
	Canonsburg	Office	4,775 sq ft	Lease
	Texas			
	Houston	Manufacturing and office	175,000 sq ft	Lease
	Magnolia	Manufacturing and office	73,000 sq ft	Lease
	Indiana			
	LaFayette	Manufacturing and office	123,000 sq ft	Own
	Canada			
	Montreal	Office	5,657 sq ft	Lease
	Georgia			
	Kingsland	Hydrogen production plant	65,340 sq ft	Own
	Tennessee			
	Charleston	Hydrogen production plant	217,800 sq ft	Own
Europe				
	Netherlands			
	Alphen aan den Rijn	Office	30,000 sq ft	Lease
	Germany			
	Duisburg	Office	32,647 sq ft	Lease
Asia				
	India			
	Shivajinagar	Office	17,750 sq ft	Lease

See Note 21, “Commitments and Contingencies”, to the consolidated financial statements and Part II, Item 8, “Financial Statements and Supplementary Data”, of this Annual Report on Form 10-K for further discussion of the leases. We believe that our facilities are sufficient to accommodate our anticipated production volumes.

Item 3. Legal Proceedings

As previously disclosed, several actions were filed in the U.S. District Courts for the Southern District of New York and for the Central District of California asserting claims under the federal securities laws against the Company and two of its senior officers, Mr. Marsh and Mr. Middleton. On July 22, 2021, the court consolidated those actions into In re Plug Power, Inc. Securities Litigation, No. 1:21-cv-2004, pending in the U.S. District Court for the Southern District of New York (the “2021 Securities Action”) and appointed a lead plaintiff. On October 6, 2021, lead plaintiff filed a consolidated amended complaint asserting claims on behalf of a putative class composed of all persons who purchased or otherwise acquired the Company’s securities between November 9, 2020 and March 16, 2021 (the “Amended Complaint”). The Amended Complaint asserted a claim against all defendants for alleged violations of Section 10(b) of the Securities

Exchange Act of 1934 (the “Exchange Act”) and Rule 10b5 promulgated thereunder and a claim under Section 20(a) of the Exchange Act against Mr. Marsh and Mr. Middleton as alleged controlling persons. The Amended Complaint alleged that the defendants made “materially false” statements concerning (1) adjusted EBITDA; (2) fuel delivery and research and development expenses; (3) costs related to provision for loss contracts; (4) gross losses; and (5) the effectiveness of internal controls and procedures (the “accounting-related statements”), and that these alleged misstatements caused losses and damages for members of the alleged class. In an opinion and order entered on September 29, 2022, the court granted defendants’ motion to dismiss the Amended Complaint in its entirety but permitted the lead plaintiff to further amend the complaint. On November 21, 2022, the lead plaintiff filed a second amended complaint purporting to assert claims under the same provisions against the same defendants on behalf of the same alleged class of purchasers of the Company’s securities (the “Second Amended Complaint”). The Second Amended Complaint largely repeated the allegations in the Amended Complaint but, in addition, alleged that various public statements during the alleged class period were false or misleading because they allegedly failed to disclose the status of discussions and considerations relating to warrants to purchase the Company’s common stock that were granted to a customer in connection with a commercial agreement. On August 29, 2023, the court granted defendants’ motion to dismiss the Second Amended Complaint in its entirety, this time with prejudice. On September 29, 2023, the time period to appeal the court’s dismissal of the Second Amended Complaint expired.

On March 31, 2021, Junwei Liu, an alleged Company stockholder, derivatively and on behalf of nominal defendant Plug, filed a complaint in the U.S. District Court for the Southern District of New York against certain Company directors and officers (the “Derivative Defendants”), captioned Liu v. Marsh et al., Case No. 1:21-cv-02753 (S.D.N.Y.) (the “Liu Derivative Complaint”). On April 5, 2021, alleged Company stockholders Elias Levy and Camerohn X. Withers, derivatively and on behalf of nominal defendant Plug, filed a complaint in the U.S. District Court for the Southern District of New York against the Derivative Defendants named in the Liu Derivative Complaint, captioned Levy et al. v. McNamee et al., Case No. 1:21-cv-02891 (S.D.N.Y.) (the “Levy Derivative Complaint”). The Liu Derivative Complaint and the Levy Derivative Complaint have been consolidated in In re Plug Power Derivative Litigation, Lead Case No. 1:21-cv-02753-ER (S.D.N.Y.) (the “Consolidated Action”). The Liu and Levy Derivative Complaints allege that, between November 9, 2020 and March 1, 2021, the Derivative Defendants “made, or caused the Company to make, materially false and misleading statements concerning Plug Power’s business, operations, and prospects” by “issu[ing] positive financial information and optimistic guidance, and made assurances that the Company’s internal controls were effective,” when, “[i]n reality, the Company’s internal controls suffered from material deficiencies that rendered them ineffective.” The complaints assert claims derivatively on behalf of the Company for (1) breach of fiduciary duties, (2) unjust enrichment, (3) abuse of control, (4) gross mismanagement, (5) waste of corporate assets, and (6) contribution under Sections 10(b) and 21D of the Exchange Act (as to the named officer defendants). The complaints seeks a judgment “[d]eclaring that Plaintiff may maintain this action on behalf of Plug”; “[d]eclaring that the [Derivative] Defendants have breached and/or aided and abetted the breach of their fiduciary duties”; “awarding to Plug Power the damages sustained by it as a result of the violations” set forth in the Liu Derivative Complaint, “together with pre-judgment and post-judgment interest thereon”; “[d]irecting Plug Power and the [Derivative] Defendants to take all necessary actions to reform and improve Plug Power’s corporate governance and internal procedures to comply with applicable laws”; and “[a]warding Plaintiff the costs and disbursements of this action, including reasonable attorneys’ and experts’ fees, costs, and expenses”; and “[s]uch other and further relief as the [c]ourt may deem just and proper.” By stipulation approved by the Court, the cases were stayed pending the resolution of the motion to dismiss in the 2021 Securities Action. Following expiration of the time period to appeal the dismissal of the 2021 Securities Action, on November 17, 2023, plaintiffs in the Consolidated Action filed a notice designating the Levy Derivative Complaint as the operative complaint in the Consolidated Action. On January 22, 2024 the United States District Court for the Southern District of New York dismissed the Consolidated Action without prejudice upon joint stipulation of the parties.

On May 13, 2021, alleged Company stockholder Romario St. Clair, derivatively and on behalf of nominal defendant Plug, filed a complaint in the Supreme Court of the State of New York, County of New York against the Derivative Defendants named in the Liu Derivative Complaint, captioned St. Clair v. Plug Power Inc. et al., Index No. 653167/2021 (N.Y. Sup. Ct., N.Y. Cty.) (the “St. Clair Derivative Complaint”). The St. Clair Derivative Complaint alleges that, for approximately two years from March 13, 2019 onwards, the company made a number of improper statements that “failed to disclose and misrepresented the following material, adverse facts, which the [derivative] defendants knew, consciously disregarded, or were reckless in not knowing”, including: “(a) that the Company was experiencing known but undisclosed material weaknesses in its internal controls over financial reporting; (b) the Company was overstating the carrying amount of certain right of use assets and finance obligations associated with leases; (c) the Company was understating its loss accrual on certain service contracts; (d) the Company would need to take impairment charges relating to certain long-lived assets; (e) the Company was improperly classifying research and development costs versus costs of

goods sold; and (f) the Company would be unable to file its annual Report for the 2020 fiscal year due to these errors.” The St. Clair Derivative Complaint asserts claims for (1) breach of fiduciary and (2) unjust enrichment. The St. Clair Derivative Complaint seeks a judgment “for the amount of damages sustained by the Company as a result of the defendants’ breaches of fiduciary duties and unjust enrichment”; “[d]irecting Plug Power to take all necessary actions to reform and improve its corporate governance and internal procedures to comply with applicable laws”; “[e]xtraordinary equitable and/or injunctive relief as permitted by law, equity, and state statutory provisions”; “[a]warding to Plug Power restitution from defendants, and each of them, and ordering disgorgement of all profits, benefits, and other compensation obtained by the defendants”; “[a]warding to plaintiff the costs and disbursements of the action, including reasonable attorneys’ fees, accountants’ and experts’ fees, costs, and expenses”; and “[g]ranteeing such other and further relief as the [c]ourt deems just and proper.” By stipulation approved by the Court, the case was stayed pending the resolution of the motion to dismiss in the 2021 Securities Action. Plaintiff has a deadline of March 5, 2024 to file an amended complaint, after which the parties intend to propose to the court a schedule for the orderly progress of the action.

On June 13, 2022, alleged Company stockholder Donna Max, derivatively on behalf of the Company as nominal defendant, filed a complaint in the United States District Court for the District of Delaware against the Derivative Defendants named in the Liu Derivative Complaint, captioned Max v. Marsh, et. al., Case No. 1:22-cv-00781 (D. Del.) (the “Max Derivative Complaint”). The Max Derivative Complaint alleges that, for the years 2018, 2019 and 2020, the defendants did not “assure that a reliable system of financial controls was in place and functioning effectively”; “failed to disclose errors in the Company’s accounting primarily relating to (i) the reported book value of right of use assets and related finance obligations, (ii) loss accruals for certain service contracts, (iii) the impairment of certain long-lived assets, and (iv) the classification of certain expenses previously included in research and development costs”; and that certain defendants traded Company stock at “artificially inflated stock prices.” The Max Derivative Complaint asserts claims derivatively on behalf of the Company for (1) breach of fiduciary against all defendants; (2) breach of fiduciary duty for insider trading against certain defendants; and (3) contribution under Sections 10(b) and 21D of the Exchange Act against certain defendants. The Max Derivative Complaint seeks an award “for the damages sustained by [the Company]” and related relief. By stipulation approved by the Court, the case was stayed pending the resolution of the motion to dismiss in the 2021 Securities Action. On October 30, 2023, the United States District Court for the District of Delaware dismissed the Max Derivative Complaint with prejudice upon joint stipulation of the parties.

On June 29, 2022, alleged Company stockholder Abbas Khambati, derivatively on behalf of the Company as nominal defendant, filed a complaint in the Court of Chancery in the State of Delaware against the Derivative Defendants named in the Liu Derivative Complaint and Gerard A. Conway, Jr. and Keith Schmid, captioned Khambati v. McNamee, et. al., C.A. No. 2022-05691 (Del. Ch.) (the “Khambati Derivative Complaint”). The Khambati Derivative Complaint alleges that the defendants “deceive[d] the investing public, including stockholders of Plug Power, regarding the Individual Defendants’ management of Plug Power’s operations and the Company’s compliance with the SEC’s accounting rules”; “facilitate[d]” certain defendants’ sales of “their personally held shares while in possession of material, nonpublic information”; and “enhance[d] the Individual Defendants’ executive and directorial positions at Plug Power and the profits, power, and prestige that the Individual Defendants enjoyed as a result of holding these positions.” The Khambati Derivative Complaint asserts claims derivatively on behalf of the Company for (1) breach of fiduciary; and (2) disgorgement and unjust enrichment. The Khambati Derivative Complaint seeks an award “for the damages sustained by [the Company] as a result of the breaches” alleged or “disgorgement or restitution”; “disgorgement of insider trading profits” and “all profits, benefits and other compensation obtained by [defendants’] insider trading and further profits flowing therefrom”; an order “[d]irecting the Company to take all necessary actions to reform and improve its corporate governance and internal procedures”; and related relief.

On July 19, 2022, alleged Company stockholder Anne D. Graziano, as Trustee of the Anne D. Graziano Revocable Living Trust, derivatively on behalf of the Company as nominal defendant, filed a complaint in the Court of Chancery in the State of Delaware against the Derivative Defendants named in the Khambati Derivative Complaint, captioned Graziano v. Marsh, et. al., C.A. No. 2022-0629 (Del. Ch.) (the “Graziano Derivative Complaint”). The Graziano Derivative Complaint alleges that the director defendants (i) “either knowingly or recklessly issued or caused the Company to issue the materially false and misleading statements” concerning “certain critical accounting issues”; (ii) “willfully ignored, or recklessly failed to inform themselves of, the obvious problems with the Company’s internal controls, practices, and procedures, and failed to make a good faith effort to correct the problems or prevent their recurrence”; (iii) the members of the Audit Committee failed “to prevent, correct, or inform the Board of the issuance of material misstatements and omissions regarding critical accounting issues and the adequacy of the Company’s internal controls”; (iv) “received payments, benefits, stock options, and other emoluments by virtue of their membership on the Board and their control of the Company”; (v) violated the Company’s Code of Conduct because they knowingly or recklessly engaged in and

participated in making and/or causing the Company to make the materially false and misleading statements; and (vi) certain defendants “sold large amounts of Company stock while it was trading at artificially inflated prices.” The Graziano Derivative Complaint asserts claims derivatively on behalf of the Company for (1) breach of fiduciary; (2) breach of fiduciary duty against certain defendants for insider trading; (3) unjust enrichment; (4) aiding and abetting breach of fiduciary duty; and (5) waste of corporate assets. The Graziano Derivative Complaint seeks an award of “the amount of damages sustained by the Company”; seeks an order “[d]irecting Plug Power to take all necessary actions to reform and improve its corporate governance and internal procedures to comply with applicable laws and to protect Plug Power and its stockholders from a repeat of the damaging events described herein”; and related relief. The parties to the Graziano Derivative Complaint and Khambati Derivative Complaint have been consolidated in *In re Plug Power, Inc. Stockholder Derivative Litigation*, Consolidated C.A. No. 2022-0569 (the “Consolidated Chancery Complaint”) and, by stipulation approved by the court, the cases were stayed pending the resolution of the motion to dismiss in the 2021 Securities Action. Following expiration of the time period to appeal the dismissal of the 2021 Securities Action, the parties conferred regarding a proposed scheduling order for the orderly progress of the action. Plaintiffs in the Consolidated Chancery Complaint have a deadline of March 8, 2024 to file an amended complaint, and Defendants have a deadline of April 22, 2024 to move to dismiss or otherwise respond to the complaint.

On April 12, 2023, an action was filed in the U.S. District Court for the District of Delaware asserting claims under the federal securities laws against the Company and four of its senior officers, Mr. Marsh, Mr. Middleton, Mr. Mindnich, and Mr. Hull. The complaint asserts claims on behalf of a putative class composed of all persons who purchased or otherwise acquired the Company’s securities between August 9, 2022 and March 1, 2023. The complaint asserted a claim against all defendants for alleged violations of Section 10(b) of the Exchange Act and Rule 10b5 promulgated thereunder and a claim under Section 20(a) of the Exchange Act against Mr. Marsh, Mr. Middleton, Mr. Mindnich, and Mr. Hull as alleged controlling persons. The complaint alleged that the defendants made “materially false and/or misleading statements” about the Company’s business and operations, including that “the Company was unable to effectively manage its supply chain and product manufacturing, resulting in reduced revenues and margins, increased inventory levels, and several large deals being delayed until at least 2023, among other issues.” On May 25, 2023, a second action was filed in the U.S. District Court for the District of Delaware, also asserting claims under the federal securities laws against the Company, Mr. Marsh, Mr. Middleton, Mr. Mindnich, and Mr. Hull. On June 29, 2023, the court consolidated these actions into *In re Plug Power, Inc. Securities Litigation*, No. 1:23-cv-00576-MN (the “2023 Securities Action”), pending in the U.S. District Court for the District of Delaware and appointed a lead plaintiff. Under a stipulated schedule approved by the court, the lead plaintiffs filed an amended complaint on September 28, 2023. The amended complaint expanded the putative class period to include all stock purchasers between January 19, 2022 and March 1, 2023. The amended complaint added Mr. Shrestha as a defendant and no longer asserted any claims against Mr. Hull. The amended complaint primarily challenged statements concerning the Company’s 2022 revenue goal of \$900-925 million and hydrogen production goal of 70 tons per day, alleging that these goals were “knowingly unfounded” due to purported “operational problems,” “delays” and “supply chain problems.” The defendants filed a motion to dismiss the complaint on December 14, 2023; the plaintiffs filed their opposition to the motion to dismiss on February 12, 2024; defendants’ reply is due on March 13, 2024.

On June 12, 2023, an action asserting similar claims was filed in the U.S. District Court for the Northern District of New York asserting claims under the federal securities laws against the Company and four of its senior officers, Mr. Marsh, Mr. Middleton, Mr. Mindnich, and Mr. Hull. The complaint asserts claims on behalf of a putative class composed of all persons who purchased or otherwise acquired the Company’s securities between August 9, 2022 and March 1, 2023. The complaint asserted a claim against all defendants for alleged violations of Section 10(b) of the Exchange Act and Rule 10b5 promulgated thereunder and a claim under Section 20(a) of the Exchange Act against Mr. Marsh, Mr. Middleton, Mr. Mindnich, and Mr. Hull as alleged controlling persons. The complaint alleged that the defendants made “materially false and misleading” statements, “and failed to disclose material adverse facts,” about the Company’s business and operations, including that “the Company was unable to effectively manage its supply chain and product manufacturing, resulting in reduced revenues and margins, increased inventory levels, and several large deals being delayed until at least 2023, among other issues.” On June 27, 2023, the plaintiff filed a Notice of Voluntary Dismissal Without Prejudice against all defendants.

On May 2, 2023, a lawsuit entitled *Jacob Thomas and JTurbo Engineering & Technology, LLC v. Joule Processing, LLC and Plug Power Inc.*, Case No. 4:23-cv-01615, was filed in the United States District Court for the Southern District of Texas against the Company. The complaint alleges misappropriation of trade secrets under both the federal Defend Trade Secrets Act of 2016, 18 U.S.C. § 1836, and the Texas Uniform Trade Secrets Act, three breach of contract claims, and four common law claims under Texas law. On July 28, 2023, Joule Processing, LLC and Plug Power

Inc. filed a partial motion to dismiss, and briefing on the motion was completed on August 25, 2023. On October 23, 2023, Jacob Thomas and JTurbo Engineering & Technology, LLC filed Plaintiff[s'] Verified Application for Temporary Restraining Order, Preliminary Injunction and Permanent Injunctive Relief (the "Application for Injunctive Relief"). On November 17, 2023, Jacob Thomas and JTurbo Engineering & Technology, LLC filed Plaintiff[s'] Verified Amended Application for Temporary Restraining Order, Preliminary Injunction and Permanent Injunctive Relief (the "Amended Application for Injunctive Relief"). Joule Processing, LLC and Plug Power Inc. have a deadline of March 27, 2024 to respond to the Amended Application for Injunctive Relief. On December 5, 2023, the Court granted, in part, the partial motion to dismiss. The Court dismissed with prejudice one of the breach of contract claims and the four common law claims. The Court also transferred one of the breach of contract claims to the United States District Court for the Northern District of New York, Case No. 1:23-cv-01528.

On May 10, 2023, an action entitled *Ringling v. Plug Power, Inc., et al*, Case No. 1:23-cv-572, was filed in the U.S. District Court for the Northern District of New York asserting claims pursuant to 42 U.S.C. § 1981, Title VII of the Civil Rights Act of 1964, and the New York State Human Rights Law against the Company, Tom Rourke, individually, and/or Tom O'Grady, individually. The complaint asserts that the plaintiff is seeking damages to redress injuries suffered as a result of harassment and discrimination on the basis of his race, together with creating a hostile work environment, failure to promote, retaliation, and constructive discharge. Plug disagrees with plaintiff's representations about his time at Plug and intends to vigorously defend against his allegations.

On July 24, 2023, an action entitled *Felton v. Plug Power, Inc.*, Case No. 1:23-cv-887, was filed in the U.S. District Court for the Northern District of New York asserting claims against the Company pursuant to the New York State Human Rights Law. The complaint asserts that the plaintiff is seeking damages to redress injuries suffered as a result of harassment and discrimination on the basis of his race, together with creating a hostile work environment, and retaliation. Plug disagrees with plaintiff's representations about his time at Plug and intends to vigorously defend against his allegations. The parties recently agreed to a settlement in principle and are in the process of preparing and executing a written agreement to formalize the resolution.

On September 13, 2023, alleged Company stockholder Peter Trappen, derivatively and on behalf of the Company as nominal defendant, filed a complaint in the U.S. District Court for the District of Delaware against Mr. Marsh, Mr. Middleton, Mr. Mindnich, Mr. Hull, Mr. McNamee, Gary Willis, Maureen Helmer, Gregory Kenausis, Kyungyeol Song, and Kavita Mahtani captioned *Trappen v. Marsh, et al.*, Case No. 1:23-cv-01007-UNA (the "Trappen Complaint"). The Trappen Complaint alleges that members of the Company's Board of Directors and other Plug Power executives (collectively, the "Individual Defendants") "made materially false and/or misleading statements, as well as failed to disclose material adverse facts, about the Company's business and operations" based on allegations set forth in the Melton securities action discussed above. The Trappen Complaint asserts claims derivatively on behalf of the Company for (1) violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5 promulgated thereunder; (2) breaches of fiduciary duties; (3) unjust enrichment; and (4) waste of corporate assets. The Trappen Complaint seeks a judgment "[d]eclaring that Plaintiff may maintain this action on behalf of Plug Power and that Plaintiff is an adequate representative of the Company"; "[d]etermining and awarding to Plug Power the damages sustained by it as a result of the violations set forth above from each of the Defendants, jointly and severally, together with interest thereon"; and "[d]irecting Plug Power and the Individual Defendants to take all necessary actions to reform and improve its corporate governance and internal procedures to comply with applicable laws and to protect Plug Power and its shareholders from a repeat of the damaging events."

On November 2, 2023, alleged Company stockholders Elias Levy and Camerohn X. Withers, derivatively and on behalf of the Company as nominal defendant, filed a complaint in the U.S. District Court for the District of Delaware against Mr. McNamee, Mr. Willis, Ms. Helmer, Mr. Kenausis, Mr. Song, Ms. Mahtani, Mr. Marsh, Mr. Middleton, Mr. Mindnich, Mr. Hull, Mr. Schneider, Mr. Silver, and Ms. Bua captioned *Levy v. McNamee, et al.*, Case No. 1:23-cv-01253 (the "2023 Levy Derivative Complaint"). The 2023 Levy Derivative Complaint alleges that current members of the Company's Board of Directors ("Current Directors") and other Plug Power executives (collectively, the "Individual Defendants") "breached their fiduciary duties by making, or causing the Company to make, several materially false and/or misleading statements and failed to disclose material adverse facts about the Company's business, finances, and operations." The 2023 Levy Derivative Complaint asserts claims derivatively on behalf of the Company for (1) breaches of fiduciary duties; (2) unjust enrichment; (3) waste of corporate assets; (4) abuse of control; (5) gross mismanagement; and (6) contribution under Sections 10(b) and 21D of the Exchange Act. The 2023 Levy Derivative Complaint seeks a judgment "[d]eclaring that Plaintiffs may maintain this action on behalf of Plug Power and that Plaintiffs are adequate representatives of the Company"; "[d]irecting the Current Directors to take all necessary actions to reform and improve

the Company’s corporate governance, risk management, and internal operating procedures to comply with applicable laws and to protect the Company and its stockholders”; and “[a]warding damages to the Company for the harm the Company suffered as a result of the Individual Defendants’ wrongful conduct.” On December 6, 2023, the plaintiffs voluntarily dismissed all claims against Ms. Bua, Mr. Schneider and Mr. Silver without prejudice. As discussed above, on December 14, 2023, this matter was consolidated with the *Trappen* matter.

On December 14, 2023, the plaintiffs in *Trappen* and *Levy v. McNamee* filed – and the Court entered – a joint stipulation that the two matters contained “substantially similar factual and legal contentions and that the administration of justice would be best served by consolidating” the matters. The matters were consolidated under the caption *In re Plug Power, Inc. Stockholder Deriv. Litig.*, No. 1:23-cv-01007-MN (D. Del.), and the defendants’ responsive pleading deadline was stayed until the plaintiffs file an amended complaint in the consolidated derivative action.

On October 27, 2023, alleged Company stockholders Denish Bhavsar and Gamhita Gera, derivatively and on behalf of the Company as nominal defendant, filed a complaint in the U.S. District Court for the Southern District of New York against Mr. Marsh, Mr. Middleton, Mr. Mindnich, Sanjay Shrestha, Jean Bua, Ms. Helmer, Mr. Kenausis, Kavita Mahtani, Mr. McNamee, Mr. Schneider, Mr. Silver, Kyungyeol Song and Mr. Willis captioned *Bhavsar v. Marsh, et al.*, Case No. 1:23-cv-09452 (the “Bhavsar Complaint”). The Bhavsar Complaint alleges based on allegations set forth in the complaint in the securities action discussed above that members of the Company’s Board of Directors and other Plug Power executives (collectively, the “Individual Defendants”) “made materially false and/or misleading statements, as well as failed to disclose materially adverse facts about the Company’s business, operations, and prospects.” The Bhavsar Complaint asserts claims derivatively on behalf of the Company for (1) violations of Section 14(a) of the Exchange Act of 1934; (2) breaches of fiduciary duties; (3) unjust enrichment; and (4) abuse of control. The Bhavsar Complaint seeks a judgment “[d]eclaring that Plaintiff may maintain this action on behalf of Plug Power and that Plaintiff is an adequate representative of the Company”; “[d]etermining and awarding to Plug Power the damages sustained by it as a result of the violations set forth above from each of the Individual Defendants, jointly and severally, together with interest thereon”; and “[d]irecting Plug Power and the Individual Defendants to take all necessary actions to reform and improve Plug Power’s corporate governance and internal procedures to comply with applicable laws and to protect Plug Power and its shareholders from a repeat of the damaging events.” By stipulated order, the action was transferred to the District of Delaware on January 24, 2024 and the time for all defendants to respond to the complaint was extended through and including March 25, 2024. The lead plaintiffs in the consolidated derivative action have suggested that the action is related to that action and should be consolidated into it. That request is pending.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

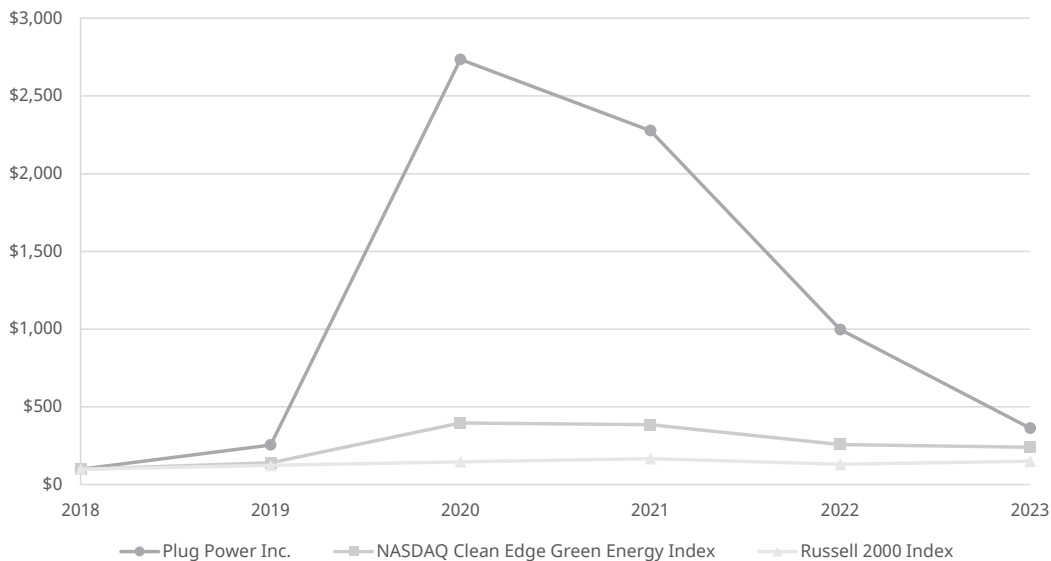
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information and Holders of Record. Our common stock is traded on the NASDAQ Capital Market under the symbol “PLUG”. As of February 20, 2024, there were approximately 666,178 record holders of our common stock. However, management believes that a significant number of shares are held by brokers in “street name” and that the number of beneficial stockholders of our common stock exceeds 1,514.

Dividend Policy. We have never declared or paid cash dividends on our common stock and do not anticipate paying cash dividends in the foreseeable future. Any future determination as to the payment of dividends will depend upon capital requirements and limitations imposed by our credit agreements, if any, and such other factors as our Board may consider.

Five-Year Performance Graph. Below is a line graph comparing the change in the cumulative total return of the Company’s common stock, based on the market price of the Company’s common stock, with the total return of companies included within the NASDAQ Clean Edge Green Energy Index (“CELS Index”) and the companies included within the Russell 2000 Index (“RUT Index”) for the period commencing December 31, 2018 and ending December 31, 2023. The calculation of the cumulative total return assumes a \$100 investment in the Company’s common stock, the CELS Index and the RUT Index on December 31, 2018 and the reinvestment of all dividends, if any.

Comparison of Cumulative Total Return



Index	2018	2019	2020	2021	2022	2023
Plug Power Inc.	\$ 100.00	\$ 254.84	\$ 2,734.68	\$ 2,276.61	\$ 997.58	\$ 362.90
NASDAQ Clean Edge Green Energy Index	\$ 100.00	\$ 139.43	\$ 397.37	\$ 385.24	\$ 258.38	\$ 239.11
Russell 2000 Index	\$ 100.00	\$ 123.10	\$ 146.44	\$ 166.47	\$ 130.60	\$ 150.31

- This graph and the accompanying text are not “soliciting material,” are not deemed filed with the SEC and are not to be incorporated by reference in any filing by us under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.
- The stock price performance shown on the graph is not necessarily indicative of future price performance.
- Assuming the investment of \$100 on December 31, 2018 and the reinvestment of dividends. The common stock price performance shown on the graph only reflects the change in our company’s common stock price relative to the noted indices and is not necessarily indicative of future price performance.

Item 6. [Reserved]

Not applicable.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

The discussion contained in this Form 10-K contains “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that involve risks and uncertainties. Our actual results could differ materially from those discussed in this Annual Report on Form 10-K. In evaluating these statements, you should review Part I, Forward-Looking Statements, Part I, Item 1A, “Risk Factors” and our consolidated financial statements and notes thereto included in Part II, Item 8, “Financial Statements and Supplementary Data”, of this Annual Report on Form 10-K.

Information pertaining to fiscal year 2021 was included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2021 on page 39 under Part II, Item 7, “Management’s Discussion and Analysis of Financial Position and Results of Operations”, which was filed with the SEC on March 1, 2022.

Overview

Plug is facilitating the paradigm shift to an increasingly electrified world by innovating cutting-edge hydrogen and fuel cell solutions.

While we continue to develop commercially viable hydrogen and fuel cell product solutions, we have expanded our offerings to support a variety of commercial operations that can be powered with clean hydrogen. We provide electrolyzers that allow customers — such as refineries, producers of chemicals, steel, fertilizer and commercial refueling stations — to generate hydrogen on-site. We are focusing our efforts on (a) industrial mobility applications, including electric forklifts and electric industrial vehicles, at multi-shift high volume manufacturing and high throughput distribution sites where we believe our products and services provide a unique combination of productivity, flexibility, and environmental benefits; (b) production of hydrogen; and (c) stationary power systems that will support critical operations, such as data centers, microgrids, and generation facilities, in either a backup power or continuous power role, and replace batteries, diesel generators or the grid for telecommunication logistics, transportation, and utility customers. Plug expects to support these products and customers with an ecosystem of vertically integrated products that produce, transport, store and handle, dispense, and use hydrogen for mobility and power applications.

Our current product and service portfolio includes:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling EVs, including Class 1, 2, 3 and 6 electric forklifts, automated guided vehicles, and ground support equipment.

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors; our GenSure High Power Fuel Cell Platform supports large scale stationary power and data center markets.

Progen: Progen is our fuel cell stack and engine technology currently used globally in mobility and stationary fuel cell systems, and as engines in electric delivery vans. This includes Plug’s MEA, a critical component of the fuel cell stack used in zero-emission fuel cell EV engines.

GenFuel: GenFuel is our liquid hydrogen fueling, delivery, generation, storage, and dispensing system.

GenCare: GenCare is our ongoing “Internet of Things”-based maintenance and on-site service program for GenDrive fuel cell systems, GenSure fuel cell systems, GenFuel hydrogen storage and dispensing products and Progen fuel cell engines.

GenKey: GenKey is our vertically integrated “turn-key” solution combining either GenDrive or GenSure fuel cell power with GenFuel fuel and GenCare aftermarket service, offering complete simplicity to customers transitioning to fuel cell power.

Electrolyzers: The design and implementation of 5MW and 10MW electrolyzer systems that are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and “green” hydrogen is generated by using renewable energy inputs, such as solar or wind power.

Liquefaction Systems: Plug’s 15 ton-per-day and 30 ton-per-day liquefiers are engineered for high efficiency, reliability, and operational flexibility — providing consistent liquid hydrogen to customers. This design increases plant reliability and availability while minimizing parasitic losses like heat leak and seal gas losses.

Cryogenic Equipment: Engineered equipment including trailers and mobile storage equipment for the distribution of liquified hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

Liquid Hydrogen: Liquid hydrogen provides an efficient fuel alternative to fossil-based energy. We produce liquid hydrogen through our electrolyzer systems and liquefaction systems. Liquid hydrogen supply will be used by customers in material handling operations, fuel cell electric vehicle fleets, and stationary power applications.

We provide our products and solutions worldwide through our direct sales force, and by leveraging relationships with OEMs and their dealer networks. Plug is currently targeting Asia, Australia, Europe, Middle East and North America for expansion in adoption. The EU has rolled out ambitious targets for the hydrogen economy, with the United Kingdom also taking steps in this direction, and Plug is seeking to execute on our strategy to become one of the European leaders in the hydrogen economy. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business.

Liquidity and Capital Resources

The Company has continued to experience negative cash flows from operations and net losses. The Company incurred net losses of approximately \$1.4 billion, \$724.0 million and \$460.0 million for the years ended December 31, 2023, 2022 and 2021, respectively.

The Company’s working capital was \$822.2 million at December 31, 2023, which included unrestricted cash and cash equivalents of \$135.0 million and restricted cash of \$1.0 billion. The Company plans to invest a portion of its available cash to expand its current production and manufacturing capacity, construct hydrogen plants, and invest in capital projects. At the time of the issuance of the Company’s 2023 third quarter Form 10-Q, conditions existed that raised substantial doubt about the Company’s ability to continue as a going concern. As disclosed in Note 24, “Subsequent Events”, on January 17, 2024, the Company entered into the At Market Issuance Sales Agreement (the “Original ATM Agreement”) with B. Riley Securities, Inc. (“B. Riley”), pursuant to which the Company may, from time to time, offer and sell through or to B. Riley, as sales agent or principal, shares of the Company’s common stock, having an aggregate offering price of up to \$1.0 billion. As of February 23, 2024, the Company had offered and sold 77,417,069 shares of common stock having an aggregate offering price of approximately \$302.1 million under the Original ATM Agreement. On February 23, 2024, the Company and B. Riley entered into Amendment No. 1 to the Original ATM Agreement (the “Amendment” and, together with the Original ATM Agreement, the “ATM Agreement”) to increase the aggregate offering price of shares of the Company’s common stock available for future issuance under the Original ATM Agreement to \$1.0 billion. Under the ATM Agreement, for a period of 18 months, the Company has the right at its sole discretion to direct B. Riley to act on a principal basis and purchase directly from the Company up to \$11.0 million of shares of its common stock on any trading day (the “Maximum Commitment Advance Purchase Amount”) and up to \$55.0 million of shares in any calendar week (the “Maximum Commitment Advance Purchase Amount Cap”). On and after June 1, 2024, so long as the Company’s market capitalization is no less than \$1.0 billion, the Maximum Commitment Advance Purchase Amount will remain \$11.0 million and the Maximum Commitment Advance Purchase Amount Cap will remain \$55.0 million. If the Company’s market capitalization is less than \$1.0 billion on and after June 1, 2024, the Maximum Commitment Advance Purchase Amount will be decreased to \$10.0 million and the Maximum Commitment Advance Purchase Amount Cap will be decreased to \$30.0 million. The Company believes that its working capital and cash position, together with its right to direct B. Riley to purchase shares directly from the Company under the ATM Agreement, will be sufficient to fund its on-going operations for a period of at least 12 months subsequent to the issuance of the accompanying consolidated financial statements and, as a result, substantial doubt about the Company’s ability to continue as a going concern no longer exists.

The Company's significant obligations consisted of the following as of December 31, 2023:

- Operating and finance leases totaling \$355.7 million and \$45.6 million, respectively, of which \$63.7 million and \$9.4 million, respectively, are due within the next 12 months. These leases are primarily related to sale/leaseback agreements entered into with various financial institutions to facilitate the Company's commercial transactions with key customers.
- Finance obligations totaling \$368.4 million of which approximately \$84.0 million is due within the next 12 months. Finance obligations consist primarily of debt associated with the sale of future revenues and failed sale/leaseback transactions.
- Convertible senior notes totaling \$195.3 million at December 31, 2023, none of which is due within the next twelve months. See Note 15, "Convertible Senior Notes", for more details.
- Capital commitments totaling \$170.0 million related to the Company's equity method investments as of December 31, 2023, of which \$152.7 million is due within the next 12 months. See Note 4, "Investments", for more details.
- Future payments under non-cancelable unconditional purchase obligations with a remaining term in excess of one year totaling \$60.8 million as of December 31, 2023, of which \$42.1 million is due within the next 12 months. See Note 21, "Commitments and Contingencies", for more details.
- Contingent consideration with an estimated fair value of approximately \$126.2 million as of December 31, 2023, of which \$87.2 million is due within the next 12 months. See Note 5, "Fair Value Measurements", for more details.

SEC Settlement

On August 30, 2023, the Company reached a settlement of a civil administrative proceeding with the SEC related to the Company's restatement of its previously issued financial statements as of and for the years ended December 31, 2019 and 2018, and as of and for each of the quarterly periods ended March 31, 2020 and 2019, June 30, 2020 and 2019, and September 30, 2020 and 2019. The Company, without admitting or denying the findings, agreed to a cease-and-desist order regarding Sections 13(a), 13(b)(2)(A), and 13(b)(2)(B) of the Exchange Act and Rules 13a-1, 13a-13, and 13a-15(a) - (c) thereunder. As part of the settlement, the Company paid a civil monetary penalty to the SEC in the amount of \$1.25 million on September 20, 2023.

Inflation, Material Availability, and Labor Shortages

Most components essential to our business are generally available from multiple sources; however, we believe there are some component suppliers and manufacturing vendors, particularly those suppliers and vendors that supply materials in very limited supply worldwide or supply commodities that have a high degree of volatility, whose loss to us or general unavailability could have a material adverse effect upon our business and financial condition. For example, although we believe the recent liquid hydrogen supply challenge to be a transitory issue, we have experienced supply chain issues relating to the availability of hydrogen, including but not limited to suppliers utilizing force majeure provisions under existing contracts, which has negatively impacted the amount of hydrogen we have been able to provide under certain of our supply and other agreements. Furthermore, global commodity pricing has been volatile and has been influenced by political events and worldwide economic trends, which has impacted our sourcing strategies, resulting in adverse impacts on our business and financial condition. We have mitigated and are continuing to mitigate these risks by continuing to diversify our supply chain, including diversifying our global supply chain and implementing alternate system architectures that we expect will allow us to source from multiple fuel cell, electrolyzer stack and air supply component vendors. While we continue to invest in our supply chain to improve its resilience with a focus on automation, dual sourcing of critical components, insourcing and localized manufacturing when feasible, we are also working closely with these vendors and other key suppliers on coordinated product introduction plans, product and sales forecasting, strategic inventories, and internal and external manufacturing schedules and levels. However, ongoing changes to, and evolution of, our products designs such as simultaneous design/build efforts and new product serviceability trends, or incorrect forecasting or updates to previously forecasted volumes could present challenges to those strategies despite best efforts in

leveraging supplier relationships and capabilities. With respect to production, although cost pressures from global energy prices and inflation have been less volatile than previous years, an increase in cost pressures or a rise in inflation could negatively affect our business again, which could have a pricing impact on our key raw materials. We have a regionally diverse supply chain, and in cases where we have single sourced suppliers (typically due to new technology and products or worldwide shortages due to global demand), we work to engineer alternatives in our product design or develop new supply sources while covering short- and medium-term risks with supply contracts, building up inventory, and development partnerships. However, if we are unable to reduce such inventory, that could tie up working capital.

In addition, we have continued discussions with suppliers to modify terms of our supply agreements, which may impact the timing of when we receive shipments of certain supplies or result in other supply chain issues. For example, we have experienced pricing impacts from vendors and suppliers due to the recent fluctuations in interest rates and increases in cost of capital, among other factors. However, we continue to take proactive steps through our supply chain team to limit the impact of supplier challenges generally and we continue to work closely with our suppliers and transportation vendors to ensure availability of products and implement other cost savings initiatives.

With respect to our service business, we have experienced inflationary increases in labor, parts and related overhead. This has contributed to the increase in our estimated projected costs to service fuel cell systems and related infrastructure, which resulted in an increase in the provision for loss contracts related to service during 2023. If these trends continue, we may have to record additional service loss provisions in the future. We anticipate bookings and revenue will be uneven in the near-term while we pursue sales opportunities.

Additionally, we, as well as our suppliers and vendors, have observed an increasingly competitive labor market. Tight labor markets have resulted in longer times to fill open positions for us and our suppliers and vendors. Increased employee turnover, reassessment of employee responsibilities given current business needs, changes in the availability of our workers as well as labor shortages have resulted in, and could continue to result in, increased costs which could negatively affect our component or raw material purchasing abilities, and in turn, our financial condition, results of operations, or cash flows.

Results of Operations

Our primary sources of revenue are from sales of equipment, related infrastructure and other, services performed on fuel cell systems and related infrastructure, power purchase agreements, and fuel delivered to customers and related equipment. A certain portion of our sales result from acquisitions in legacy markets, which we are working to transition to renewable solutions. Revenue from sales of equipment, related infrastructure and other represents sales of our GenDrive units, GenSure stationary backup power units, cryogenic stationary and on road storage, hydrogen liquefaction systems, electrolyzers and hydrogen fueling infrastructure. Revenue from services performed on fuel cell systems and related infrastructure represents revenue earned on our service and maintenance contracts and sales of spare parts. Revenue from power purchase agreements primarily represent payments received from customers who make monthly payments to access the Company's GenKey solution. Revenue associated with fuel delivered to customers and related equipment represents the sale of hydrogen to customers that has been purchased by the Company from a third party or generated at our hydrogen production plant.

Provision for Common Stock Warrants

On August 24, 2022, the Company issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (the "Amazon Warrant") to acquire up to 16,000,000 shares of the Company's common stock, subject to certain vesting events described below under "Common Stock Transactions – Amazon Transaction Agreement in 2022".

In 2017, in separate transactions, the Company issued a warrant to each of Amazon.com NV Investment Holdings LLC and Walmart to purchase up to 55,286,696 shares of the Company's common stock, subject to certain vesting events described below under "Common Stock Transactions – Amazon Transaction Agreement in 2017" and "Common Stock Transactions – Walmart Transaction Agreement". The Company recorded a portion of the estimated fair value of the warrants as a reduction of revenue based upon the projected number of shares of common stock expected to vest under the warrants, the proportion of purchases by Amazon, Walmart and their affiliates within the period relative to the aggregate purchase levels required for vesting of the respective warrants, and the then-current fair value of the warrants.

The amount of provision for the Amazon and Walmart warrants recorded as a reduction of revenue during the years ended December 31, 2023 and 2022, respectively, is shown in the table below (in thousands):

	Year Ended December 31,	
	2023	2022
Sales of equipment, related infrastructure and other	\$ (566)	\$ (3,580)
Services performed on fuel cell systems and related infrastructure	(1,194)	(1,003)
Power purchase agreements	(3,817)	(3,611)
Fuel delivered to customers and related equipment	(5,632)	(4,489)
Total	<u>\$ (11,209)</u>	<u>\$ (12,683)</u>

Net revenue, cost of revenue, gross profit/(loss) and gross margin/(loss) for the years ended December 31, 2023 and 2022 were as follows (in thousands):

	Net Revenue	Cost of Revenue	Gross Profit/(Loss)	Gross Margin/(Loss)
For the year ended December 31, 2023:				
Sales of equipment, related infrastructure and other	\$ 711,433	\$ 765,575	\$ (54,142)	(7.6)%
Services performed on fuel cell systems and related infrastructure	39,093	75,412	(36,319)	(92.9)%
Provision for loss contracts related to service	—	86,346	(86,346)	N/A
Power purchase agreements	63,731	218,936	(155,205)	(243.5)%
Fuel delivered to customers and related equipment	66,246	246,318	(180,072)	(271.8)%
Other	10,837	6,544	4,293	39.6 %
Total	<u>\$ 891,340</u>	<u>\$ 1,399,131</u>	<u>\$ (507,791)</u>	<u>(57.0)%</u>
For the year ended December 31, 2022:				
Sales of equipment, related infrastructure and other	\$ 558,932	\$ 468,057	\$ 90,875	16.3 %
Services performed on fuel cell systems and related infrastructure	35,280	59,365	(24,085)	(68.3)%
Provision for loss contracts related to service	—	26,801	(26,801)	N/A
Power purchase agreements	47,183	144,696	(97,513)	(206.7)%
Fuel delivered to customers and related equipment	57,196	194,255	(137,059)	(239.6)%
Other	2,849	2,622	227	8.0 %
Total	<u>\$ 701,440</u>	<u>\$ 895,796</u>	<u>\$ (194,356)</u>	<u>(27.7)%</u>

Net Revenue

Revenue — sales of equipment, related infrastructure and other. Revenue from sales of equipment, related infrastructure and other represents sales of our GenDrive units, GenSure stationary backup power units, cryogenic stationary and on road storage, hydrogen liquefaction systems, electrolyzers and hydrogen fueling infrastructure referred to at the site level as hydrogen installations. Revenue from sales of equipment, related infrastructure and other for the year ended December 31, 2023 increased \$152.5 million, or 27.3%, to \$711.4 million from \$558.9 million for the year ended December 31, 2022 primarily due to increases in revenue related to hydrogen site installations, liquefiers, cryogenic equipment, and electrolyzer stacks and systems. The increase in the revenue related to cryogenic storage equipment and liquefiers of \$143.9 million was primarily due to executed agreements related to liquefier sales and \$47.7 million resulting from the acquisition of CIS for which there was \$3.7 million revenue recognized for the year ended December 31, 2022. Revenue related to electrolyzers increased \$54.1 million, primarily due to 133 one megawatt equivalent units sold for the year ended December 31, 2023 compared to 13 one megawatt equivalent units sold for the year ended December 31, 2022. The increase in hydrogen infrastructure revenue of \$42.1 million was due to 52 hydrogen site installations for the year ended December 31, 2023 compared to 44 for the year ended December 31, 2022. Revenue related to stationary increased \$9.7 million, primarily due to an increase in the volume of units sold. Partially offsetting these increases was a decrease in revenue related to fuel cell systems of \$36.2 million due to a decrease in the volume of GenDrive units sold, with 6,392 units sold for the year ended December 31, 2023 compared to 8,274 units sold for the year ended December 31, 2022. Additionally, there was a decrease of \$61.1 million related to the sales of engineered oil and gas equipment from the Frames acquisition, for which sales are not expected to continue beyond current commitments.

Revenue — services performed on fuel cell systems and related infrastructure. Revenue from services performed on fuel cell systems and related infrastructure represents revenue earned on our service and maintenance contracts and sales of spare parts. Revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2023 increased \$3.8 million, or 10.8%, to \$39.1 million from \$35.3 million for the year ended December 31, 2022. The increase in revenue from services performed on fuel cell systems and related infrastructure in 2023 was related to our expanding customer base and increase in the number of GenDrive units and infrastructure systems in service. The average number of GenDrive units under maintenance contracts during the year ended December 31, 2023 was 20,336,

compared to 19,515 in 2022. Partially offsetting this increase in revenue was an increase in the provision for common stock warrants recorded as a reduction of revenue, which increased to \$1.2 million for the year ended December 31, 2023 compared to \$1.0 million for the year ended December 31, 2022.

Revenue — Power purchase agreements. Revenue from PPAs represents payments received from customers for power generated through the provision of equipment and service. Revenue from PPAs for the year ended December 31, 2023 increased \$16.5 million, or 35.1%, to \$63.7 million from \$47.2 million for the year ended December 31, 2022. The increase in revenue was a result of an increase in the average number of units and customer sites party to these agreements. There was an average of 30,626 GenDrive units under PPAs generating revenue in 2023, compared to 25,188 in 2022. In addition, the average number of hydrogen sites under PPA arrangements was 132 in 2023, compared to 91 in 2022. Partially offsetting this increase in revenue was an increase in the provision for common stock warrants recorded as a reduction of revenue, which increased to \$3.8 million for the year ended December 31, 2023 compared to \$3.6 million for the year ended December 31, 2022.

Revenue — fuel delivered to customers and related equipment. Revenue associated with fuel and related equipment delivered to customers represents the sale of hydrogen that has been purchased by the Company from a third party or generated at our hydrogen production plant. Revenue associated with fuel delivered to customers for the year ended December 31, 2023 increased \$9.0 million, or 15.7%, to \$66.2 million from \$57.2 million for the year ended December 31, 2022. The increase in revenue was primarily due to an increase in the number of sites with fuel contracts, which increased from 196 sites as of December 31, 2022 to 250 sites as of December 31, 2023. Partially offsetting this increase in revenue was an increase in the provision for common stock warrants recorded as a reduction of revenue, which increased to \$5.6 million for the year ended December 31, 2023 compared to \$4.5 million for the year ended December 31, 2022.

Cost of Revenue

Cost of revenue — sales of equipment, related infrastructure and other. Cost of revenue from sales of equipment, related infrastructure and other includes direct materials, labor costs, and allocated overhead costs related to the manufacture of our fuel cells such as GenDrive units and GenSure stationary back-up power units, cryogenic stationary and on road storage, and electrolyzers, as well as hydrogen fueling infrastructure referred to at the site level as hydrogen installations. Cost of revenue from sales of equipment, related infrastructure and other for the year ended December 31, 2023 increased \$297.5 million, or 63.6%, to \$765.6 million, compared to \$468.1 million for the year ended December 31, 2022. The increase in hydrogen infrastructure cost of revenue of \$42.3 million was due to 52 hydrogen site installations for the year ended December 31, 2023 compared to 44 for the year ended December 31, 2022 as well as a \$2.1 million lower of cost or net realizable valuation adjustment, of which there was none for the year ended December 31, 2022. The increase in cryogenic storage equipment and liquefiers of \$103.5 million was due to a greater percentage of completion achieved on average on liquefaction systems for the year ended December 31, 2023 as compared to the year ended December 31, 2022. Included in the \$103.5 million is cost of revenue of \$43.5 million resulting from the acquisition of CIS, for which there was \$3.6 million cost of revenue recognized for the year ended December 31, 2022. The cost of revenue related to electrolyzer stacks and systems increased \$111.3 million, primarily due to volume with 113 one megawatt equivalent units sold for the year ended December 31, 2023 compared to 13 one megawatt equivalent units sold for the year ended December 31, 2022 as well as lower of cost or net realizable valuation adjustments of \$29.6 million, of which there was none for the year ended December 31, 2022. The cost of revenue related to fuel cell systems increased by \$79.3 million, primarily due to an increase in stationary builds and volume increases in low power stationary and mobility as well as lower of cost or net realizable valuation adjustments of \$14.1 million, of which there was none for the year ended December 31, 2022. Partially offsetting these increases was a decrease in cost of revenue of \$40.8 million related to legacy oil and gas contracts from the Frames acquisition that are not expected to continue beyond current commitments. The gross loss generated from sales of equipment, related infrastructure and other was (7.6%) for the year ended December 31, 2023, compared to a gross margin of 16.3% for the year ended December 31, 2022. The decrease from gross margin to gross loss was primarily due to ramp up of costs on new product offerings for high power stationary units and electrolyzers, inventory valuation adjustments as well as changes in customer mix.

Cost of revenue — services performed on fuel cell systems and related infrastructure. Cost of revenue from services performed on fuel cell systems and related infrastructure includes the labor, material costs and allocated overhead costs incurred for our product service and hydrogen site maintenance contracts and spare parts. Cost of revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2023 increased \$16.0 million, or 27.0%, to \$75.4 million, compared to \$59.4 million for the year ended December 31, 2022. The increase in cost of revenue was primarily due to the increase in number of units and sites in service. There was an average of 20,336 units

under maintenance contracts during the year ended December 31, 2023, compared to an average of 19,515 for the year ended December 31, 2022. Gross loss increased to (92.9%) for the year ended December 31, 2023 compared to (68.3)% for the year ended December 31, 2022. The increase in gross loss was primarily due to higher labor, parts and related overhead incurred to support the service business during the year ended December 31, 2023.

Cost of revenue — provision for loss contracts related to service. The Company recorded a provision for loss accrual during 2023 of \$86.3 million, an increase of \$59.5 million compared to the provision for loss accrual of \$26.8 million as of December 31, 2022. The Company increased the provision due to continued cost and inflationary increases of labor, parts and related overhead coupled with the timing of the remaining period of service required. Accordingly, the Company increased its estimated projected costs to service fuel cell systems and related infrastructure.

Cost of revenue — Power purchase agreements. Cost of revenue from PPAs includes depreciation of assets utilized and service costs to fulfill PPA obligations and interest costs associated with certain financial institutions for leased equipment. Cost of revenue from PPAs for the year ended December 31, 2023 increased \$74.2 million, or 51.3%, to \$218.9 million from \$144.7 million for the year ended December 31, 2022. The increase in cost was primarily a result of an increase in the average number of units and customer sites party to these agreements. There was an average of 30,626 GenDrive units under PPAs in 2023, compared to 25,188 in 2022. The average number of hydrogen sites under PPA arrangements was 132 in 2023, compared to 91 in 2022. Gross loss increased to (243.5%) for the year ended December 31, 2023 compared to (206.7)% for the year ended December 31, 2022. The increase in gross loss was primarily due to higher cost of parts and scrap events during the year ended December 31, 2023.

Cost of revenue — fuel delivered to customers and related equipment. Cost of revenue from fuel delivered to customers and related equipment represents the purchase of hydrogen from suppliers and internally produced hydrogen that is ultimately sold to customers. Cost of revenue from fuel delivered to customers for the year ended December 31, 2023 increased \$52.1 million, or 26.8%, to \$246.3 million from \$194.3 million for the year ended December 31, 2022. The increase was primarily due to higher volume of hydrogen delivered to customer sites as a result of an increase in the number of hydrogen installations completed under GenKey agreements, inefficiencies in fueling systems, and increased logistics costs due to instability in the hydrogen network created by force majeure events declared by our suppliers. There were 250 sites associated with fuel contracts at December 31, 2023, compared to 196 at December 31, 2022. Gross loss increased to (271.8%) during the year ended December 31, 2023 compared to (239.6)% during the year ended December 31, 2022, primarily due to the increase in cost of revenue described above.

Expenses

Research and development. Research and development expenses include: materials to build development and prototype units, cash and non-cash compensation and benefits for the engineering and related staff, expenses for contract engineers, fees paid to consultants for services provided, materials and supplies consumed, facility related costs such as computer and network services, and other general overhead costs associated with our research and development activities. Research and development expense for the year ended December 31, 2023 increased \$14.1 million, or 14.2%, to \$113.7 million from \$99.6 million for the year ended December 31, 2022. The overall growth in research and development investment is commensurate with the Company's future expansion into new markets, new product lines, and varied vertical integrations.

Selling, general and administrative. Selling, general and administrative expenses include cash and non-cash compensation, benefits, amortization of intangible assets and related costs in support of our general corporate functions, including general management, finance and accounting, human resources, selling and marketing, information technology and legal services. Selling, general and administrative expenses for the year ended December 31, 2023 increased \$58.5 million, or 16.1%, to \$422.5 million from \$363.9 million for the year ended December 31, 2022. This increase was primarily related to information technology and professional fees.

Impairment. The Company recorded impairment of \$20.0 million for the year ended December 31, 2023, as compared to \$5.2 million for the year ended December 31, 2022. This increase was primarily related to an other current asset impairment charge of \$9.7 million resulting from a termination of a commercial agreement and impairment of right of use assets related to PPA arrangements.

Impairment of goodwill. The Company recorded impairment of goodwill of \$249.5 million for the year ended December 31, 2023, as compared to \$0 for the year ended December 31, 2022. The Company performs an impairment

review of goodwill on an annual basis at October 31, and when a triggering event is determined to have occurred between annual impairment tests. Based on the results of our quantitative impairment analysis, the Company recognized an impairment charge of \$249.5 million for the year ended December 31, 2023.

Change in fair value of contingent consideration. The change in fair value of contingent consideration is related to earnouts for the Giner ELX, Inc., United Hydrogen Group Inc., Frames, Applied Cryo, and Joule acquisitions. The change in fair value for the year ended December 31, 2023 and 2022 was \$30.0 million and \$16.5 million, respectively, primarily due to fair value remeasurements. This increase was primarily due to the fair value increase of \$22.3 million related to the Joule acquisition for the year ended December 31, 2023.

Interest income. Interest income primarily consists of income generated by our investment holdings, restricted cash escrow accounts, and money market accounts. Interest income for the year ended December 31, 2023 increased \$18.5 million or 49.7%, as compared to the year ended December 31, 2022, and was due primarily to increases in interest rates and available-for-sale securities held on average during 2023, consisting primarily of corporate bonds and U.S. Treasuries.

Interest expense. Interest expense consists of interest expense related to our long-term debt, convertible senior notes, obligations under finance leases and our finance obligations. Interest expense for the year ended December 31, 2023, increased \$6.2 million, as compared to the year ended December 31, 2022. The increase was primarily due to an increase in finance obligations related to sale/leaseback transactions.

Other expense, net. Other expense, net primarily consists of foreign currency translation and gains and losses related to energy contracts. Other expense, net decreased \$1.0 million for the year ended December 31, 2023 as compared to the year ended December 31, 2022.

Realized loss on investments, net. Realized loss on investments, net consists of the sales related to available-for-sale debt securities and equity securities. For the year ended December 31, 2023, the Company had \$12.8 million of net realized loss on investments as compared to \$1.4 million for the year ended December 31, 2022. An other-than-temporary impairment charge of \$10.8 million on the Company's available-for-sale securities was taken during the third quarter of 2023 and was due to a change in the Company's ability and intent to retain these investments for a period of time sufficient to allow for any anticipated recovery in the fair value. The other-than-temporary impairment charge was realized when the Company sold its remaining available-for-sale securities and equity securities during the fourth quarter of 2023.

Change in fair value of equity securities. Change in fair value of equity securities consists of the changes in fair value for equity securities from the purchase date to the end of the period. For the year ended December 31, 2023, the change in fair value of equity securities increased by \$11.4 million as compared to a decrease in the change in fair value of \$18.2 million for the year ended December 31, 2022. The Company sold its remaining equity securities as of December 31, 2023.

Loss on extinguishment of debt. Loss on extinguishment of debt consists of losses that arise from retirement of debt before maturity. For the year ended December 31, 2023, the Company had loss on extinguishment of debt of \$0 as compared to loss on extinguishment of debt of \$1.0 million for the year ended December 31, 2022.

Loss on equity method investments. Loss on equity method investments consists of our interest in HyVia, which is our 50/50 joint venture with Renault, AccionaPlug S.L., which is our 50/50 joint venture with Acciona, SK Plug Hyverse, which is our 49/51 joint venture with SK E&S, and Clean H2 Infra Fund. For the year ended December 31, 2023, the Company recorded a loss of \$41.8 million on equity method investments as compared to a loss of \$20.2 million for the year ended December 31, 2022. These losses are driven from the start-up activities for commercial and production operations of the aforementioned investments.

Income Taxes

The Company recognized an income tax benefit for the year ended December 31, 2023 of \$7.4 million consisting primarily of a foreign deferred tax benefit of \$8.5 million and foreign current tax expense of \$1.1 million. The Company has not changed its overall conclusion with respect to the need for a valuation allowance against its net deferred tax assets, which remain fully reserved within the United States and foreign jurisdictions, with the exception of the Netherlands in which a partial valuation allowance is established.

The net deferred tax asset generated from the Company's current period federal NOL has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the federal NOL carry forward will not be realized.

The Company recognized an income tax expense for the year ended December 31, 2022 of \$0.8 million related to foreign current and deferred tax expense of \$1.7 million and the \$0.9 million reversal of U.S. net deferred tax liabilities in connection with the acquisition of Giner ELX, Inc.

The Organization for Economic Co-operation and Development ("OECD") Inclusive Framework on Base Erosion and Profit Shifting has proposed a global minimum corporate tax rate of 15% on multi-national corporations, commonly referred to as the Pillar Two rules that has been agreed upon in principle by over 140 countries. Numerous foreign countries have enacted legislation to implement the Pillar Two rules, effective beginning January 1, 2024, or are expected to enact similar legislation. The Company is currently evaluating the potential impacts that Pillar Two may have on its tax provision or effective tax rate in future periods and will continue to monitor the implementation of rules in the jurisdictions in which it operates.

Public and Private Offerings of Equity and Debt

Common Stock At Market Issuance Sales Agreement

As disclosed in Note 24, "Subsequent Events", on January 17, 2024, the Company entered into the Original ATM Agreement with B. Riley, pursuant to which the Company may, from time to time, offer and sell through or to B. Riley, as sales agent or principal, shares of the Company's common stock, having an aggregate offering price of up to \$1.0 billion. As of February 23, 2024, the Company had offered and sold 77,417,069 shares of common stock having an aggregate offering price of approximately \$302.1 million under the Original ATM Agreement. On February 23, 2024, the Company and B. Riley entered into the Amendment to increase the aggregate offering price of shares of the Company's common stock available for future issuance under the Original ATM Agreement to \$1.0 billion. Under the ATM Agreement, for a period of 18 months, the Company has the right at its sole discretion to direct B. Riley to act on a principal basis and purchase directly from the Company up to \$11.0 million of shares of its common stock on any trading day (the "Maximum Commitment Advance Purchase Amount") and up to \$55.0 million of shares in any calendar week (the "Maximum Commitment Advance Purchase Amount Cap"). On and after June 1, 2024, so long as the Company's market capitalization is no less than \$1.0 billion, the Maximum Commitment Advance Purchase Amount will remain \$11.0 million and the Maximum Commitment Advance Purchase Amount Cap will remain \$55.0 million. If the Company's market capitalization is less than \$1.0 billion on and after June 1, 2024, the Maximum Commitment Advance Purchase Amount will be decreased to \$10.0 million and the Maximum Commitment Advance Purchase Amount Cap will be decreased to \$30.0 million. Through the date of filing of the Annual Report on Form 10-K, the Company issued 77,417,069 shares of common stock at a weighted-average sales price of \$3.90 per share for gross proceeds of \$302.1 million.

Common Stock Issuances

In January and February 2021, the Company issued and sold in a registered equity offering an aggregate of 32.2 million shares of its common stock at a purchase price of \$65.00 per share for net proceeds of approximately \$2.0 billion. Furthermore, in February 2021, the Company completed a sale of its common stock in connection with a strategic partnership with SK Holdings Co., Ltd. ("SK Holdings"). The Company sold 54,996,188 shares of its common stock to a subsidiary of SK Holdings at a purchase price of \$29.29 per share, or an aggregate purchase price of approximately \$1.6 billion.

Secured Debt

In March 2019, the Company entered into a loan and security agreement, as amended, with Generate Lending, LLC, providing for a secured term loan facility in the amount of \$100 million (the "Term Loan Facility"). In December 2022, the Company fully repaid the outstanding balance of the Term Loan Facility, which resulted in a recording of a loss on the extinguishment of debt of \$1.0 million on the consolidated statement of operations.

In June 2020, the Company acquired debt as part of the acquisition of United Hydrogen Group Inc. The outstanding carrying value of the debt was \$3.9 million as of December 31, 2023. The outstanding principal on the debt is \$5.5 million and the unamortized debt discount is \$1.5 million, bearing varying interest rates ranging from 5.6% to 8.3%, and is scheduled to mature in 2026.

3.75% Convertible Senior Notes

On May 18, 2020, the Company issued \$200.0 million in aggregate principal amount of 3.75% Convertible Senior Notes due June 1, 2025, which is referred to herein as the 3.75% Convertible Senior Notes, in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended, or the Securities Act. On May 29, 2020, the Company issued an additional \$12.5 million in aggregate principal amount of 3.75% Convertible Senior Notes.

At issuance in May 2020, the total net proceeds from the 3.75% Convertible Senior Notes, after deducting the initial purchaser's discount, the costs of related capped calls and other issuance costs, were approximately \$189.2 million.

The 3.75% Convertible Senior Notes bear interest at a rate of 3.75% per year, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2020. The notes will mature on June 1, 2025, unless earlier converted, redeemed or repurchased in accordance with their terms.

The 3.75% Convertible Senior Notes are senior, unsecured obligations of the Company and rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the notes, equal in right of payment to any of the Company's existing and future liabilities that are not so subordinated, effectively junior in right of payment to any of the Company's secured indebtedness to the extent of the value of the collateral securing such indebtedness, and structurally subordinated to all indebtedness and other liabilities, including trade payables, of its current or future subsidiaries.

Holders of the 3.75% Convertible Senior Notes may convert their notes at their option at any time prior to the close of the business day immediately preceding December 1, 2024 in the following circumstances:

- 1) during any calendar quarter commencing after March 31, 2021, if the last reported sale price of the Company's common stock exceeds 130% of the conversion price for each of at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter;
- 2) during the five business days after any five consecutive trading day period (such five consecutive trading day period, the measurement period) in which the trading price per \$1,000 principal amount of the 3.75% Convertible Senior Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day;
- 3) if the Company calls any or all of the 3.75% Convertible Senior Notes for redemption, any such notes that have been called for redemption may be converted at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or
- 4) upon the occurrence of specified corporate events, as described in the indenture governing the 3.75% Convertible Senior Notes.

On or after December 1, 2024, the holders of the 3.75% Convertible Senior Notes may convert all or any portion of their notes at any time prior to the close of business on the second scheduled trading day immediately preceding the maturity date regardless of the foregoing conditions.

The initial conversion rate for the 3.75% Convertible Senior Notes is 198.6196 shares of the Company's common stock per \$1,000 principal amount of notes, which is equivalent to an initial conversion price of approximately \$5.03 per share of the Company's common stock, subject to adjustment upon the occurrence of specified events. Upon conversion, the Company will pay or deliver, as applicable, cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock, at the Company's election. During the years ended December 31, 2023 and 2022, there were no conversions. During the year ended December 31, 2021, \$15.2 million of the 3.75% Convertible Senior Notes were converted and the Company issued approximately 3.0 million shares of common stock in conjunction with these conversions.

In addition, following certain corporate events or following issuance of a notice of redemption, the Company will increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event or convert its notes called for redemption during the related redemption period in certain circumstances.

The 3.75% Convertible Senior Notes will be redeemable, in whole or in part, at the Company's option at any time, and from time to time, on or after June 5, 2023 and before the 41st scheduled trading day immediately before the maturity date, at a cash redemption price equal to 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest, if any, but only if the last reported sale price per share of the Company's common stock exceeds 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive), including at least one of the three trading days immediately preceding the date the Company sends the related redemption notice, during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company sends such redemption notice.

If the Company undergoes a "fundamental change" (as defined in the Indenture), holders may require the Company to repurchase their notes for cash all or any portion of their notes at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest, to, but excluding, the fundamental change repurchase date.

The Company accounts for the 3.75% Convertible Senior Notes as a liability. We incurred transaction costs related to the issuance of the 3.75% Convertible Senior Notes of approximately \$7.0 million, consisting of initial purchasers' discount of approximately \$6.4 million and other issuance costs of \$0.6 million which were recorded as debt issuance cost (presented as contra debt in the consolidated balance sheets) and are being amortized to interest expense over the term of the 3.75% Convertible Senior Notes.

The estimated fair value of the 3.75% Convertible Senior Notes at December 31, 2023 was approximately \$213.2 million. The fair value estimation was primarily based on a quoted price in an active market.

Capped Call

In conjunction with the pricing of the 3.75% Convertible Senior Notes, the Company entered into privately negotiated capped call transactions (the "3.75% Notes Capped Call") with certain counterparties at a price of \$16.2 million. The 3.75% Notes Capped Call covers, subject to anti-dilution adjustments, the aggregate number of shares of the Company's common stock that underlie the initial 3.75% Convertible Senior Notes and is generally expected to reduce potential dilution to the Company's common stock upon any conversion of the 3.75% Convertible Senior Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the converted notes, as the case may be, with such reduction and/or offset subject to a cap based on the cap price. The cap price of the 3.75% Notes Capped Call is initially \$6.7560 per share, which represents a premium of approximately 60% over the last then-reported sale price of the Company's common stock of \$4.11 per share on the date of the transaction and is subject to certain adjustments under the terms of the 3.75% Notes Capped Call. The 3.75% Notes Capped Call becomes exercisable if the conversion option is exercised.

The net cost incurred in connection with the 3.75% Notes Capped Call has been recorded as a reduction to additional paid-in capital in the consolidated balance sheet.

5.5% Convertible Senior Notes & Common Stock Forward

In March 2018, the Company issued \$100.0 million in aggregate principal amount of the 5.5% Convertible Senior Notes due on March 15, 2023 (the "5.5% Convertible Senior Notes"), in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act.

During 2020, the Company used a portion of the net proceeds from the issuance of the 3.75% Convertible Senior Notes to finance the cash portion of the partial repurchase of approximately \$66.3 million in aggregate principal amount of the 5.5% Convertible Senior Notes and converted \$33.5 million in aggregate principal amount of the 5.5% Convertible Senior Notes into 14.6 million shares of the Company's common stock. On January 7, 2021, the final remaining aggregate principal amount of the 5.5% Convertible Senior Notes was converted into 69,808 shares of the Company's common stock.

In connection with the issuance of the 5.5% Convertible Senior Notes, the Company entered into a forward stock purchase transaction (the "Common Stock Forward"), pursuant to which the Company agreed to purchase 14,397,906

shares of its common stock for settlement on or about March 15, 2023. In connection with the issuance of the 3.75% Convertible Senior Notes and the partial repurchase of the 5.5% Convertible Senior Notes, the Company amended and extended the maturity of the Common Stock Forward to June 1, 2025. The number of shares of common stock that the Company will ultimately repurchase under the Common Stock Forward is subject to customary anti-dilution adjustments. The Common Stock Forward is subject to early settlement or settlement with alternative consideration in the event of certain corporate transactions.

The book value of the Common Stock Forward is not remeasured. There were no shares of common stock settled in connection with the Common Stock Forward during the years ended December 31, 2023 and 2022.

Common Stock Transactions

Amazon Transaction Agreement in 2022

On August 24, 2022, the Company and Amazon entered into a Transaction Agreement (the “2022 Transaction Agreement”), under which the Company concurrently issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (the “2022 Amazon Warrant”) to acquire up to 16,000,000 shares (the “2022 Amazon Warrant Shares”) of the Company’s common stock, subject to certain vesting events described below. The Company and Amazon entered into the 2022 Transaction Agreement in connection with a concurrent commercial arrangement under which Amazon agreed to purchase hydrogen fuel from the Company through August 24, 2029.

Warrant

1,000,000 of the 2022 Amazon Warrant Shares vested immediately upon issuance of the 2022 Amazon Warrant. 15,000,000 of the 2022 Amazon Warrant Shares will vest in multiple tranches over the 7-year term of the 2022 Amazon Warrant based on payments made to the Company directly by Amazon or its affiliates, or indirectly through third parties, with 15,000,000 of the 2022 Amazon Warrant Shares fully vesting if Amazon-related payments of \$2.1 billion are made in the aggregate. The exercise price for the first 9,000,000 2022 Amazon Warrant Shares is \$22.9841 per share and the fair value on the grant date was \$20.36. The exercise price for the remaining 7,000,000 2022 Amazon Warrant Shares will be an amount per share equal to 90% of the 30-day volume weighted average share price of the Company’s common stock as of the final vesting event that results in full vesting of the first 9,000,000 2022 Amazon Warrant Shares. The 2022 Amazon Warrant is exercisable through August 24, 2029.

Upon the consummation of certain change of control transactions (as defined in the 2022 Amazon Warrant) prior to the vesting of at least 60% of the aggregate 2022 Amazon Warrant Shares, the 2022 Amazon Warrant will automatically vest and become exercisable with respect to an additional number of 2022 Amazon Warrant Shares such that 60% of the aggregate 2022 Amazon Warrant Shares shall have vested. If a change of control transaction is consummated after the vesting of at least 60% of the aggregate 2022 Amazon Warrant Shares, then no acceleration of vesting will occur with respect to any of the unvested 2022 Amazon Warrant Shares as a result of the transaction. The exercise price and the 2022 Amazon Warrant Shares issuable upon exercise of the Amazon Warrant are subject to customary antidilution adjustments.

On August 24, 2022, 1,000,000 of the Amazon Warrant Shares issued pursuant to the 2022 Transaction Agreement vested. The warrant fair value associated with the vested shares of tranche 1 of \$20.4 million was capitalized to contract assets based on the grant date fair value and is subsequently amortized ratably as a reduction to revenue based on the Company’s estimate of revenue over the term of the agreement. As of December 31, 2023, the balance of the contract asset related to tranche 1 was \$19.4 million which is recorded in contract assets in the Company’s consolidated balance sheet. During the second quarter of 2023, all 1,000,000 of the Amazon Warrant Shares associated with tranche 2 vested. The warrant fair value associated with the vested shares of tranche 2 was determined on the grant date of August 24, 2022 in the amount of \$20.4 million. As of December 31, 2023, the balance of the contract asset related to tranche 2 was \$13.8 million. Tranche 3 will vest over the next \$1.0 billion of collections from Amazon and its affiliates. The grant date fair value of tranche 3 will also be amortized ratably as a reduction to revenue based on the Company’s estimate of revenue over the term of the agreement. As of December 31, 2023, the balance of the contract asset related to tranche 3 was \$5.2 million. Because the exercise price has yet to be determined, the fair value of tranche 4 will be remeasured at each reporting period end and amortized ratably as a reduction to revenue based on the Company’s estimate of revenue over the term of the agreement. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the year ended December 31, 2023 and 2022 was \$4.9 million and \$5.2 million, respectively.

The assumptions used to calculate the valuations as of August 24, 2022 and December 31, 2023 are as follows:

	Tranches 1-3 August 24, 2022	Tranche 4 December 31, 2023
Risk-free interest rate	3.15%	3.78%
Volatility	75.00%	85.00%
Expected average term (years)	7.00	4.00
Exercise price	\$22.98	\$4.05
Stock price	\$20.36	\$4.50

Amazon Transaction Agreement in 2017

On April 4, 2017, the Company and Amazon entered into a Transaction Agreement (the “2017 Amazon Transaction Agreement”), pursuant to which the Company agreed to issue to Amazon.com NV Investment Holdings LLC, a warrant to acquire up to 55,286,696 shares (the “2017 Amazon Warrant Shares”) of the Company’s common stock, subject to certain vesting events. The Company and Amazon entered into the 2017 Amazon Transaction Agreement in connection with existing commercial agreements between the Company and Amazon with respect to the deployment of the Company’s GenKey fuel cell technology at Amazon distribution centers. The vesting of the 2017 Amazon Warrant Shares was conditioned upon payments made by Amazon or its affiliates (directly or indirectly through third parties) pursuant to the existing commercial agreements. On December 31, 2020, the Company waived the remaining vesting conditions under the 2017 Amazon Warrant, which resulted in the immediate vesting of all the third tranche of the 2017 Amazon Warrant Shares.

The 2017 Amazon Warrant was exercised with respect to 34,917,912 and 24,704,450 shares of the Company’s common stock as of December 31, 2023 and 2022, respectively.

At both December 31, 2023 and December 31, 2022, all 55,286,696 of the 2017 Amazon Warrant Shares had vested. The total amount of provision for common stock warrants recorded as a reduction of revenue for the 2017 Amazon Warrant during the years ended December 31, 2023, 2022 and 2021 was \$0.4 million, \$0.4 million and \$0.5 million, respectively.

Walmart Transaction Agreement

On July 20, 2017, the Company and Walmart entered into a Transaction Agreement (the “Walmart Transaction Agreement”), pursuant to which the Company agreed to issue to Walmart a warrant (the “Walmart Warrant”) to acquire up to 55,286,696 shares of the Company’s common stock, subject to certain vesting events (the “Walmart Warrant Shares”). The Company and Walmart entered into the Walmart Transaction Agreement in connection with existing commercial agreements between the Company and Walmart with respect to the deployment of the Company’s GenKey fuel cell technology across various Walmart distribution centers. The existing commercial agreements contemplate, but do not guarantee, future purchase orders for the Company’s fuel cell technology. The vesting of the warrant shares conditioned upon payments made by Walmart or its affiliates (directly or indirectly through third parties) pursuant to transactions entered into after January 1, 2017 under existing commercial agreements.

The majority of the Walmart Warrant Shares will vest based on Walmart’s payment of up to \$600.0 million to the Company in connection with Walmart’s purchase of goods and services from the Company. The first tranche of 5,819,652 Walmart Warrant Shares vested upon the execution of the Walmart Warrant and was fully exercised as of December 31, 2020. Accordingly, \$10.9 million, the fair value of the first tranche of Walmart Warrant Shares, was recorded as a provision for common stock warrants and presented as a reduction to revenue on the consolidated statements of operations during 2017. All future provision for common stock warrants is measured based on the fair value of the awards and recorded as a charge against revenue. The second tranche of 29,098,260 Walmart Warrant Shares vested in four installments of 7,274,565 Walmart Warrant Shares each time Walmart or its affiliates, directly or indirectly through third parties, made an aggregate of \$50.0 million in payments for goods and services to the Company, up to payments totaling \$200.0 million in the aggregate.

The exercise price for the first and second tranches of Walmart Warrant Shares was \$2.1231 per share. After Walmart has made payments to the Company totaling \$200.0 million, the third tranche of 20,368,784 Walmart Warrant

Shares will vest in eight installments of 2,546,098 Walmart Warrant Shares each time Walmart or its affiliates, directly or indirectly through third parties, make an aggregate of \$50.0 million in payments for goods and services to the Company, up to payments totaling \$400.0 million in the aggregate. The exercise price of the third tranche of the Walmart Warrant Shares is \$6.28 per share, which was determined pursuant to the terms of the Walmart Warrant as an amount equal to 90% of the 30-day volume weighted average share price of the Company's common stock as of October 30, 2023, the final vesting date of the second tranche of the Walmart Warrant Shares. The Walmart Warrant is exercisable through July 20, 2027. The Walmart Warrant provides for net share settlement that, if elected by the holder, will reduce the number of shares issued upon exercise to reflect net settlement of the exercise price. The Walmart Warrant provides for certain adjustments that may be made to the exercise price and the number of shares of common stock issuable upon exercise due to customary anti-dilution provisions based on future events. The Walmart Warrant is classified as an equity instrument.

The warrant had been exercised with respect to 13,094,217 shares of the Company's common stock as of both December 31, 2023 and 2022.

At December 31, 2023 and December 31, 2022, 34,917,912 and 27,643,347 of the Walmart Warrant Shares had vested, respectively. As of December 31, 2023, the balance of the contract asset related to the Walmart Warrant was \$2.4 million. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Walmart Warrant during the years ended December 31, 2023, 2022 and 2021 was \$5.9 million, \$7.1 million, and \$6.1 million, respectively.

Fair value of the Walmart Warrant at January 1, 2019 and October 30, 2023 was based on the Black Scholes Option Pricing Model, which is based, in part, upon level 3 unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions.

The assumptions used to calculate the valuations as of January 1, 2019 and October 30, 2023 are as follows:

	Tranches 1-2 January 1, 2019	Tranche 3 October 30, 2023
Risk-free interest rate	2.63%	4.73%
Volatility	95.00%	75.00%
Expected average term (years)	8.55	3.72
Exercise price	\$2.12	\$6.28
Stock price	\$1.24	\$5.70

Operating and Finance Lease Liabilities

As of December 31, 2023, the Company had operating leases, as lessee, primarily associated with sale/leaseback transactions that are partially secured by restricted cash, security deposits and pledged escrows (see also Note 1, "Nature of Operations") as summarized below. These leases expire over the next one to seven years. Minimum rent payments under operating leases are recognized on a straight-line basis over the term of the lease.

Leases contain termination clauses with associated penalties, the amount of which cause the likelihood of cancellation to be remote. At the end of the lease term, the leased assets may be returned to the lessor by the Company, the Company may negotiate with the lessor to purchase the assets at fair market value, or the Company may negotiate with the lessor to renew the lease at market rental rates. No residual value guarantees are contained in the leases. No financial covenants are contained within the lease, however there are customary operational covenants such as assurance the Company properly maintains the leased assets and carries appropriate insurance, etc. The leases include credit support in the form of either cash, collateral or letters of credit. See Note 21, "Commitments and Contingencies", for a description of cash held as security associated with the leases.

The Company has finance leases associated with its property and equipment in Latham, New York and at fueling customer locations.

Future minimum lease payments under operating and finance leases (with initial or remaining lease terms in excess of one year) as of December 31, 2023 were as follows (in thousands):

	Operating Lease Liability	Finance Lease Liability	Total Lease Liabilities
2024	\$ 99,356	\$ 12,117	\$ 111,473
2025	94,569	15,033	109,602
2026	85,693	12,175	97,868
2027	71,414	8,485	79,899
2028	49,477	1,896	51,373
2029 and thereafter	145,875	3,247	149,122
Total future minimum payments	546,384	52,953	599,337
Less imputed interest	(190,691)	(7,379)	(198,070)
Total	<u>\$ 355,693</u>	<u>\$ 45,574</u>	<u>\$ 401,267</u>

Rental expense for all operating leases was \$95.0 million, \$67.6 million, and \$38.6 million for the years ended December 31, 2023, 2022 and 2021, respectively.

At December 31, 2023 and 2022, security deposits associated with sale/leaseback transactions were \$7.4 million and \$5.8 million, respectively, and were included in other assets in the consolidated balance sheet.

Other information related to the operating leases are presented in the following table:

	Year ended December 31, 2023	Year ended December 31, 2022
Cash payments - operating cash flows (in thousands)	\$ 91,637	\$ 63,214
Weighted average remaining lease term (years)	5.76	6.52
Weighted average discount rate	11.3%	11.2%

Finance lease costs include amortization of the right of use assets (i.e., depreciation expense) and interest on lease liabilities (i.e., interest expense in the consolidated statement of operations), and were \$7.5 million and \$6.2 million for the years ended December 31, 2023 and 2022, respectively.

At December 31, 2023 and 2022, the right of use assets associated with finance leases, net was \$57.3 million and \$53.7 million, respectively. The accumulated depreciation for these right of use assets was \$9.0 million and \$4.7 million at December 31, 2023 and 2022, respectively.

Other information related to the finance leases are presented in the following table:

	Year ended December 31, 2023	Year ended December 31, 2022
Cash payments - operating cash flows (in thousands)	\$ 3,059	\$ 2,447
Cash payments - financing cash flows (in thousands)	\$ 8,638	\$ 6,586
Weighted average remaining lease term (years)	3.87	3.92
Weighted average discount rate	6.8%	6.7%

The Company has outstanding obligations to Wells Fargo under several Master Lease Agreements totaling \$171.3 million and \$159.5 million for the years ended December 31, 2023 and 2022, respectively. These outstanding obligations are included in operating lease liabilities and finance obligations on the consolidated balance sheets.

Restricted Cash

In connection with certain of the above noted sale/leaseback agreements, cash of \$573.5 million and \$383.7 million, respectively, was required to be restricted as security as of December 31, 2023 and 2022, which will be released

over the lease term. As of December 31, 2023 and 2022, the Company also had certain letters of credit backed by security deposits totaling \$370.7 million and \$379.6 million, respectively, of which \$340.0 million and \$354.0 million are security for the above noted sale/leaseback agreements, respectively, and \$30.7 million and \$25.6 million are customs related letters of credit, respectively.

As of December 31, 2023 and 2022, the Company had \$76.8 million and \$75.5 million, respectively, held in escrow related to the construction of certain hydrogen plants.

The Company also had \$1.2 million and \$0.2 million of consideration held by our paying agent in connection with the Joule and CIS acquisitions, respectively, reported as restricted cash as of December 31, 2023, with a corresponding accrued liability on the Company's consolidated balance sheet. Additionally, the Company had \$11.7 million and \$10.8 million in restricted cash as collateral resulting from the Frames acquisition as of December 31, 2023 and 2022, respectively.

Guarantee

On May 30, 2023, our joint venture, HyVia, entered into a government grant agreement with Bpifrance. As part of the agreement, our wholly-owned subsidiary, Plug Power France, was required to issue a guarantee to Bpifrance in the amount of €20 million through the end of January 2027. Plug Power France is liable to the extent of the guarantee for sums due to Bpifrance from HyVia under the agreement based on the difference between the total amount paid by Bpifrance and the final amount certified by HyVia and Bpifrance. As part of the agreement, there are certain milestones that HyVia is required to meet, and the nonperformance of these milestones or termination of this agreement could result in this guarantee being called upon. As of December 31, 2023, no payments related to this guarantee have been made by the Company and Plug Power France did not record a liability for this guarantee as the likelihood of the guarantee being called upon is remote as of December 31, 2023.

Commitments to equity method investments

The Company had the following capital commitments related to its equity method investments as of December 31 as follows (in thousands):

2024	\$	152,672
2025		17,300
Total	\$	<u>169,972</u>

Unconditional purchase obligations

The Company has entered into certain off-balance sheet commitments that require the future purchase of goods or services ("unconditional purchase obligations"). The Company's unconditional purchase obligations primarily consist of supplier arrangements, take or pay contracts and service agreements. For certain vendors, the Company's unconditional obligation to purchase a minimum quantity of raw materials at an agreed upon price is fixed and determinable; while certain other raw material costs will vary due to product forecasting and future economic conditions.

Future payments under non-cancelable unconditional purchase obligations with a remaining term in excess of one year as of December 31, 2023, were as follows (in thousands):

2024	\$	42,125
2025		8,023
2026		8,023
2027		2,638
2028		—
2029 and thereafter		—
Total		<u>60,809</u>

Critical Accounting Estimates

Management's discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities at the date of and during the reporting period. On an on-going basis, we evaluate our estimates and judgments, including but not limited to those related to revenue recognition, valuation of inventories, goodwill and intangible assets, valuation of long-lived assets, accrual for service loss contracts, operating and finance leases, allowance for doubtful accounts receivable, unbilled revenue, common stock warrants, stock-based compensation, income taxes, and contingencies. We base our estimates and judgments on historical experience and on various other factors and assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about (1) the carrying values of assets and liabilities and (2) the amount of revenue and expenses realized that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe that the following are our most critical accounting estimates and assumptions the Company must make in the preparation of our consolidated financial statements and related notes thereto.

Revenue Recognition

The Company enters into contracts that may contain one or a combination of fuel cell systems and infrastructure, installation, maintenance, spare parts, fuel delivery and other support services. Contracts containing fuel cell systems and related infrastructure may be sold directly to customers or provided to customers under a PPA. The Company also enters into contracts that contain electrolyzer stacks, systems, maintenance, and other support services. Furthermore, the Company enters into contracts related to the sales of cryogenic equipment, liquefaction systems and engineered equipment.

The Company does not include a right of return on its products other than rights related to standard warranty provisions that permit repair or replacement of defective goods. The Company accrues for anticipated standard warranty costs at the same time that revenue is recognized for the related product, or when circumstances indicate that warranty costs will be incurred, as applicable. Any prepaid amounts would only be refunded to the extent services have not been provided or the fuel cell systems or infrastructure have not been delivered.

Revenue is measured based on the transaction price specified in a contract with a customer, subject to the allocation of the transaction price to distinct performance obligations as discussed below. The Company recognizes revenue when it satisfies a performance obligation by transferring a product or service to a customer.

Promises to the customer are separated into performance obligations and are accounted for separately if they are (1) capable of being distinct and (2) distinct in the context of the contract. The Company considers a performance obligation to be distinct if the customer can benefit from the good or service either on its own or together with other resources readily available to the customer and the Company's promise to transfer the goods or service to the customer is separately identifiable from other promises in the contract. The Company allocates revenue to each distinct performance obligation based on relative standalone selling prices.

Payment terms for sales of fuel cells, infrastructure, and service to customers are typically 30 to 90 days from shipment of the goods. Payment terms on electrolyzer systems are typically based on achievement of milestones over the term of the contract with the customer. Sale/leaseback transactions with financial institutions are invoiced and collected upon transaction closing. Service is prepaid upfront in a majority of the arrangements. The Company does not adjust the transaction price for a significant financing component when the performance obligation is expected to be fulfilled within a year.

The Company has issued to each of Amazon.com NV Investment Holdings LLC and Walmart warrants to purchase shares of the Company's common stock. The Company presents the provision for common stock warrants within each revenue-related line item on the consolidated statements of operations. This presentation reflects the discount that those common stock warrants represent, and therefore revenue is net of these non-cash charges. The provision of common stock warrants is allocated to the relevant revenue-related line items based upon the expected mix of the revenue for each respective contract. See Note 17, "Warrant Transaction Agreements", for more details.

Nature of goods and services

The following is a description of principal activities from which the Company generates its revenue.

- (a) Sales of equipment, related infrastructure and other
 - (i) Sales of fuel cell systems, related infrastructure and equipment

Revenue from sales of fuel cell systems, related infrastructure, and equipment represents sales of our GenDrive units, GenSure stationary backup power units, as well as hydrogen fueling infrastructure.

The Company uses a variety of information sources in determining standalone selling prices for fuel cells systems and the related infrastructure. For GenDrive fuel cells, given the nascent nature of the Company's market, the Company considers several inputs, including prices from a limited number of standalone sales as well as the Company's negotiations with customers. The Company also considers its costs to produce fuel cells as well as comparable list prices in estimating standalone selling prices. The Company uses applicable observable evidence from similar products in the market to determine standalone selling prices for GenSure stationary backup power units and hydrogen fueling infrastructure. The determination of standalone selling prices of the Company's performance obligations requires significant judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Once relative standalone selling prices are determined, the Company proportionately allocates the transaction price to each performance obligation within the customer arrangement based upon standalone selling price. The allocated transaction price related to fuel cell systems and spare parts is recognized as revenue at a point in time which usually occurs upon delivery (and occasionally at time of shipment). Revenue on hydrogen infrastructure installations is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon customer acceptance of the hydrogen infrastructure. The Company uses an input method to determine the amount of revenue to recognize during each reporting period when such revenue is recognized over time, based on the costs incurred to satisfy the performance obligation.

- (ii) Sales of electrolyzer systems and solutions

Revenue from sales of electrolyzer systems and solutions represents sales of electrolyzer stacks and systems used to generate hydrogen for various applications including mobility, ammonia production, methanol production, power to gas, and other uses.

The Company uses a variety of information sources in determining standalone selling prices for electrolyzer systems solutions. Electrolyzer stacks are typically sold on a standalone basis and the standalone selling price is the contractual price with the customer. The Company uses an adjusted market assessment approach to determine the standalone selling price of electrolyzer systems when sold with extended service or other equipment. This includes considering both standalone selling prices of the systems by the Company and available information on competitor pricing on similar products. The determination of standalone selling prices of the Company's performance obligations requires judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Once relative standalone selling prices are determined, the Company proportionately allocates the transaction price to each performance obligation within the customer arrangement based upon standalone selling price. Revenue on electrolyzer systems and stacks is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon title transfer at shipment or delivery to the customer location. In certain instances, control of electrolyzer systems transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. We recognize revenue over time when contract performance results in the creation of a product for which we do not have an alternative use and the contract includes an enforceable right to payment in an amount that corresponds directly with the value of the performance completed. In these instances, we use an input measure (cost-to-total cost or percentage-of-completion method) of progress to determine the amount of revenue to recognize during each reporting period based on the costs incurred to satisfy the performance obligation.

Payments received from customers are recorded within deferred revenue and customer deposits in the consolidated balance sheets until control is transferred. The related cost of such product and installation is also deferred as a component of deferred cost of revenue in the consolidated balance sheets until control is transferred.

(iii) Sales of cryogenic equipment and other

Revenue from sales of cryogenic equipment represents sales of liquefaction system and other cryogenic equipment such as trailers and mobile storage equipment for the distribution of liquefied hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

The Company uses a variety of information sources in determining standalone selling prices for liquefaction systems and cryogenic equipment. Liquefaction systems are typically sold on a standalone basis and the standalone selling price is the contractual price with the customer. The Company uses an adjusted market assessment approach to determine the standalone selling price of liquefaction systems when sold with other equipment. This includes considering both standalone selling prices of the systems by the Company and available information on competitor pricing on similar products. The determination of standalone selling prices of the Company's performance obligation requires judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Revenue on liquefaction systems is generally recognized over time. Control transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. We recognize revenue over time when contract performance results in the creation of a product for which we don't not have an alternative use and the contract includes an enforceable right to payment in an amount that corresponds directly with the value of the performance completed. In these instances, we use an input measure of progress to determine the amount of revenue to recognize during each reporting period based on the costs incurred to satisfy the performance obligation.

Revenue on cryogenic equipment is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon title transfer at shipment or delivery to the customer location.

Payments received from customers are recorded within deferred revenue and customer deposits in the consolidated balance sheets until control is transferred. The related costs of such product and installation is also deferred as a component of deferred cost of revenue in the consolidated balance sheets until control is transferred.

(b) Services performed on fuel cell systems and related infrastructure

Revenue from services performed on fuel cell systems and related infrastructure represents revenue earned on our service and maintenance contracts and sales of spare parts. The Company uses an adjusted market assessment approach to determine standalone selling prices for services. This approach considers market conditions and constraints while maximizing the use of available observable inputs obtained from a limited number of historical standalone service renewal prices and negotiations with customers. The transaction price allocated to services as discussed above is generally recognized as revenue over time on a straight-line basis over the expected service period, as customers simultaneously receive and consume the benefits of routine, recurring maintenance performed throughout the contract period.

In substantially all of its transactions, the Company sells extended maintenance contracts that generally provide for a five-to-ten-year service period from the date of product installation in exchange for an up-front payment. Services include monitoring, technical support, maintenance and related services. These services are accounted for as a separate performance obligation, and accordingly, revenue generated from these transactions, subject to the proportional allocation of transaction price, is deferred and recognized as revenue over the term of the contract, generally on a straight-line basis. Additionally, the Company may enter into annual service and extended maintenance contracts that are billed monthly. Revenue generated from these transactions is recognized as revenue on a straight-line basis over the term of the contract. Costs are recognized as incurred over the term of the contract. When costs are projected to exceed revenues over the life of the extended maintenance contract, an accrual for loss contracts is recorded. Costs are estimated based upon historical experience and consider the estimated impact of the Company's cost reduction initiatives, if any. The actual results may differ from these estimates. See "Extended Maintenance Contracts" below.

Extended maintenance contracts generally do not contain customer renewal options. Upon expiration, customers may either negotiate a contract extension or switch to purchasing spare parts and maintaining the fuel cell systems on their own.

(c) Power purchase agreements

Revenue from PPAs primarily represents payments received from customers who make monthly payments to access the Company's GenKey solution.

Revenue associated with these agreements is recognized on a straight-line basis over the life of the agreements as the customers simultaneously receive and consume the benefits from the Company's performance of the services. The customers receive services ratably over the contract term.

In conjunction with entering into a PPA with a customer, the Company may enter into a separate transaction with third-party financial institutions in which the Company receives proceeds from the sale/leaseback transactions of the equipment and the sale of future service revenue. The proceeds from the financial institution are allocated between the sale of equipment and the sale of future service revenue based on the relative standalone selling prices of equipment and service. The proceeds allocated to the sale of future services are recognized as finance obligations. The proceeds allocated to the sale of the equipment are evaluated to determine if the transaction meets the criteria for sale/leaseback accounting. To meet the sale/leaseback criteria, control of the equipment must transfer to the financial institution, which requires among other criteria the leaseback to meet the criteria for an operating lease and the Company must not have a right to repurchase the equipment (unless specific criteria are met). These transactions typically meet the criteria for sale/leaseback accounting and accordingly, the Company recognizes revenue on the sale of the equipment, and separately recognizes the leaseback obligations.

The Company recognizes an operating lease liability for the equipment leaseback obligation based on the present value of the future payments to the financial institutions that are attributed to the equipment leaseback. The discount rate used to determine the lease liability is the Company's incremental borrowing rate. The Company also records a right of use asset which is amortized over the term of the leaseback. Rental expense is recognized on a straight-line basis over the life of the leaseback and is included as a cost of power purchase agreements revenue on the consolidated statements of operations.

Certain of the Company's transactions with financial institutions do not meet the criteria for sale/leaseback accounting and accordingly, no equipment sale is recognized. All proceeds from these transactions are accounted for as finance obligations. The right of use assets related to these transactions are classified as equipment related to the PPAs and fuel delivered to the customers, net in the consolidated balance sheets. The Company uses its transaction-date incremental borrowing rate as the interest rate for its finance obligations that arise from these transactions. No additional adjustments to the incremental borrowing rate have been deemed necessary for the finance obligations that have resulted from the failed sale/leaseback transactions.

In determining whether the sales of fuel cells and other equipment to financial institutions meet the requirements for revenue recognition under sale/leaseback accounting, the Company, as lessee, determines the classification of the lease. The Company estimates certain key inputs to the associated calculations such as: 1) discount rate used to determine the present value of future lease payments, 2) fair value of the fuel cells and equipment, and 3) useful life of the underlying asset(s):

- ASC Topic 842 requires a lessee to discount its future lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, its incremental borrowing rate. Generally, the Company cannot determine the interest rate implicit in its leases because it does not have access to the lessor's estimated residual value or the amount of the lessor's deferred initial direct costs. Therefore, the Company generally uses its incremental borrowing rate to estimate the discount rate for each lease. Adjustments that considered the Company's actual borrowing rate, inclusive of securitization, as well as borrowing rates for companies of similar credit quality were applied in the determination of the incremental borrowing rate.
- In order for the lease to be classified as an operating lease, the present value of the future lease payments cannot exceed 90% of the fair value of the leased assets. The Company estimates the fair value of the lease assets using the sales prices.
- In order for a lease to be classified as an operating lease, the lease term cannot exceed 75% (major part) of the estimated useful life of the leased asset. The average estimated useful life of the fuel cells is 10 years, and the average estimated useful life of the hydrogen infrastructure is 20 years. These estimated useful lives are compared to the term of each lease to determine the appropriate lease classification.

(d) Fuel delivered to customers and related equipment

Revenue associated with fuel delivered to customers represents the sale of hydrogen to customers that has been purchased by the Company from a third party or generated at our hydrogen production plant. The stand-alone selling price is not estimated because it is sold separately and therefore directly observable.

The Company purchases hydrogen fuel from suppliers in most cases (and sometimes produces hydrogen onsite) and sells to its customers. Revenue and cost of revenue related to this fuel is recorded as dispensed and is included in the respective fuel delivered to customers and related equipment lines on the consolidated statements of operations.

(e) Other revenue

Other revenue includes payments received for technical services that include engineering services, program management services, procurement services and operations, testing and validation services with HyVia. The scope of these services includes mutually agreed upon services as may be requested from time to time by HyVia. Other revenue also includes sales of electrolyzer engineering and design services. The scope of these services includes establishing and defining project technical requirements, standards and guidelines as well as assistance in scoping and scheduling of large-scale electrolyzer solutions.

Impairment of Goodwill

Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. The Company reviews goodwill for impairment at least annually.

In accordance with ASC 350, *Intangibles — Goodwill and Other*, we test goodwill for impairment on an annual basis on October 31 and between annual tests if indicators of potential impairment exist. The impairment test compares the fair value of the reporting units to their carrying amounts to assess whether impairment exists. We have reviewed the provisions of ASC 350-20 with respect to the criteria necessary to evaluate the number of reporting units that exist. Based on this review, we have concluded that we have one operating segment and one reporting unit. During the annual impairment review process, the Company has the option to perform a qualitative assessment over relevant events and circumstances to determine whether it is more-likely-than-not that the fair value of the reporting unit is less than its carrying amount or to perform a quantitative assessment. We derive the fair value of our reporting unit using the market approach, which estimates fair value based on the determination of comparable publicly-traded companies and market multiples of revenue and earnings derived from those companies with similar operating and investment characteristics as the reporting unit being valued. The Company compares and reconciles the fair value of the reporting unit to our market capitalization in order to assess the reasonableness of the calculated fair value by reporting unit. If the carrying value of the reporting unit exceeds its fair value, an impairment loss equal to the excess is recorded.

Based on the results of our annual review, the Company recognized an impairment charge of \$249.5 million for the year ended December 31, 2023. The Company's stock price declined below book value during the fourth quarter of 2023. Management believes the decline of the stock price was due primarily to missed projections and reduced liquidity. The Company's analyses did not indicate impairment of goodwill for the years ended December 31, 2022 and 2021. See Note 10, "Intangible Assets and Goodwill", for further information.

Impairment

Contract assets

During the fourth quarter of 2023, there was a contract asset impairment charge of \$2.4 million related to our assessment of recoverability of a customer contract. There was no such impairment charge for the year ended December 31, 2022.

Other current assets

During the second quarter of 2023, there was an other current asset impairment charge of \$9.7 million related to the termination of a commercial agreement. There was no such impairment charge for the year ended December 31, 2022.

Property, equipment, leasehold improvements, and finite-lived intangible assets

Long-lived assets, such as property, equipment, leasehold improvements, and finite-lived intangible assets, are reviewed for impairment whenever events and circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment is recognized to the extent that the carrying amount exceeds its fair value. In making these determinations, the Company uses certain assumptions, including, but not limited to: (i) estimated fair value of the assets; and (ii) estimated, undiscounted future cash flows expected to be generated by these assets, which are based on additional assumptions such as asset utilization, length of service, the asset will be used in the Company's operations, and (iii) estimated residual values. Fair value is determined using various valuation techniques including discounted cash flow models, quoted market values and third-party independent appraisals, as considered necessary.

There was impairment of \$3.1 million and \$0.8 million of property, equipment, leasehold improvements, or finite-lived intangible assets during the years ended December 31, 2023 and 2022, respectively.

PPA Executory Contract Considerations

We evaluate PPA assets on a quarterly basis to identify events or changes in circumstances ("triggering events") that indicate the carrying value of certain assets may not be recoverable. PPA assets that we evaluate include right of use lease assets, equipment deployed to our PPAs, and assets related primarily to our fuel delivery business.

Upon the occurrence of a triggering event, PPA assets are evaluated to determine if the carrying amounts are recoverable. The determination of recoverability is made based upon the estimated undiscounted future net cash flows of assets grouped at the lowest level for which there are identifiable cash flows independent of the cash flows of other groups. For operating assets, the Company has generally determined that the lowest level of identifiable cash flows is based on the customer sites. The assets related primarily to our fuel delivery business are considered to be their own asset group. The cash flows are estimated based on the remaining useful life of the primary asset within the asset group.

For assets related to our PPA agreements, we consider all underlying cash inflows related to our contract revenues and cash outflows relating to the costs incurred to service the PPAs. Our cash flow estimates used in the recoverability test, are based upon, among other things, historical results adjusted to reflect our best estimate of future cash flows and operating performance. Development of future cash flows also requires us to make assumptions and to apply judgment, including timing of future expected cash flows, future cost savings initiatives, and determining recovery values. Changes to our key assumptions related to future performance and other economic and market factors could adversely affect the outcome of our recoverability tests and cause more asset groups to be tested for impairment.

If the estimated undiscounted future net cash flows for a given asset group are less than the carrying amount of the related asset group, an impairment loss is determined by comparing the estimated fair value with the carrying amount of the asset group. The impairment loss is then allocated to the assets in the asset group based on the asset's relative carrying amounts. However, assets are not impaired below their then estimated fair values. Fair value is generally determined through various valuation techniques, including discounted cash flow models, quoted market values and third-party independent appraisals, as well as year-over-year trends in pricing of our new equipment and overall evaluation of our industry and market, as considered necessary. The Company considers these indicators with certain of its own internal indices and metrics in determining fair value in light of the nascent state of the Company's market and industry. The estimate of fair value represents our best estimates of these factors and is subject to variability. Changes to our key assumptions related to future performance and other economic and market factors could adversely affect our impairment evaluation.

The Company has determined that the assets deployed for certain PPA arrangements, as well as certain assets related to the delivery of fuel to customers, are not recoverable based on the undiscounted estimated future cash flows of the asset group, and an expense of \$4.8 million was recorded to impairment on the income statement. However, the estimated fair value of the assets in these asset groups equal or exceed the carrying amount of the assets or otherwise limit the amount of impairment that would have been recognized. The Company has identified the primary source of the losses for certain PPA arrangements to be the maintenance components of the PPA arrangements and the impact of customer

warrant non-cash provisions. As the PPA arrangements are considered to be executory contracts and there is no specific accounting guidance that permits loss recognition for these revenue contracts, the Company has not recognized a provision for the expected future losses under these revenue arrangements. The Company expects that it will recognize future losses for these arrangements as it continues its efforts to reduce costs of delivering the maintenance component of these arrangements. The Company has estimated total future revenues and costs for these types of arrangements based on existing contracts and leverage of the related assets. For the future estimates, the Company used service cost estimates for extended maintenance contracts and customer warrant provisions at rates consistent with experience to date. The terms for the underlying estimates vary but the average residual term on the existing contracts is four years.

Extended Maintenance Contracts

On a quarterly basis, we evaluate any potential losses related to our extended maintenance contracts for fuel cell systems and related infrastructure that has been sold. We measure loss accruals at the customer contract level. The expected revenues and expenses for these contracts include all applicable expected costs of providing services over the remaining term of the contracts and the related unearned net revenue. A loss is recognized if the sum of expected costs of providing services under the contract exceeds related unearned net revenue and is recorded as a provision for loss contracts related to service in the consolidated statements of operations. A key component of these estimates is the expected future service costs. In estimating the expected future service costs, the Company considers its current service cost level and applies judgement related to certain cost saving estimates that have been implemented in the field. The expected future cost savings will be primarily dependent upon the success of the Company's initiatives related to increasing stack life and achieving better economies of scale on service labor. If the expected cost saving initiatives are not realized, this will increase the costs of providing services and could adversely affect our estimated contract loss accrual. Further, as we continue to work to improve quality and reliability; however, unanticipated additional quality issues or warranty claims may arise and additional material charges may be incurred in the future. These quality issues could also adversely affect our contract loss accrual. The Company has undertaken and will soon undertake several other initiatives to extend the life and improve the reliability of its equipment. As a result of these initiatives and our additional expectation that the increase in certain costs will abate, the Company believes that its contract loss accrual is sufficient. However, if elevated service costs persist, the Company will adjust its estimated future service costs and increase its contract loss accrual estimate. If actual service costs over the remaining term of existing extended maintenance contracts were 10% more or 10% less than those estimated in the determination of the loss accrual for fuel cell systems and related infrastructure at December 31, 2023, the loss accrual would be approximately \$13.8 million higher or \$13.8 million lower, respectively.

Inventory Valuation

Inventories are valued at the lower of cost, determined on a first-in, first-out basis, and net realizable value. All inventory, including spare parts inventory held at service locations, is not relieved until the customer has received the product, at which time the customer obtains control of the goods. We maintain inventory levels adequate for our short-term needs within the next twelve months based upon present levels of production. An allowance for potential non-saleable inventory due to damaged, excess stock or obsolescence is based upon a detailed review of inventory, past history, and expected usage. The Company's estimate of the reserves utilizes certain inputs and involves judgment. The Company evaluates excess and obsolescence and lower of cost or net realizable value inventory reserves on a quarterly basis and, as necessary, reserves inventory based upon a variety of factors, including historical usage, forecasted usage and sales, product obsolescence, anticipated selling price, and anticipated cost to complete to determine product margin and other factors. We review all contracts related to product lines with projected negative margins that are arranged to be sold at a loss in the future as the basis for a lower of cost or net realizable value adjustment.

Common Stock Warrant Accounting

The Company accounts for common stock warrants as either derivative liabilities or as equity instruments depending on the specific terms of the respective warrant agreements. Common stock warrants that meet certain applicable requirements of ASC Subtopic 815-40, *Derivatives and Hedging – Contracts in Entity's Own Equity*, and other related guidance, including the ability of the Company to settle the warrants without the issuance of registered shares or the absence of rights of the grantee to require cash settlement, are accounted for as equity instruments. The Company classifies these equity instruments within additional paid-in capital on the consolidated balance sheets.

Common stock warrants accounted for as equity instruments represent the warrants issued to Amazon and Walmart as discussed in Note 17, "Warrant Transaction Agreements". The Company adopted FASB ASU 2019-08,

Compensation – Stock Compensation (Topic 718) and *Revenue from Contracts with Customers* (Topic 606), which requires entities to measure and classify share-based payment awards granted to a customer.

In order to calculate warrant charges, the Company used the Black-Scholes pricing model, which required key inputs including volatility and risk-free interest rate and certain unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions. The Company estimated the fair value of unvested warrants, considered to be probable of vesting, at the time. Based on that estimated fair value, the Company determined warrant charges, which are recorded as a reduction of revenue in the consolidated statement of operations.

Recent Accounting Pronouncements

Recently Issued and Not Yet Adopted Accounting Pronouncements

In March 2020, ASU 2020-03, *Codification Improvements to Financial Instruments*, was issued to make various codification improvements to financial instruments to make the standards easier to understand and apply by eliminating inconsistencies and providing clarifications. This update will be effective at various dates beginning with date of issuance of this ASU. The adoption of this standard will not have a material impact on the Company's consolidated financial statements.

In November 2023, ASU 2023-07, *Improvements to Reportable Segment Disclosures*, was issued to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The purpose of the amendments is to enable investors to better understand an entity's overall performance and assess potential future cash flows. This update will be effective for fiscal years beginning after December 15, 2023. The adoption of this standard is not expected to have a material impact on the Company's consolidated financial statements.

In December 2023, ASU 2023-09, *Improvements to Income Tax Disclosures*, was issued to require public business entities to annually disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. Additionally, annual disclosures on income taxes paid will be required to be further disaggregated by federal, state, and foreign taxes. This update will be effective for annual periods beginning after December 15, 2024. The adoption of this standard will not have a material impact to our consolidated financial statements. However, we are currently evaluating the impact of this ASU on our income tax disclosures.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

Credit Risk

As of December 31, 2023 and 2022, our cash and cash equivalents were maintained with financial institutions in which our current deposits are in excess of insured limits. We believe these institutions have sufficient assets and liquidity to conduct its operations in the ordinary course of business with little or no credit risk to us.

Interest Rate Risk

The risk associated with fluctuating interest rates is primarily limited to our cash equivalents and available-for-sale securities. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk sensitive instruments, positions or transactions in any material fashion, except for the 5.5% Notes Capped Call and the 3.75% Notes Capped Call purchased in March 2018 and May 2020, respectively, related to the issuance of the 5.5% Convertible Senior Notes and 3.75% Convertible Senior Notes. Additionally, the Company purchased a Common Stock Forward in March 2018 in conjunction with the issuance of the 5.5% Convertible Senior Notes. That Common Stock Forward was extended upon issuance of the 3.75% Convertible Senior Notes.

Foreign Currency Exchange Rate Risk

Portions of our revenue and operating expenses that are incurred outside the United States are denominated in foreign currencies and are subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the Euro. Our exposure to changes in foreign currency rates is primarily related to operations of Plug Power Europe, our French subsidiary, as well as Frames, our wholly-owned subsidiary headquartered in the Netherlands. Fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statements of operations

and comprehensive loss. We also have three joint ventures (1) an investment in HyVia, a joint venture with Renault that plans to manufacture and sell FCE-LCVs and to supply hydrogen fuel and fueling stations to support the FCE-LCV market primarily in Europe, (2) an investment in AccionaPlug S.L., a joint venture with Acciona, and (3) an investment in SK Hyverse, a joint venture with SK E&S. Our exposure to foreign currency can give rise to foreign exchange risk resulting from our equity method investments with HyVia, Acciona and Clean H2 Infra Fund, which all operate in Europe, and SK Hyverse, which operates in Asia. Our HyVia, AccionaPlug S.L., SK Hyverse and Clean H2 Infra Fund exposure presently is immaterial as commercial activities are in early stages.

Inflation Risk

Inflationary factors, such as increases in our cost of goods sold and operating expenses, may adversely affect our operating results. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, a high rate of inflation in the future may have an adverse effect on our ability to increase our gross margin or reduce our selling and marketing and operating expenses as a percentage of our revenue if the selling prices of our products do not increase as much as or more than our operating expenses.

Item 8. Financial Statements and Supplementary Data

The Company's consolidated financial statements and related notes, together with the report of independent registered public accounting firm, appear at pages F-1 through F-57 of this Annual Report on Form 10-K for the year ended December 31, 2023 and are incorporated by reference in this Item 8.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer (our principal executive officer) and Chief Financial Officer (our principal financial officer), as appropriate, to allow for timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of December 31, 2023. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2023, our disclosure controls and procedures were not effective because of the material weaknesses in internal control over financial reporting described below.

Notwithstanding such material weaknesses in internal control over financial reporting, our management, including our Chief Executive Officer and Chief Financial Officer, has concluded that our consolidated balance sheets as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2023, present fairly, in all material respects, our financial position, results of our operations and our cash flows for the periods presented in this Annual Report on Form 10-K, in conformity with GAAP.

Remediation of Previously Disclosed Material Weaknesses

During fiscal years 2022 and 2023, with the oversight of the Audit Committee of the Board of Directors, the Company executed its remediation plan to address the material weaknesses identified as of December 31, 2022. The Company expanded its finance and accounting team, including hiring a number of additional individuals with the requisite technical accounting and finance knowledge and public company experience to assist with the enhancement and implementation of internal control policies and procedures related to the accounting and financial reporting matters in its business. In addition, the Company hired an Internal Audit Director and additional internal audit staff, with experience in

testing internal control over financial reporting, who implemented an annual audit plan that included monitoring the operation of internal controls and addressing control deficiencies. Lastly during 2023, the Company implemented certain control activities for its subsidiaries, which were acquired in 2021 and 2022.

Management has determined that these enhancements to our accounting and finance team, coupled with the deployment and testing of control activities across our business, has resulted in the remediation of the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) level material weaknesses surrounding the Control Environment, Control Activities and Monitoring identified in the prior year.

Management’s Report on Internal Control

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control over financial reporting includes controls and procedures designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with GAAP and includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

The Company’s management, with the participation of our Chief Executive Officer and Chief Financial Officer, under the oversight of our Board, conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2023, based on the criteria set forth by COSO in Internal Control -- Integrated Framework (2013). Based on this evaluation, management determined, based upon the existence of the material weaknesses described below, that we did not maintain effective internal control over financial reporting.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

We have identified the following control deficiencies, that individually or in the aggregate, constituted material weaknesses in our internal control over financial reporting as of December 31, 2023:

- Inventory reserves: we did not maintain effective controls related to the accounting for the valuation of inventory reserves, specifically surrounding the calculation of excess and obsolete inventory and the lower of cost or net realizable value adjustments of inventory.
- Long-lived asset impairment: we did not design and maintain effective controls at an appropriate level of precision over the review of the calculation of the carrying value of the asset groupings and the projections used as a basis for performing our impairment assessments of certain asset groups.

The material weaknesses described above could result in a misstatement of the aforementioned account balances or disclosures that would result in a material misstatement of the annual or interim consolidated financial statements that would not be prevented or detected.

The Company’s independent registered public accounting firm, Deloitte & Touche LLP, who audited the consolidated financial statements included in this Annual Report on Form 10-K issued an adverse opinion on the effectiveness of the Company’s internal control over financial reporting. Deloitte & Touche LLP’s report is included herein.

2024 Remediation Plans

In late 2023, we started to take the following actions to remediate the deficiencies in internal control over financial reporting identified above:

- Implementing consistent inventory valuation controls at all locations and communicating the requirements for effectively operating such controls to all businesses; and
- Implementing controls over the review of the calculations associated with the Company's long-lived asset impairment assessment at a more precise level of operation.

We believe these measures will remediate the material weaknesses. As we continue to evaluate and enhance our internal control over financial reporting, management may determine that additional measures to address the material weaknesses or adjustments to the remediation plan may be required. While we believe we are making progress towards remediating the material weaknesses, the material weaknesses will not be considered remediated until the enhanced controls are complete and operate for a sufficient period of time, and management has concluded, through testing, that the related controls are operating effectively.

Changes in Internal Control Over Financial Reporting

Except for the identification of the material weaknesses described above and the remediation of the material weaknesses that existed as of December 31, 2022, there were no changes during the quarter ended December 31, 2023 in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Plug Power Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Plug Power Inc. and subsidiaries (the “Company”) as of December 31, 2023, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, because of the effect of the material weaknesses identified below on the achievement of the objectives of the control criteria, the Company has not maintained effective internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control — Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2023, of the Company and our report dated February 29, 2024, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Material Weaknesses

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company’s annual or interim financial statements will not be prevented or detected on a timely basis. The following material weaknesses have been identified and included in management’s assessment: the Company did not design and maintain effective controls at an appropriate level of precision over the review of the calculation of the carrying value of the asset groupings and the projections used as a basis

for performing their impairment assessments of certain asset groups and the Company did not maintain effective controls related to the accounting for the valuation of inventory reserves, specifically surrounding the calculation of excess and obsolete inventory and the lower of cost or net realizable value adjustments of inventory. These material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the consolidated financial statements as of and for the year ended December 31, 2023, of the Company, and this report does not affect our report on such financial statements.

/s/ Deloitte & Touche LLP

Rochester, NY

February 29, 2024

Item 9B. Other Information

(a) Sixth Amended and Restated Bylaws

On February 28, 2024, the Board of Directors (the “Board”) of the Company, in connection with a periodic review of corporate governance matters, approved and adopted amended and restated bylaws of the Company (as so amended and restated, the “Sixth Amended and Restated Bylaws”), effective as of such date.

The Sixth Amended and Restated Bylaws were adopted to:

- Clarify that for purposes of Article I, Section 2 of the Sixth Amended and Restated Bylaws, each of the terms “Affiliates” and “Associates” shall have the meaning attributed to such term in Rule 12b-2 under the Exchange Act; and
- Enhance the informational and procedural requirements in connection with stockholder proposals and stockholder director nominations, including providing that the Company’s secretary shall provide certain materials upon written request of any stockholder of record identified by name within five (5) business days of such written request.

The foregoing description of the Sixth Amended and Restated Bylaws is qualified in its entirety by the full text of the Sixth Amended and Restated Bylaws filed as *Exhibit 3.9* hereto and incorporated herein by reference.

(b) Director and Officer Trading Arrangements

On December 15, 2023, Sanjay K. Shrestha, an executive officer of our Company, adopted a stock trading plan established pursuant to Rule 10b5-1 of the Exchange Act, which was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). The trading plan provides for the sale of up to 125,000 shares of the Company’s common stock in the aggregate until the earlier of June 15, 2025 or the date all shares are sold thereunder.

In addition, on December 14, 2023, George C. McNamee, a member of our Board of Directors, terminated an existing stock trading plan established pursuant to Rule 10b5-1 of the Exchange Act, which was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c), and was originally adopted on December 14, 2022 to provide for the sale of up to 19,343 shares of the Company’s common stock in the aggregate until the earlier of April 14, 2024 or the date all shares are sold thereunder. On December 15, 2023, Mr. McNamee modified an existing stock trading plan established pursuant to Rule 10b5-1 of the Exchange Act, which was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c), and was originally adopted on December 14, 2022 to provide for the sale of up to 120,000 shares of the Company’s common stock in the aggregate until the earlier of April 14, 2024 or the date all shares are sold thereunder. As amended, Mr. McNamee’s stock trading plan provides for the sale of up to 170,000 shares of the Company’s common stock in the aggregate until the earlier of June 15, 2025 or the date all shares are sold thereunder.

The trading plans were entered into, terminated or modified during an open insider trading window. There were no other Rule 10b5-1 trading arrangements or non-Rule 10b5-1 trading arrangements adopted, terminated or modified by the Company’s directors or executive officers during the quarter ended December 31, 2023.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required under this item is incorporated herein by reference from the Company’s definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with Securities and Exchange Commission not later than 120 days after the close of the Company’s fiscal year ended December 31, 2023.

Code of Conduct

We have adopted a code of conduct applicable to all of our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. Our code of conduct is a “code of ethics” as defined in Item 406(b) of Regulation S-K and embodies our principles and practices relating to the ethical conduct of our business and our long-standing commitment to honesty, fair dealing and full compliance with all laws affecting our business. In the event that we amend or waive certain provisions of our code of conduct in a manner that requires disclosure under applicable rules, we intend to provide such required disclosure on our website in accordance with applicable SEC and NASDAQ Rules. Our code of ethics is available on our website at www.plugpower.com under Investor Relations — Governance — Governance Documents — Code of Conduct. Our website is not incorporated into or a part of this Annual Report on Form 10-K.

Item 11. Executive Compensation

The information required under this item is incorporated herein by reference from the Company’s definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with Securities and Exchange Commission not later than 120 days after the close of the Company’s fiscal year ended December 31, 2023.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Except for the information regarding securities authorized for issuance under equity compensation plans (which is set forth below), the information required under this item is incorporated herein by reference from the Company’s definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with Securities and Exchange Commission not later than 120 days after the close of the Company’s fiscal year ended December 31, 2023.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table gives information, as of December 31, 2023, about the shares of our common stock that may be issued upon the exercise of options and restricted stock under the Company’s 2021 Stock Option and Incentive Plan, as amended, (the “2021 Stock Option Plan”):

Plan Category	Number of shares to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of shares remaining for future issuance under equity compensation plans (excluding shares reflected in column (a))
	(a)	(b) (1)	(c)
Equity compensation plans approved by security holders	38,834,696 (2) \$	17.04	7,641,928 (3)
Equity compensation plans not approved by security holders	426,666 (4) \$	6.57	—
Total	39,261,362		7,641,928

(1) The weighted-average exercise price is calculated solely based on outstanding options.

(2) Represents 32,550,163 shares underlying outstanding options issued under the 2021 Stock Option Plan and 6,284,533 shares underlying outstanding options issued under the 2011 Stock Option Plan. The amounts reported in the table do not include 6,631,882 shares of restricted stock granted under the 2021 Stock Option Plan and 101,002 shares of restricted stock granted under the 2011 Stock Option Plan.

(3) Includes shares available for future issuance under the 2021 Stock Option Plan.

(4) Included in equity compensation plans not approved by stockholders are shares granted to new employees for key positions within the Company. No specific shares have been allocated for this purpose, but rather equity awards are approved by the Company’s Board of Directors in specific circumstances.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required under this item is incorporated herein by reference from the Company’s definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with Securities and Exchange Commission not later than 120 days after the close of the Company’s fiscal year ended December 31, 2023.

Item 14. Principal Accounting Fees and Services

Our independent public accounting firm is Deloitte & Touche LLP, Rochester, New York, United States, PCAOB Audit ID 34.

The information required under this item is incorporated herein by reference from the Company's definitive proxy statement pursuant to Regulation 14A, which proxy statement will be filed with Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2023.

PART IV

Item 15. Exhibits and Financial Statement Schedules

15(a)(1) Financial Statements

The financial statements and notes are listed in the Index to Consolidated Financial Statements on page F-1 of this Annual Report on Form 10-K.

15(a)(2) Financial Statement Schedules

The following financial statement schedule is included in this Annual Report on Form 10-K (in thousands):

Description	Schedule II - Valuation and Qualifying Accounts				Column E Balance at End of Period
	Column B Balance at Beginning of Period	Column C - Additions		Column D Deductions - Describe	
	Charged to Costs and Expenses	Charged to Other accounts - Describe	Deductions - Describe		
Year Ended December 31, 2023					
Inventory reserves	\$ 5,442	93,742	-	(13,974) ⁽¹⁾	\$ 85,210
Allowance for doubtful accounts	\$ 43	8,848	-	(93) ⁽²⁾	\$ 8,798
Year Ended December 31, 2022					
Inventory reserves	\$ 3,523	2,005	-	(86) ⁽¹⁾	\$ 5,442
Allowance for doubtful accounts	\$ 39	43	-	(39) ⁽²⁾	\$ 43
Year Ended December 31, 2021					
Inventory reserves	\$ 1,330	2,193	-	-	\$ 3,523
Allowance for doubtful accounts	\$ 172	-	-	(133) ⁽²⁾	\$ 39

- (1) Write offs of inventory reserves
(2) Write offs of allowance for doubtful accounts

15(a)(3) Exhibits

The following exhibits are filed as part of and incorporated by reference into this Annual Report on Form 10-K:

Exhibit No.	Description
2.1	Agreement and Plan of Merger, dated June 22, 2020, by and among Plug Power Inc., Giner ELX, Inc., Giner ELX Sub, LLC, Giner ELX Merger Sub, Inc. and Giner, Inc., as the representative of the stockholders of Giner ELX, Inc. (filed as Exhibit 2.1 to Plug Power Inc.'s Current Report on Form 8-K filed on June 23, 2020 and incorporated by reference herein)
2.2	Agreement and Plan of Merger, dated June 18, 2020, by and among Plug Power Hydrogen Holdings, Inc., UHG Merger Sub, Inc., United Hydrogen Group Inc. and Vladimir Prerad, as the representative of the stockholders of United Hydrogen Group Inc. (filed as Exhibit 2.2 to Plug Power Inc.'s Current Report on Form 8-K filed on June 23, 2020 and incorporated by reference herein)
3.1	Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.1 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 16, 2009 and incorporated by reference herein)
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.3 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 16, 2009 and incorporated by reference herein)
3.3	Second Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2011 and incorporated by reference herein)
3.4	Third Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on July 25, 2014 and incorporated by reference herein)
3.5	Certificate of Correction to Third Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.9 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 10, 2017 and incorporated by reference herein)
3.6	Fourth Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on June 30, 2017 and incorporated by reference herein)
3.7	Fifth Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc. (filed as Exhibit 3.7 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 5, 2021 and incorporated by reference herein)
3.8	Certificate of Designations, Preferences and Rights of a Series of Preferred Stock of Plug Power Inc. classifying and designating the Series A Junior Participating Cumulative Preferred Stock. (filed as Exhibit 3.1 to Plug Power Inc.'s Registration Statement on Form 8-A filed on June 24, 2009 and incorporated by reference herein)
3.9*	Sixth Amended and Restated Bylaws of Plug Power Inc.
4.1	Specimen certificate for shares of common stock, \$.01 par value, of Plug Power Inc. (filed as Exhibit 4.1 to Plug Power Inc.'s Registration Statement on Form S-1 (File Number 333-86089) and incorporated by reference herein)

<u>Exhibit No.</u>	<u>Description</u>
4.2	Indenture, dated as of May 18, 2020, between Plug Power Inc. and Wilmington Trust, National Association (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2020 and incorporated by reference herein)
4.3	Form of 3.75% Convertible Senior Notes due June 1, 2025 (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2020 and incorporated by reference herein)
4.4	Warrant to Purchase Common Stock, issued April 4, 2017, between Plug Power Inc. and Amazon.com NV Investment Holdings LLC (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 5, 2017 and incorporated by reference herein)
4.5	Warrant to Purchase Common Stock, issued July 20, 2017, between Plug Power Inc. and Wal-Mart Stores, Inc. (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on July 21, 2017 and incorporated by reference herein)
4.6	Warrant to Purchase Common Stock, issued August 24, 2022, between Plug Power Inc. and Amazon.com NV Investment Holdings LLC (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed August 25, 2022 and incorporated by reference herein)
4.7*	Description of the Registrant's securities registered under Section 12 of the Securities Exchange Act of 1934
10.1#	2023 Employee Stock Purchase Plan (filed as Appendix B to Plug Power Inc.'s Schedule 14A Proxy Statement filed on May 16, 2023 and incorporated by reference herein)
10.2#	Form of Director Indemnification Agreement (filed as Exhibit 10.2 to Plug Power Inc.'s Annual Report on Form 10-K filed on May 14, 2021 and incorporated by reference herein)
10.3#	Form of Officer Indemnification Agreement (filed as Exhibit 10.3 to Plug Power Inc.'s Annual Report on Form 10-K filed on May 14, 2021 and incorporated by reference herein)
10.4#	Employment Agreement, dated as of April 7, 2008, between Andrew Marsh and Plug Power Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 7, 2008 and incorporated by reference herein)
10.5#	Executive Employment Agreement, dated as of May 5, 2008, between Gerard L. Conway, Jr. and Plug Power Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 7, 2008 and incorporated by reference herein)
10.6#	Executive Employment Agreement, dated as of October 23, 2013, between Keith C. Schmid and Plug Power Inc. (filed as Exhibit 99.2 to Plug Power Inc.'s Current Report on Form 8-K filed on October 29, 2013 and incorporated by reference herein)
10.7#	Executive Employment Agreement, dated as of November 6, 2014, between Paul B. Middleton and Plug Power Inc. (filed as Exhibit 99.2 to Plug Power Inc.'s Current Report on Form 8-K filed on November 12, 2014 and incorporated by reference herein)
10.8#	Executive Employment Agreement, dated as of April 16, 2019, between Sanjay Shrestha and Plug Power Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on May 9, 2022 and incorporated by reference herein)
10.9#	Executive Employment Agreement, dated as of December 28, 2021, between Jose Luis Crespo and Plug Power Inc. (filed as Exhibit 10.8 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)

Exhibit No.	Description
10.10#	Executive Employment Agreement, dated as of June 1, 2021, between David Mindnich and Plug Power Inc. (filed as Exhibit 10.10 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2023 and incorporated by reference herein)
10.11#	Separation Agreement, dated April 1, 2023, between Plug Power Inc. and Dirk Ole Hoefelmann (filed as Exhibit 10.12 to the Plug Power Inc.'s Annual Report on Form 10-K/A for the year ended December 31, 2022 and incorporated by reference herein)
10.12#	Form of Non-Qualified Stock Option Agreement for Company Employees (filed as Exhibit 10.9 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.13#	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors (filed as Exhibit 10.10 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.14#	Form of Non-Qualified Stock Option Agreement for Non-U.S. Optionees (filed as Exhibit 10.2 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on November 8, 2022 and incorporated by reference herein)
10.15#	Form of Restricted Stock Award Agreement for Company Employees (filed as Exhibit 10.11 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.16#	Form of Restricted Stock Award Agreement for Non-Employee Directors (filed as Exhibit 10.12 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.17#	Form of Restricted Stock Unit Award Agreement for Non-U.S. Grantees (filed as Exhibit 10.1 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on November 8, 2022 and incorporated by reference herein)
10.18#	Form of Performance-Based Non-Qualified Stock Option Agreement for Executives Residing in the States of New York or New Jersey (filed as Exhibit 10.13 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.19#	Form of Performance-Based Non-Qualified Stock Option Agreement for Chief Executive Officer (filed as Exhibit 10.14 to Plug Power Inc.'s Annual Report on Form 10-K filed on March 1, 2022 and incorporated by reference herein)
10.20	Purchase and Sale Agreement dated as of January 24, 2013, between Plug Power Inc. and 968 Albany Shaker Road Associates, LLC (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 1, 2013 and incorporated by reference herein)
10.21	Amendment to Purchase and Sale Agreement dated as of March 13, 2013 between Plug Power Inc. and 968 Albany Shaker Road Associates, LLC (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on April 1, 2013 and incorporated by reference herein)
10.22	Investor Agreement, dated as of February 24, 2021, between Plug Power Inc., Grove Energy Capital LLC, SK Holdings, Co., Ltd. and SK E&S Co., Ltd. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on February 25, 2021 and incorporated by reference herein)
10.23	Transaction Agreement, dated as of April 4, 2017, between Plug Power Inc. and Amazon.com, Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 5, 2017 and incorporated by reference herein)
10.24	Transaction Agreement, dated as of July 20, 2017, between Plug Power Inc. and Wal-Mart Stores, Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on July 21, 2017 and incorporated by reference herein)

<u>Exhibit No.</u>	<u>Description</u>
10.25	Transaction Agreement, dated as of August 24, 2022, between Plug Power Inc. and Amazon.com, Inc. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed August 25, 2022 and incorporated by reference herein)
10.26	Base Call Option Confirmation, dated as of May 13, 2020, between Plug Power Inc. and Morgan Stanley & Co. LLC. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2020 and incorporated by reference herein)
10.27	Base Call Option Confirmation, dated as of May 13, 2020, between Plug Power Inc. and Wells Fargo Bank, National Association. (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2020 and incorporated by reference herein)
10.28	Forward Stock Purchase Transaction Confirmation, dated as of March 22, 2018, between Plug Power Inc. and Morgan Stanley & Co, LLC (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on March 28, 2018 and incorporated by reference herein)
10.29	Amendment to Forward Stock Purchase Transaction, dated as of May 13, 2020, between Plug Power Inc. and Morgan Stanley & Co. LLC. (filed as Exhibit 10.3 to Plug Power Inc.'s Current Report on Form 8-K filed on May 19, 2020 and incorporated by reference herein)
10.30	At Market Issuance Sales Agreement, dated January 17, 2024, by and between Plug Power Inc. and B. Riley Securities, Inc. (filed as Exhibit 1.1 to Plug Power Inc.'s Current Report on Form 8-K filed on January 17, 2024 and incorporated by reference herein)
10.31	Amendment No.1 to At Market Issuance Sales Agreement, dated February 23, 2024, by and between Plug Power Inc. and B. Riley Securities, Inc. (filed as Exhibit 1.1 to Plug Power Inc.'s Current Report on Form 8-K filed on February 23, 2024 and incorporated by reference herein)
10.32	First Amended and Restated Master Lease Agreement, dated as of July 30, 2018, between Plug Power Inc. and Wells Fargo Equipment Finance, Inc. (filed as Exhibit 10.4 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on May 8, 2019 and incorporated by reference herein)
10.33	Master Lease Agreement, dated as of April 10, 2019, between Plug Power Inc. and Wells Fargo Equipment Finance, Inc. (filed as Exhibit 10.31 to Plug Power Inc.'s Annual Report on Form 10-K filed on May 14, 2021 and incorporated by reference herein)
10.34#	2021 Stock Option and Incentive Plan (filed as Appendix B to Plug Power Inc.'s Schedule 14A Proxy Statement filed on July 9, 2021 and incorporated by reference herein)
10.35#	Amendment No. 1 to the 2021 Stock Option and Incentive Plan (filed as Appendix A to Plug Power Inc.'s Schedule 14A Proxy Statement filed on May 2, 2022 and incorporated by reference herein)
10.36#	Amendment No. 2 to the 2021 Stock Option and Incentive Plan (filed as Appendix A to Plug Power Inc.'s Schedule 14A Proxy Statement filed on May 16, 2023 and incorporated by reference herein)
10.37#	Plug Power Inc. 2023 Employee Stock Purchase Plan (filed as Appendix B to Plug Power Inc.'s Schedule 14A Proxy Statement filed on May 16, 2023 and incorporated by reference herein)
21.1*	List of Subsidiaries of Plug Power Inc.
23.1*	Consent of Deloitte & Touche LLP
23.2*	Consent of KPMG LLP

Exhibit No.	Description
24.1*	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K)
31.1*	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes Oxley Act of 2002
32.1**	Section 1350 Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
32.2**	Section 1350 Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
97*	Compensation Recovery Policy, adopted as of November 30, 2023
101.INS*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Labels Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Submitted electronically herewith.

Indicates a management contract or any compensatory plan, contract or arrangement.

** The certifications furnished in Exhibit 32 hereto are deemed to be furnished with this Annual Report on Form 10-K and will not be deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.

Item 16. Form 10-K Summary

Not applicable.

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that each individual whose signature appears below constitutes and appoints each of Andrew Marsh, Paul B. Middleton and Gerard L. Conway, Jr. such person's true and lawful attorney-in-fact and agent with full power of substitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Date: February 29, 2024

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>/s/ ANDREW MARSH</u> Andrew Marsh	President, Chief Executive Officer and Director (Principal Executive Officer)	February 29, 2024
<u>/s/ PAUL B. MIDDLETON</u> Paul B. Middleton	Chief Financial Officer (Principal Financial Officer)	February 29, 2024
<u>/s/ MARTIN D. HULL</u> Martin D. Hull	Controller & Chief Accounting Officer (Principal Accounting Officer)	February 29, 2024
<u>/s/ GEORGE C. MCNAMEE</u> George C. McNamee	Director	February 29, 2024
<u>/s/ MARK J. BONNEY</u> Mark J. Bonney	Director	February 29, 2024
<u>/s/ MAUREEN O. HELMER</u> Maureen O. Helmer	Director	February 29, 2024
<u>/s/ PATRICK JOGGERST</u> Patrick Joggerst	Director	February 29, 2024
<u>/s/ GREGORY L. KENAUSIS</u> Gregory L. Kenausis	Director	February 29, 2024
<u>/s/ KAVITA MAHTANI</u> Kavita Mahtani	Director	February 29, 2024
<u>/s/ KYUNGYEOL SONG</u> Kyungyeol Song	Director	February 29, 2024
<u>/s/ GARY K. WILLIS</u> Gary K. Willis	Director	February 29, 2024

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Plug Power Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Plug Power Inc. and subsidiaries (the “Company”) as of December 31, 2023 and 2022, the related consolidated statements of operations, comprehensive loss, stockholders’ equity, and cash flows, for each of the two years in the period ended December 31, 2023, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023 and 2022 and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2023, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 29, 2024 expressed an adverse opinion on the Company’s internal control over financial reporting because of material weaknesses.

Basis for Opinion

These financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Inventories – Reserves – Refer to Notes 2 and 7 to the financial statements

The Company establishes inventory reserves against excess, obsolete, and damaged goods and records its inventory at the lower of cost or net realizable value. As a part of this process, the Company reviews all contracts related to product lines with projected negative margins that are expected to be sold at a loss in the future, which serves as the basis for the lower of cost or net realizable value adjustment. The Company’s estimate of the reserves utilizes certain inputs and involves judgment. The Company evaluates excess and obsolescence and lower of cost or net realizable value inventory reserves on a quarterly basis and, as necessary, reserves inventory based upon a variety of factors, including historical usage, forecasted usage and sales, product obsolescence, anticipated selling price, and anticipated cost to complete to determine product margin and other factors. Reserve balances are included within inventory, net, on the balance sheet. The reserve for excess and obsolete inventory and lower of cost or net realizable value as of December 31, 2023, was \$85.2 million.

We identified the inventory reserves as a critical audit matter because of judgments made by management in determining the reserves. Evaluating the reasonableness of the Company’s reserves required a high degree of auditor judgment and an increased extent of audit effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to inventory reserves included the following, among others:

- We evaluated the reasonableness of the Company's inventory reserve policies, considering historical experience and the underlying assumptions.
- We tested the calculation of the excess and obsolescence reserve pursuant to the Company's policy, on a sample basis, including the completeness and accuracy of the data used in the calculation.
- We tested the calculation of the lower of cost or net realizable value reserve pursuant to the Company's policy, on a sample basis, including testing the completeness and accuracy of the data used in the calculation.
- We performed procedures to evaluate management's forecast by tracing demand for our selection to a finished good part and sales orders for that part.
- We made inquiries of senior financial and operating management to determine whether strategic, regulatory, or operational changes in the business, if any, were consistent with the projections of future demand and future costs that were utilized as the basis for the reserve recorded.
- We considered the existence of contradictory evidence based on consideration of internal communications to management and the board of directors, Company press releases, and analysts' reports, as well as any changes within the business.

Loss accrual for service contracts — Refer to Note 2 of the financial statements

The Company records an accrual for loss contracts if the sum of expected costs of providing maintenance services for fuel cell systems and related infrastructure exceeds the related unearned net revenues over the remaining contract term. The Company recorded an accrual for loss contracts of \$137.9 million as of December 31, 2023. Maintenance costs are estimated in determining the accrual for loss contracts based upon current service cost levels.

We identified the evaluation of maintenance cost projections in the accrual for loss contracts related to service as a critical audit matter. A high degree of auditor judgment was required to evaluate the expected remaining service costs required to fulfill the related customer maintenance contracts. Changes in the expected costs of providing maintenance services could have had a significant effect on the amount of the recorded accrual for loss contracts.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to *Loss Accrual for Service Contracts* included the following, among others:

- We obtained an understanding of the Company's process to estimate the loss accrual for service contracts by conducting a business process walkthrough. This included obtaining an understanding related to the assessment of the relevance and reliability of the inputs mentioned above.
- We inquired of operational and financial personnel to understand the technical elements of the Company's expected future cost of providing maintenance services related to these service contracts.
- We obtained and agreed the projected revenue associated with loss contracts and evaluated the accuracy and completeness of the information.
- We obtained underlying documentation supporting the projected cost and compared the information to the Company's analysis of historical cost of providing maintenance services and evaluated the accuracy and completeness of the information.
- We recalculated the mathematical accuracy of the loss accrual for service contracts.
- We obtained the Company's analysis supporting the range of the possible loss accrual for service contracts, which was developed based on potential changes in assumptions.
- We performed sensitivity analyses to the historical cost information used to develop the estimate of future costs.

/s/ Deloitte & Touche LLP

Rochester, NY

February 29, 2024

We have served as the Company's auditor since 2022.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Plug Power Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statement of operations, comprehensive loss, stockholders' equity, and cash flows of Plug Power Inc. and subsidiaries (the Company) for the year ended December 31, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the results of its operations and its cash flows for the year ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audit included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ KPMG LLP

We served as the Company's auditor from 2001 to 2022.

Albany, New York
March 1, 2022

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

As of December 31, 2023 and 2022

(In thousands, except share and per share amounts)

	<u>2023</u>	<u>2022</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 135,033	\$ 690,630
Restricted cash	216,552	158,958
Available-for-sale securities, at fair value (amortized cost of \$0 and allowance for credit losses of \$0 at December 31, 2023 and amortized cost of \$1,355,614 and allowance for credit losses of \$0 at December 31, 2022)	—	1,332,943
Equity securities	—	134,836
Accounts receivable, net of allowance of \$8,798 at December 31, 2023 and \$43 at December 31, 2022	243,811	129,450
Inventory, net	961,253	645,636
Contract assets	126,248	62,456
Prepaid expenses and other current assets	104,068	150,389
Total current assets	<u>1,786,965</u>	<u>3,305,298</u>
Restricted cash	817,559	699,756
Property, plant, and equipment, net	1,436,177	719,793
Right of use assets related to finance leases, net	57,281	53,742
Right of use assets related to operating leases, net	399,969	360,287
Equipment related to power purchase agreements and fuel delivered to customers, net	111,261	89,293
Contract assets	29,741	41,831
Goodwill	—	248,607
Intangible assets, net	188,886	207,725
Investments in non-consolidated entities and non-marketable equity securities	63,783	31,250
Other assets	11,116	6,694
Total assets	<u>\$ 4,902,738</u>	<u>\$ 5,764,276</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 257,828	\$ 191,895
Accrued expenses	200,544	156,430
Deferred revenue and other contract liabilities	204,139	131,813
Operating lease liabilities	63,691	48,861
Finance lease liabilities	9,441	8,149
Finance obligations	84,031	58,925
Current portion of long-term debt	2,716	5,142
Contingent consideration, loss accrual for service contracts, and other current liabilities	142,410	34,060
Total current liabilities	<u>964,800</u>	<u>635,275</u>
Deferred revenue and other contract liabilities	84,163	98,085
Operating lease liabilities	292,002	271,504
Finance lease liabilities	36,133	37,988
Finance obligations	284,363	270,315
Convertible senior notes, net	195,264	193,919
Long-term debt	1,209	3,925
Contingent consideration, loss accrual for service contracts, and other liabilities	146,679	193,051
Total liabilities	<u>2,004,613</u>	<u>1,704,062</u>
Stockholders' equity:		
Common stock, \$0.01 par value per share; 1,500,000,000 shares authorized; Issued (including shares in treasury): 625,305,025 at December 31, 2023 and 608,421,785 at December 31, 2022	6,254	6,084
Additional paid-in capital	7,494,685	7,297,306
Accumulated other comprehensive loss	(6,802)	(26,004)
Accumulated deficit	(4,489,744)	(3,120,911)
Less common stock in treasury: 19,169,366 at December 31, 2023 and 18,076,127 at December 31, 2022	(106,268)	(96,261)
Total stockholders' equity	<u>2,898,125</u>	<u>4,060,214</u>
Total liabilities and stockholders' equity	<u>\$ 4,902,738</u>	<u>\$ 5,764,276</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
For the years ended December 31, 2023, 2022 and 2021
(In thousands, except share and per share amounts)

	2023	2022	2021
Net revenue:			
Sales of equipment, related infrastructure and other	\$ 711,433	\$ 558,932	\$ 392,777
Services performed on fuel cell systems and related infrastructure	39,093	35,280	26,706
Power purchase agreements	63,731	47,183	35,153
Fuel delivered to customers and related equipment	66,246	57,196	46,917
Other	10,837	2,849	789
Net revenue	<u>891,340</u>	<u>701,440</u>	<u>502,342</u>
Cost of revenue:			
Sales of equipment, related infrastructure and other	765,575	468,057	307,157
Services performed on fuel cell systems and related infrastructure	75,412	59,365	63,729
Provision for loss contracts related to service	86,346	26,801	71,988
Power purchase agreements	218,936	144,696	102,417
Fuel delivered to customers and related equipment	246,318	194,255	127,196
Other	6,544	2,622	1,165
Total cost of revenue	<u>1,399,131</u>	<u>895,796</u>	<u>673,652</u>
Gross loss	(507,791)	(194,356)	(171,310)
Operating expenses:			
Research and development	113,745	99,579	64,762
Selling, general and administrative	422,469	363,929	179,852
Impairment	20,014	5,218	10,224
Impairment of goodwill	249,480	—	—
Change in fair value of contingent consideration	30,024	16,468	11,176
Total operating expenses	<u>835,732</u>	<u>485,194</u>	<u>266,014</u>
Operating loss	(1,343,523)	(679,550)	(437,324)
Interest income	55,829	37,259	4,040
Interest expense	(45,201)	(39,037)	(43,225)
Other expense, net	(131)	(1,135)	(606)
Realized loss on investments, net	(12,806)	(1,395)	(81)
Change in fair value of equity securities	11,421	(18,159)	6,738
Loss on extinguishment of debt	—	(986)	—
Loss on equity method investments	(41,786)	(20,166)	(5,704)
Loss before income taxes	<u>\$ (1,376,197)</u>	<u>\$ (723,169)</u>	<u>\$ (476,162)</u>
Income tax benefit/(expense)	7,364	(839)	16,197
Net loss	<u>\$ (1,368,833)</u>	<u>\$ (724,008)</u>	<u>\$ (459,965)</u>
Net loss per share:			
Basic and diluted	<u>\$ (2.30)</u>	<u>\$ (1.25)</u>	<u>\$ (0.82)</u>
Weighted average number of common stock outstanding	<u>595,468,419</u>	<u>579,716,708</u>	<u>558,182,177</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
For the years ended December 31, 2023, 2022 and 2021

(In thousands)

	<u>2023</u>	<u>2022</u>	<u>2021</u>
Net loss	\$ (1,368,833)	\$ (724,008)	\$ (459,965)
Other comprehensive income/(loss):			
Foreign currency translation loss	(3,470)	(4,468)	(1,315)
Change in net unrealized gain/(loss) on available-for-sale securities	9,866	(20,004)	(2,668)
Amounts reclassified from accumulated other comprehensive income/(loss):			
Realized loss on available-for-sale securities	12,806	—	—
Comprehensive loss, net of tax	<u>\$ (1,349,631)</u>	<u>\$ (748,480)</u>	<u>\$ (463,948)</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the years ended December 31, 2023, 2022 and 2021
(In thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			Shares	Amount		
December 31, 2020	<u>473,977,469</u>	<u>\$ 4,740</u>	<u>\$ 3,446,650</u>	<u>\$ 2,451</u>	<u>15,926,068</u>	<u>\$ (40,434)</u>	<u>\$ (1,946,488)</u>	<u>\$ 1,466,919</u>
Net loss	—	—	—	—	—	—	(459,965)	(459,965)
Cumulative impact of Accounting Standards Update 2020-06 adoption	—	—	(130,185)	—	—	—	9,550	(120,635)
Other comprehensive loss	—	—	—	(3,983)	—	—	—	(3,983)
Stock-based compensation	100,662	1	76,469	—	—	—	—	76,470
Public offerings, common stock, net	32,200,000	322	2,022,897	—	—	—	—	2,023,219
Private offerings, common stock, net	54,966,188	549	1,564,065	—	—	—	—	1,564,614
Stock option exercises and issuance of common stock upon grant/vesting of restricted stock and restricted stock unit awards	5,097,667	51	7,469	—	—	—	—	7,520
Treasury stock acquired from employees upon exercise of stock options and vesting of restricted stock and restricted stock unit awards	—	—	—	—	1,148,642	(32,092)	—	(32,092)
Exercise of warrants	24,210,984	242	15,203	—	—	—	—	15,445
Provision for common stock warrants	—	—	6,142	—	—	—	—	6,142
Conversion of 5.5% Convertible Senior Notes	69,808	1	159	—	—	—	—	160
Conversion of 3.75% Convertible Senior Notes	3,016,036	30	15,155	—	—	—	—	15,185
Common stock issued for acquisitions	1,090,796	11	46,686	—	—	—	—	46,697
December 31, 2021	<u>594,729,610</u>	<u>\$ 5,947</u>	<u>\$ 7,070,710</u>	<u>\$ (1,532)</u>	<u>17,074,710</u>	<u>\$ (72,526)</u>	<u>\$ (2,396,903)</u>	<u>\$ 4,605,696</u>
Net loss	—	—	—	—	—	—	(724,008)	(724,008)
Other comprehensive loss	—	—	—	(24,472)	—	—	—	(24,472)
Treasury stock acquired from employees upon exercise of stock options and vesting of restricted stock and restricted stock unit awards	—	—	—	—	1,001,417	(23,735)	—	(23,735)
Stock-based compensation	584,545	6	179,621	—	—	—	—	179,627
Stock option exercises and issuance of common stock upon grant/vesting of restricted stock and restricted stock unit awards	5,905,883	59	2,242	—	—	—	—	2,301
Exercise of warrants	6,793,479	68	(68)	—	—	—	—	—
Common stock issued for acquisitions	408,268	4	6,103	—	—	—	—	6,107
Provision for common stock warrants	—	—	38,698	—	—	—	—	38,698
December 31, 2022	<u>608,421,785</u>	<u>\$ 6,084</u>	<u>\$ 7,297,306</u>	<u>\$ (26,004)</u>	<u>18,076,127</u>	<u>\$ (96,261)</u>	<u>\$ (3,120,911)</u>	<u>\$ 4,060,214</u>
Net loss	—	—	—	—	—	—	(1,368,833)	(1,368,833)
Other comprehensive income	—	—	—	19,202	—	—	—	19,202
Stock-based compensation	1,548,608	15	162,893	—	—	—	—	162,908
Stock option exercises and issuance of common stock upon grant/vesting of restricted stock and restricted stock unit awards	5,103,159	53	1,560	—	—	—	—	1,613
Treasury stock acquired from employees upon exercise of stock options and vesting of restricted stock and restricted stock unit awards	—	—	—	—	1,093,239	(10,007)	—	(10,007)
Exercise of warrants	9,304,431	93	(93)	—	—	—	—	—
Earnouts from acquisitions paid in stock	927,042	9	7,991	—	—	—	—	8,000
Provision for common stock warrants	—	—	25,028	—	—	—	—	25,028
December 31, 2023	<u>625,305,025</u>	<u>\$ 6,254</u>	<u>\$ 7,494,685</u>	<u>\$ (6,802)</u>	<u>19,169,366</u>	<u>\$ (106,268)</u>	<u>\$ (4,489,744)</u>	<u>\$ 2,898,125</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the years ended December 31, 2023, 2022 and 2021
(In thousands)

	2023	2022	2021
Operating activities			
Net loss	\$ (1,368,833)	\$ (724,008)	\$ (459,965)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation of long-lived assets	51,986	30,402	20,900
Amortization of intangible assets	19,097	21,195	2,469
Lower of cost or net realizable value inventory adjustment and provision for excess and obsolete inventory	93,742	1,957	2,158
Stock-based compensation	162,908	179,627	76,470
Provision for losses on accounts receivable	8,407	—	—
Loss on extinguishment of debt	—	986	—
Amortization of debt issuance costs and discount on convertible senior notes	2,213	2,710	3,018
Provision for common stock warrants	11,209	12,683	6,566
Deferred income tax (benefit)/expense	(8,534)	170	(16,197)
Impairment	20,014	5,218	10,224
Impairment of goodwill	249,480	—	—
Loss/(benefit) on service contracts	56,633	(8,645)	63,124
Fair value adjustment to contingent consideration	30,024	16,468	11,176
Net realized loss on investments	12,806	1,395	81
(Accretion)/amortization of premium on available-for-sale securities	(6,610)	990	9,232
Lease origination costs	(9,600)	(8,815)	(10,410)
Loss on disposal of assets	—	268	—
Change in fair value for equity securities	(11,421)	18,159	(6,738)
Loss on equity method investments	41,786	20,166	5,704
Changes in operating assets and liabilities that provide (use) cash:			
Accounts receivable	(122,768)	(30,920)	(27,601)
Inventory	(408,631)	(365,666)	(100,949)
Contract assets	(40,258)	(39,515)	(10,608)
Prepaid expenses and other assets	32,549	(92,521)	(32,392)
Accounts payable, accrued expenses, and other liabilities	21,722	88,458	24,908
Payments of contingent consideration	(2,895)	—	—
Deferred revenue and other contract liabilities	58,404	40,615	70,654
Net cash used in operating activities	<u>(1,106,570)</u>	<u>(828,623)</u>	<u>(358,176)</u>
Investing activities			
Purchases of property, plant and equipment	(665,208)	(436,610)	(172,166)
Purchase of intangible assets	—	—	(928)
Proceeds from sales of long-lived assets	1,104	—	—
Purchases of equipment related to power purchase agreements and equipment related to fuel delivered to customers	(30,918)	(27,263)	(20,172)
Purchase of available-for-sale securities	—	(838,622)	(3,159,372)
Proceeds from sales of available-for-sale securities	345,264	475,676	778,038
Proceeds from maturities of available-for-sale securities	1,006,161	247,879	1,129,088
Purchase of equity securities	—	(5,000)	(169,793)
Proceeds from sales of equity securities	144,250	—	28,536
Net cash paid for acquisitions	—	(56,906)	(136,526)
Cash paid for non-consolidated entities and non-marketable equity securities	(72,601)	(38,524)	(17,596)
Net cash provided by/(used in) investing activities	<u>728,052</u>	<u>(679,370)</u>	<u>(1,740,891)</u>
Financing activities			
Proceeds from exercise of warrants, net of transaction costs	—	—	15,445
Payments of contingent consideration	(10,105)	(2,667)	(1,541)
Proceeds from public and private offerings, net of transaction costs	—	—	3,587,833
Payments of tax withholding on behalf of employees for net stock settlement of stock-based compensation	(10,007)	(23,735)	(32,092)
Proceeds from exercise of stock options	1,613	2,301	7,520
Principal payments on long-term debt	(6,010)	(121,389)	(48,681)
Proceeds from finance obligations	104,251	122,886	108,925
Principal repayments of finance obligations and finance leases	(73,625)	(54,853)	(39,630)
Net cash provided by/(used in) financing activities	<u>6,117</u>	<u>(77,457)</u>	<u>3,597,779</u>
Effect of exchange rate changes on cash	<u>(7,799)</u>	<u>2,600</u>	<u>(802)</u>
(Decrease)/increase in cash and cash equivalents	<u>(555,597)</u>	<u>(1,790,639)</u>	<u>1,168,865</u>
Increase in restricted cash	<u>175,397</u>	<u>207,789</u>	<u>329,045</u>
Cash, cash equivalents, and restricted cash beginning of period	<u>1,549,344</u>	<u>3,132,194</u>	<u>1,634,284</u>
Cash, cash equivalents, and restricted cash end of period	<u>\$ 1,169,144</u>	<u>\$ 1,549,344</u>	<u>\$ 3,132,194</u>
Supplemental disclosure of cash flow information			
Cash paid for interest, net of capitalized interest of \$8.1 million, \$13.1 million and \$4.8 million	<u>\$ 41,811</u>	<u>\$ 35,520</u>	<u>\$ 19,327</u>
Summary of non-cash activity			
Recognition of right of use asset - finance leases	\$ 8,908	\$ 25,650	\$ 28,180
Recognition of right of use asset - operating leases	90,795	178,222	110,337
Net tangible assets (liabilities) acquired (assumed) in a business combination	—	5,342	(26,066)
Common stock issued for acquisitions	—	6,107	46,697
Intangible assets acquired in a business combination	—	73,952	120,962
Conversion of convertible senior notes to common stock	—	—	15,345
Net transfers between inventory and long-lived assets	728	1,619	6,297
Earnouts from acquisitions paid in stock	8,000	—	—
Accrued purchase of fixed assets, cash to be paid in subsequent period	160,578	62,320	14,006
Settlement of liability from acquisitions	—	—	7,100

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

1. Nature of Operations

Description of Business

Plug is facilitating the paradigm shift to an increasingly electrified world by innovating cutting-edge hydrogen and fuel cell solutions.

While we continue to develop commercially viable hydrogen and fuel cell product solutions, we have expanded our offerings to support a variety of commercial operations that can be powered with clean hydrogen. We provide electrolyzers that allow customers — such as refineries, producers of chemicals, steel, fertilizer and commercial refueling stations — to generate hydrogen on-site. We are focusing our efforts on (a) industrial mobility applications, including electric forklifts and electric industrial vehicles, at multi-shift high volume manufacturing and high throughput distribution sites where we believe our products and services provide a unique combination of productivity, flexibility, and environmental benefits; (b) production of hydrogen; and (c) stationary power systems that will support critical operations, such as data centers, microgrids, and generation facilities, in either a backup power or continuous power role, and replace batteries, diesel generators or the grid for telecommunication logistics, transportation, and utility customers. Plug expects to support these products and customers with an ecosystem of vertically integrated products that produce, transport, store and handle, dispense, and use hydrogen for mobility and power applications.

Our current product and service portfolio includes:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling EVs, including Class 1, 2, 3 and 6 electric forklifts, automated guided vehicles, and ground support equipment.

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors; our GenSure High Power Fuel Cell Platform supports large scale stationary power and data center markets.

Progen: Progen is our fuel cell stack and engine technology currently used globally in mobility and stationary fuel cell systems, and as engines in electric delivery vans. This includes Plug’s membrane electrode assembly (“MEA”), a critical component of the fuel cell stack used in zero-emission fuel cell EV engines.

GenFuel: GenFuel is our liquid hydrogen fueling, delivery, generation, storage, and dispensing system.

GenCare: GenCare is our ongoing “Internet of Things”-based maintenance and on-site service program for GenDrive fuel cell systems, GenSure fuel cell systems, GenFuel hydrogen storage and dispensing products and Progen fuel cell engines.

GenKey: GenKey is our vertically integrated “turn-key” solution combining either GenDrive or GenSure fuel cell power with GenFuel fuel and GenCare aftermarket service, offering complete simplicity to customers transitioning to fuel cell power.

Electrolyzers: The design and implementation of 5MW and 10MW electrolyzer systems that are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and “green” hydrogen is generated by using renewable energy inputs, such as solar or wind power.

Liquefaction Systems: Plug’s 15 ton-per-day and 30 ton-per-day liquefiers are engineered for high efficiency, reliability, and operational flexibility — providing consistent liquid hydrogen to customers. This design increases plant reliability and availability while minimizing parasitic losses like heat leak and seal gas losses.

Cryogenic Equipment: Engineered equipment including trailers and mobile storage equipment for the distribution of liquified hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

Notes to Consolidated Financial Statements (Continued)

Liquid Hydrogen: Liquid hydrogen provides an efficient fuel alternative to fossil-based energy. We produce liquid hydrogen through our electrolyzer systems and liquefaction systems. Liquid hydrogen supply will be used by customers in material handling operations, fuel cell electric vehicle fleets, and stationary power applications.

We provide our products and solutions worldwide through our direct sales force, and by leveraging relationships with original equipment manufacturers (“OEMs”) and their dealer networks. Plug is currently targeting Asia, Australia, Europe, Middle East and North America for expansion in adoption. The European Union (the “EU”) has rolled out ambitious targets for the hydrogen economy, with the United Kingdom also taking steps in this direction, and Plug is seeking to execute on our strategy to become one of the European leaders in the hydrogen economy. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business.

In addition, our wholly-owned subsidiary, Plug Power LA JV, LLC, created a joint venture with Niloco Hydrogen Holdings LLC, a wholly-owned subsidiary of Olin, named “Hidrogenii” in the third quarter of 2022. We believe Hidrogenii will support reliability of supply and speed to market for hydrogen throughout North America, and set the foundation for broader collaboration between Plug and Olin. Hidrogenii began the construction of a 15-ton-per-day hydrogen plant in St. Gabriel, Louisiana. Hidrogenii is owned 50% by Plug Power LA JV, LLC and 50% by Niloco Hydrogen Holdings LLC.

Our wholly-owned subsidiary, Plug Power France, entered into a joint venture with Renault named HyVia, a French société par actions simplifiée (“HyVia”) in the second quarter of 2021. HyVia plans to manufacture and sell fuel cell powered electric light commercial vehicles (“FCE-LCVs”) and to supply hydrogen fuel and fueling stations to support the FCE-LCV market, in each case primarily in Europe. HyVia has received funding and is owned 50% by Plug Power France and 50% by Renault.

Our wholly-owned subsidiary, Plug Power España S.L. (“Plug Power Spain”), entered into a joint venture with Acciona, named AccionaPlug S.L., in the fourth quarter of 2021. The joint venture intends to develop clean hydrogen projects in Spain and Portugal. AccionaPlug S.L. has received funding and is owned 50% by Plug Power Spain and 50% by Acciona.

Plug Power Inc. entered into a joint venture with SK E&S named SK Plug Hyverse, which was initially funded in the first quarter of 2022. SK Plug Hyverse seeks to accelerate the use of hydrogen as an alternative energy source in selected Asian markets. This collaboration aims to provide hydrogen fuel cell systems, hydrogen fueling stations, electrolyzers and clean hydrogen to the Korean and other selected Asian markets. The partnership will leverage SK E&S’s leadership in chemicals, petroleum and energy as well as Plug’s leading hydrogen platform. This joint venture is owned 49% by Plug Power Inc. and 51% by SK E&S.

Plug Power Inc. has also invested in a hydrogen infrastructure and growth equity fund, Clean H2 Infra Fund, a special limited partnership registered in France, since the fourth quarter of 2021. The Clean H2 Infra Fund is focused on clean hydrogen infrastructure through financing projects in the production, storage and distribution of clean hydrogen. As of December 31, 2023 the Company’s ownership percentage in the Clean H2 Infra Fund was approximately 5%.

Liquidity and Capital Resources

The Company has continued to experience negative cash flows from operations and net losses. The Company incurred net losses of approximately \$1.4 billion, \$724.0 million and \$460.0 million for the years ended December 31, 2023, 2022 and 2021, respectively.

The Company’s working capital was \$822.2 million at December 31, 2023, which included unrestricted cash and cash equivalents of \$135.0 million and restricted cash of \$1.0 billion. The Company plans to invest a portion of its available cash to expand its current production and manufacturing capacity, construct hydrogen plants, and invest in capital projects. At the time of the issuance of the Company’s 2023 third quarter Form 10-Q, conditions existed that raised substantial doubt about the Company’s ability to continue as a going concern. As disclosed in Note 24, “Subsequent Events”, on January 17, 2024, the Company entered into the At Market Issuance Sales Agreement (the “Original ATM Agreement”) with B. Riley Securities, Inc. (“B. Riley”), pursuant to which the Company may, from time to time, offer and sell through or to B. Riley, as sales agent or principal, shares of the Company’s common stock, having an aggregate offering price of

Notes to Consolidated Financial Statements (Continued)

up to \$1.0 billion. As of February 23, 2024, the Company had offered and sold 77,417,069 shares of common stock having an aggregate offering price of approximately \$302.1 million under the Original ATM Agreement. On February 23, 2024, the Company and B. Riley entered into Amendment No. 1 to the Original ATM Agreement (the “Amendment” and, together with the Original ATM Agreement, the “ATM Agreement”) to increase the aggregate offering price of shares of the Company’s common stock available for future issuance under the Original ATM Agreement to \$1.0 billion. Under the ATM Agreement, for a period of 18 months, the Company has the right at its sole discretion to direct B. Riley to act on a principal basis and purchase directly from the Company up to \$11.0 million of shares of its common stock on any trading day (the “Maximum Commitment Advance Purchase Amount”) and up to \$55.0 million of shares in any calendar week (the “Maximum Commitment Advance Purchase Amount Cap”). On and after June 1, 2024, so long as the Company’s market capitalization is no less than \$1.0 billion, the Maximum Commitment Advance Purchase Amount will remain \$11.0 million and the Maximum Commitment Advance Purchase Amount Cap will remain \$55.0 million. If the Company’s market capitalization is less than \$1.0 billion on and after June 1, 2024, the Maximum Commitment Advance Purchase Amount will be decreased to \$10.0 million and the Maximum Commitment Advance Purchase Amount Cap will be decreased to \$30.0 million. The Company believes that its working capital and cash position, together with its right to direct B. Riley to purchase shares directly from the Company under the ATM Agreement, will be sufficient to fund its on-going operations for a period of at least 12 months subsequent to the issuance of the accompanying consolidated financial statements and, as a result, substantial doubt about the Company’s ability to continue as a going concern no longer exists.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the financial statements of the Company and its wholly-owned subsidiaries. Intercompany balances and transactions have been eliminated in consolidation. In addition, we include our share of the results of our joint ventures HyVia, AccionaPlug S.L. and SK Plug Hyverse, and our investment in Clean H2 Infra Fund, using the equity method based on our economic ownership interest and our ability to exercise significant influence over the operating and financial decisions of HyVia, AccionaPlug S.L., SK Plug Hyverse and Clean H2 Infra Fund.

Use of Estimates

The consolidated financial statements of the Company have been prepared in conformity with U.S. generally accepted accounting principles, which require management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an on-going basis, we evaluate our estimates and judgments, including but not limited to those related to revenue recognition, valuation of inventories, goodwill and intangible assets, valuation of long-lived assets, accrual for service loss contracts, operating and finance leases, allowance for doubtful accounts receivable, unbilled revenue, common stock warrants, stock-based compensation, income taxes, and contingencies. We base our estimates and judgments on historical experience and on various other factors and assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about (1) the carrying values of assets and liabilities and (2) the amount of revenue and expenses realized that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Leases

The Company is a lessee in noncancelable (1) operating leases, primarily related to sale/leaseback transactions with financial institutions for deployment of the Company’s products at certain customer sites, and (2) finance leases. The Company accounts for leases in accordance with Accounting Standards Codification (ASC) Topic 842, *Leases* (ASC Topic 842), as amended.

The Company determines if an arrangement is or contains a lease at contract inception. The Company recognizes a right of use asset and a lease liability at the lease commencement date. For operating leases, the lease liability is initially measured at the present value of the unpaid lease payments at the lease commencement date. For finance leases, the lease

Notes to Consolidated Financial Statements (Continued)

liability is initially measured in the same manner and date as for operating leases and is subsequently measured at amortized cost using the effective interest method.

Key estimates and judgments include how the Company determines (1) the discount rate it uses to discount the unpaid lease payments to present value, (2) the lease term, and (3) the lease payments.

- ASC Topic 842 requires a lessee to discount its future lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, its incremental borrowing rate. Generally, the Company cannot determine the interest rate implicit in its lease because it does not have access to the lessor's estimated residual value or the amount of the lessor's deferred initial direct costs. Therefore, the Company generally uses its incremental borrowing rate to estimate the discount rate for each lease. The Company's incremental borrowing rate for a lease is the rate of interest it would have to pay on a collateralized basis to borrow an amount equal to the lease payments under similar terms. Adjustments that considered the Company's actual borrowing rate, inclusive of securitization, as well as borrowing rates for companies of similar credit quality, were applied in the determination of the incremental borrowing rate.
- The lease term for all of the Company's leases includes the noncancelable period of the lease, plus any additional periods covered by either a Company option to extend (or not to terminate) the lease that the Company is reasonably certain to exercise, or an option to extend (or not to terminate) the lease controlled by the lessor.
- Lease payments included in the measurement of the lease liability comprise fixed payments, and for certain finance leases, the exercise price of a Company option to purchase the underlying asset if the Company is reasonably certain at lease commencement to exercise the option.

The right of use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for lease payments made at or before the lease commencement date, plus any initial direct costs incurred less any lease incentives received. For operating leases, the right of use asset is subsequently measured throughout the lease term at the carrying amount of the lease liability, plus initial direct costs, plus (minus) any prepaid (accrued) lease payments, less the unamortized balance of lease incentives received. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

For finance leases, the right of use asset is subsequently amortized using the straight-line method from the lease commencement date to the earlier of the end of the useful life of the underlying asset or the end of the lease term unless the lease transfers ownership of the underlying asset to the Company or the Company is reasonably certain to exercise an option to purchase the underlying asset. In those cases, the right of use asset is amortized over the useful life of the underlying asset. Amortization of the right of use asset is recognized and presented separately from interest expense on the lease liability. The Company's leases do not contain variable lease payments.

Right of use assets for operating and finance leases are periodically reviewed for impairment losses. The Company uses the long-lived assets impairment guidance in ASC Subtopic 360-10, *Property, Plant and Equipment — Overall*, to determine whether a right of use asset is impaired, and if so, the amount of the impairment loss to recognize.

The Company monitors for events or changes in circumstances that require a reassessment of its leases. When a reassessment results in the remeasurement of a lease liability, a corresponding adjustment is made to the carrying amount of the corresponding right of use asset.

Operating and finance lease right of use assets are presented separately on the Company's consolidated balance sheets. The current portions of operating and finance lease liabilities are also presented separately within current liabilities and the long-term portions are presented separately within noncurrent liabilities on the consolidated balance sheets.

The Company has elected not to recognize right of use assets and lease liabilities for short-term leases that have a lease term of 12 months or less. The Company recognizes the lease payments associated with its short-term leases as an expense on a straight-line basis over the lease term.

Notes to Consolidated Financial Statements (Continued)

Revenue Recognition

The Company enters into contracts that may contain one or a combination of fuel cell systems and infrastructure, installation, maintenance, spare parts, fuel delivery and other support services. Contracts containing fuel cell systems and related infrastructure may be sold directly to customers or provided to customers under a PPA. The Company also enters into contracts that contain electrolyzer stacks, systems, maintenance, and other support services. Furthermore, the Company enters into contracts related to the sales of cryogenic equipment, liquefaction systems and engineered equipment.

The Company does not include a right of return on its products other than rights related to standard warranty provisions that permit repair or replacement of defective goods. The Company accrues for anticipated standard warranty costs at the same time that revenue is recognized for the related product, or when circumstances indicate that warranty costs will be incurred, as applicable. Any prepaid amounts would only be refunded to the extent services have not been provided or the fuel cell systems or infrastructure have not been delivered.

Revenue is measured based on the transaction price specified in a contract with a customer, subject to the allocation of the transaction price to distinct performance obligations as discussed below. The Company recognizes revenue when it satisfies a performance obligation by transferring a product or service to a customer.

Promises to the customer are separated into performance obligations and are accounted for separately if they are (1) capable of being distinct and (2) distinct in the context of the contract. The Company considers a performance obligation to be distinct if the customer can benefit from the good or service either on its own or together with other resources readily available to the customer and the Company's promise to transfer the goods or service to the customer is separately identifiable from other promises in the contract. The Company allocates revenue to each distinct performance obligation based on relative standalone selling prices.

Payment terms for sales of fuel cells, infrastructure, and service to customers are typically 30 to 90 days from shipment of the goods. Payment terms on electrolyzer systems are typically based on achievement of milestones over the term of the contract with the customer. Sale/leaseback transactions with financial institutions are invoiced and collected upon transaction closing. Service is prepaid upfront in a majority of the arrangements. The Company does not adjust the transaction price for a significant financing component when the performance obligation is expected to be fulfilled within a year.

The Company has issued to each of Amazon.com NV Investment Holdings LLC and Walmart warrants to purchase shares of the Company's common stock. The Company presents the provision for common stock warrants within each revenue-related line item on the consolidated statements of operations. This presentation reflects the discount that those common stock warrants represent, and therefore revenue is net of these non-cash charges. The provision of common stock warrants is allocated to the relevant revenue-related line items based upon the expected mix of the revenue for each respective contract. See Note 17, "Warrant Transaction Agreements", for more details.

Nature of goods and services

The following is a description of principal activities from which the Company generates its revenue.

- (b) Sales of equipment, related infrastructure and other
 - (j) Sales of fuel cell systems, related infrastructure and equipment

Revenue from sales of fuel cell systems, related infrastructure, and equipment represents sales of our GenDrive units, GenSure stationary backup power units, as well as hydrogen fueling infrastructure.

The Company uses a variety of information sources in determining standalone selling prices for fuel cells systems and the related infrastructure. For GenDrive fuel cells, given the nascent nature of the Company's market, the Company considers several inputs, including prices from a limited number of standalone sales as well as the Company's negotiations with customers. The Company also considers its costs to produce fuel cells as well as comparable list prices in estimating standalone selling prices. The Company uses applicable observable evidence from similar products in the market to

Notes to Consolidated Financial Statements (Continued)

determine standalone selling prices for GenSure stationary backup power units and hydrogen fueling infrastructure. The determination of standalone selling prices of the Company's performance obligations requires significant judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Once relative standalone selling prices are determined, the Company proportionately allocates the transaction price to each performance obligation within the customer arrangement based upon standalone selling price. The allocated transaction price related to fuel cell systems and spare parts is recognized as revenue at a point in time which usually occurs upon delivery (and occasionally at time of shipment). Revenue on hydrogen infrastructure installations is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon customer acceptance of the hydrogen infrastructure. The Company uses an input method to determine the amount of revenue to recognize during each reporting period when such revenue is recognized over time, based on the costs incurred to satisfy the performance obligation.

(ii) Sales of electrolyzer systems and solutions

Revenue from sales of electrolyzer systems and solutions represents sales of electrolyzer stacks and systems used to generate hydrogen for various applications including mobility, ammonia production, methanol production, power to gas, and other uses.

The Company uses a variety of information sources in determining standalone selling prices for electrolyzer systems solutions. Electrolyzer stacks are typically sold on a standalone basis and the standalone selling price is the contractual price with the customer. The Company uses an adjusted market assessment approach to determine the standalone selling price of electrolyzer systems when sold with extended service or other equipment. This includes considering both standalone selling prices of the systems by the Company and available information on competitor pricing on similar products. The determination of standalone selling prices of the Company's performance obligations requires judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Once relative standalone selling prices are determined, the Company proportionately allocates the transaction price to each performance obligation within the customer arrangement based upon standalone selling price. Revenue on electrolyzer systems and stacks is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon title transfer at shipment or delivery to the customer location. In certain instances, control of electrolyzer systems transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. We recognize revenue over time when contract performance results in the creation of a product for which we do not have an alternative use and the contract includes an enforceable right to payment in an amount that corresponds directly with the value of the performance completed. In these instances, we use an input measure (cost-to-total cost or percentage-of-completion method) of progress to determine the amount of revenue to recognize during each reporting period based on the costs incurred to satisfy the performance obligation.

Payments received from customers are recorded within deferred revenue and customer deposits in the consolidated balance sheets until control is transferred. The related cost of such product and installation is also deferred as a component of deferred cost of revenue in the consolidated balance sheets until control is transferred.

(iii) Sales of cryogenic equipment and other

Revenue from sales of cryogenic equipment represents sales of liquefaction system and other cryogenic equipment such as trailers and mobile storage equipment for the distribution of liquefied hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

The Company uses a variety of information sources in determining standalone selling prices for liquefaction systems and cryogenic equipment. Liquefaction systems are typically sold on a standalone basis and the standalone selling price is the contractual price with the customer. The Company uses an adjusted market assessment approach to determine the standalone selling price of liquefaction systems when sold with other equipment. This includes considering both standalone selling prices of the systems by the Company and available information on competitor pricing on similar products. The determination of standalone selling prices of the Company's performance obligation requires judgment, including periodic assessment of pricing approaches and available observable evidence in the market. Revenue on liquefaction systems is generally recognized over time. Control transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. We recognize revenue over time when contract performance results in the creation of a product for which we don't not have an alternative use and the contract includes

Notes to Consolidated Financial Statements (Continued)

an enforceable right to payment in an amount that corresponds directly with the value of the performance completed. In these instances, we use an input measure of progress to determine the amount of revenue to recognize during each reporting period based on the costs incurred to satisfy the performance obligation.

Revenue on cryogenic equipment is generally recognized at the point at which transfer of control passes to the customer, which usually occurs upon title transfer at shipment or delivery to the customer location.

Payments received from customers are recorded within deferred revenue and customer deposits in the consolidated balance sheets until control is transferred. The related costs of such product and installation is also deferred as a component of deferred cost of revenue in the consolidated balance sheets until control is transferred.

(b) Services performed on fuel cell systems and related infrastructure

Revenue from services performed on fuel cell systems and related infrastructure represents revenue earned on our service and maintenance contracts and sales of spare parts. The Company uses an adjusted market assessment approach to determine standalone selling prices for services. This approach considers market conditions and constraints while maximizing the use of available observable inputs obtained from a limited number of historical standalone service renewal prices and negotiations with customers. The transaction price allocated to services as discussed above is generally recognized as revenue over time on a straight-line basis over the expected service period, as customers simultaneously receive and consume the benefits of routine, recurring maintenance performed throughout the contract period.

In substantially all of its transactions, the Company sells extended maintenance contracts that generally provide for a five-to-ten-year service period from the date of product installation in exchange for an up-front payment. Services include monitoring, technical support, maintenance and related services. These services are accounted for as a separate performance obligation, and accordingly, revenue generated from these transactions, subject to the proportional allocation of transaction price, is deferred and recognized as revenue over the term of the contract, generally on a straight-line basis. Additionally, the Company may enter into annual service and extended maintenance contracts that are billed monthly. Revenue generated from these transactions is recognized as revenue on a straight-line basis over the term of the contract. Costs are recognized as incurred over the term of the contract. When costs are projected to exceed revenues over the life of the extended maintenance contract, an accrual for loss contracts is recorded. Costs are estimated based upon historical experience and consider the estimated impact of the Company's cost reduction initiatives, if any. The actual results may differ from these estimates. See "Extended Maintenance Contracts" below.

Extended maintenance contracts generally do not contain customer renewal options. Upon expiration, customers may either negotiate a contract extension or switch to purchasing spare parts and maintaining the fuel cell systems on their own.

(c) Power purchase agreements

Revenue from PPAs primarily represents payments received from customers who make monthly payments to access the Company's GenKey solution.

Revenue associated with these agreements is recognized on a straight-line basis over the life of the agreements as the customers simultaneously receive and consume the benefits from the Company's performance of the services. The customers receive services ratably over the contract term.

In conjunction with entering into a PPA with a customer, the Company may enter into a separate transaction with third-party financial institutions in which the Company receives proceeds from the sale/leaseback transactions of the equipment and the sale of future service revenue. The proceeds from the financial institution are allocated between the sale of equipment and the sale of future service revenue based on the relative standalone selling prices of equipment and service. The proceeds allocated to the sale of future services are recognized as finance obligations. The proceeds allocated to the sale of the equipment are evaluated to determine if the transaction meets the criteria for sale/leaseback accounting. To meet the sale/leaseback criteria, control of the equipment must transfer to the financial institution, which requires among other criteria the leaseback to meet the criteria for an operating lease and the Company must not have a right to repurchase the equipment (unless specific criteria are met). These transactions typically meet the criteria for sale/leaseback

Notes to Consolidated Financial Statements (Continued)

accounting and accordingly, the Company recognizes revenue on the sale of the equipment, and separately recognizes the leaseback obligations.

The Company recognizes an operating lease liability for the equipment leaseback obligation based on the present value of the future payments to the financial institutions that are attributed to the equipment leaseback. The discount rate used to determine the lease liability is the Company's incremental borrowing rate. The Company also records a right of use asset which is amortized over the term of the leaseback. Rental expense is recognized on a straight-line basis over the life of the leaseback and is included as a cost of power purchase agreements revenue on the consolidated statements of operations.

Certain of the Company's transactions with financial institutions do not meet the criteria for sale/leaseback accounting and accordingly, no equipment sale is recognized. All proceeds from these transactions are accounted for as finance obligations. The right of use assets related to these transactions are classified as equipment related to the PPAs and fuel delivered to the customers, net in the consolidated balance sheets. The Company uses its transaction-date incremental borrowing rate as the interest rate for its finance obligations that arise from these transactions. No additional adjustments to the incremental borrowing rate have been deemed necessary for the finance obligations that have resulted from the failed sale/leaseback transactions.

In determining whether the sales of fuel cells and other equipment to financial institutions meet the requirements for revenue recognition under sale/leaseback accounting, the Company, as lessee, determines the classification of the lease. The Company estimates certain key inputs to the associated calculations such as: 1) discount rate used to determine the present value of future lease payments, 2) fair value of the fuel cells and equipment, and 3) useful life of the underlying asset(s):

- ASC Topic 842 requires a lessee to discount its future lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, its incremental borrowing rate. Generally, the Company cannot determine the interest rate implicit in its leases because it does not have access to the lessor's estimated residual value or the amount of the lessor's deferred initial direct costs. Therefore, the Company generally uses its incremental borrowing rate to estimate the discount rate for each lease. Adjustments that considered the Company's actual borrowing rate, inclusive of securitization, as well as borrowing rates for companies of similar credit quality were applied in the determination of the incremental borrowing rate.
- In order for the lease to be classified as an operating lease, the present value of the future lease payments cannot exceed 90% of the fair value of the leased assets. The Company estimates the fair value of the lease assets using the sales prices.
- In order for a lease to be classified as an operating lease, the lease term cannot exceed 75% (major part) of the estimated useful life of the leased asset. The average estimated useful life of the fuel cells is 10 years, and the average estimated useful life of the hydrogen infrastructure is 20 years. These estimated useful lives are compared to the term of each lease to determine the appropriate lease classification.

(d) Fuel delivered to customers and related equipment

Revenue associated with fuel delivered to customers represents the sale of hydrogen to customers that has been purchased by the Company from a third party or generated at our hydrogen production plant. The stand-alone selling price is not estimated because it is sold separately and therefore directly observable.

The Company purchases hydrogen fuel from suppliers in most cases (and sometimes produces hydrogen onsite) and sells to its customers. Revenue and cost of revenue related to this fuel is recorded as dispensed and is included in the respective fuel delivered to customers and related equipment lines on the consolidated statements of operations.

(e) Other revenue

Other revenue includes payments received for technical services that include engineering services, program management services, procurement services and operations, testing and validation services with HyVia. The scope of these

Notes to Consolidated Financial Statements (Continued)

services includes mutually agreed upon services as may be requested from time to time by HyVia. Other revenue also includes sales of electrolyzer engineering and design services. The scope of these services includes establishing and defining project technical requirements, standards and guidelines as well as assistance in scoping and scheduling of large-scale electrolyzer solutions.

Contract costs

The Company expects that incremental commission fees paid to employees as a result of obtaining sales contracts are recoverable and therefore the Company capitalizes them as contract costs.

Capitalized commission fees are amortized on a straight-line basis over the period of time which the transfer of goods or services to which the assets relate occur, typically ranging from five to ten years. Amortization of the capitalized commission fees is included in selling, general and administrative expenses.

The Company recognizes the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that the Company otherwise would have recognized is one year or less. These costs are included in selling, general and administrative expenses. Capitalized contract costs at December 31, 2023 and 2022 were \$0.8 million and \$0.6 million, respectively.

Cash and cash equivalents

For purposes of the consolidated statements of cash flows, the Company considers all highly-liquid debt instruments with original maturities of three months or less to be cash equivalents. Due to their short-term nature, the carrying amounts reported in the consolidated balance sheets approximate the fair value of cash and cash equivalents. The Company's cash and cash equivalents are deposited with financial institutions located in the U.S. and may at times exceed insured limits.

Restricted cash

Restricted cash consists primarily of cash that serves as support for leasing arrangements. Any cash that is legally restricted from use is classified as restricted cash. If the purpose of restricted cash relates to acquiring a long-term asset, liquidating a long-term liability, or is otherwise unavailable for a period longer than one year from the balance sheet date, the restricted cash is included in other long-term assets. Otherwise, restricted cash is included in other current assets in the consolidated balance sheets.

Available-for-sale securities

Available-for-sale securities is comprised of U.S. Treasury securities, certificates of deposit and corporate bonds, with original maturities greater than three months. We consider these securities to be available for use in our current operations, and therefore classify them as current even if we do not dispose of the securities in the following year.

Available-for-sale securities are recorded at fair value as of each balance sheet date. As of each balance sheet date, unrealized gains and losses, with the exception of credit related losses, are recorded to accumulated other comprehensive income/(loss). Any credit related losses are recognized as a credit loss allowance on the balance sheet with a corresponding adjustment to the statement of operations. Realized gains and losses are due to the sale and maturity of securities classified as available-for-sale and includes the loss from accumulated other comprehensive loss reclassifications for previously unrealized losses on available-for-sale debt securities.

As of December 31, 2023, the Company has no investments classified as available-for-sale.

Equity securities

Equity securities are comprised of fixed income and equity market index mutual funds. Equity securities are valued at fair value with changes in the fair value recognized in our consolidated statements of operations. We consider

Notes to Consolidated Financial Statements (Continued)

these securities to be available for use in our current year operations, and therefore classify them as current even if we do not dispose of the securities in the following year.

As of December 31, 2023, the Company has no investments classified as equity securities.

Investments in non-consolidated entities and non-marketable equity securities

The Company accounts for its investments in non-consolidated entities, such as HyVia, AccionaPlug S.L., SK Plug Hyverse and Clean H2 Infra Fund, as equity method investments.

Included in “Investments in non-consolidated entities and non-marketable equity securities” on the consolidated balance sheet are equity investments without readily determinable fair values (“non-marketable equity securities”). Non-marketable equity securities that do not qualify for equity method accounting are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for the identical or similar investments of the same issuer. Our investment in non-marketable equity securities was \$5.6 million and \$8.8 million as of December 31, 2023 and 2022, respectively.

The Company sells goods and services to related parties, including its equity method investees, which are conducted at arm’s length in the normal course of business. Transactions involving services do not result in assets remaining on the books of the investee, and therefore no profit elimination is recorded in accordance with ASC Subtopic 323-10-35, *Equity Method and Joint Ventures*. Transactions involving inventory are evaluated if the assets remain on the books of the investee or if they have been sold to a third party – intra-entity profits are eliminated for transactions in which assets remain on the books of the investee.

Common stock warrant accounting

The Company accounts for common stock warrants as either derivative liabilities or as equity instruments depending on the specific terms of the respective warrant agreements. Common stock warrants that meet certain applicable requirements of ASC Subtopic 815-40, *Derivatives and Hedging – Contracts in Entity’s Own Equity*, and other related guidance, including the ability of the Company to settle the warrants without the issuance of registered shares or the absence of rights of the grantee to require cash settlement, are accounted for as equity instruments. The Company classifies these equity instruments within additional paid-in capital on the consolidated balance sheets.

Common stock warrants accounted for as equity instruments represent the warrants issued to Amazon and Walmart as discussed in Note 17, “Warrant Transaction Agreements”. The Company adopted FASB ASU 2019-08, *Compensation – Stock Compensation* (Topic 718) and *Revenue from Contracts with Customers* (Topic 606), which requires entities to measure and classify share-based payment awards granted to a customer.

In order to calculate warrant charges, the Company used the Black-Scholes pricing model, which required key inputs including volatility and risk-free interest rate and certain unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions. The Company estimated the fair value of unvested warrants, considered to be probable of vesting, at the time. Based on that estimated fair value, the Company determined warrant charges, which are recorded as a reduction of revenue in the consolidated statement of operations.

Accounts receivable

Accounts receivable are stated at the amount billed or billable to customers and are ordinarily due between 30 and 90 days after the issuance of the invoice. Receivables are reserved or written off based on individual credit evaluation and specific circumstances of the customer. The allowance for expected credit losses for current accounts receivable is based primarily on past collections experience relative to the length of time receivables are past due; however, when available evidence reasonably supports an assumption that counterparty credit risk over the expected payment period will differ from current and historical payment collections, a forecasting adjustment will be reflected in the allowance for expected credit losses. The allowance for doubtful accounts and related receivable are reduced when the amount is deemed uncollectible. As of December 31, 2023, and 2022, the allowance for doubtful accounts was \$8.8 million and \$43 thousand, respectively.

Notes to Consolidated Financial Statements (Continued)

Inventory

Inventories are valued at the lower of cost, determined on a first-in, first-out basis, and net realizable value. All inventory, including spare parts inventory held at service locations, is not relieved until the customer has received the product, at which time the customer obtains control of the goods. We maintain inventory levels adequate for our short-term needs within the next twelve months based upon present levels of production. An allowance for potential non-saleable inventory due to damaged, excess stock or obsolescence is based upon a detailed review of inventory, past history, and expected usage. The Company's estimate of the reserves utilizes certain inputs and involves judgment. The Company evaluates excess and obsolescence and lower of cost or net realizable value inventory reserves on a quarterly basis and, as necessary, reserves inventory based upon a variety of factors, including historical usage, forecasted usage and sales, product obsolescence, anticipated selling price, and anticipated cost to complete to determine product margin and other factors. We review all contracts related to product lines with projected negative margins that are arranged to be sold at a loss in the future as the basis for a lower of cost or net realizable value adjustment.

Property, plant and equipment

Property, plant and equipment are originally recorded at cost or, if acquired as part of a business combination, at fair value. Maintenance and repairs are expensed as costs are incurred. Depreciation on plant and equipment is calculated on the straight-line method over the estimated useful lives of the assets. Gains and losses resulting from the sale of property and equipment are recorded in current operations. Included within machinery and equipment is certain equipment related to our hydrogen plants. The Company records depreciation and amortization over the following estimated useful lives:

Building and leasehold improvements	10 – 30 years
Machinery and equipment	2 – 30 years
Software	1 – 5 years
Hydrogen production plants	30 years

Equipment related to PPAs and fuel delivered to customers

Equipment related to PPAs and fuel delivered to customers primarily consists of the assets deployed related to PPAs and sites where we deliver fuel to customers as well as equipment related to failed sale/leaseback transactions. Equipment is depreciated over its useful life. Depreciation expense is recorded on a straight-line basis and is included in cost of revenue for PPAs or cost of fuel delivered to customers, respectively, in the consolidated statements of operations.

Impairment

Contract assets

During the fourth quarter of 2023, there was a contract asset impairment charge of \$2.4 million related to our assessment of recoverability of a customer contract. There was no such impairment charge for the year ended December 31, 2022.

Other current assets

During the second quarter of 2023, there was an other current asset impairment charge of \$9.7 million related to the termination of a commercial agreement. There was no such impairment charge for the year ended December 31, 2022.

Property, equipment, leasehold improvements, and finite-lived intangible assets

Long-lived assets, such as property, equipment, leasehold improvements, and finite-lived intangible assets, are reviewed for impairment whenever events and circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or asset group to be tested for impairment, the Company first compares undiscounted cash flows expected to be generated by that asset or asset group to its carrying amount. If the carrying amount of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, an impairment

Notes to Consolidated Financial Statements (Continued)

is recognized to the extent that the carrying amount exceeds its fair value. In making these determinations, the Company uses certain assumptions, including, but not limited to: (i) estimated fair value of the assets; and (ii) estimated, undiscounted future cash flows expected to be generated by these assets, which are based on additional assumptions such as asset utilization, length of service, the asset will be used in the Company's operations, and (iii) estimated residual values. Fair value is determined using various valuation techniques including discounted cash flow models, quoted market values and third-party independent appraisals, as considered necessary.

There was impairment of \$3.1 million and \$0.8 million of property, equipment, leasehold improvements, or finite-lived intangible assets during the years ended December 31, 2023 and 2022, respectively.

PPA Executory Contract Considerations

We evaluate PPA assets on a quarterly basis to identify events or changes in circumstances ("triggering events") that indicate the carrying value of certain assets may not be recoverable. PPA assets that we evaluate include right of use lease assets, equipment deployed to our PPAs, and assets related primarily to our fuel delivery business.

Upon the occurrence of a triggering event, PPA assets are evaluated on a per-site basis to determine if the carrying amounts are recoverable. The determination of recoverability is made based upon the estimated undiscounted future net cash flows of assets grouped at the lowest level for which there are identifiable cash flows independent of the cash flows of other groups. For operating assets, the Company has generally determined that the lowest level of identifiable cash flows is based on the customer sites. The assets related primarily to our fuel delivery business are considered to be their own asset group. The cash flows are estimated based on the remaining useful life of the primary asset within the asset group.

For assets related to our PPA agreements, we consider all underlying cash inflows related to our contract revenues and cash outflows relating to the costs incurred to service the PPAs. Our cash flow estimates used in the recoverability test, are based upon, among other things, historical results adjusted to reflect our best estimate of future cash flows and operating performance. Development of future cash flows also requires us to make assumptions and to apply judgment, including timing of future expected cash flows, future cost savings initiatives, and determining recovery values. Changes to our key assumptions related to future performance and other economic and market factors could adversely affect the outcome of our recoverability tests and cause more asset groups to be tested for impairment.

If the estimated undiscounted future net cash flows for a given asset group are less than the carrying amount of the related asset group, an impairment loss is determined by comparing the estimated fair value with the carrying amount of the asset group. The impairment loss is then allocated to the assets in the asset group based on the asset's relative carrying amounts. However, assets are not impaired below their then estimated fair values. Fair value is generally determined through various valuation techniques, including discounted cash flow models, quoted market values and third-party independent appraisals, as well as year-over-year trends in pricing of our new equipment and overall evaluation of our industry and market, as considered necessary. The Company considers these indicators with certain of its own internal indices and metrics in determining fair value in light of the nascent state of the Company's market and industry. The estimate of fair value represents our best estimates of these factors and is subject to variability. Changes to our key assumptions related to future performance and other economic and market factors could adversely affect our impairment evaluation.

In 2023, the Company has determined that the assets deployed for certain PPA arrangements, as well as certain assets related to the delivery of fuel to customers, are not recoverable based on the undiscounted estimated future cash flows of the asset group, and an expense of \$4.8 million was recorded to impairment on the income statement. As the PPA arrangements are considered to be executory contracts and there is no specific accounting guidance that permits loss recognition for these revenue contracts, the Company has not recognized a provision for the expected future losses under these revenue arrangements. The Company expects that it will recognize future service losses for these arrangements as it continues its efforts to reduce costs of delivering the maintenance component of these arrangements. The Company has estimated total future revenues and costs for these types of arrangements based on existing contracts and leverage of the related assets. For the future estimates, the Company used service cost estimates for extended maintenance contracts and customer warrant provisions at rates consistent with experience to date. The terms for the underlying estimates vary but the average residual term on the existing contracts is four years.

Notes to Consolidated Financial Statements (Continued)

Intangible assets

Intangible assets consist of acquired technology, customer relationships, trade name and other finite intangibles and are amortized using a straight-line method over their useful lives. Additionally, the intangible assets are reviewed for impairment when certain triggering events occur.

Extended maintenance contracts

On a quarterly basis, we evaluate any potential losses related to our extended maintenance contracts for fuel cell systems and related infrastructure that has been sold. We measure loss accruals at the customer contract level. The expected revenues and expenses for these contracts include all applicable expected costs of providing services over the remaining term of the contracts and the related unearned net revenue. A loss is recognized if the sum of expected costs of providing services under the contract exceeds related unearned net revenue and is recorded as a provision for loss contracts related to service in the consolidated statements of operations. A key component of these estimates is the expected future service costs. In estimating the expected future service costs, the Company considers its current service cost level and applies judgement related to certain cost saving estimates that have been implemented in the field. The expected future cost savings will be primarily dependent upon the success of the Company's initiatives related to increasing stack life and achieving better economies of scale on service labor. If the expected cost saving initiatives are not realized, this will increase the costs of providing services and could adversely affect our estimated contract loss accrual. Further, as we continue to work to improve quality and reliability; however, unanticipated additional quality issues or warranty claims may arise and additional material charges may be incurred in the future. These quality issues could also adversely affect our contract loss accrual. The Company has undertaken and will soon undertake several other initiatives to extend the life and improve the reliability of its equipment. As a result of these initiatives and our additional expectation that the increase in certain costs will abate, the Company believes that its contract loss accrual is sufficient. However, if elevated service costs persist, the Company will adjust its estimated future service costs and increase its contract loss accrual estimate.

The following table shows the roll forward of balances in the accrual for loss contracts, including changes due to the provision for loss accrual, releases to service cost of sales, provision for warrants and foreign currency translation adjustment (in thousands):

	Year ended December 31, 2023	Year ended December 31, 2022
Beginning balance	\$ 81,066	\$ 89,773
Provision for loss accrual	85,375	23,295
Releases to service cost of sales	(29,713)	(35,446)
Increase to loss accrual related to customer warrants	971	3,506
Foreign currency translation adjustment	154	(62)
Ending balance	<u>\$ 137,853</u>	<u>\$ 81,066</u>

The Company increased its provision for loss accrual to \$137.9 million for the year ended December 31, 2023 due to continued cost and inflationary increases of labor, parts and related overhead coupled with the timing of the remaining period of service required. As a result, the Company increased its estimated projected costs to service existing fuel cell systems and the related infrastructure.

Goodwill

Goodwill is an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. The Company reviews goodwill for impairment at least annually.

In accordance with ASC 350, *Intangibles — Goodwill and Other*, we test goodwill for impairment on an annual basis on October 31 and between annual tests if indicators of potential impairment exist. The impairment test compares the fair value of the reporting units to their carrying amounts to assess whether impairment exists. We have reviewed the provisions of ASC 350-20 with respect to the criteria necessary to evaluate the number of reporting units that exist. Based

Notes to Consolidated Financial Statements (Continued)

on this review, we have concluded that we have one operating segment and one reporting unit. During the annual impairment review process, the Company has the option to perform a qualitative assessment over relevant events and circumstances to determine whether it is more-likely-than-not that the fair value of the reporting unit is less than its carrying amount or to perform a quantitative assessment. We derive the fair value of our reporting unit using the market approach, which estimates fair value based on the determination of comparable publicly-traded companies and market multiples of revenue and earnings derived from those companies with similar operating and investment characteristics as the reporting unit being valued. The Company compares and reconciles the fair value of the reporting unit to our market capitalization in order to assess the reasonableness of the calculated fair value by reporting unit. If the carrying value of the reporting unit exceeds its fair value, an impairment loss equal to the excess is recorded.

The Company performs an impairment review of goodwill on an annual basis at October 31, and when a triggering event is determined to have occurred between annual impairment tests. The Company's stock price declined below book value during the fourth quarter of 2023. Management believes the decline of the stock price was due primarily to missed projections and reduced liquidity. Based on the results of our annual review, the Company recognized an impairment charge of \$249.5 million for the year ended December 31, 2023. The Company's analyses did not indicate impairment of goodwill for the years ended December 31, 2022 and 2021. See Note 10, "Intangible Assets and Goodwill", for further information.

Fair value measurements

The Company records the fair value of assets and liabilities in accordance with ASC 820, *Fair Value Measurement* ("ASC 820"). ASC 820 defines fair value as the price received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity.

In addition to defining fair value, ASC 820 expands the disclosure requirements around fair value and establishes a fair value hierarchy for valuation inputs. The hierarchy prioritizes the inputs into three levels based on the extent to which inputs used in measuring fair value are observable in the market. Each fair value measurement is reported in one of the three levels, which is determined by the lowest level input that is significant to the fair value measurement in its entirety.

These levels are:

- Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 — quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
- Level 3 — unobservable inputs reflecting management's own assumptions about the inputs used in pricing the asset or liability at fair value.

Income taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets if it is more likely than not that such assets will not be realized.

The Company accounts for uncertain tax positions in accordance with FASB ASC No. 740-10-25, *Income Taxes-Overall-Recognition*. The Company recognizes in its consolidated financial statements the impact of a tax position only if that position is more likely than not to be sustained on audit, based on the technical merits of the position. The Company recognizes interest and penalties related to unrecognized tax benefits on the interest expense line and other expense, net line, respectively, in the accompanying consolidated statements of operations.

Notes to Consolidated Financial Statements (Continued)

Foreign currency translation

Foreign currency translation adjustments arising from conversion of the Company's foreign subsidiary's financial statements to U.S. dollars for reporting purposes are included in accumulated other comprehensive income/(loss) in stockholders' equity on the consolidated balance sheet. Transaction gains and losses resulting from the effect of exchange rate changes on transactions denominated in currencies other than the functional currency of the Company's operations give rise to realized foreign currency transaction gains and losses and are included in other expense, net in the consolidated statements of operations.

Research and development

Activities that qualify as research and development under ASC 730 include: (i) laboratory research aimed at discovery of new knowledge; (ii) searching for applications of new research findings or other knowledge; (iii) conceptual formulation and design of possible product or process alternatives; (iv) testing in search for or evaluation of product or process alternatives; (v) modification of the formulation or design of a product or process; (vi) design, construction, and testing of preproduction prototypes and models; (vii) design of tools, jigs, molds, and dies involving new technology; (viii) design, construction, and operation of a pilot plant that is not of a scale economically feasible to the entity for commercial production; (ix) engineering activity required to advance the design of a product to the point that it meets specific functional and economic requirements and is ready for manufacture; and (x) design and development of tools used to facilitate research and development or components of a product or process that are undergoing research and development activities. Costs related to research and development activities by the Company are expensed as incurred.

Stock-based compensation

The Company maintains employee stock-based compensation plans, which are described more fully in Note 19, "Employee Benefit Plans". Stock-based compensation represents the cost related to stock-based awards granted to employees and directors. The Company measures stock-based compensation cost at grant-date, based on the fair value of the award, and recognizes the cost as expense on a straight-line basis over the option's requisite service period. Forfeitures are recognized as they occur.

The Company estimates the fair value of stock-based awards using a Black-Scholes valuation model. Stock-based compensation expense is recorded in cost of revenue associated with sales of fuel cell systems, related infrastructure and equipment, cost of revenue for services performed on fuel cell systems and related infrastructure, research and development expense and selling, general and administrative expenses in the consolidated statements of operations based on the employees' respective function.

Beginning in September 2021, the Company also issued performance stock option awards that include a market condition. The grant date fair value of performance stock options is estimated using a Monte Carlo simulation model and the cost is recognized using the accelerated attribution method.

The Company records deferred tax assets for awards that result in deductions on the Company's income tax returns, based upon the amount of compensation cost recognized and the Company's statutory tax rate. Differences between the deferred tax assets recognized for financial reporting purposes and the actual tax deduction reported on the Company's income tax return are recorded in the income statement.

Convertible senior notes

The Company accounts for its convertible senior notes as a single liability measured at amortized cost. The Company uses the effective interest rate method to amortize the debt issuance costs to interest expense over the respective term of the convertible senior notes.

Subsequent Events

The Company evaluates subsequent events at the date of the balance sheet as well as conditions that arise after the balance sheet date but before the consolidated financial statements are issued. The effects of conditions that existed at

Notes to Consolidated Financial Statements (Continued)

the balance sheet date are recognized in the consolidated financial statements. Events and conditions arising after the balance sheet date but before the consolidated financial statements are issued are evaluated to determine if disclosure is required to keep the consolidated financial statements from being misleading. To the extent such events and conditions exist, if any, disclosures are made regarding the nature of events and the estimated financial effects for those events and conditions. See Note 24, “Subsequent Events”.

Recent Accounting Pronouncements

Recently Issued and Not Yet Adopted Accounting Pronouncements

In March 2020, ASU 2020-03, *Codification Improvements to Financial Instruments*, was issued to make various codification improvements to financial instruments to make the standards easier to understand and apply by eliminating inconsistencies and providing clarifications. This update will be effective at various dates beginning with date of issuance of this ASU. The adoption of this standard will not have a material impact on the Company’s consolidated financial statements.

In November 2023, ASU 2023-07, *Improvements to Reportable Segment Disclosures*, was issued to improve reportable segment disclosure requirements, primarily through enhanced disclosures about significant segment expenses. The purpose of the amendments is to enable investors to better understand an entity’s overall performance and assess potential future cash flows. This update will be effective for fiscal years beginning after December 15, 2023. The adoption of this standard is not expected to have a material impact on the Company’s consolidated financial statements.

In December 2023, ASU 2023-09, *Improvements to Income Tax Disclosures*, was issued to require public business entities to annually disclose specific categories in the rate reconciliation and provide additional information for reconciling items that meet a quantitative threshold. Additionally, annual disclosures on income taxes paid will be required to be further disaggregated by federal, state, and foreign taxes. This update will be effective for annual periods beginning after December 15, 2024. The adoption of this standard will not have a material impact to our consolidated financial statements. However, we are currently evaluating the impact of this ASU on our income tax disclosures.

3. Acquisitions

Alloy Custom Products, LLC and WesMor Cryogenics, LLC

On December 5, 2022, the Company acquired two subsidiaries of Cryogenic Industrial Solutions, LLC, Alloy Custom Products, LLC, and WesMor Cryogenics, LLC (collectively, “CIS”). The CIS acquisition will allow the Company to increase its production capabilities for stainless steel and aluminum cryogenic transport truck-mounted cryogenic pressure vessels, cryogenic transport trailers, and other mobile storage containers.

The fair value of consideration paid by the Company in connection with the CIS acquisition was as follows (in thousands):

Cash	\$ 30,700
Due to Cryogenic Industrial Solutions, LLC	500
Plug Power Inc. Common Stock	6,107
Total consideration	<u>\$ 37,307</u>

Notes to Consolidated Financial Statements (Continued)

The following table summarizes the final allocation of the purchase price to the fair value of the net assets acquired, excluding goodwill (in thousands):

Cash	\$ 267
Accounts receivable	5,038
Inventory	11,120
Prepaid expenses and other assets	464
Property, plant and equipment	3,887
Right of use asset	1,538
Identifiable intangible assets	13,430
Lease liability	(1,562)
Accounts payable, accrued expenses and other liabilities	(3,826)
Deferred revenue	(6,193)
Total net assets acquired, excluding goodwill	<u>\$ 24,163</u>

For the year ended December 31, 2023, the Company did not record any measurement period adjustments.

The fair value of the tradename totaling \$6.2 million was calculated using the relief from royalty approach which is a variant of the income approach, and was assigned a useful life of 15 years. The fair value of the customer relationships totaling \$7.1 million was calculated using the multi-period excess earnings method (“MPEEM”) approach which is a variant of the income approach, and was assigned a useful life of 15 years. The basic principle of the MPEEM approach is that a single asset, in isolation, is not capable of generating cash flow for an enterprise. Several assets are brought together and exploited to generate cash flow. The fair value of the non-compete agreements was \$0.2 million with a useful life of five years.

The goodwill was primarily attributed to the value of synergies created with the Company’s current and future offerings and the value of the assembled workforce. Goodwill and intangible assets are deductible for income tax purposes. Goodwill associated with the CIS acquisition was calculated as follows (in thousands):

Consideration paid	\$ 37,307
Less: net assets acquired	(24,163)
Total goodwill recognized	<u>\$ 13,144</u>

The acquisition of CIS contributed \$47.7 million and \$3.7 million to total consolidated revenue for the years ended December 31, 2023 and 2022, respectively. The Company determined that the net income from the CIS acquisition for the years ended December 31, 2023 and 2022 was immaterial.

The CIS acquisition was not considered material to our consolidated results of operations or financial position and, therefore, pro forma financial information is not presented.

Joule Processing LLC

On January 14, 2022, the Company acquired Joule Processing LLC (“Joule”), an engineered modular equipment, process design and procurement company founded in 2009.

The fair value of consideration paid by the Company in connection with the Joule acquisition was as follows (in thousands):

Cash	\$ 28,140
Contingent consideration	41,732
Total consideration	<u>\$ 69,872</u>

The contingent consideration represents the estimated fair value associated with earn-out payments of up to \$130.0 million that the sellers are eligible to receive in cash or shares of the Company’s common stock (at the Company’s

Notes to Consolidated Financial Statements (Continued)

election). Of the total earnout consideration, \$90.0 million is related to the achievement of certain financial performance and \$40.0 million is related to the achievement of certain operational milestones.

The following table summarizes the final allocation of the purchase price to the fair value of the net assets acquired, excluding goodwill (in thousands):

Current assets	\$ 2,672
Property, plant and equipment	493
Right of use asset	182
Identifiable intangible assets	60,522
Lease liability	(374)
Current liabilities	(2,612)
Contract liability	(3,818)
Total net assets acquired, excluding goodwill	<u>\$ 57,065</u>

For the year ended December 31, 2023, the Company did not record any measurement period adjustments.

The fair value of the developed technology totaling \$59.2 million included in the identifiable intangible assets was calculated using the MPEEM approach. Therefore, to determine cash flow from the developed technology over its useful life of 15 years, one must deduct the related expenses incurred for the exploitation of other assets used for the generation of overall cash flow. The fair value of the tradename totaling \$0.8 million was calculated using the relief from royalty approach, which is a variant of the income approach, and was assigned a useful life of four years. The fair value of the non-compete agreements was \$0.5 million with a useful life of six years.

In addition to identifiable intangible assets, the fair value of acquired work in process and finished goods inventory, included in inventory, was estimated based on the estimated selling price less costs to be incurred and a market participant profit rate.

In connection with the acquisition, the Company recorded on its consolidated balance sheet a liability of \$41.7 million representing the fair value of contingent consideration payable and is recorded in the consolidated balance sheet in the loss accrual for service contracts and other liabilities. The fair value of this contingent consideration was \$75.5 million and \$53.2 million as of December 31, 2023 and December 31, 2022, respectively, and as a result, an increase of \$22.3 million was recorded in the consolidated statement of operations for the year ended December 31, 2023.

Included in the purchase price consideration are contingent earn-out payments as described above. Due to the nature of the earn-outs, a scenario based analysis using the probability of achieving the milestone expectations was used to determine the fair value of the contingent consideration. These fair value measurements were based on unobservable inputs and are considered to be Level 3 financial instruments.

The goodwill was primarily attributed to the value of synergies created with the Company's current and future offerings and the value of the assembled workforce. Goodwill and intangible assets are deductible for income tax purposes. Goodwill associated with the Joule acquisition was calculated as follows (in thousands):

Consideration paid	\$ 28,140
Contingent consideration	41,732
Less: net assets acquired	(57,065)
Total goodwill recognized	<u>\$ 12,807</u>

The acquisition of Joule would have contributed \$36.8 million and \$3.6 million to total consolidated revenue and net income for the year ended December 31, 2022, respectively, had the acquisition occurred on January 1, 2021. In addition, the acquisition of Joule would have contributed \$10.8 million and \$43 thousand to total consolidated revenue and net loss for the year ended December 31, 2021, respectively, had the acquisition occurred on January 1, 2021. The

Notes to Consolidated Financial Statements (Continued)

following table reflects the unaudited consolidated pro forma results of operations for the years ended December 31, 2022 and 2021 assuming that the Joule acquisition had occurred on January 1, 2021 (in thousands):

	For the year ended December 31, 2022 (unaudited)	For the year ended December 31, 2021 (unaudited)
Revenue	\$ 701,742	\$ 513,174
Net loss	\$ (723,934)	\$ (460,008)

4. Investments

The fair values of the Company’s investments are based upon prices provided by an independent pricing service. Management has assessed and concluded that these prices are reasonable and has not adjusted any prices received from the independent provider.

The Company received proceeds from the sales and maturities of available-for-sale securities totaling \$1.4 billion during the year ended December 31, 2023. As of December 31, 2023, the Company has no investments classified as available-for-sale.

The amortized cost, gross unrealized gains and losses, fair value of those investments classified as available-for-sale, and allowance for credit losses at December 31, 2022 are summarized as follows (in thousands):

	December 31, 2022				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Allowance for Credit Losses
Corporate bonds	\$ 200,735	\$ 7	\$ (7,109)	\$ 193,633	—
U.S. Treasuries	1,154,879	111	(15,680)	1,139,310	—
Total	\$ 1,355,614	\$ 118	\$ (22,789)	\$ 1,332,943	\$ —

We regularly review available-for-sale securities for declines in fair values that we determine to be credit related. In order to determine whether an allowance for credit losses was required, we considered factors such as whether amounts related to securities have become uncollectible, whether we intend to sell a security, and whether it is more likely than not that we will be required to sell a security prior to recovery. The Company also reviewed the declines in fair value related to our available-for-sale securities and determined that these declines were due to fluctuations in interest rates. As of December 31, 2023, the Company did not have an allowance for credit losses related to available-for-sale securities as the Company no longer has available-for-sale securities.

Additionally, we regularly review whether available-for-sale securities are other-than-temporarily impaired (“OTTI”). Available-for-sale securities with unrealized losses are considered OTTI if the Company intends to sell the security or if the Company will be required to sell the security prior to any anticipated recovery. If the Company determines that a security is OTTI under these circumstances, the impairment recognized in earnings is measured as the difference between the amortized cost and the current fair value. The Company recorded an other-than-temporary impairment of \$10.8 million during the year ended December 31, 2023 for available-for-sale debt securities in an unrealized loss position due to a change in the Company’s ability and intent to retain these investments for a period of time sufficient to allow for any anticipated recovery in the fair value. The other-than-temporary impairment charge was realized when the Company sold its remaining available-for-sale securities and equity securities during the fourth quarter of 2023. No such OTTI charge was recorded for the year ended December 31, 2022.

The Company received proceeds from the sales of equity securities totaling \$144.3 million during 2023. As of December 31, 2023, the Company has no investments classified as equity securities.

Notes to Consolidated Financial Statements (Continued)

The cost, gross unrealized gains and losses, and fair value of those investments classified as equity securities at December 31, 2022 are summarized as follows (in thousands):

	December 31, 2022			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Fixed income mutual funds	\$ 70,257	\$ —	\$ (2,620)	\$ 67,637
Exchange traded mutual funds	75,999	—	(8,800)	67,199
Total	\$ 146,256	\$ —	\$ (11,420)	\$ 134,836

A summary of the amortized cost and fair value of investments classified as available-for-sale, by contractual maturity, as of December 31, is as follows (in thousands):

	December 31, 2023		December 31, 2022	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Maturity:				
Less than 12 months	\$ —	\$ —	\$ 1,045,120	\$ 1,039,333
12 months or greater	—	—	310,494	293,610
Total	\$ —	\$ —	\$ 1,355,614	\$ 1,332,943

Accrued interest income was \$0 and \$3.0 million at December 31, 2023 and 2022, respectively, and is included within the balance for prepaid expenses and other current assets in the consolidated balance sheets.

Equity Method Investments

As of December 31, 2023 and December 31, 2022, the Company accounted for the following investments in the investee's common stock under the equity method, which are included in the investments in non-consolidated entities and non-marketable equity securities on the consolidated balance sheets (amounts in thousands):

Investee	Formation Date	As of December 31, 2023		As of December 31, 2022	
		Common Stock Ownership %	Carrying Value	Common Stock Ownership %	Carrying Value
HyVia	Q2 2021	50%	\$ (2,068)	50%	\$ 11,281
AccionaPlug S.L.	Q4 2021	50%	3,198	50%	2,225
Clean H2 Infra Fund	Q4 2021	5%	13,357	5%	3,922
SK Plug Hyverse	Q1 2022	49%	41,609	49%	8,937
			<u>\$ 56,096</u>		<u>\$ 26,365</u>

As of December 31, 2023, the Company's investment in HyVia is negative due to historical losses. The Company is committed to fund its share of losses of the joint venture and, therefore, has continued to record losses as incurred. The negative equity investment is recorded on the consolidated balance sheet to the contingent consideration, loss accrual for service contracts, and other liabilities financial statement line item.

During the year ended December 31, 2023, the Company contributed approximately \$22.3 million, \$2.6 million, \$33.8 million and \$13.1 million, respectively, to HyVia, AccionaPlug S.L., SK Plug Hyverse and Clean H2 Infra Fund.

The Company had the following capital commitments related to its equity method investments as of December 31 as follows (in thousands):

2024	\$ 152,672
2025	17,300
Total	\$ 169,972

Notes to Consolidated Financial Statements (Continued)

5. Fair Value Measurements

The Company records the fair value of assets and liabilities in accordance with ASC 820, *Fair Value Measurement* (“ASC 820”). ASC 820 defines fair value as the price received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity.

In addition to defining fair value, ASC 820 expands the disclosure requirements around fair value and establishes a fair value hierarchy for valuation inputs. The hierarchy prioritizes the inputs into three levels based on the extent to which inputs used in measuring fair value are observable in the market. Each fair value measurement is reported in one of the three levels, which is determined by the lowest level input that is significant to the fair value measurement in its entirety.

These levels are:

- Level 1 — quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 — quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.
- Level 3 — unobservable inputs reflecting management’s own assumptions about the inputs used in pricing the asset or liability at fair value.

Securities reported at fair value utilizing Level 1 inputs represent assets whose fair value is determined based upon observable unadjusted quoted market prices for identical assets in active markets. Level 2 securities represent assets whose fair value is determined using observable market information such as previous day trade prices, quotes from less active markets or quoted prices of securities with similar characteristics. Available-for-sale securities are characterized as Level 1 assets, such as U.S. Treasuries, and Level 2 assets, as value of the corporate bonds are determined using observable market inputs. Equity securities are characterized as Level 1 assets, as their fair values are determined using active markets for identical assets. There were no transfers between Level 1, Level 2, or Level 3 for the year ended December 31, 2023.

Financial instruments not recorded at fair value on a recurring basis include equity method investments that have not been remeasured or impaired in the current period, such as our investments in HyVia, AccionaPlug S.L., SK Plug Hyverse and Clean H2 Infra Fund.

The following table summarizes the carrying amount and estimated fair value of the Company’s financial instruments at December 31, 2023 and 2022 (in thousands):

	As of December 31, 2023					
	Carrying Amount	Fair Value	Fair Value Measurements			
			Level 1	Level 2	Level 3	
Liabilities						
Contingent consideration	\$ 126,216	\$ 126,216	\$ —	\$ —	\$ 126,216	
	As of December 31, 2022					
	Carrying Amount	Fair Value	Fair Value Measurements			
			Level 1	Level 2	Level 3	
Assets						
Cash equivalents	\$ 212,577	\$ 212,577	\$ 212,577	\$ —	\$ —	
Corporate bonds	193,633	193,633	—	193,633	—	
U.S. Treasuries	1,139,310	1,139,310	1,139,310	—	—	
Equity securities	134,836	134,836	134,836	—	—	
Liabilities						
Contingent consideration	116,165	116,165	—	—	116,165	

The liabilities measured at fair value on a recurring basis that have unobservable inputs and are therefore categorized as Level 3 are related to contingent consideration. The fair value as of December 31, 2023 is comprised of

Notes to Consolidated Financial Statements (Continued)

contingent consideration related to the Joule acquisition in 2022, the Frames acquisition in 2021 and the Giner ELX, Inc. and United Hydrogen Group Inc. acquisitions in 2020.

In connection with the Frames acquisition, the Company recorded on its consolidated balance sheet a liability of \$29.1 million representing the fair value of contingent consideration payable. The fair value of this contingent consideration was \$31.8 million and \$31.0 million as of December 31, 2023 and 2022, respectively. The fair value of the liability increased by \$1.1 million due to foreign currency translation losses. Partially offsetting this increase was a decrease of \$0.3 million recorded in change in fair value of contingent consideration in the consolidated statement of operations for the year ended December 31, 2023.

In connection with the Giner ELX, Inc. acquisition, the Company recorded on its consolidated balance sheet a liability of \$16.0 million representing the fair value of contingent consideration payable. The fair value of this contingent consideration was \$18.0 million and \$14.5 million as of December 31, 2023 and 2022, respectively. An increase of \$5.5 million was recorded in change in fair value of contingent consideration in the consolidated statement of operations during the year ended December 31, 2023. Partially offsetting this increase were payments that reduced the fair value of the liability by \$2.0 million for year ended December 31, 2023.

In connection with the United Hydrogen Group Inc. acquisition, the Company recorded on its consolidated balance sheet a liability of \$1.1 million representing the fair value of contingent consideration payable. The fair value of this contingent consideration was \$0.9 million and \$1.5 million as of December 31, 2023 and 2022, respectively. A decrease of \$0.6 million was recorded in change in fair value of contingent consideration in the consolidated statement of operations for the year ended December 31, 2023.

In connection with the Applied Cryo Technologies, Inc. acquisition, the Company recorded on its consolidated balance sheet an initial liability of \$14.0 million representing the fair value of contingent consideration payable. The fair value of this contingent consideration was \$0 million and \$15.9 million as of December 31, 2023 and 2022, respectively. The decrease of \$15.9 million was due to payments that reduced the fair value of the liability by \$19.0 million during the year ended December 31, 2023. Partially offsetting this decrease was an increase of \$3.1 million recorded in change in fair value of contingent consideration in the consolidated statement of operations during the year ended December 31, 2023. The \$19.0 million payment made during the second quarter of 2023 settled the remaining obligation of the earn-out.

Finally, as described in Note 3, "Acquisitions", an increase of \$22.3 million to the fair value of contingent consideration related to the acquisition of Joule was recorded in the consolidated statement of operations for the year ended December 31, 2023.

In the audited consolidated balance sheets, contingent consideration is recorded in the contingent consideration, loss accrual for service contracts, and other liabilities financial statement line item, and is comprised of the following unobservable inputs for the year ended December 31, 2023:

Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range (weighted average)
Contingent Consideration	\$ 126,216	Scenario based method	Credit spread	13.61%
			Discount rate	17.71% - 19.06%
	126,216			

Notes to Consolidated Financial Statements (Continued)

In the audited consolidated balance sheets, contingent consideration is recorded in the contingent consideration, loss accrual for service contracts, and other liabilities financial statement line item, and is comprised of the following unobservable inputs for the year ended December 31, 2022:

Financial Instrument	Fair Value	Valuation Technique	Unobservable Input	Range (weighted average)
Contingent Consideration	\$ 85,269	Scenario based method	Credit spread	15.73% - 15.74%
			Discount rate	19.85% - 20.68%
	11,310	Monte carlo simulation	Credit spread	15.74%
			Discount rate	20.00% - 20.30%
			Revenue volatility	45.29%
			Credit spread	15.73%
	19,586	Monte carlo simulation	Revenue volatility	35.7% - 23.1% (35.0%)
			Gross profit volatility	106.7% - 23.2% (60.0%)
	<u>116,165</u>			

The change in the carrying amount of Level 3 liabilities for the year ended December 31, 2023 was as follows (in thousands):

	Year Ended December 31, 2023
Beginning balance at December 31, 2022	\$ 116,165
Cash payments	(13,000)
Payment settled in stock	(8,000)
Fair value adjustments	30,024
Foreign currency translation adjustment	1,027
Ending balance at December 31, 2023	<u>\$ 126,216</u>

6. Earnings Per Share

Basic earnings per common stock are computed by dividing net loss by the weighted average number of common stock outstanding during the reporting period. After January 1, 2021, the date of the adoption of ASU 2020-06, in periods when we have net income, the shares of our common stock subject to the convertible notes outstanding during the period will be included in our diluted earnings per share under the if-converted method. Since the Company is in a net loss position, all common stock equivalents would be considered anti-dilutive and are therefore not included in the determination of diluted earnings per share. Accordingly, basic and diluted loss per share are the same.

The following table provides the components of the calculations of basic and diluted earnings per share (in thousands, except share amounts):

	December 31,		
	2023	2022	2021
Numerator:			
Net loss	\$ (1,368,833)	\$ (724,008)	\$ (459,965)
Denominator:			
Weighted average number of common stock outstanding	<u>595,468,419</u>	<u>579,716,708</u>	<u>558,182,177</u>

Notes to Consolidated Financial Statements (Continued)

The potentially dilutive securities are summarized as follows:

	At December 31,		
	2023	2022	2021
Stock options outstanding (1)	39,261,362	27,598,269	23,806,909
Restricted stock and restricted stock units outstanding (2)	6,732,884	6,276,376	4,851,873
Common stock warrants (3)	78,561,263	88,774,725	80,017,181
Convertible Senior Notes (4)	39,170,766	39,170,766	39,170,766
Number of dilutive potential shares of common stock	<u>163,726,275</u>	<u>161,820,136</u>	<u>147,846,729</u>

- (1) During the years ended December 31, 2023, 2022, and 2021, the Company granted options for 13,254,689, 4,761,724, and 16,502,335 shares of common stock, respectively.
- (2) During the years ended December 31, 2023, 2022, and 2021, the Company granted 4,131,193, 4,289,682, and 1,894,356, shares of restricted stock and restricted stock units, respectively.
- (3) In August 2022, the Company issued a warrant to acquire up to 16,000,000 shares of the Company's common stock as part of a transaction agreement with Amazon, subject to certain vesting events, as described in Note 17, "Warrant Transaction Agreements". The warrant had no shares exercised of the Company's common stock as of December 31, 2023.

In April 2017, the Company issued a warrant to acquire up to 55,286,696 of the Company's common stock as part of a transaction agreement with Amazon, subject to certain vesting events, as described in Note 17, "Warrant Transaction Agreements". The warrant was exercised with respect to 34,917,912 shares and 24,704,450 shares of the Company's common stock as of December 31, 2023 and 2022, respectively.

In July 2017, the Company issued a warrant to acquire up to 55,286,696 of the Company's common stock as part of a transaction agreement with Walmart, subject to certain vesting events, as described in Note 17, "Warrant Transaction Agreements". The warrant had been exercised with respect to 13,094,217 shares of the Company's common stock as of December 31, 2023 and 2022.

- (4) In May 2020, the Company issued \$212.5 million in aggregate principal amount of the 3.75% Convertible Senior Notes due 2025 (the "3.75% Convertible Senior Notes"). There were no other conversions for the years ended December 31, 2023 and 2022.

7. Inventory

Inventory as of December 31, 2023 and 2022, consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Raw materials and supplies - production locations	\$ 564,818	\$ 450,432
Raw materials and supplies - customer locations	20,751	18,860
Work-in-process	149,574	112,231
Finished goods	226,110	64,113
Inventory	<u>\$ 961,253</u>	<u>\$ 645,636</u>

Inventory is primarily comprised of raw materials, work-in-process, and finished goods. The increase in inventory is primarily due to a combination of new product offerings, as well as increased revenue and orders, partially offset by inventory reserves. The Company has inventory reserves made up of excess and obsolete items and related lower of cost or net realizable value adjustments of \$85.2 million and \$5.4 million as of December 31, 2023 and 2022, respectively.

Notes to Consolidated Financial Statements (Continued)

8. Property, Plant and Equipment

Property, plant and equipment at December 31, 2023 and 2022 consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Land	\$ 6,049	\$ 1,772
Construction in progress	1,109,896	575,141
Hydrogen production plants	77,107	48,147
Building and leasehold improvements	95,229	21,363
Software, machinery, and equipment	229,352	121,486
Property, plant and equipment	1,517,633	767,909
Less: accumulated depreciation	(81,456)	(48,116)
Property, plant and equipment, net	<u>\$ 1,436,177</u>	<u>\$ 719,793</u>

Construction in progress is primarily comprised of construction of four hydrogen production plants. Completed assets are transferred to their respective asset classes, and depreciation begins when an asset is ready for its intended use. Interest on outstanding debt is capitalized during periods of capital asset construction and amortized over the useful lives of the related assets. For the years ended December 31, 2023 and 2022, we capitalized \$8.2 million and \$13.1 million of interest.

Depreciation expense related to property, plant and equipment was \$33.3 million, \$19.0 million, and \$6.9 million for the years ended December 31, 2023, 2022, and 2021, respectively.

9. Equipment Related to Power Purchase Agreements and Fuel Delivered to Customers, Net

Equipment related to power purchase agreements and fuel delivered to customers, net, at December 31, 2023 and 2022 consists of the following (in thousands):

	December 31, 2023	December 31, 2022
Equipment related to power purchase agreements and fuel delivered to customers	\$ 139,651	\$ 109,683
Less: accumulated depreciation	(28,390)	(20,390)
Equipment related to power purchase agreements and fuel delivered to customers, net	<u>111,261</u>	<u>89,293</u>

As of December 31, 2023 and 2022, the Company had deployed assets at customer sites that had associated PPAs. These PPAs expire over the next one to ten years. PPAs contain termination clauses with associated penalties, the amount of which cause the likelihood of cancellation to be remote.

Depreciation expense is \$8.0 million, \$6.9 million and \$7.4 million for the years ended December 31, 2023, 2022 and 2021, respectively.

The Company recorded an impairment of \$0.2 million, \$1.5 million and \$10.2 million for the years ended December 31, 2023, 2022 and 2021, respectively.

The Company terminated its contractual relationship with a fuel provider effective March 31, 2021. The Company has historically leased fuel tanks from this provider. As a result of this termination, the Company recognized approximately \$17.0 million of various costs for the year ended December 31, 2021, primarily for removal of tanks, reimbursement of unamortized installation costs, costs to temporarily provide customers with fuel during the transition period, and certain other contract settlement costs, which were recorded in the Company's consolidated statement of operations as cost of revenue — fuel delivered to customers. The Company also purchased certain fuel tanks that were previously under operating leases from the fuel provider during 2021 and included in equipment related to power purchase agreements and fuel delivered to customers. In 2022 and 2023, there were no such vendor terminations.

Notes to Consolidated Financial Statements (Continued)

10. Intangible Assets and Goodwill

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2023 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	14 years	\$ 103,060	\$ (20,204)	\$ 82,856
Dry stack electrolyzer technology	10 years	29,000	(5,317)	23,683
Customer relationships, trade name and other	13 years	103,981	(21,634)	82,347
		<u>\$ 236,041</u>	<u>\$ (47,155)</u>	<u>\$ 188,886</u>

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2022 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	14 years	\$ 104,221	\$ (12,754)	\$ 91,467
Dry stack electrolyzer technology	10 years	29,000	(2,417)	26,583
Customer relationships, trade name and other	13 years	102,521	(12,846)	89,675
		<u>\$ 235,742</u>	<u>\$ (28,017)</u>	<u>\$ 207,725</u>

The change in the gross carrying amount of the acquired technology and customer relationships, trade name and other from the years ended December 31, 2022 to 2023 was primarily due to changes in foreign currency translation.

Amortization expense for acquired identifiable intangible assets for the years ended December 31, 2023, 2022 and 2021 was \$19.1 million, \$21.2 million and \$2.5 million, respectively.

Estimated amortization expense for subsequent years was as follows (in thousands):

2024	\$ 18,955
2025	18,174
2026	16,564
2027	16,556
2028	47,901
2029 and thereafter	70,736
Total	<u>\$ 188,886</u>

The change in the carrying amount of goodwill for the year ended December 31, 2023 was as follows (in thousands):

Beginning balance at December 31, 2022	\$ 248,607
Impairment of goodwill	(249,480)
Foreign currency translation adjustment	873
Ending balance at December 31, 2023	<u>\$ -</u>

Based on the results of our annual review, the Company recognized an impairment charge of \$249.5 million for the year ended December 31, 2023. The Company's stock price declined below book value during the fourth quarter of 2023. Management believes the decline of the stock price was due primarily to missed projections and reduced liquidity. The Company's analyses did not indicate impairment of goodwill for the years ended December 31, 2022 and 2021. Goodwill was \$0 and \$248.6 million as of December 31, 2023 and 2022 respectively. See Note 2, "Summary of Significant Accounting Policies", for a full description of the Company's goodwill accounting policy.

Notes to Consolidated Financial Statements (Continued)

11. Accrued Expenses

Accrued expenses at December 31, 2023 and 2022 consist of (in thousands):

	December 31, 2023	December 31, 2022
Accrued payroll and compensation related costs	\$ 32,584	\$ 18,231
Accrual for capital expenditures	83,781	53,089
Accrued accounts payable	64,767	53,899
Accrued sales and other taxes	17,207	15,112
Accrued interest	562	421
Accrued other	1,643	15,678
Total	\$ 200,544	\$ 156,430

12. Operating and Finance Lease Liabilities

As of December 31, 2023, the Company had operating leases, as lessee, primarily associated with sale/leaseback transactions that are partially secured by restricted cash, security deposits and pledged escrows (see also Note 1, “Nature of Operations”) as summarized below. These leases expire over the next one to seven years. Minimum rent payments under operating leases are recognized on a straight-line basis over the term of the lease.

Leases contain termination clauses with associated penalties, the amount of which cause the likelihood of cancellation to be remote. At the end of the lease term, the leased assets may be returned to the lessor by the Company, the Company may negotiate with the lessor to purchase the assets at fair market value, or the Company may negotiate with the lessor to renew the lease at market rental rates. No residual value guarantees are contained in the leases. No financial covenants are contained within the lease, however there are customary operational covenants such as assurance the Company properly maintains the leased assets and carries appropriate insurance, etc. The leases include credit support in the form of either cash, collateral or letters of credit. See Note 21, “Commitments and Contingencies”, for a description of cash held as security associated with the leases.

The Company has finance leases associated with its property and equipment in Latham, New York and at fueling customer locations.

Future minimum lease payments under operating and finance leases (with initial or remaining lease terms in excess of one year) as of December 31, 2023 were as follows (in thousands):

	Operating Lease Liability	Finance Lease Liability	Total Lease Liabilities
2024	\$ 99,356	\$ 12,117	\$ 111,473
2025	94,569	15,033	109,602
2026	85,693	12,175	97,868
2027	71,414	8,485	79,899
2028	49,477	1,896	51,373
2029 and thereafter	145,875	3,247	149,122
Total future minimum payments	546,384	52,953	599,337
Less imputed interest	(190,691)	(7,379)	(198,070)
Total	\$ 355,693	\$ 45,574	\$ 401,267

Rental expense for all operating leases was \$95.0 million, \$67.6 million, and \$38.6 million for the years ended December 31, 2023, 2022 and 2021, respectively.

At December 31, 2023 and 2022, security deposits associated with sale/leaseback transactions were \$7.4 million and \$5.8 million, respectively, and were included in other assets in the consolidated balance sheet.

Notes to Consolidated Financial Statements (Continued)

Other information related to the operating leases are presented in the following table:

	Year ended December 31, 2023	Year ended December 31, 2022
Cash payments - operating cash flows (in thousands)	\$ 91,637	\$ 63,214
Weighted average remaining lease term (years)	5.76	6.52
Weighted average discount rate	11.3%	11.2%

Finance lease costs include amortization of the right of use assets (i.e., depreciation expense) and interest on lease liabilities (i.e., interest expense in the consolidated statement of operations), and were \$7.5 million and \$6.2 million for the years ended December 31, 2023 and 2022, respectively.

At December 31, 2023 and 2022, the right of use assets associated with finance leases, net was \$57.3 million and \$53.7 million, respectively. The accumulated depreciation for these right of use assets was \$9.0 million and \$4.7 million at December 31, 2023 and 2022, respectively.

Other information related to the finance leases are presented in the following table:

	Year ended December 31, 2023	Year ended December 31, 2022
Cash payments - operating cash flows (in thousands)	\$ 3,059	\$ 2,447
Cash payments - financing cash flows (in thousands)	\$ 8,638	\$ 6,586
Weighted average remaining lease term (years)	3.87	3.92
Weighted average discount rate	6.8%	6.7%

The Company has outstanding obligations to Wells Fargo under several Master Lease Agreements totaling \$171.3 million and \$159.5 million for the years ended December 31, 2023 and 2022, respectively. These outstanding obligations are included in operating lease liabilities and finance obligations on the consolidated balance sheets.

13. Finance Obligation

The Company has sold future services to be performed associated with certain sale/leaseback transactions and recorded the balance as a finance obligation. The outstanding balance of this obligation at December 31, 2023 was \$350.8 million, \$74.0 million and \$276.8 million of which was classified as short-term and long-term, respectively, on the accompanying consolidated balance sheet. The outstanding balance of this obligation at December 31, 2022 was \$312.1 million, \$55.4 million and \$256.6 million of which was classified as short-term and long-term, respectively, on the accompanying consolidated balance sheet. The amount is amortized using the effective interest method. Interest expense recorded related to finance obligations for the years ended December 31, 2023, 2022 and 2021 was \$39.6 million, \$29.7 million and \$21.0 million, respectively.

In prior periods, the Company entered into sale/leaseback transactions that were accounted for as financing transactions and reported as part of finance obligations. The outstanding balance of this obligation at December 31, 2023 was \$17.6 million, \$10.0 million and \$7.6 million of which was classified as short-term and long-term, respectively on the accompanying consolidated balance sheet. The outstanding balance of finance obligations related to sale/leaseback transactions at December 31, 2022 was \$17.2 million, \$3.5 million and \$13.7 million of which was classified as short-term and long-term, respectively on the accompanying consolidated balance sheet.

Notes to Consolidated Financial Statements (Continued)

Future minimum payments under finance obligations notes above as of December 31, 2023 were as follows (in thousands):

	Sale of Future Revenue - Debt	Sale/Leaseback Financings	Total Finance Obligations
2024	\$ 109,805	\$ 11,133	\$ 120,938
2025	104,547	2,229	106,776
2026	87,824	2,229	90,053
2027	71,253	2,229	73,482
2028	51,188	2,015	53,203
2029 and thereafter	25,503	1,131	26,634
Total future minimum payments	450,120	20,966	471,086
Less imputed interest	(99,367)	(3,325)	(102,692)
Total	<u>\$ 350,753</u>	<u>\$ 17,641</u>	<u>\$ 368,394</u>

Other information related to the above finance obligations are presented in the following table:

	Year ended December 31, 2023	Year ended December 31, 2022
Cash payments (in thousands)	\$ 96,781	\$ 72,377
Weighted average remaining term (years)	4.49	4.84
Weighted average discount rate	11.3%	11.1%

The fair value of the Company's total finance obligations approximated their carrying value for the years ended December 31, 2023 and December 31, 2022.

14. Long-Term Debt

In March 2019, the Company entered into a loan and security agreement, as amended, with Generate Lending, LLC, providing for a secured term loan facility in the amount of \$100 million (the "Term Loan Facility"). In December 2022, the Company fully repaid the outstanding balance of the Term Loan Facility, which resulted in a recording of a loss on the extinguishment of debt of \$1.0 million on the consolidated statement of operations.

In June 2020, the Company acquired debt as part of the acquisition of United Hydrogen Group Inc. The outstanding carrying value of the debt was \$3.9 million as of December 31, 2023. The outstanding principal on the debt is \$5.5 million and the unamortized debt discount is \$1.6 million, bearing varying interest rates ranging from 5.6% to 8.3%, and is scheduled to mature in 2026. As of December 31, 2023, the principal balance is due at each of the following dates is the following (in thousands):

December 31, 2024	3,357
December 31, 2025	1,200
December 31, 2026	900
Total outstanding principal	<u>\$ 5,457</u>

15. Convertible Senior Notes

3.75% Convertible Senior Notes

On May 18, 2020, the Company issued \$200.0 million in aggregate principal amount of 3.75% Convertible Senior Notes due June 1, 2025, which is referred to herein as the 3.75% Convertible Senior Notes, in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended, or the Securities Act. On May 29, 2020, the Company issued an additional \$12.5 million in aggregate principal amount of 3.75% Convertible Senior Notes.

Notes to Consolidated Financial Statements (Continued)

At issuance in May 2020, the total net proceeds from the 3.75% Convertible Senior Notes were as follows:

Principal amount	\$	212,463
Less: initial purchasers' discount		(6,374)
Less: cost of related capped calls		(16,253)
Less: other issuance costs		(617)
Net proceeds	\$	<u>189,219</u>

The 3.75% Convertible Senior Notes bear interest at a rate of 3.75% per year, payable semi-annually in arrears on June 1 and December 1 of each year, beginning on December 1, 2020. The notes will mature on June 1, 2025, unless earlier converted, redeemed or repurchased in accordance with their terms.

The 3.75% Convertible Senior Notes are senior, unsecured obligations of the Company and rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the notes, equal in right of payment to any of the Company's existing and future liabilities that are not so subordinated, effectively junior in right of payment to any of the Company's secured indebtedness to the extent of the value of the collateral securing such indebtedness, and structurally subordinated to all indebtedness and other liabilities, including trade payables, of its current or future subsidiaries.

Holder of the 3.75% Convertible Senior Notes may convert their notes at their option at any time prior to the close of the business day immediately preceding December 1, 2024 in the following circumstances:

- 5) during any calendar quarter commencing after March 31, 2021, if the last reported sale price of the Company's common stock exceeds 130% of the conversion price for each of at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter;
- 6) during the five business days after any five consecutive trading day period (such five consecutive trading day period, the measurement period) in which the trading price per \$1,000 principal amount of the 3.75% Convertible Senior Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day;
- 7) if the Company calls any or all of the 3.75% Convertible Senior Notes for redemption, any such notes that have been called for redemption may be converted at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or
- 8) upon the occurrence of specified corporate events, as described in the indenture governing the 3.75% Convertible Senior Notes.

On or after December 1, 2024, the holders of the 3.75% Convertible Senior Notes may convert all or any portion of their notes at any time prior to the close of business on the second scheduled trading day immediately preceding the maturity date regardless of the foregoing conditions.

The initial conversion rate for the 3.75% Convertible Senior Notes is 198.6196 shares of the Company's common stock per \$1,000 principal amount of notes, which is equivalent to an initial conversion price of approximately \$5.03 per share of the Company's common stock, subject to adjustment upon the occurrence of specified events. Upon conversion, the Company will pay or deliver, as applicable, cash, shares of the Company's common stock or a combination of cash and shares of the Company's common stock, at the Company's election. During the years ended December 31, 2023 and 2022, there were no conversions. During the year ended December 31, 2021, \$15.2 million of the 3.75% Convertible Senior Notes were converted and the Company issued approximately 3.0 million shares of common stock in conjunction with these conversions.

Notes to Consolidated Financial Statements (Continued)

In addition, following certain corporate events or following issuance of a notice of redemption, the Company will increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event or convert its notes called for redemption during the related redemption period in certain circumstances.

The 3.75% Convertible Senior Notes will be redeemable, in whole or in part, at the Company’s option at any time, and from time to time, on or after June 5, 2023 and before the 41st scheduled trading day immediately before the maturity date, at a cash redemption price equal to 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest, if any, but only if the last reported sale price per share of the Company’s common stock exceeds 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive), including at least one of the three trading days immediately preceding the date the Company sends the related redemption notice, during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company sends such redemption notice.

If the Company undergoes a “fundamental change” (as defined in the Indenture), holders may require the Company to repurchase their notes for cash all or any portion of their notes at a fundamental change repurchase price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest, to, but excluding, the fundamental change repurchase date.

The Company accounts for the 3.75% Convertible Senior Notes as a liability. We incurred transaction costs related to the issuance of the 3.75% Convertible Senior Notes of approximately \$7.0 million, consisting of initial purchasers’ discount of approximately \$6.4 million and other issuance costs of \$0.6 million which were recorded as debt issuance cost (presented as contra debt in the consolidated balance sheets) and are being amortized to interest expense over the term of the 3.75% Convertible Senior Notes.

The 3.75% Convertible Senior Notes consisted of the following (in thousands):

	December 31, 2023	December 31, 2022
Principal amounts:		
Principal	\$ 197,278	\$ 197,278
Unamortized debt issuance costs (1)	(2,014)	(3,359)
Net carrying amount	\$ 195,264	\$ 193,919

1) Included in the consolidated balance sheets within the 3.75% Convertible Senior Notes, net and amortized over the remaining life of the notes using the effective interest rate method.

The following table summarizes the total interest expense and effective interest rate related to the 3.75% Convertible Senior Notes (in thousands, except for effective interest rate):

	December 31, 2023	December 31, 2022
Interest expense	\$ 7,546	\$ 7,398
Amortization of debt issuance costs	1,345	1,286
Total	8,891	8,684
Effective interest rate	4.6%	4.5%

The estimated fair value of the 3.75% Convertible Senior Notes at December 31, 2023 was approximately \$213.2 million. The fair value estimation was primarily based on a quoted price in an active market.

Capped Call

In conjunction with the pricing of the 3.75% Convertible Senior Notes, the Company entered into privately negotiated capped call transactions (the “3.75% Notes Capped Call”) with certain counterparties at a price of \$16.2 million. The 3.75% Notes Capped Call covers, subject to anti-dilution adjustments, the aggregate number of shares of the Company’s common stock that underlie the initial 3.75% Convertible Senior Notes and is generally expected to reduce potential dilution to the Company’s common stock upon any conversion of the 3.75% Convertible Senior Notes and/or

Notes to Consolidated Financial Statements (Continued)

offset any cash payments the Company is required to make in excess of the principal amount of the converted notes, as the case may be, with such reduction and/or offset subject to a cap based on the cap price. The cap price of the 3.75% Notes Capped Call is initially \$6.7560 per share, which represents a premium of approximately 60% over the last then-reported sale price of the Company's common stock of \$4.11 per share on the date of the transaction and is subject to certain adjustments under the terms of the 3.75% Notes Capped Call. The 3.75% Notes Capped Call becomes exercisable if the conversion option is exercised.

The net cost incurred in connection with the 3.75% Notes Capped Call has been recorded as a reduction to additional paid-in capital in the consolidated balance sheet.

5.5% Convertible Senior Notes & Common Stock Forward

In March 2018, the Company issued \$100.0 million in aggregate principal amount of the 5.5% Convertible Senior Notes due on March 15, 2023 (the "5.5% Convertible Senior Notes"), in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act.

During 2020, the Company used a portion of the net proceeds from the issuance of the 3.75% Convertible Senior Notes to finance the cash portion of the partial repurchase of approximately \$66.3 million in aggregate principal amount of the 5.5% Convertible Senior Notes and converted \$33.5 million in aggregate principal amount of the 5.5% Convertible Senior Notes into 14.6 million shares of the Company's common stock. On January 7, 2021, the final remaining aggregate principal amount of the 5.5% Convertible Senior Notes was converted into 69,808 shares of the Company's common stock.

In connection with the issuance of the 5.5% Convertible Senior Notes, the Company entered into a forward stock purchase transaction (the "Common Stock Forward"), pursuant to which the Company agreed to purchase 14,397,906 shares of its common stock for settlement on or about March 15, 2023. In connection with the issuance of the 3.75% Convertible Senior Notes and the partial repurchase of the 5.5% Convertible Senior Notes, the Company amended and extended the maturity of the Common Stock Forward to June 1, 2025. The number of shares of common stock that the Company will ultimately repurchase under the Common Stock Forward is subject to customary anti-dilution adjustments. The Common Stock Forward is subject to early settlement or settlement with alternative consideration in the event of certain corporate transactions.

The book value of the Common Stock Forward is not remeasured. There were no shares of common stock settled in connection with the Common Stock Forward during the years ended December 31, 2023 and 2022.

16. Stockholders' Equity

Preferred Stock

The Company has authorized 5,000,000 million shares of preferred stock, par value \$0.01 per share, consisting of 170,000 shares of previously designated Series A Junior Participating Cumulative Preferred Stock and 4,830,000 shares of undesignated preferred stock. The Company's amended and restated certificate of incorporation, as amended, provides that shares of preferred stock may be issued from time to time in one or more series. The Company's Board of Directors is authorized to fix the voting rights, if any, designations, powers, preferences, qualifications, limitations, and restrictions thereof, applicable to the shares of each series. As of December 31, 2023 and December 31, 2022, there were no shares of Series A Junior Participating Cumulative Preferred Stock issued and outstanding.

Common Stock and Warrants

The Company has one class of common stock, par value \$.01 per share. Each share of the Company's common stock is entitled to one vote on all matters submitted to stockholders.

In February 2021, the Company completed the previously announced sale of its common stock in connection with a strategic partnership with SK Holdings to accelerate the use of hydrogen as an alternative energy source in Asian markets. The Company sold 54,966,188 shares of its common stock to a subsidiary of SK Holdings at a purchase price of \$29.2893 per share, or an aggregate purchase price of approximately \$1.6 billion.

Notes to Consolidated Financial Statements (Continued)

In January and February 2021, the Company issued and sold in a registered equity offering an aggregate of 32.2 million shares of its common stock at a purchase price of \$65.00 per share for net proceeds of approximately \$2.0 billion.

On August 24, 2022, the Company and Amazon.com, Inc. (“Amazon”) entered into a Transaction Agreement (the “2022 Transaction Agreement”), under which the Company concurrently issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (the “Amazon Warrant”) to acquire up to 16,000,000 shares of the Company’s common stock (the “Amazon Warrant Shares”), subject to certain vesting events described below. The Company and Amazon entered into the 2022 Transaction Agreement in connection with a concurrent commercial arrangement under which Amazon agreed to purchase hydrogen fuel from the Company through August 24, 2029. As of December 31, 2023, 2,000,000 of the Amazon Warrant Shares issued pursuant to the 2022 Transaction Agreement had vested.

During 2017, warrants to purchase up to 110,573,392 shares of common stock were issued in connection with transaction agreements with Amazon and Walmart, as discussed in Note 17, “Warrant Transaction Agreements”.

Accumulated Other Comprehensive Income/(Loss)

Accumulated other comprehensive income/(loss) is comprised of unrealized gains and losses on available-for-sale securities and foreign currency translation gains and losses. Amounts reclassified from accumulated other comprehensive income/(loss) was \$12.8 million, \$0 and \$0 for the years ended December 31, 2023, 2022 and 2021, respectively, due to realized loss on available-for-sale securities.

Net current-period other comprehensive income for the year ended December 31, 2023 increased due to a change in net unrealized gain on available-for-sale securities of \$9.9 million, partially offset by foreign currency translation losses of \$3.5 million. Net current-period other comprehensive loss for the year ended December 31, 2022 increased due to unrealized losses on available-for-sale securities of \$20.0 million and foreign currency translation losses of \$4.5 million. Net current-period other comprehensive loss for the year ended December 31, 2021 increased due to unrealized losses on available-for-sale securities of \$2.7 million and foreign currency translation losses of \$1.3 million.

17. Warrant Transaction Agreements

Amazon Transaction Agreement in 2022

On August 24, 2022, the Company and Amazon entered into a Transaction Agreement (the “2022 Transaction Agreement”), under which the Company concurrently issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (the “2022 Amazon Warrant”) to acquire up to 16,000,000 shares (the “2022 Amazon Warrant Shares”) of the Company’s common stock, subject to certain vesting events described below. The Company and Amazon entered into the 2022 Transaction Agreement in connection with a concurrent commercial arrangement under which Amazon agreed to purchase hydrogen fuel from the Company through August 24, 2029.

Warrant

1,000,000 of the 2022 Amazon Warrant Shares vested immediately upon issuance of the 2022 Amazon Warrant. 15,000,000 of the 2022 Amazon Warrant Shares will vest in multiple tranches over the 7-year term of the 2022 Amazon Warrant based on payments made to the Company directly by Amazon or its affiliates, or indirectly through third parties, with 15,000,000 of the 2022 Amazon Warrant Shares fully vesting if Amazon-related payments of \$2.1 billion are made in the aggregate. The exercise price for the first 9,000,000 2022 Amazon Warrant Shares is \$22.9841 per share and the fair value on the grant date was \$20.36. The exercise price for the remaining 7,000,000 2022 Amazon Warrant Shares will be an amount per share equal to 90% of the 30-day volume weighted average share price of the Company’s common stock as of the final vesting event that results in full vesting of the first 9,000,000 2022 Amazon Warrant Shares. The 2022 Amazon Warrant is exercisable through August 24, 2029.

Upon the consummation of certain change of control transactions (as defined in the 2022 Amazon Warrant) prior to the vesting of at least 60% of the aggregate 2022 Amazon Warrant Shares, the 2022 Amazon Warrant will automatically vest and become exercisable with respect to an additional number of 2022 Amazon Warrant Shares such that 60% of the

Notes to Consolidated Financial Statements (Continued)

aggregate 2022 Amazon Warrant Shares shall have vested. If a change of control transaction is consummated after the vesting of at least 60% of the aggregate 2022 Amazon Warrant Shares, then no acceleration of vesting will occur with respect to any of the unvested 2022 Amazon Warrant Shares as a result of the transaction. The exercise price and the 2022 Amazon Warrant Shares issuable upon exercise of the Amazon Warrant are subject to customary antidilution adjustments.

On August 24, 2022, 1,000,000 of the Amazon Warrant Shares issued pursuant to the 2022 Transaction Agreement vested. The warrant fair value associated with the vested shares of tranche 1 of \$20.4 million was capitalized to contract assets based on the grant date fair value and is subsequently amortized ratably as a reduction to revenue based on the Company's estimate of revenue over the term of the agreement. As of December 31, 2023, the balance of the contract asset related to tranche 1 was \$19.4 million which is recorded in contract assets in the Company's consolidated balance sheet. During the second quarter of 2023, all 1,000,000 of the Amazon Warrant Shares associated with tranche 2 vested. The warrant fair value associated with the vested shares of tranche 2 was determined on the grant date of August 24, 2022 in the amount of \$20.4 million. As of December 31, 2023, the balance of the contract asset related to tranche 2 was \$13.8 million. Tranche 3 will vest over the next \$1.0 billion of collections from Amazon and its affiliates. The grant date fair value of tranche 3 will also be amortized ratably as a reduction to revenue based on the Company's estimate of revenue over the term of the agreement. As of December 31, 2023, the balance of the contract asset related to tranche 3 was \$5.2 million. Because the exercise price has yet to be determined, the fair value of tranche 4 will be remeasured at each reporting period end and amortized ratably as a reduction to revenue based on the Company's estimate of revenue over the term of the agreement. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the year ended December 31, 2023 and 2022 was \$4.9 million and \$5.2 million, respectively.

The assumptions used to calculate the valuations as of August 24, 2022 and December 31, 2023 are as follows:

	Tranches 1-3 August 24, 2022	Tranche 4 December 31, 2023
Risk-free interest rate	3.15%	3.78%
Volatility	75.00%	85.00%
Expected average term (years)	7.00	4.00
Exercise price	\$22.98	\$4.05
Stock price	\$20.36	\$4.50

Amazon Transaction Agreement in 2017

On April 4, 2017, the Company and Amazon entered into a Transaction Agreement (the "2017 Amazon Transaction Agreement"), pursuant to which the Company agreed to issue to Amazon.com NV Investment Holdings LLC, a warrant to acquire up to 55,286,696 shares (the "2017 Amazon Warrant Shares") of the Company's common stock, subject to certain vesting events. The Company and Amazon entered into the 2017 Amazon Transaction Agreement in connection with existing commercial agreements between the Company and Amazon with respect to the deployment of the Company's GenKey fuel cell technology at Amazon distribution centers. The vesting of the 2017 Amazon Warrant Shares was conditioned upon payments made by Amazon or its affiliates (directly or indirectly through third parties) pursuant to the existing commercial agreements. On December 31, 2020, the Company waived the remaining vesting conditions under the 2017 Amazon Warrant, which resulted in the immediate vesting of all the third tranche of the 2017 Amazon Warrant Shares.

The 2017 Amazon Warrant was exercised with respect to 34,917,912 and 24,704,450 shares of the Company's common stock as of December 31, 2023 and 2022, respectively.

At both December 31, 2023 and December 31, 2022, all 55,286,696 of the 2017 Amazon Warrant Shares had vested. The total amount of provision for common stock warrants recorded as a reduction of revenue for the 2017 Amazon

Notes to Consolidated Financial Statements (Continued)

Warrant during the years ended December 31, 2023, 2022 and 2021 was \$0.4 million, \$0.4 million and \$0.5 million, respectively.

Walmart Transaction Agreement

On July 20, 2017, the Company and Walmart entered into a Transaction Agreement (the “Walmart Transaction Agreement”), pursuant to which the Company agreed to issue to Walmart a warrant (the “Walmart Warrant”) to acquire up to 55,286,696 shares of the Company’s common stock, subject to certain vesting events (the “Walmart Warrant Shares”). The Company and Walmart entered into the Walmart Transaction Agreement in connection with existing commercial agreements between the Company and Walmart with respect to the deployment of the Company’s GenKey fuel cell technology across various Walmart distribution centers. The existing commercial agreements contemplate, but do not guarantee, future purchase orders for the Company’s fuel cell technology. The vesting of the warrant shares conditioned upon payments made by Walmart or its affiliates (directly or indirectly through third parties) pursuant to transactions entered into after January 1, 2017 under existing commercial agreements.

The majority of the Walmart Warrant Shares will vest based on Walmart’s payment of up to \$600.0 million to the Company in connection with Walmart’s purchase of goods and services from the Company. The first tranche of 5,819,652 Walmart Warrant Shares vested upon the execution of the Walmart Warrant and was fully exercised as of December 31, 2020. Accordingly, \$10.9 million, the fair value of the first tranche of Walmart Warrant Shares, was recorded as a provision for common stock warrants and presented as a reduction to revenue on the consolidated statements of operations during 2017. All future provision for common stock warrants is measured based on the fair value of the awards and recorded as a charge against revenue. The second tranche of 29,098,260 Walmart Warrant Shares vested in four installments of 7,274,565 Walmart Warrant Shares each time Walmart or its affiliates, directly or indirectly through third parties, made an aggregate of \$50.0 million in payments for goods and services to the Company, up to payments totaling \$200.0 million in the aggregate.

The exercise price for the first and second tranches of Walmart Warrant Shares was \$2.1231 per share. After Walmart has made payments to the Company totaling \$200.0 million, the third tranche of 20,368,784 Walmart Warrant Shares will vest in eight installments of 2,546,098 Walmart Warrant Shares each time Walmart or its affiliates, directly or indirectly through third parties, make an aggregate of \$50.0 million in payments for goods and services to the Company, up to payments totaling \$400.0 million in the aggregate. The exercise price of the third tranche of the Walmart Warrant Shares is \$6.28 per share, which was determined pursuant to the terms of the Walmart Warrant as an amount equal to 90% of the 30-day volume weighted average share price of the Company’s common stock as of October 30, 2023, the final vesting date of the second tranche of the Walmart Warrant Shares. The Walmart Warrant is exercisable through July 20, 2027. The Walmart Warrant provides for net share settlement that, if elected by the holder, will reduce the number of shares issued upon exercise to reflect net settlement of the exercise price. The Walmart Warrant provides for certain adjustments that may be made to the exercise price and the number of shares of common stock issuable upon exercise due to customary anti-dilution provisions based on future events. The Walmart Warrant is classified as an equity instrument.

The warrant had been exercised with respect to 13,094,217 shares of the Company’s common stock as of both December 31, 2023 and 2022.

At December 31, 2023 and December 31, 2022, 34,917,912 and 27,643,347 of the Walmart Warrant Shares had vested, respectively. As of December 31, 2023, the balance of the contract asset related to the Walmart Warrant was \$2.4 million. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Walmart Warrant during the years ended December 31, 2023, 2022, and 2021 was \$5.9 million, \$7.1 million, and \$6.1 million, respectively.

Fair value of the Walmart Warrant at January 1, 2019 and October 30, 2023 was based on the Black Scholes Option Pricing Model, which is based, in part, upon level 3 unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions.

Notes to Consolidated Financial Statements (Continued)

The assumptions used to calculate the valuations as of January 1, 2019 and October 30, 2023 are as follows:

	Tranches 1-2 January 1, 2019	Tranche 3 October 30, 2023
Risk-free interest rate	2.63%	4.73%
Volatility	95.00%	75.00%
Expected average term (years)	8.55	3.72
Exercise price	\$2.12	\$6.28
Stock price	\$1.24	\$5.70

18. Revenue

Disaggregation of revenue

The following table provides information about disaggregation of revenue (in thousands):

Major products/services lines

	Year ended December 31,		
	2023	2022	2021
Sales of fuel cell systems	\$ 181,168	\$ 207,691	\$ 225,229
Sales of hydrogen infrastructure	183,606	141,528	135,055
Sales of electrolyzers	82,611	28,463	16,667
Sales of engineered equipment	32,361	93,489	7,571
Services performed on fuel cell systems and related infrastructure	39,093	35,280	26,706
Power purchase agreements	63,731	47,183	35,153
Fuel delivered to customers and related equipment	66,246	57,196	46,917
Sales of cryogenic equipment and other	231,687	87,761	8,255
Other	10,837	2,849	789
Net revenue	<u>\$ 891,340</u>	<u>\$ 701,440</u>	<u>\$ 502,342</u>

Contract balances

The following table provides information about receivables, contract assets, and contract liabilities from contracts with customers (in thousands):

	December 31, 2023	December 31, 2022
Accounts receivable	\$ 243,811	\$ 129,450
Contract assets	155,989	104,287
Deferred revenue and contract liabilities	288,302	229,898

Contract assets relate to contracts for which revenue is recognized on a straight-line basis, however billings escalate over the life of a contract. Contract assets also include amounts recognized as revenue in advance of billings to customers, which are dependent upon the satisfaction of another performance obligation. These amounts are included in contract assets on the consolidated balance sheet.

The deferred revenue and contract liabilities relate to the advance consideration received from customers for services that will be recognized over time (primarily fuel cell and related infrastructure services and electrolyzer systems and solutions). Deferred revenue and contract liabilities also include advance consideration received from customers prior to delivery of products. These amounts are included within deferred revenue and other contract liabilities on the consolidated balance sheet.

Notes to Consolidated Financial Statements (Continued)

Significant changes in the contract assets and the contract liabilities balances during the period are as follows (in thousands):

Contract assets

	December 31, 2023	December 31, 2022
Transferred to receivables from contract assets recognized at the beginning of the period	\$ (94,860)	\$ (33,394)
Change in contract assets related to warrants	14,260	26,455
Impairment	(2,375)	—
Revenue recognized and not billed as of the end of the period	134,677	72,469
Net change in contract assets	<u>\$ 51,702</u>	<u>\$ 65,530</u>

Deferred revenue and contract liabilities

	December 31, 2023	December 31, 2022
Increases due to customer billings, net of amounts recognized as revenue during the period	\$ 151,965	\$ 200,347
Change in contract liabilities related to warrants	440	—
Contract liabilities assumed as part of acquisitions	—	10,011
Revenue recognized that was included in the contract liability balance as of the beginning of the period	(94,001)	(163,550)
Net change in deferred revenue and contract liabilities	<u>\$ 58,404</u>	<u>\$ 46,808</u>

Estimated future revenue

The following table includes estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period, including provision for common stock warrants (in thousands):

	December 31, 2023	Expected recognition period (years)
Sales of fuel cell systems	\$ 64,954	1 - 2
Sales of hydrogen installations and other infrastructure	22,860	1
Sales of electrolyzers	301,323	1 - 2
Sales of engineered equipment	19,876	1
Services performed on fuel cell systems and related infrastructure	123,080	5 - 10
Power purchase agreements	435,967	5 - 10
Fuel delivered to customers and related equipment	95,444	5 - 10
Sales of cryogenic equipment and other	87,927	1
Total estimated future revenue	<u>\$ 1,151,431</u>	

19. Employee Benefit Plans

2011 and 2021 Stock Option and Incentive Plan

On May 12, 2011, the Company's stockholders approved the 2011 Stock Option and Incentive Plan (the "2011 Plan"). The 2011 Plan provided for the issuance of up to a maximum number of shares of common stock equal to the sum of (i) 1,000,000, plus (ii) the number of shares of common stock underlying any grants pursuant to the 2011 Plan or the Plug Power Inc. 1999 Stock Option and Incentive Plan that are forfeited, canceled, repurchased or are terminated (other than by exercise). The shares were issued pursuant to stock options, stock appreciation rights, restricted stock awards and certain other equity-based awards granted to employees, directors and consultants of the Company. No further grants may be made under the 2011 Plan after May 12, 2021. In July 2021, the 2021 Stock Option Incentive Plan (the "2021 Plan") was approved by the Company's stockholders. The 2021 Plan provides for the issuance of up to a maximum number of shares of common stock equal to the sum of (i) 22,500,000 shares, plus the 473,491 shares remaining under the 2011 Plan as of the effective date of that the 2021 Plan, plus (iii) shares underlying any awards under the 2021 Plan and the 2011

Notes to Consolidated Financial Statements (Continued)

Plan that are forfeited, canceled, cash-settled or otherwise terminated, other than by exercise. In June 2023, the Company's stockholders approved an increase in the number of shares of the Company's common stock authorized for issuance under the 2021 Plan to 51,400,000. Stock-based compensation costs recognized, excluding the Company's matching contributions of \$12.1 million to the Plug Power Inc. 401(k) Savings & Retirement Plan and quarterly Board compensation, were approximately \$150.0 million, \$169.8 million and \$72.4 million for the years ended December 31, 2023, 2022, and 2021, respectively, in connection with the 2011 and 2021 Plans.

The components and classification of stock-based compensation expense, excluding the Company's matching contributions to the Plug Power Inc. 401(k) Savings & Retirement Plan and quarterly Board compensation, were as follows (in thousands):

	Year ended December 31,		
	2023	2022	2021
Cost of sales	\$ 11,079	\$ 7,259	\$ 1,965
Research and development	9,532	6,369	5,983
Selling, general and administrative	129,387	156,127	64,443
	<u>\$ 149,998</u>	<u>\$ 169,755</u>	<u>\$ 72,391</u>

Option Awards

The Company issues options that become exercisable based on time and/or market conditions and are classified as equity awards.

Service Stock Options Awards

To date, service-based stock option awards ("Service Stock Options") granted under the 2011 and 2021 Plans have vesting provisions ranging from one to three years in duration and expire ten years after issuance. Service Stock Options for employees issued under these plans generally vest in equal annual installments over three years and expire ten years after issuance. Service Stock Options granted to members of the Board generally vest one year after issuance. The Company estimates the fair value of the Service Stock Options using a Black-Scholes valuation model, and the resulting fair value is recorded as compensation cost on a straight-line basis over the option vesting period. Key inputs and assumptions used to estimate the fair value of the Service Stock Options include the grant price of the award, the expected option term, volatility of the Company's stock, an appropriate risk-free rate, and the Company's dividend yield. Estimates of fair value are not intended to predict actual future events or the value ultimately realized by employees who receive equity awards, and subsequent events are not indicative of the reasonableness of the original estimates of fair value made by the Company. The assumptions made for purposes of estimating fair value under the Black-Scholes model for the 6,849,689, 3,261,724, and 1,942,335 Service Stock Options granted during years ended December 31, 2023, 2022, and 2021, respectively were as follows:

	December 31, 2023	December 31, 2022	December 31, 2021
Expected term of options (years)	5	5	3-5
Risk free interest rate	3.40% - 4.69%	1.26% - 4.34%	0.61% - 1.23%
Volatility	80.02% - 92.55%	73.38% - 85.97%	72.46% - 76.60%

There was no expected dividend yield for the Service Stock Options granted.

The estimated stock price volatility is derived from the Company's actual historic stock prices over the expected term, which represents the Company's best estimate of expected volatility.

Notes to Consolidated Financial Statements (Continued)

The following table reflects the Service Stock Option activity for the year ended December 31, 2023:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms	Aggregate Intrinsic Value
Options outstanding at December 31, 2022	12,078,269	\$ 14.34	7.57	\$ 42,835
Options exercisable at December 31, 2022	6,661,969	8.41	6.40	42,182
Options unvested at December 31, 2022	5,416,300	21.63	9.01	653
Granted	6,849,689	7.08	—	—
Exercised	(716,581)	2.25	—	—
Forfeited	(875,015)	26.27	—	—
Options outstanding at December 31, 2023	<u>17,336,362</u>	\$ 11.37	7.86	\$ 11,391
Options exercisable at December 31, 2023	8,288,944	11.84	6.18	7,250
Options unvested at December 31, 2023	9,047,418	\$ 10.94	9.39	\$ 4,141

The weighted average grant-date fair value of the Service Stock Options granted during for the years ended December 31, 2023, 2022 and 2021 was \$4.88, \$13.39, and \$19.80 per share, respectively. The total intrinsic fair value of Service Stock Options exercised during the years ended December 31, 2023, 2022, and 2021, was approximately \$5.3 million, \$15.1 million, and \$115.5 million. The total fair value of Service Stock Options vested during the years ended December 31, 2023, 2022, and 2021 was \$33.1 million, \$22.6 million, and \$11.0 million, respectively.

Compensation cost associated with Service Stock Options represented approximately \$31.5 million, \$27.5 million, and \$17.4 million of the total share-based payment expense recorded for the years ended December 31, 2023, 2022 and 2021, respectively. As of December 31, 2023 and 2022, there was approximately \$53.1 million and \$59.8 million of unrecognized compensation cost related to Service Stock Options to be recognized over a weighted average remaining period of 2.10 years.

Performance Stock Option Awards

The Company grants performance-based stock options awards (“Performance Stock Options”) under the 2021 plan to the Chief Executive Officer and certain other executive officers. These Performance Stock Options are subject to both performance-based conditions, tied to the achievement of stock price hurdles, and time-based vesting; therefore, a Monte Carlo Simulation was utilized to determine the grant-date fair value with the associated expense recognized over the requisite service period. Up to one third (1/3) the Performance Stock Options will vest and become exercisable on each of the first three anniversaries of the grant date, provided that the volume weighted average price of the Company’s common stock during any 30 consecutive trading day period in the three-year performance period following the grant date of the stock options (“VWAP”) equals or exceeds certain levels.

The Company granted 6,405,000 performance-based options in May 2023. Options that meet the performance-based conditions will vest 1/3 on each for the first three anniversaries of the grant date. The performance based conditions are as follows, 33.33% of the performance stock options will be deemed to have satisfied the performance-based condition and will be eligible to be exercised if the VWAP equals \$9.84; an additional 33.33% of the options will be deemed to have satisfied the performance-based condition and will be eligible to be exercised if the VWAP equals \$11.81; and the remaining 33.34% of the options will be deemed to have satisfied the performance-based condition and will be eligible to be exercised if the VWAP equals or exceeds \$13.77. There will be no interpolation for the Performance Stock Option granted on May 18, 2023 if the VWAP falls between any two stock price hurdles, unless in the event of a change in control.

Failure to achieve any of the stock price hurdles applicable to a Performance Stock Option during the three-year performance period will result in the applicable options not becoming exercisable. The Performance Stock Options have a maximum term of seven years from the grant date.

Key inputs and assumptions used to estimate the fair value of Performance Stock Options include the grant price of the awards, the expected option term, VWAP hurdle rates, volatility of the Company’s stock, an appropriate risk-free rate, and the Company’s dividend yield. Estimates of fair value are not intended to predict actual future events or the value

Notes to Consolidated Financial Statements (Continued)

ultimately realized by employees who receive equity awards, and subsequent events are not indicative of the reasonableness of the original estimates of fair value made by the Company.

The following table presents key assumptions used to estimate the fair value of the Performance Stock Option awards granted in 2023, 2022 and 2021:

	December 31, 2023	December 31, 2022	December 31, 2021
Remaining VWAP performance period (years)	3	3	3
Risk- free interest rate	3.60%	3.10%	1.12%
Expected volatility	75.00%	75.00%	70.00%
Closing stock price on grant date	\$ 7.87	\$ 26.38	\$ 26.92

For the 2022 and 2021 Performance Stock Option awards, the expected term was determined based on term features within the grants that decreases the overall grant pool if options are exercised early (0-3 years) reducing the maximum future payout and the Company's historical experience with employee early exercise behavior. There was no such early exercise option for the 2023 Performance Stock Option award. The estimated stock price volatility was derived from the Company's actual historic stock prices over the past five years, which represents the Company's best estimate of expected volatility.

The following table reflects the Performance Stock Option activity for the year ended December 31, 2023. Solely for the purposes of this table, the number of shares is based on participants earning the maximum number of shares underlying the Performance Stock Options (i.e., 200% of the target number of shares).

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms	Aggregate Intrinsic Value
Options outstanding at December 31, 2022	15,520,000	\$ 26.87	5.81	\$ —
Options exercisable at December 31, 2022	1,391,000	26.9	5.7	—
Options unvested at December 31, 2022	14,129,000	26.86	5.82	—
Granted	6,405,000	7.87	6.38	—
Exercised	—	—	—	—
Forfeited	—	—	—	—
Options outstanding at December 31, 2023	<u>21,925,000</u>	\$ 21.32	5.27	\$ —
Options exercisable at December 31, 2023	2,782,000	26.92	4.73	—
Options unvested at December 31, 2023	19,143,000	\$ 20.50	5.35	\$ —

The weighted average grant-date fair value of Performance Stock Options granted during the years ended December 31, 2023, 2022 and 2021 was \$4.32, \$9.73 and \$12.70, respectively. There were no Performance Stock Options exercised during the years ended December 31, 2023, 2022 and 2021. The total fair value of the performance stock options that vested during the years ended December 31, 2023, 2022 and 2021 was \$20.8 million, \$20.8 million and \$0, respectively.

As of December 31, 2023, there were 5,661,000 unvested shares underlying Performance Stock Options for which the employee requisite service period has not been rendered but are expected to vest. The aggregate intrinsic value of these unvested Performance Stock Options was \$0 as of December 31, 2023. The weighted average remaining contractual term of these unvested Performance Stock Options was 5.97 years as of December 31, 2023.

Compensation cost associated with Performance Stock Options represented approximately \$64.0 million, \$95.7 million and \$27.8 million of the total share-based payment expense recorded for the years ended December 31, 2023, 2022 and 2021, respectively. As of December 31, 2023, there was approximately \$34.2 million of unrecognized compensation cost related to Performance Stock Options to be recognized over a weighted average remaining period of 1.55 years.

Notes to Consolidated Financial Statements (Continued)

Restricted Common Stock and Restricted Stock Unit Awards

Restricted common stock and restricted stock unit awards generally vest in equal installments over a period of one to three years. Restricted common stock and restricted stock unit awards are valued based on the closing price of the Company's common stock on the date of grant, and compensation cost is recorded on a straight-line basis over the vesting period.

A summary of restricted common stock and restricted stock unit activity for the year ended December 31, 2023 is as follows (in thousands except share amounts):

	Shares	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Unvested restricted stock at December 31, 2022	6,276,376	\$ 21.56	\$ 77,639
Granted	4,131,193	11.55	—
Vested	(2,851,637)	20.40	—
Forfeited	(823,048)	23.60	—
Unvested restricted stock at December 31, 2023	<u>6,732,884</u>	<u>\$ 15.66</u>	<u>\$ 30,298</u>

The weighted average grant-date fair value of the restricted common stock and restricted stock unit awards granted during the years ended December 31, 2023, 2022, and 2021, was \$11.55, \$20.28, and \$32.35, respectively. The total fair value of restricted common stock and restricted stock unit awards that vested for the years ended December 31, 2023, 2022, and 2021 was \$58.2 million, \$36.7 million, and \$76.0 million, respectively.

The Company recorded expense associated with its restricted common stock and restricted stock unit awards of approximately \$54.5 million, \$46.5 million, and \$27.2 million, for the years ended December 31, 2023, 2022, and 2021, respectively. Additionally, for the years ended December 31, 2023, 2022, and 2021, there was \$84.1 million, \$110.3 million, and \$74.5 million, respectively, of unrecognized compensation cost related to restricted common stock and restricted stock unit awards to be recognized over a weighted average remaining period of 1.99 years.

Included in the total unvested restricted common stock and restricted stock units as of December 31, 2023, there were 375,000 restricted common stock units outstanding with a performance target. The Company recorded expense associated with the restricted common stock units with a performance target of \$1.1 million for the year ended December 31, 2023. Additionally, as of December 31, 2023 there was \$3.1 million of unrecognized compensation cost related to the restricted common stock units outstanding with a performance target to be recognized over the weighted average period of 2.58 years.

401(k) Savings & Retirement Plan

The Company offers a 401(k) Savings & Retirement Plan to eligible employees meeting certain age and service requirements. This plan permits participants to contribute 100% of their salary, up to the maximum allowable by the Internal Revenue Service regulations. Participants are immediately vested in their voluntary contributions plus actual earnings or less actual losses thereon. Participants are vested in the Company's matching contribution based on years of service completed. Participants are fully vested upon completion of three years of service. During 2018, the Company began funding its matching contribution in a combination of cash and common stock. The Company issued 1,473,662 shares of common stock, 442,056 shares of common stock, and 90,580 shares of common stock pursuant to the Plug Power Inc. 401(k) Savings & Retirement Plan during the years ended December 31, 2023, 2022, and 2021, respectively.

The Company's expense for this plan was approximately \$12.1 million, \$9.2 million, and \$4.3 million for the years ended December 31, 2023, 2022, and 2021, respectively.

Notes to Consolidated Financial Statements (Continued)

Non-Employee Director Compensation

Each non-employee director is paid an annual retainer for his or her service, in the form of either cash or stock compensation. This annual retainer is paid in four quarterly installments. The Company granted 59,323, 21,886, and 12,258 shares of common stock to non-employee directors as compensation for the years ended December 31, 2023, 2022 and 2021, respectively. All common stock issued related to this annual retainer that is paid quarterly, is fully vested at the time of issuance and is valued at fair value on the date of issuance. The Company's share-based compensation expense in connection with non-employee director quarterly compensation was approximately \$452 thousand, \$390 thousand and \$372 thousand for the years ended December 31, 2023, 2022, and 2021, respectively.

20. Income Taxes

The components of loss before income taxes and the income tax (expense) benefit for the years ended December 31, 2023, 2022, and 2021, by jurisdiction, are as follows (in thousands):

	2023			2022			2021		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Loss before income taxes	\$ (1,211,796)	\$ (164,401)	\$ (1,376,197)	\$ (697,342)	\$ (25,827)	\$ (723,169)	\$ (466,825)	\$ (9,337)	\$ (476,162)
Income tax (expense) benefit	29	7,335	7,364	868	(1,707)	(839)	16,540	(343)	16,197
Net loss	<u>\$ (1,211,767)</u>	<u>\$ (157,066)</u>	<u>\$ (1,368,833)</u>	<u>\$ (696,474)</u>	<u>\$ (27,534)</u>	<u>\$ (724,008)</u>	<u>\$ (450,285)</u>	<u>\$ (9,680)</u>	<u>\$ (459,965)</u>

The significant components of current and deferred income tax expense (benefit) for the years ended December 31, 2023, 2022, and 2021, by jurisdiction, are as follows (in thousands):

	2023			2022			2021		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Current income tax (benefit) expense	\$ —	\$ 1,170	\$ 1,170	\$ —	\$ 668	\$ 668	\$ —	\$ —	\$ —
Deferred tax (benefit) expense	(100,754)	(2,618)	(103,372)	(42,705)	6,968	(35,737)	(51,999)	1,064	(50,935)
Net operating loss carryforward generated	(146,174)	(17,653)	(163,827)	(92,030)	4,332	(87,698)	(105,498)	(2,038)	(107,536)
Valuation allowance increase (decrease)	246,899	11,766	258,665	133,867	(10,261)	123,606	140,957	1,317	142,274
Expense (benefit) for income taxes	<u>\$ (29)</u>	<u>\$ (7,335)</u>	<u>\$ (7,364)</u>	<u>\$ (868)</u>	<u>\$ 1,707</u>	<u>\$ 839</u>	<u>\$ (16,540)</u>	<u>\$ 343</u>	<u>\$ (16,197)</u>

The Company's effective income tax rate differed from the federal statutory rate as follows:

	2023	2022	2021
U.S. Federal statutory tax rate	(21.0)%	(21.0)%	(21.0)%
Deferred state taxes	0.0 %	0.0 %	(0.6)%
Common stock warrant liability	0.0 %	0.0 %	(6.0)%
Section 162M Disallowance	0.7 %	1.9 %	1.1 %
Equity Compensation	0.4 %	(0.7)%	(4.3)%
Provision to return and deferred tax asset adjustments	(2.1)%	4.6 %	(1.3)%
Change in U.S. Federal/Foreign statutory tax rate	(0.1)%	0.0 %	0.3 %
Other, net	0.6 %	0.6 %	(1.5)%
Impairment of goodwill	3.3 %	0.0 %	0.0 %
Change in valuation allowance	17.7 %	14.8 %	29.9 %
	<u>(0.5)%</u>	<u>0.1 %</u>	<u>(3.4)%</u>

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of certain assets and liabilities for financial reporting and the amounts used for income tax purposes. The Company has recorded a net deferred tax liability in other non-current liabilities, at December 31, 2023 and 2022 of approximately \$3.2 million and

Notes to Consolidated Financial Statements (Continued)

\$11.5 million, respectively. Significant components of the Company's deferred tax assets and liabilities as of December 31, 2023 and 2022 are as follows (in thousands):

	U.S.		Foreign		Total	
	2023	2022	2023	2022	2023	2022
Deferred revenue	39,241	33,172	142	137	39,383	33,309
Interest expense	28,126	31,368	—	—	28,126	31,368
Other reserves and accruals	57,265	26,591	337	287	57,602	26,878
Tax credit carryforwards	20,794	14,949	—	—	20,794	14,949
Amortization of stock-based compensation	44,023	30,217	—	—	44,023	30,217
Non-compensatory warrants	2,950	6,268	—	—	2,950	6,268
Capitalized research & development expenditures	82,374	60,588	—	—	82,374	60,588
Right of use liability (operating leases)	41,960	32,616	—	259	41,960	32,875
Capital loss carryforwards	1,763	—	—	—	1,763	—
Net operating loss carryforwards	443,964	297,790	25,373	7,720	469,337	305,510
Total deferred tax asset	762,460	533,559	25,852	8,403	788,312	541,962
Valuation allowance	(676,190)	(429,291)	(19,949)	(8,183)	(696,139)	(437,474)
Net deferred tax assets	\$ 86,270	\$ 104,268	\$ 5,903	\$ 220	\$ 92,173	\$ 104,488
Intangible assets	(27,749)	(29,731)	(9,088)	(9,938)	(36,837)	(39,669)
Convertible debt	—	(26,989)	—	—	—	(26,989)
Right of use asset (operating leases)	(50,632)	(40,194)	—	(260)	(50,632)	(40,454)
Property, plant and equipment and right of use assets	(7,889)	(7,383)	—	(1,500)	(7,889)	(8,883)
Deferred tax liability	\$ (86,270)	\$ (104,297)	\$ (9,088)	\$ (11,699)	\$ (95,358)	\$ (115,996)
Net	\$ —	\$ (29)	\$ (3,185)	\$ (11,479)	\$ (3,185)	\$ (11,508)

The Company has recorded a valuation allowance, as a result of uncertainties related to the realization of its net deferred tax asset, at December 31, 2023 and 2022 of approximately \$696.1 million and \$437.5 million, respectively. A reconciliation of the current year change in valuation allowance is as follows (in thousands):

	U.S.	Foreign	Total
Increase in valuation allowance for current year increase in net operating losses	\$ 177,299	11,496	\$ 188,795
Increase in valuation allowance for current year net increase in deferred tax assets other than net operating losses	69,600	—	69,600
Increase in valuation allowance due to change in tax rates	—	270	270
Net increase in valuation allowance	\$ 246,899	\$ 11,766	\$ 258,665

The Company has not changed its overall conclusion with respect to the need for a valuation allowance against its net deferred tax assets in the U.S., which remain fully reserved. With the exception of the Company's Netherlands subsidiary, all deferred tax assets are offset by a full valuation allowance because it is more likely than not that the tax benefits of the net operating loss carryforwards and other deferred tax assets will not be realized. The Company's Netherlands subsidiary has established a valuation allowance on its deferred tax assets that will not be realized. There are \$8.2 million of DTAs recorded in the Netherlands, of which \$6.5 million do not require a reserve, as the Netherlands entity has approximately \$9.7 million of DTLs that provide a sufficient source of income to support realization of a portion of its DTAs.

Under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), the use of loss carryforwards may be limited if a change in ownership of a company occurs. If it is determined that due to transactions involving the Company's shares owned by its 5 percent or greater stockholders a change of ownership has occurred under the provisions of Section 382 of the Code, the Company's federal and state NOL carryforwards could be subject to significant Section 382 limitations.

The Company's deferred tax assets include \$2.2 billion of U.S. net operating loss carryforwards. The NOL carryforwards available at December 31, 2023, include \$2.0 billion of NOL that was generated in 2018 through 2023, that do not expire. The remainder, if unused, will expire at various dates from 2034 through 2037. Based on analysis of stock

Notes to Consolidated Financial Statements (Continued)

transactions, an ownership change as defined under Section 382 of the Code occurred in 2013, which imposes a \$13.5 million limit on the utilization of pre-change losses that can be used to offset taxable income in future years. The pre-change NOL carryforwards will expire, if unused, at various dates from 2024 through 2033. The Company continuously analyzes stock transactions and has determined that no ownership changes have occurred since 2013 that would further limit the utilization of NOLs. Therefore, NOLs of \$2.2 billion incurred in post-change years are not subject to limitation.

Approximately \$20.7 million of research credit carryforwards generated after the most recent IRC Section 382 ownership change are included in the Company's deferred tax assets. Due to limitations under IRC Section 382, research credit carryforwards existing prior to the most recent IRC Section 382 ownership change will not be used and are not reflected in the Company's gross deferred tax asset at December 31, 2023. The remaining credit carryforwards will expire during the periods 2033 through 2042.

At December 31, 2023, the Company has unused Canadian net operating loss carryforwards of approximately \$2.4 million. The net operating loss carryforwards if unused will expire at various dates between 2041 through 2043. At December 31, 2023, the Company has no remaining Scientific Research and Experimental Development ("SR&ED") expenditures or ITC credit carryforwards.

At December 31, 2023, the Company has unused French net operating loss carryforwards of approximately \$67.8 million. The net operating loss may carry forward indefinitely or until the Company changes its activity.

At December 31, 2023, the Company has unused Netherlands net operating loss carryforwards of approximately \$31.1 million. The net operating loss may carry forward indefinitely or until the Company changes its activity.

As of December 31, 2023, the Company has no un-repatriated foreign earnings or unrecognized tax benefits.

The Inflation Reduction Act of 2022 ("IRA") was signed into law on August 16, 2022. Key provisions under the IRA include a 15% corporate alternative minimum tax imposed on certain large corporations and the extension and expansion of clean energy tax incentives. The 15% corporate alternative minimum tax is not expected to affect the Company in the near future. The Company is in the process of evaluating the impact of the clean energy tax incentives on its businesses and is awaiting U.S. Department of the Treasury and Internal Revenue Service guidance.

The Company files income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. In the normal course of business, the Company is subject to examination by taxing authorities. Open tax years in the U.S. range from 2020 and forward. Open tax years in the foreign jurisdictions range from 2013 and forward. However, upon examination in subsequent years, if net operating losses carryforwards and tax credit carryforwards are utilized, the US and foreign jurisdictions can reduce net operating loss carryforwards and tax credit carryforwards utilized in the year being examined if they do not agree with the carryforward amount. As of December 31, 2023, the Company was not under audit in the U.S. or non-U.S. taxing jurisdictions.

The Tax Cuts and Jobs Act of 2017 requires taxpayers to capitalize and amortize research and development costs pursuant to Internal Revenue Code ("IRC") Section 174. The requirement was effective for the Company beginning after December 31, 2021. As of December 31, 2023, we recorded a deferred tax asset of approximately \$39.5 million due to Section 174 capitalization. We note that the Company is currently in a full valuation allowance as it relates to the U.S. taxing jurisdiction as a result there is no impact to cash taxes payable.

21. Commitments and Contingencies

Restricted Cash

In connection with certain of the above noted sale/leaseback agreements, cash of \$573.5 million and \$383.7 million, respectively, was required to be restricted as security as of December 31, 2023 and 2022, which will be released over the lease term. As of December 31, 2023 and 2022, the Company also had certain letters of credit backed by security deposits totaling \$370.7 million and \$379.6 million, respectively, of which \$340.0 million and \$354.0 million are security for the above noted sale/leaseback agreements, respectively, and \$30.7 million and \$25.6 million are customs related letters of credit, respectively.

Notes to Consolidated Financial Statements (Continued)

As of December 31, 2023 and 2022, the Company had \$76.8 million and \$75.5 million, respectively, held in escrow related to the construction of certain hydrogen plants.

The Company also had \$1.2 million and \$0.2 million of consideration held by our paying agent in connection with the Joule and CIS acquisitions, respectively, reported as restricted cash as of December 31, 2023, with a corresponding accrued liability on the Company's consolidated balance sheet. Additionally, the Company had \$11.7 million and \$10.8 million in restricted cash as collateral resulting from the Frames acquisition as of December 31, 2023 and 2022, respectively.

Litigation

Legal matters are defended and handled in the ordinary course of business. Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred. The Company has not recorded any accruals related to any legal matters.

Concentrations of credit risk

Financial instruments that potentially subject the Company to credit risk consist principally of cash, cash equivalents, restricted cash, accounts receivable and marketable securities. Cash and restricted cash are maintained in accounts with financial institutions which, at times, may exceed the Federal depository insurance coverage of \$250 thousand. The Company has not experienced losses on these accounts and management believes, based upon the quality of the financial institutions, that the credit risk with regard to these deposits is not significant. The Company's available-for-sale securities consists primarily of investments in U.S. Treasury securities and short-term high credit quality corporate debt securities. Equity securities are comprised of fixed income and equity market index mutual funds. As of December 31, 2023, the Company has no cash equivalents, available-for-sale securities or equity securities.

Concentrations of credit risk with respect to receivables exist due to the limited number of select customers with whom the Company has initial commercial sales arrangements. To mitigate credit risk, the Company performs appropriate evaluation of a prospective customer's financial condition.

At December 31, 2023, one customer comprised approximately 21.5% of the total accounts receivable balance. At December 31, 2022, one customer comprised approximately 24.9% of the total accounts receivable balance.

For purposes of assigning a customer to a sale/leaseback transaction completed with a financial institution, the Company considers the end user of the assets to be the ultimate customer. For the year ended December 31, 2023, two customers accounted for 34.3% of total consolidated revenues. For the year ended December 31, 2022, three customers accounted for 51.2% of total consolidated revenues.

Guarantee

On May 30, 2023, our joint venture, HyVia, entered into a government grant agreement with Bpifrance. As part of the agreement, our wholly-owned subsidiary, Plug Power France, was required to issue a guarantee to Bpifrance in the amount of €20 million through the end of January 2027. Plug Power France is liable to the extent of the guarantee for sums due to Bpifrance from HyVia under the agreement based on the difference between the total amount paid by Bpifrance and the final amount certified by HyVia and Bpifrance. As part of the agreement, there are certain milestones that HyVia is required to meet, and the nonperformance of these milestones or termination of this agreement could result in this guarantee being called upon. As of December 31, 2023, no payments related to this guarantee have been made by the Company and Plug Power France did not record a liability for this guarantee as the likelihood of the guarantee being called upon is remote as of December 31, 2023.

Notes to Consolidated Financial Statements (Continued)

Unconditional purchase obligations

The Company has entered into certain off-balance sheet commitments that require the future purchase of goods or services (“unconditional purchase obligations”). The Company’s unconditional purchase obligations primarily consist of supplier arrangements, take or pay contracts and service agreements. For certain vendors, the Company’s unconditional obligation to purchase a minimum quantity of raw materials at an agreed upon price is fixed and determinable; while certain other raw material costs will vary due to product forecasting and future economic conditions.

Future payments under non-cancelable unconditional purchase obligations with a remaining term in excess of one year as of December 31, 2023, were as follows (in thousands):

2024	\$ 42,125
2025	8,023
2026	8,023
2027	2,638
2028	—
2029 and thereafter	—
Total	60,809

22. Segment and Geographic Area Reporting

Our organization is managed from a sales perspective based on “go-to-market” sales channels, emphasizing shared learning across end-user applications and common supplier/vendor relationships. These sales channels are structured to serve a range of customers for our products and services. As a result of this structure, we concluded that we have one operating and reportable segment — the design, development and sale of hydrogen products and solutions that help customers meet their business goals while decarbonizing their operations. Our chief executive officer was identified as the chief operating decision maker (CODM). All significant operating decisions made by management are largely based upon the analysis of Plug on a total company basis, including assessments related to our incentive compensation plans.

The revenue and long-lived assets based on geographic location are as follows (in thousands):

	Revenues			Long-Lived Assets	
	Year ended December 31,			As of December 31,	
	2023	2022	2021	2023	2022
North America	\$ 751,421	\$ 579,218	\$ 476,246	\$ 1,881,315	\$ 1,209,900
Europe	112,892	46,033	20,814	122,489	13,215
Asia	13,937	50,498	718	—	—
Other	13,090	25,691	4,564	884	—
Total	\$ 891,340	\$ 701,440	\$ 502,342	\$ 2,004,688	\$ 1,223,115

23. Related Party Transactions

HyVia

Our 50/50 joint venture, HyVia, manufactures and sells fuel cell powered electric light commercial vehicles (“FCE-LCVs”) and supplies hydrogen fuel and fueling stations to support the FCE-LCV market, in each case primarily in Europe. For the years ended December 31, 2023 and 2022, we recognized related party total revenue of \$13.9 million and \$5.2 million, respectively. For the years ended December 31, 2023 and 2022, we had related party outstanding accounts receivable of \$2.3 million and \$3.4 million, respectively.

Notes to Consolidated Financial Statements (Continued)

24. Subsequent Events

Common Stock At Market Issuance Sales Agreement

On January 17, 2024, the Company entered into the Original ATM Agreement with B. Riley, pursuant to which the Company may, from time to time, offer and sell through or to B. Riley, as sales agent or principal, shares of the Company's common stock, having an aggregate offering price of up to \$1.0 billion. As of February 23, 2024, the Company had offered and sold 77,417,069 shares of common stock having an aggregate offering price of approximately \$302.1 million under the Original ATM Agreement. On February 23, 2024, the Company and B. Riley entered into the Amendment to increase the aggregate offering price of shares of the Company's common stock available for future issuance under the Original ATM Agreement to \$1.0 billion. Under the ATM Agreement, for a period of 18 months, the Company has the right at its sole discretion to direct B. Riley to act on a principal basis and purchase directly from the Company up to \$11.0 million of shares of its common stock on any trading day and up to \$55.0 million of shares in any calendar week. On and after June 1, 2024, so long as the Company's market capitalization is no less than \$1.0 billion, the Maximum Commitment Advance Purchase Amount will remain \$11.0 million and the Maximum Commitment Advance Purchase Amount Cap will remain \$55.0 million. If the Company's market capitalization is less than \$1.0 billion on and after June 1, 2024, the Maximum Commitment Advance Purchase Amount will be decreased to \$10.0 million and the Maximum Commitment Advance Purchase Amount Cap will be decreased to \$30.0 million. Through the date of filing of the Annual Report on Form 10-K, the Company issued 77,417,069 shares of common stock at a weighted-average sales price of \$3.90 per share for gross proceeds of \$302.1 million.

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Plug Power Inc. Subsidiaries

Below is a list of Plug Power Inc.'s wholly owned subsidiaries. The names of certain subsidiaries have been omitted because, considered in the aggregate as a single subsidiary, they would not constitute, as of December 31, 2023, a "significant subsidiary" as that term is defined in Rule 1-02(w) of Regulation S-X.

Plug Power Hydrogen Holdings, Inc. (incorporated in Delaware)

Joule Processing, LLC (incorporated in Texas)

United Hydrogen Group, Inc. (incorporated in Delaware)

Applied Cryo Technologies, Inc. (incorporated in Texas)

Frames Holding BV (incorporated in Netherlands)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-265488 on Form S-3 and Registration Statement Nos. 333- 258797, 333- 267508, 333- 274250 and 333- 274249 on Form S-8 of our reports dated February 29, 2024, relating to the financial statements of Plug Power, Inc. and its subsidiaries and the effectiveness of Plug Power, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2023.

/s/ Deloitte & Touche LLP

Rochester, NY

February 29, 2024

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (No. 333-265488) on Form S-3 and (Nos. 333-258797, 333-267508, 333-274249, and 333-274250) on Form S-8 of our report dated March 1, 2022, with respect to the consolidated financial statements of Plug Power Inc..

/s/ KPMG LLP

Albany, New York
February 29, 2024

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Plug Power Inc. (the “Company”) on Form 10-K for the period ended December 31, 2023 as filed with the Securities and Exchange Commission (the “SEC”) on the date hereof (the “Report”), I, Andrew Marsh, Chief Executive Officer of the Company, certify, solely pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 (“§ 906”), that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being furnished and not filed, and shall not be incorporated into any documents for any other purpose, under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended. A signed original of this written statement required by § 906 has been provided to the Company and will be retained by the Company and furnished to the SEC or its staff upon request.

/s/ ANDREW MARSH

Andrew Marsh
Chief Executive Officer
February 29, 2024

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Plug Power Inc. (the “Company”) on Form 10-K for the period ended December 31, 2023 as filed with the Securities and Exchange Commission (the “SEC”) on the date hereof (the “Report”), I, Paul B. Middleton, Chief Financial Officer of the Company, certify, solely pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002 (“§ 906”), that to my knowledge:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

This certification is being furnished and not filed, and shall not be incorporated into any documents for any other purpose, under the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended. A signed original of this written statement required by § 906 has been provided to the Company and will be retained by the Company and furnished to the SEC or its staff upon request.

/s/ PAUL B. MIDDLETON

Paul B. Middleton
Chief Financial Officer
February 29, 2024

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CORPORATE INFORMATION

BOARD OF DIRECTORS

Mark J. Bonney
President and Chief Executive Officer,
On Board Advisors, LLC

Maureen O. Helmer
Attorney at Law

Patrick Joggerst
Founder and Principal, J21 Consulting Group

Gregory L. Kenausis
Founding Partner and Chief Investment
Officer of Grand Haven Capital AG

Kavita Mahtani
Chief Financial Officer, HSBC Bank plc
and Western Markets

Andrew J. Marsh
President and Chief Executive Officer at
Plug Power Inc.

George C. McNamee
Chairman of the Board

Kyungyeol Song
Chief Operating Officer at PassKey, Inc.

Gary K. Willis
Former President of Zygo Corporation

EXECUTIVE OFFICERS

Andrew J. Marsh
President and Chief Executive Officer

Paul B. Middleton
Chief Financial Officer and Executive Vice
President

Gerard L. Conway, Jr.
General Counsel, Corporate Secretary
and Executive Vice President

Jose Luis Crespo
General Manager, Applications and
Executive Vice President

Martin D. Hull
Corporate Controller and Chief
Accounting Officer

Keith Schmid
Executive Vice President, Special Projects

Sanjay K. Shrestha
General Manager, Energy Solutions, Chief
Strategy Officer, and Executive Vice
President

CORPORATE HEADQUARTERS
968 Albany Shaker Road, Latham,
New York 1211

**INDEPENDENT REGISTERED
PUBLIC ACCOUNTING FIRM**
Deloitte & Touche LLP

TRANSFER AGENT
Broadridge Corporate Issuer
Solutions, Inc.
P.O. Box 1342, Brentwood, NY
11717

**INVESTOR RELATIONS
CONTACT**
investors@plugpower.com