

**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, 2021

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

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 \$14,530,557,613 based on the last reported sale of the common stock on The NASDAQ Capital Market on June 30, 2021, the last business day of the registrant's most recently completed second fiscal quarter.

As of February 25, 2022, 577,861,791 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 2022 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,” “projected” 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 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 of dilution to our stockholders and/or stock price should we need to raise additional capital;
- the risk that our lack of extensive experience in manufacturing and marketing products may impact our ability to manufacture and market products on a profitable and large-scale commercial basis;
- the risk that unit orders may not ship, be installed and/or converted to revenue, in whole or in part;
- the risk that a loss of one or more of our major customers, or if one of our major customers delays payment of or is unable to pay its receivables, a material adverse effect could result on our financial condition;
- the risk that a sale of a significant number of shares of stock could depress the market price of our common stock;
- the risk that our convertible senior notes, if settled in cash, could have a material 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 risk that negative publicity related to our business or stock could result in a negative impact on our stock value and profitability;
- the risk of potential losses related to any product liability claims or contract disputes;
- the risk of loss related to an inability to remediate the material weaknesses identified in internal control over financial reporting as of December 31, 2021, 2020, 2019, and 2018, or inability to otherwise maintain an effective system of internal control;
- the risk of loss related to an inability to maintain an effective system of internal controls;
- our ability to attract and maintain key personnel;
- the risks related to the use of flammable fuels in our products;
- the risk that pending orders may not convert to purchase orders, in whole or in part;
- the cost and timing of developing, marketing and selling our products;
- the risks of delays in or not completing our product development goals;
- the risks involved with participating in joint ventures;
- our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers;
- our ability to successfully pursue new business ventures;
- our ability to achieve the forecasted gross margin on the sale of our products;
- the cost and availability of fuel and fueling infrastructures for our products;
- the risks, liabilities, and costs related to environmental, health and safety matters;
- the risk of elimination of government subsidies and economic incentives for alternative energy products;

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- market acceptance of our products and services, including GenDrive, GenSure and GenKey systems;
- 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 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 risk of dependency on information technology on our operations and the failure of such technology;
- the cost of complying with current and future federal, state and international governmental regulations;
- our subjectivity to legal proceedings and legal compliance;
- the ongoing impact of the COVID-19 pandemic;
- the risks associated with past and potential future acquisitions, including that we may not realize the expected benefits; 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 these 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:

- Our products and performance depend largely on the availability of hydrogen gas and an insufficient supply of hydrogen could negatively affect our sales and deployment of our products and services;
- We may be unable to successfully execute and operate our green hydrogen production projects;
- We will continue to be dependent on certain third-party key suppliers for components in our products 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 or increase our cost of production;
- We depend on a concentration of anchor 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;
- Volatility in commodity prices and product shortages may adversely affect our gross margins;
- 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;
- Weakness in the economy, market trends and other conditions affecting the profitability and financial stability of our customers could negatively impact our sales growth and results of operations;
- We face risks associated with our plans to market, distribute and service our products and services internationally.
- Our investments in joint ventures may involve numerous risks that may affect the ability of such joint ventures to make distributions to us;
- Our products and services face intense competition;

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- 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;
- We may require additional capital funding and such capital may not be available to us;
- We have incurred losses and anticipate continuing to incur losses;
- Our indebtedness could adversely affect our liquidity, financial condition and our ability to fulfill our obligations and operate our business;
- The agreement governing our Term Loan Facility with Generate Lending, LLC contains covenant restrictions that may limit our ability to 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;
- The phase-out of LIBOR and transition to SOFR as a benchmark interest rate could possibly adversely affect our financing costs;
- We may not be able to expand our business or manage our future growth effectively;
- Delays in or not completing our product development goals may adversely affect our revenue and profitability;
- Certain component quality issues have resulted in adjustments to our warranty accruals and the accrual for loss contracts;
- Our products use flammable fuels that are inherently dangerous substances and an actual or perceived problem with our products could adversely affect the market's perception of our products;
- If our unit orders do not ship, are not installed and/or converted to revenue, in whole or in part, we may have to compensate customers, by either reimbursement, forfeiting portions of associated revenue, or other methods depending on the terms of the customer contracts, which could have an adverse impact on our revenue and cash flow;
- We are dependent on information technology in our operations and the failure of such technology may adversely affect our business;
- Our future plans could be harmed if we are unable to attract or retain key personnel;
- 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;
- We are subject to legal proceedings and legal compliance risks that could harm our business;
- 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;
- 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;
- 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 re may be a risk of;
- We are subject to various federal, state and local environmental and human health and safety laws and regulations that could impose significant costs and liabilities on us;
- Trade policies, treaties and tariffs could have a material adverse effect on our business;
- 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 may be unable to establish or maintain relationships with third parties for certain aspects of continued product developments, manufacturing, distribution and servicing and the supply of key components for our products;
- 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 successfully pursue, integrate, or execute upon new business ventures;

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- 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 publish research or reports or if they publish unfavorable or inaccurate research about our business and our stock, 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;
- The choice of forum provisions in our amended and restated bylaws may 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; 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 green hydrogen ecosystem, from green hydrogen production, storage and delivery to energy generation through mobile or stationary applications, to help its customers meet their business goals and decarbonize the environment. In creating the first commercially viable market for hydrogen fuel cell technology, the Company has deployed more than 50,000 fuel cell systems for forklifts and more than 150 fueling stations customers use daily to fill their forklift trucks. Plug intends to deliver its green hydrogen solutions directly to its customers, and through joint venture partners into multiple environments, including material handling, e-mobility, power generation, and industrial applications.

We are focused on proton exchange membrane (“PEM”), fuel cell and fuel processing technologies, fuel cell/battery hybrid technologies, and associated hydrogen and green hydrogen generation, storage and dispensing infrastructure. A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity and heat without combustion. In support of the market growth and its own ambitions, Plug is building a state-of-the-art gigafactory to produce electrolyzers stacks and fuel cells.

Plug delivers end-to-end clean hydrogen and zero-emissions fuel cell solutions for supply chain and logistics applications, on-road electric vehicles, the stationary power market, and more. Our largest market today is material handling; we support customers 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.

Additionally, we manufacture and sell fuel cell products to replace batteries and diesel generators in stationary backup power applications. These products have proven valuable with telecommunications, transportation, and utility customers as robust, reliable, and sustainable power solutions.

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:

- In 2021, Plug announced four new hydrogen plants planned for New York, Georgia, Texas and California. Plug broke ground on the plants in New York and Georgia and plans to begin producing green hydrogen in 2022.

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- Scaling production through electrolyzer and fuel cell gigafactories. In 2021, Plug opened its 155,000 square foot gigafactory in Rochester, New York. Plug also announced gigafactories in South Korea through a joint venture with SK E&S Co., Ltd. (“SK E&S”) and Australia through a joint venture with Fortescue Future Industries Pty Ltd. (“FFI”).
- Scaling Plug’s electrolyzer program to provide comprehensive and economical solutions starting with our 1MW, 5MW and 10MW offerings and using these building blocks to reach into the gigawatt-scale electrolyzer market.
- Expanding into three new markets including on-road vehicles (delivery vans, cargo vans, Class 6 to Class 8 trucks and buses), large scale stationary power (data centers and microgrids), and aviation (commuter and cargo planes and drones).
- Expanding into large-scale stationary power fields for critical operations, data centers and generation facilities.
- Expanding into new regions that require decarbonization, including in Europe, Asia and Australia. Plug entered into joint ventures with Renault SAS (“Renault”) in France, Acciona Generación Renovable, S.A. (“Acciona”) in Spain, and SK E&S in South Korea. In addition, we signed an agreement with FFI in Australia in 2022.
- Partnering with companies with solutions that play an integral role in building Plug’s green hydrogen ecosystem. In 2021, Plug acquired the Frames Holding B.V. (“Frames”) to add engineering, process and systems integration to Plug’s portfolio, and Applied Cryo Technologies (“Applied Cryo”) for their expertise in storage and delivery of liquid hydrogen.
- Our operating strategy objectives include decreasing product and service costs, and expanding 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 the third quarter of 2021, the Company launched a new organizational design, positioning the Company to meet the growing demand for its green hydrogen solutions. The new organizational structure is designed to help Plug achieve its stated business growth goals, including building five green hydrogen production plants, securing and supporting five "pedestal" material handling customers, establishing Plug as the world-leader in electrolyzer solutions through safe, reliable and cost-competitive customer offers, establishing a Plug branded vehicle market, and continuing to drive fuel cell technology costs down.

Our organization is managed from a sales perspective on the basis of “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 fuel cells and hydrogen producing equipment. 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.

Products and Services

Plug is facilitating the paradigm shift to an increasingly electrified world by innovating cutting-edge hydrogen and fuel cell solutions. In our core business, we provide and continue to develop commercially-viable hydrogen and fuel cell product solutions to replace lead-acid batteries in electric material handling vehicles and industrial trucks for some of the world’s largest retail-distribution and manufacturing businesses. We are focusing our efforts on 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,

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flexibility, and environmental benefits. Additionally, we manufacture and sell fuel cell products to replace batteries and diesel generators in stationary back-up power applications for telecommunications, transportation, and utility customers. Plug supports these markets with an ecosystem of vertically integrated products that make, transport, handle, dispense and use hydrogen.

Our current products and services include:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling electric vehicles, including Class 1, 2, 3 and 6 electric forklifts, Automated Guided Vehicles (“AGV

s”), and ground support equipment.

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.

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

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.

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 the Plug Power MEA (membrane electrode assembly), a critical component of the fuel cell stack used in zero-emission fuel cell electric vehicle engines.

GenFuel electrolyzers: GenFuel electrolyzers are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and “green” hydrogen generated by using renewable energy inputs, such as solar or wind power.

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. Europe has rolled out ambitious targets for the hydrogen economy and Plug is seeking to execute on its strategy to become one of the European leaders. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business. Our global strategy includes leveraging a network of integrators or contract manufacturers. We manufacture our commercially viable products in Latham, New York, Rochester, New York, Houston, Texas and Spokane, Washington and support liquid hydrogen generation and logistics in Charleston, Tennessee.

Additionally, Plug is focused on expanding product offerings and services expected to include:

Handling Hydrogen: Plug’s hydrogen handling system comprises a bulk liquid storage tank that can hold between 15,000 to 18,000 gallons of liquid hydrogen at -423°F, compressors and liquid pumps to compress to 7000 psig and gaseous storage tubes that can hold up to 120 kg of gaseous hydrogen.

Transporting Hydrogen: Plug is designing cryogenic trailers and mobile storage equipment for hydrogen and other markets.

- **Hydrogen Liquefaction:** Plug is designing liquifiers for transportation of hydrogen at atmospheric pressure and temperatures below -400°F at a very high efficiency.

Markets/Geography & Order Status

The Company's products and services predominantly serve the North American and European material handling markets, and primarily support large to mid-sized fleet, multi-shift operations in high-volume manufacturing and high-throughput distribution centers. Based on recent market experience, it appears there may be some seasonality to sales stemming from varied customer appropriation cycles.

Orders for the Company's products and services approximated \$682.4 million at December 31, 2021. The Company's orders at any given time are comprised of fuel cells, hydrogen installations, maintenance services, and hydrogen fuel deliveries. The specific elements of the orders will vary in 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. Historically, shipments made against product orders have generally occurred between ninety days and twenty-four months from the date of acceptance of the order.

For the year ended December 31, 2021, Amazon.com Inc. ("Amazon"), accounted for 40.8% of our total consolidated revenues, which included a provision for warrant charge of \$0.5 million. Additionally, 34.9% of our total consolidated revenues were associated primarily with two other customers.

On December 31, 2020, the Company waived the remaining vesting conditions under the warrant that was issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, in April 2017 (the "Amazon Warrant"), which resulted in a reduction to revenue of \$399.7 million, resulting in negative consolidated revenue of \$93.2 million for the year ended December 31, 2020. See Note 18, "Warrant Transaction Agreements" to the consolidated financial statements for further information. Total revenue in 2020 for this customer was negative \$310.1 million. For the year ended December 31, 2020, this customer accounted for (332.4)% of our total consolidated revenues, which included a provision for warrant charge of \$420 million, which was recorded as a reduction of revenue. Additionally, for the year ended December 31, 2020, 156.2% of our total consolidated revenues were associated primarily with two other customers. For the year ended 2019, 49.7% of our total consolidated revenues were associated primarily with two customers. 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. A loss or decline in business with any of these customers could have an adverse impact on our business, financial condition, and results of operations.

We assemble our products at our manufacturing facilities in Latham, New York, Rochester, New York, Houston, Texas and Spokane, Washington, and provide our services and installations at customer locations and service centers in Romeoville, Illinois and Dayton, Ohio. In addition, we have a hydrogen production plant in Charleston, Tennessee. In March 2022, we are scheduled to open our European headquarters in Duisberg, Germany.

Working Capital Items

We currently maintain inventory levels adequate for our short-term needs based upon present levels of production. 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.

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 HyPulsion, to develop and sell hydrogen fuel cell systems for the European material handling market.

In addition, 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 2021. HyVia plans to manufacture and sell fuel cell powered electric light commercial vehicles ("FCELCVs") and to supply hydrogen fuel and fueling stations to support the FCELCV market, in each case primarily in Europe. HyVia is owned 50% by Plug Power France and 50% by Renault.

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Our wholly-owned subsidiary, Plug Power Spain, entered into a joint venture with Acciona, named AccionaPlug S.L., in the fourth quarter 2021. AccionaPlug S.L. plans to develop, operate, and maintain green hydrogen projects throughout Spain and Portugal. AccionaPlug S.L. is owned 50% by Plug Power Spain and 50% by Acciona. This joint venture was funded equally by Acciona and the Company as of December 31, 2021 but had not yet commenced any related activities.

Plug Power Inc. entered into a joint venture with SK E&S named HALO Hydrogen Co., Ltd., which was funded in the first quarter of 2022. The joint venture with SK E&S seeks to accelerate the use of hydrogen as an alternative energy source in Asian markets. Through this initiative, the two companies will collaborate to provide hydrogen fuel cell systems, hydrogen fueling stations, electrolyzers and green hydrogen to the Korean and other Asian markets. This joint venture is owned 49% by Plug Power Inc. and 51% by SK E&S.

Plug has also implemented strategic agreements with the following partners:

- Airbus to study the feasibility of bringing green hydrogen to future aircraft and airports worldwide.
- In April 2021, Plug announced an intention to invest €160 million in FiveT Hydrogen, a clean-hydrogen-only private infrastructure fund dedicated to delivering clean hydrogen infrastructure projects at scale. FiveT Hydrogen is partnering with Ardian to create Hy24, a 50/50 joint venture. Hy24 will focus on clean hydrogen infrastructure, financing projects in the production, storage and distribution of clean hydrogen.
- Lhyfe to pursue and develop green hydrogen generation plants throughout Europe.
- Edison Motors to develop prototypes for Edison's fuel cell electric city bus using Plug's ProGen fuel cell system.
- FFI for a 50/50 joint venture to build a gigafactory in Queensland, Australia.
- Phillips 66 to collaborate on the development of low-carbon hydrogen business opportunities, deploying Plug's technology within Phillips 66's operations.
- Apex Clean Energy to co-develop a green hydrogen production facility in Virginia.
- BAE Systems to supply zero-emissions powertrains to heavy-duty transit bus OEMs in North America.
- Universal Hydrogen Co. to develop green hydrogen that is cost-competitive with jet fuel.

In the fourth quarter of 2021, Plug completed the acquisitions of Applied Cryo and Frames. Applied Cryo is a manufacturer of engineered equipment servicing multiple applications, including cryogenic trailers and mobile storage equipment for the oil and gas markets and equipment for the distribution of liquified hydrogen, oxygen, argon, nitrogen and other cryogenic gases. Frames, a leader in turnkey systems integration for the energy sector, designs, builds, and delivers processing equipment, separation technologies, flow control and safeguarding systems, renewable energy and water solutions. These acquisitions are expected to further enhance 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 integrated gas companies, and companies offering Steam Methane Reformers and electrolyzers. 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, foot print, rapid integration with existing equipment and processes, customer support design innovation, marketing and distribution capability, service and support and corporate reputation.

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 105 issued patents currently active with the United States Patent and Trademark Office (“USPTO”), expiring between 2022 and 2039. At the close of 2021, we had 16 U.S. patent applications pending. Additionally, we have 22 trademarks registered with the USPTO expiring between 2022 and 2032, and three 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. 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. There can be no assurance that existing or future environmental laws and regulations will not have a material effect on our business. We believe we are in compliance with applicable environmental rules and regulations in all material respects.

As our business expands – particularly as part of our green 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. We do not believe that existing or pending climate change legislation, regulation, or international treaties or accords are reasonably likely to have a material adverse effect in the foreseeable future on our business or markets that we serve, or on our results of operations, capital expenditures or financial position. However, 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.

Other than these requirements, at this time we do not know what additional requirements, if any, each jurisdiction will impose 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, the

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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.

Raw Materials and Suppliers

Most components essential to our business are generally available from multiple sources. We believe there are component suppliers and manufacturing vendors whose loss to us could have a material adverse effect upon our business and financial condition. We are mitigating these potential risks by introducing alternate system architectures which we expect will allow us to diversify our supply chain with multiple fuel cell stack and air supply component vendors. We are also working closely with these vendors and other key suppliers on coordinated product introduction plans, strategic inventories, and internal and external manufacturing schedules and levels. Historically, we have not experienced significant delays in the supply or availability of our key raw materials or components provided by our suppliers, however, we have seen a price increase primarily due to the increased cost of freight.

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 \$64.8 million, \$27.8 million, and \$15.1 million during the years ended December 31, 2021, 2020, and 2019, respectively. We also had cost of research and development contract revenue of \$0.2 million, during the year ended December 31, 2019. We had no cost for research and development contract revenue in 2021 and 2020. These expenses represent the cost of research and development programs that are partially funded under cost reimbursement research and development arrangements with third parties and are reported within other cost of revenue on the consolidated statements of operations.

Human Capital Resources

As of December 31, 2021, we had 2,449 employees, of which 200 are temporary employees, with 2,105 located in the United States and 344 located outside of the United States. In order to facilitate talent attraction and retention, we strive to make Plug a safe, rewarding, and challenging workplace with competitive salaries.

Our employees are critical to the Company’s growth, expansion and success, and we consider our relationship with our employees to be positive. 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.

Diversity, Equity & Inclusion

We take tremendous pride in being an Equal Opportunity/Affirmative Action Employer and actively seek to increase the racial, gender, and ethnic diversity of our Company.

At Plug, we are powered by the collective differences of our employees, customers, and stakeholders, and we value different perspectives to solve complex problems and bring innovative solutions. We promise to listen and hear inspiration from around the globe, championing inclusivity, respecting each other, and celebrating 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.



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- **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 pledge 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 are on a journey 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. Perspectives from the collective whole make us better, as we know that we are all part of something bigger than ourselves

The Company also strives to promote diversity on its Board of Directors (the “Board” or “Board of Directors”) and in leadership roles throughout the Company. Currently, two of the Company’s 10 directors are female, and one of the Company’s 10 directors identifies as an under-represented minority. The Company’s commitment to diversity throughout the organization is further enhanced by policies related to various aspects of employment, including but not limited to, recruiting, selecting, hiring employment placement, job assignment, compensation, access to benefits, selection for training, use of facilities and participation in Company-sponsored employee activities.

Additionally, we work specifically with veteran recruitment firms and are proud of our efforts to hire those who have served and still serve in the armed services. We have a 239 person veteran workforce.

Engagement

We believe that listening to our employees is key to providing a work environment that is inclusive and results in a motivated and engaged workforce. We regularly conduct anonymous employee surveys to understand where we have opportunities to improve and solicit ideas from employees. Several initiatives have been launched, such as focus groups with Human Resources and leadership and bi-monthly small group sessions with our Chief Executive Officer to provide a platform for employees to share honest feedback in an open-forum.

Transparency and communication are key elements of the Company’s culture. Since the onset of the COVID-19 pandemic, a weekly all employee meeting led by our Chief Executive Officer and Executive Vice President of Human Resources provide information on safety measures as relates to the Company’s practice on COVID-19. The meeting also includes a timely business topic delivered by a subject matter expert within the Company. This provides timely information and opportunities for upcoming leaders to develop their presentation skills, and aims to align the workforce with the Company’s vision, strategy, and objectives. An open question and answer session is hosted as part of the weekly employee meeting by the Chief Executive Officer, in which employees are encouraged to submit questions and can do so anonymously if they prefer.

Community Involvement

We recognize the importance of supporting our local communities as we continue to grow as an organization. Our efforts not only provide value back to our community members but enables our employees to give back, helping them to meet their own values. We also facilitate employee donations through the United Way, supporting its four pillar objectives helping our communities, which includes the (1) ability to meet basic needs, (2) education leading to a good job, (3) income providing financial security, and (4) an ability to gain and maintain health. This system enables our employees to donate money to causes they care about in their individual communities through payroll deductions.

Performance Management and Incentives

Our full-year performance management process begins with setting annual goals for the Company, which guide the development of functional 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 employee base wages that are competitive and consistent with employee positions, skill levels, experience, and location. Additionally, we believe that individual performance and the results of the Company are directly linked to payment of annual short-term incentive compensation. Employees may also be granted equity compensation awards with multi-year vesting for retention.

Talent

Our talent strategy is a balance of attracting external talent, combined with an internal mobility practice that encourages career growth and opportunity to progress within Plug. We leverage both internal and external recruitment resources and incentivize our current employees to refer talent they recommend as future employees of Plug. Enculturation of new hires begins immediately upon acceptance of an offer from Plug by leveraging technology to introduce them to the organization and their teams. A new hire onboarding program is delivered bi-weekly to continue the assimilation process and ensure that the workforce is prepared to succeed in their new career endeavor.

Plug values the unique skills and competencies of our diverse workforce. A key component to planning for individual career growth aligned with organizational growth is learning and development. We offer the entire workforce a subscription to on-line learning that includes thousands of professionally created on-demand webinars and podcasts. Additionally, we have offered remote led leadership training throughout the COVID-19 pandemic with plans to continue in this new remote and hybrid environment. We also offer a tuition reimbursement program, where employees are provided support for continuing their education. On the job training, combined with face-to-face and remote skill training are utilized in many functions, as well as virtual reality skill training to ensure that skills are refreshed regularly. We use a comprehensive training matrix and web-based learning to make sure we meet both regulatory requirements and our own standards. Besides job-specific safety training, we offer personal-development training on many topics, including sustainability, wellness, and free on-site CPR/AED certification training for employees and family members.

Additional development opportunities include opportunities to participate in employee led groups that develop leadership and project management capabilities while contributing to our purpose and mission, such as our sustainability employee group. On-line participation in internally developed business-related courses called *Plugology* is encouraged for all employees and helps newly hired employees assimilate to the business.

Compensation and Benefits

In addition to competitive base salaries, the Company also offers compensation and benefits programs such as: potential annual discretionary bonuses, equity awards, a 401(k) Savings & Retirement Plan, healthcare and insurance benefits, health savings and flexible spending accounts, paid time off and flexible work schedules, among others. We also offer supplemental benefits programs designed to enhance the daily life and well-being of our employees, including fitness, wellness and paid time-off.

Additionally, we have an internal *Step Pay Program* which provides our Field Service Technicians an outlined career path of training for eight separate levels to grow their skills and compensation.

The Company believes that identifying and developing the next generation of business leaders is important to its long-term success and is proud to support employees in furthering their education with tuition reimbursement plans and training.

COVID-19 Health Measures

As a result of the COVID-19 pandemic outbreak in March 2020, state governments—including those in New York and Washington, where our manufacturing facilities are located—issued orders requiring businesses that do not conduct essential services to temporarily close their physical workplaces to employees and customers. As a result, we put in place a number of protective measures in response to the COVID-19 outbreak, which included the canceling of all commercial air travel and all other non-critical travel, requesting that employees limit non-essential personal travel, eliminating all but essential third-party access to our facilities, enhancing our facilities' janitorial and sanitary procedures, encouraging employees to work from home to the extent their job function enabled them to do so, encouraging the use of virtual employee meetings, and providing staggered shifts and social distancing measures for those employees associated with manufacturing and service operations.

In June 2021, in accordance with revised CDC guidelines and where permitted by state law, employees who were fully vaccinated against COVID-19 and have been through Plug's certification process, were permitted to enter Plug facilities without a face covering. Individuals inside Plug facilities who did not wish to go through the certification process were required to wear proper face coverings and continued to maintain social distancing of six feet or greater. In states where the guidelines for face coverings was still government mandated, Plug complied with the state and local jurisdictions

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and enforced face mask usage, as well as social distancing at our sites. In early August 2021, we adjusted our guidance as a result of an influx of COVID-19 cases and began requiring all employees and visitors regardless of vaccination status to wear a face-covering at all times while within a Plug facility, and strongly encouraged social distancing. We continue to provide enhanced janitorial and sanitary procedures, encourage employees to work from home to the extent their job function enables them to do so, and encourage the use of virtual employee meetings. Additionally, starting on January 3, 2022, all U.S. based employees, including temporary employees are required to either be vaccinated against COVID-19, or be subject to weekly COVID-19 testing in an effort to stop the spread of COVID-19 and continue to protect our workforce. Based on the decrease of COVID-19 cases globally, all vaccinated employees and visitors will no longer be required to wear a face-covering while within Plug facilities as of February 15, 2022. Unvaccinated employees and visitors will continue to be required to wear a face-covering until further notice. Additionally, we will continue to monitor the trends and the developments of COVID-19, and adjust our health measure as needed to ensure the safety and well-being of our workforce.

COVID-19 Update

We cannot predict at this time the full extent to which COVID-19 will impact our business, results, and financial condition, which will depend on many factors. We are staying in close communication with our manufacturing facilities, employees, customers, suppliers, and partners, and acting to mitigate the impact of this dynamic and evolving situation, but there is no guarantee that we will be able to do so. Many of the parts for our products are sourced from suppliers in China and the manufacturing situation in China remains variable. Supply chain disruptions could reduce the availability of key components, increase prices or both, as the COVID-19 pandemic has caused significant challenges for global supply chains resulting primarily in transportation delays. These transportation delays have caused incremental freight charges, which have negatively impacted our results of operations. We expect that these challenges will continue to have an impact on our businesses for the foreseeable future.

We continue to take proactive steps to limit the impact of these challenges and are working closely with our suppliers and transportation vendors to ensure availability of products and implement other cost savings initiatives. In addition, we continue to invest in our supply chain to improve its resilience with a focus on automation, dual sourcing of critical components and localized manufacturing when feasible. To date, there has been limited disruption to the availability of our products, though it is possible that more significant disruptions could occur if these supply chain challenges continue.

Financial Information About Geographic Areas

Please refer to our Geographic Information included in 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.

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 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>.

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. Please refer to the section entitled “Forward-Looking Statements.”

A. MARKET RISKS

Our products and performance depend largely on the availability of hydrogen gas and an 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 gas. We are dependent upon hydrogen suppliers for success with the profitable commercialization of our products and services. If these fuels are not readily available or if their 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. If hydrogen suppliers elect not to participate in the material handling market, there may be an insufficient supply of hydrogen for this market that could negatively affect our sales and deployment of our products and services.

We may be unable to successfully execute and operate our green 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 green hydrogen production facilities at locations across the United States and Canada. Our ability to successfully complete and operate these projects 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 the Company’s ability to meet our internal demand for electrolyzers required for such projects. Electrolyzer demand by external customers may concurrently affect the Company’s ability to meet the internal electrolyzer demand from our hydrogen production 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.

Furthermore, the viability and competitiveness of our green hydrogen production facilities will depend, in part, upon favorable laws, regulations, and policies related to hydrogen production. Some of these laws, regulations, policies are nascent, and there is no guarantee that they will be favorable to our projects. 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 multi-national companies in the energy industry. There is no guarantee that our hydrogen production strategy will be successful, amidst this competitive environment.

We will continue to be dependent on certain third-party key suppliers for components in our products. 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 or could increase our cost of production.

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. 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 under certain United States federal infrastructure funding sources. Domestic content preferences and Buy America requirements potential mandate that our Company source certain components and materials from within the United States. Conformity with these provisions potentially depends upon our ability to increasingly source components or certain 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 compete for certain projects or awards utilizing federal funds subject to such mandates.

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

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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 could 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.

We depend on a concentration of anchor 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 few anchor customers, and while we are continually seeking to expand our customer base, we expect this will continue for the next several years. Total revenue in 2021 for Amazon was \$205.1 million, which included a provision for warrant charges of \$0.5 million. For the year ended December 31, 2021, this customer accounted for 40.8% of our total consolidated revenues. Additionally, 34.8% of our total consolidated revenues in 2020 were associated primarily with two other customers.

On December 31, 2020, the Company waived the vesting conditions under the Amazon Warrant, which resulted in a reduction in revenue of \$399.7 million, resulting in negative consolidated revenue of \$93.2 million for the year ended December 31, 2020. See Note 18, "Warrant Transaction Agreements" to the consolidated financial statements for further information. Total revenue in 2020 for Amazon customer was negative \$310.1 million, and this customer accounted for (332.4)% of our total consolidated revenues which included a provision for warrant charge of \$420.0 million, which was recorded as a reduction of revenue. For the year ended December 31, 2019, 49.7% of our total consolidated revenues were associated primarily with two customers. Any decline in business with 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.

At December 31, 2021, one customer comprised approximately 46.6% of the total accounts receivable balance. At December 31, 2020, two customers comprised approximately 62.6% of the total accounts receivable balance. If one of our major customers delays payment of or is unable to pay their receivables, that could have a material adverse effect on our business, financial condition, results of operations and cash flows.

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

Some of our products contain commodity-priced materials. Commodity prices and supply levels affect our costs. For example, platinum and iridium are key materials in our PEM fuel cells and electrolyzers. Both platinum 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.

Any shortages could adversely affect our ability to produce commercially viable fuel cell systems, electrolyzers, or hydrogen production facilities, and in turn, significantly raise our cost of producing our products and services. While we do not anticipate significant near- or long-term shortages in the supply of platinum or iridium, a shortage could adversely affect our ability to produce commercially viable PEM fuel cells electrolyzers, or raise our cost of producing such products. Global inflationary pressures have increased in 2021, 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.

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. We deploy a continuous, companywide process to source our parts and raw materials from fewer suppliers, and to obtain parts from suppliers in



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low-cost countries where possible. 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, such as the COVID-19 pandemic, including resurgences and the emergence of new variants, 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, the Company has experienced supply chain issues related to the COVID-19 pandemic, including but not limited to suppliers utilizing force majeure provisions under existing contracts. Furthermore, the ongoing global economic recovery from the COVID-19 pandemic has caused significant challenges for global supply chains resulting in inflationary cost pressures, component shortages, and transportation delays. We expect that these challenges could continue to have an impact on our businesses for the foreseeable future.

Weakness in the economy, market trends and other conditions affecting the profitability and financial stability of our customers could negatively impact our sales growth and results of operations.

The demand for our products and services is sensitive to the production activity, capital spending and demand for products and services of our customers. Many of our customers operate in markets that are subject to cyclical fluctuations resulting from 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, deflation, 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.

We have from time-to-time experienced labor shortages and other labor-related issues. Labor shortages have become more pronounced as a result of the COVID-19 pandemic. For example, labor shortages might affect our ability to attain qualified candidates for certain positions within the Company. Furthermore, recent domestic inflationary trends have become increasingly relevant and might have a material adverse effect on our business.

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

We have begun to 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 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 potential business activities in Australia, South Korea, India, Vietnam, 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; required compliance with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act or the UK Anti-Bribery Act of 2010; 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. 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. For example, in June 2016, voters in the United Kingdom approved a referendum to withdraw the United Kingdom's membership from the European Union, which is commonly known as "Brexit." The United Kingdom formally left the European Union on January 31, 2020, but the United Kingdom remained in the European Union's customs union and



single market for a transition period that expired on December 31, 2020. On December 24, 2020, the United Kingdom and the European Union entered into a Trade and Cooperation Agreement which was ratified and took full effect on May 1, 2021. While the economic integration does not reach the level that existed during the time the United Kingdom was a member state of the European Union, the Trade and Cooperation Agreement sets out preferential arrangements in areas such as trade in goods and in services, digital trade and intellectual property. Negotiations between the United Kingdom and the European Union are expected to continue in relation to the relationship between the United Kingdom and the European Union in certain other areas which are not covered by the Trade and Cooperation Agreement. The long term effects of Brexit will depend on the effects of the implementation and application of the Trade and Cooperation Agreement and any other relevant agreements between the United Kingdom and the European Union. We cannot predict the effect of Brexit nor do we have control over whether and to which effect any other member state will decide to exit the European Union in the future. These developments, as well as potential crises and forms of political instability arising therefrom or any other as of yet unforeseen development, may harm 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.

We currently conduct some of our operations through joint ventures, with such partners including SK E&S, Renault, Acciona, and FFI, in which we share control with our joint venture participants. Our joint venture participants may have economic, business or legal interests or goals that are inconsistent with ours, or those of the joint venture. Furthermore, our joint venture participants may be unable to meet their economic or other obligations, and we may be required to fulfill those obligations alone. 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. 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 profitable, commercially viable 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 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 these 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 be 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.

B. FINANCIAL AND LIQUIDITY RISKS

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. These PPA arrangements require us to finance the purchase of such products, either ourselves or through third-party financing sources. To date, we have been successful in obtaining or providing the necessary financing arrangements. There is no certainty, however, that we will be able to continue to obtain or provide adequate

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financing for these arrangements on acceptable terms, or at all, in the future. Failure to obtain or provide such financing may result in the loss of material customers and product sales, which could have a material adverse effect on our business, financial condition, and results of operations. Further, if we are required to continue to pledge or restrict substantial amounts of our cash to support these financing arrangements, 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, 2021, approximately \$561.1 million 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.

We may require additional capital funding and such capital may not be available to us.

As of December 31, 2021, we had cash and cash equivalents of \$2.5 billion, restricted cash of \$650.9 million and net working capital of \$4.0 billion (which is comprised of the net amount of current assets of \$4.4 billion and current liabilities of \$420.6 million). This compares to \$1.3 billion, \$321.9 million, and \$1.4 billion, of cash and cash equivalents, restricted cash, and net working capital (which is comprised of the net amount of current assets of \$1.6 billion and current liabilities of \$222.4 million), respectively, on December 31, 2020.

Our cash requirements relate primarily to working capital needed to operate and grow our business, including funding operating expenses, growth in inventory to support both shipments of new units and servicing the installed base, growth in equipment leased and equipment related to PPAs for customers under long-term arrangements, funding the growth in 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; 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, including financing arrangements to repay or refinance our long-term debt, 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. If we are unable to fund our operations with positive cash flows and cannot obtain external financing, we may not be able to sustain future operations. As a result, we may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection.

We cannot assure you that any necessary additional financing will be available on terms favorable to us, or at all. We believe that it could be difficult to raise additional funds and there can be no assurance as to the availability of additional financing or the terms upon which additional financing may be available. Additionally, even if we raise sufficient capital through additional equity or debt financings, strategic alternatives or otherwise, there can be no assurance that the revenue or capital infusion will be sufficient to enable us to develop our business to a level where it will be profitable or generate positive cash flow. If we incur additional debt, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for our business activities. The terms of any debt securities issued could also impose significant restrictions on our operations. Broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance, and may adversely impact our ability to raise additional funds. If we raise additional funds through collaborations and/or licensing arrangements, we might be required to relinquish significant rights to our technologies or grant licenses on terms that are not favorable to us.

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. Our net losses attributable to common stockholders were approximately \$460.0 million in 2021, \$596.2 million in 2020, and \$85.6 million in 2019. As of December 31, 2021, we had an accumulated deficit of \$2.4 billion. 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.

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

At December 31, 2021, our total outstanding indebtedness was approximately \$574.4 million, consisting of \$192.6 million of the \$200.0 in aggregate principal amount of 3.75% Convertible Senior Notes due June 1, 2025 (the "3.75% Convertible Senior Notes"), \$128.0 million of long-term debt primarily associated with our Term Loan Facility with Generate Lending, LLC, or the Term Loan Facility, and other long-term debt, and \$253.7 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;
- we may need to use all, or a substantial portion, of our available cash flow to pay interest and principal on our debt, which will reduce the amount of money available to finance our operations and other business activities;
- 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;
- 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; and
- our failure to comply with the covenants in the agreement governing our Term Loan Facility which, among other things, limit our ability to incur debt and sell assets, could result in an event of default that, if not cured or waived, could have a material adverse effect on our business or prospects.

Our indebtedness will require that we use a substantial portion of our cash flow from operations to pay principal of, and interest on, our indebtedness, which will reduce the availability of cash to fund working capital requirements, capital expenditures, research and development and other general corporate or business activities. 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 agreement governing our Term Loan Facility contains covenant restrictions that may limit our ability to operate our business.

We may be unable to respond to changes in business and economic conditions, engage in transactions that might otherwise be beneficial to us, or obtain additional financing, because the agreement governing our Term Loan Facility contains covenant restrictions that limit our ability to, among other things: incur additional debt, create liens, make acquisitions, make loans, pay dividends, dissolve, or enter into leases and asset sale. In addition, the agreement requires that we comply with a collateral coverage covenant that was measured on December 31, 2019. Our ability to comply with these covenants is dependent on our future performance, which will be subject to many factors, some of which are beyond our control, including prevailing economic conditions. In addition, our failure to comply with this covenant could result in a default under our other debt instruments, which could permit the holders to accelerate such debt. If any of our debt is

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accelerated, we may not have sufficient funds available to repay such debt, which could materially and negatively affect our financial condition and results of operations.

Although we are currently in compliance with the covenants contained in the agreement governing our Term Loan Facility, we cannot assure you that we will be able to remain in compliance with such covenants in the future. An event of default under the agreement governing our Term Loan Facility could have a material adverse effect on our liquidity, financial condition, and results of operations.

An impairment of our long-lived assets or goodwill could reduce our earnings or negatively impact our financial condition and results of operations.

An impairment of our long-lived assets or goodwill could reduce our earnings or negatively impact our results of operations and financial condition.

The Company evaluates its long-lived assets on a quarterly basis to identify events or changes in circumstances that indicate the carrying value of certain assets may not be 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. During 2021, the Company determined that the assets deployed for certain PPA arrangements, as well as certain assets related to the delivery of fuel to customers, were not recoverable based on the undiscounted estimated future cash flows of the asset group. However, the estimated fair value of the assets in these asset groups equaled or exceeded the carrying amount of the assets or otherwise limited the amount of impairment that would have been recognized. The Company has not recognized a provision for the expected future losses under these PPA arrangements as of December 31, 2021 but the Company expects that it will recognize future losses for these PPA arrangements as it continues its efforts to reduce costs of delivering the maintenance component of these arrangements. If the carrying value exceeds the undiscounted cash flows, an impairment charge equal to the difference between the carrying value and the fair value will be recorded. The projections of future cash flows used in these analyses require the use of judgment and a number of estimates and projections of future operating results. If actual results differ from our estimates, additional charges for asset impairments may be required in the future.

Goodwill is required to be qualitatively assessed at least annually and when events or changes in circumstances arise or can be quantitatively tested for impairment. As of December 31, 2021, the Company had goodwill of \$220.4 million. Goodwill is subject to impairment tests on at least an annual basis, and more frequently if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. When the carrying value of a reporting unit exceeds its fair value, an impairment loss equal to the difference is recorded. This would result in incremental expenses for that period, which would reduce any earnings or increase any loss for the period in which the impairment was determined to have occurred. A decline in our stock price and market capitalization, declines in future cash flows, increases in cost pressures driven by inflation, supply chain issues and labor shortages, or the occurrence of another triggering event could, under certain circumstances, result in an impairment charge being recorded. For the years ended December 31, 2021, 2020 and 2019, the Company performed a qualitative assessment of goodwill for its single reporting unit and determined that it is not more likely than not that the fair value of its reporting unit is less than the carrying amount. Our goodwill impairment analysis is sensitive to changes in key assumptions used in our analysis. If the assumptions used in our analysis are not realized, we may be required to record a significant charge to earnings in our consolidated financial statements during the period in which any impairment of our goodwill is determined, which charge could adversely affect our results of operations.

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 due 2025 (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.

The phase-out of LIBOR and transition to SOFR as a benchmark interest rate and could possibly adversely affect our financing costs.

In 2018, the Alternative Reference Rate Committee identified the Secured Overnight Financing Rate (“SOFR”) as the alternative to LIBOR. SOFR is a broad measure of the cost of borrowing cash overnight collateralized by U.S. Treasury securities, published by the Federal Reserve Bank of New York. By the end of 2021, it is expected that no new



contracts will reference LIBOR and will instead use SOFR. Due to the broad use of LIBOR as a reference rate, the impact of this transition on the interest rates charged to the Company could possibly adversely affect our financing costs.

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 and build additional manufacturing production over the next five years, which will require successful execution of:

- expanding our existing customers and expanding to new markets;
- ensuring manufacture, delivery and installation of our products;
- implementing and improving additional and existing administrative, financial and operations systems, procedures and controls;
- integration of acquisitions;
- 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 Item 1.3.E, “Risk Factors” (“Strategic Risks – We may be unable to successfully pursue new business ventures.”).

Delays in or not completing our product development goals may adversely affect our revenue and profitability.

If we experience delays in meeting our development goals, our products exhibit technical defects, or if we are unable to meet cost or performance goals, including power output, useful life and reliability, the profitable commercialization of our products will be delayed. In this event, 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 generate sufficient revenue 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.

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, from time to time we 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.

Our products use flammable fuels that are inherently dangerous substances.

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 destruction, and in products fueled by hydrogen, 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.

Our purchase orders may not ship, be commissioned or installed, or convert to revenue.

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. Historically, shipments made against these orders have generally occurred between 90 days and 24 months from the date of acceptance of the order. Orders for the Company's products and services approximated \$682.4 million for the year ended December 31, 2021. 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. 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 redesigns or modifications are not completed, some or all of our orders may not ship or convert to revenue. In certain cases, we publicly disclose anticipated, pending orders with prospective customers; 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

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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.

We are dependent on information technology in our operations and the failure of such technology may adversely affect our business. Potential security breaches of our information technology systems, including cyber-attacks, could lead to liability or could damage our reputation and financial results.

We may 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. Inabilities and delays in implementing new systems can also affect our ability to realize projected or expected cost savings. 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 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 may experience attempts to gain unauthorized access to our information technology systems on which we maintain proprietary and confidential information. The risk of a security breach or disruption, particularly through cyber-attacks, or cyber intrusion, including by computer hackers, and cyber terrorists, has generally increased as cyber-attacks have become more prevalent and harder to detect and fight against. Additionally, outside parties may attempt to access our confidential information through other means, for example by fraudulently inducing our employees to disclose confidential information. We actively seek to prevent, detect and investigate any unauthorized access. These threats are also continually evolving, and as a result, might become increasingly difficult to detect. In addition, as a result of the COVID-19 pandemic, 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 could be penetrated by outside parties.

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

We have attracted a highly skilled management team and specialized workforce, including scientists, engineers, researchers, manufacturing, marketing and sales professionals. Our future success will depend, in part, on our ability to attract and retain qualified management and technical personnel. We do not know whether we will be successful in hiring or retaining qualified personnel. Furthermore, our ability to attract and 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 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 addition, we have from time-to-time experienced labor shortages and other labor-related issues. Labor shortages have become more pronounced as a result of the COVID-19 pandemic. 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. These factors can also impact the cost of labor. An overall labor shortage or lack of skilled labor, increased turnover or labor inflation could have a material adverse effect on our results of operations. Our inability to hire qualified personnel on a timely basis, or the departure of key employees, could materially and adversely affect our development and profitable commercialization plans and, therefore, our business prospects, results of operations and financial condition.

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. 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.

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."

Our financial results may be adversely affected by changes in accounting principles generally accepted 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, loss accrual for service contracts, goodwill, impairment of long-lived assets, leases 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.

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.

Management identified material weaknesses in our internal control over financial reporting as of December 31, 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.

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.

We believe that the near-term growth of alternative energy technologies is affected by the availability and size of government and economic incentives. Many of these government incentives expire, phase out over time, may exhaust the allocated funding, or require renewal by the applicable authority. In addition, these incentive programs could be reduced or discontinued for other reasons. The investment tax credit under the U.S. tax code was renewed in February 2018. The renewal allows for a 30% investment tax credit which declined to 26% for 2021 and 2022, and will decline to 22% in 2023 and zero for 2024 and later. Furthermore, changes or amendments to the investment tax credit might be more favorable to other technologies. The reduction, elimination, or expiration of the investment tax credit or other government subsidies and economic incentives, or the failure to renew such tax credit, 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.

We are subject to various federal, state and local and non-US 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, and local 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. Furthermore, federal, state, and local governments are increasingly regulating and restricting the use of certain chemicals, substances, and materials. Some of these policy initiative 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.

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 substantial liabilities and sanctions, including fines and penalties, cleanup costs or the requirement to undertake corrective action. Further, environmental laws 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.

Additionally, certain environmental laws impose liability, which can be joint, several and 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.

Trade policies, treaties and tariffs 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. There is currently significant uncertainty about the future relationship between the United States and various other countries, most significantly China, with respect to trade policies, treaties, tariffs and taxes. The U.S. presidential administration and U.S. Congress are in the process of revisiting changes made by the prior U.S. presidential administration. These developments, or the perception that any of them could occur, could have a material effect on global economic conditions and the stability of global financial markets, and could significantly reduce global trade and, in particular, trade between the impacted nations and the United States.

This uncertainty includes: (i) the possibility of altering the existing tariffs or penalties on products manufactured outside the United States, including the U.S. government's 25% tariff on a range of products from China; (ii) the effects stemming from the removal of such previously imposed tariffs; (iii) subsequent tariffs imposed by the United States on any other U.S. trading partner such as Russia; and (iv) potential tariffs imposed by trading partners on U.S. goods. The institution of trade tariffs on items imported by us from other countries could increase our costs, which could have a negative impact on our business.

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. In addition, an open conflict or war across any region could affect our ability to obtain raw materials. The current military conflict between Russia and Ukraine, and related sanctions, export controls or other actions that may be initiated by nations, including the United States, the European Union or Russia (e.g., potential cyberattacks, disruption of energy flows, etc.) could adversely affect our business and/or our supply chain or our business partners or customers in other countries beyond Russia and Ukraine. 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.

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. 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.

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 our effective tax rate 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. The development of our tax strategies requires additional expertise and may impact how we conduct our business. If our tax strategies are ineffective or we are not in compliance with domestic and international tax laws, our financial position, operating results and cash flows could be adversely affected.

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.

As of December 31, 2021, we had federal NOL carryforwards of \$905.6 million, 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, 2021, we also had federal research and development tax credit carryforwards of \$9.0 million, which begin to expire in 2033. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), changes in our ownership may limit the amount of our NOL carryforwards and research and development tax credit carryforwards that could be utilized annually to offset our future taxable income, if any. This limitation would generally apply in the event of a cumulative change in ownership of the Company of more than 50 percentage points within a 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 an 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 modifies, 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.

E. STRATEGIC RISKS

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

We will need to maintain and may need to enter into additional strategic relationships in order to complete our current product 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 products and anticipated products, which are in development. If we are unable to identify, enter into, and maintain satisfactory agreements with potential partners, including those relating to the supply, distribution, service and support of our current products and anticipated products, 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. 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 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.

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

We have begun developing and constructing of hydrogen production plants across the United States and building relationships with green hydrogen suppliers. In the fourth quarter of 2021, for example, we acquired both Applied Cryo Technologies and Frames. There can be no assurances that we will be able to successfully implement our new business ventures or successfully operate within this industry. Additionally, the ability to successfully integrate and execute these projects is dependent upon our ability to manufacture and supply each project with a sufficient number of electrolyzers. The successful integration of our electrolyzer manufacturing objectives will affect our ability to meet demands for electrolyzers – both internally for our hydrogen production projects, and externally for third-party electrolyzer customers. 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. For further information on risks associated with acquisitions, see Item 1.3.F “Risk Factors (“Strategic Risks – 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”).

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. In 2021, the sales price of our common stock fluctuated from a high of \$73.18 per share to a low of \$20.07 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. In addition, we are subject to securities class action litigation filed after a drop in the price in our common stock in March 2021, 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, 2021, 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, 2021, we had outstanding options exercisable for an aggregate of 23,806,909 shares of common stock at a weighted average exercise price of \$20.64 per share and 80,017,181 shares of common stock issuable upon the exercise of warrants, 75,655,478 of which were vested as of December 31, 2021.

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.

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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 publish research or reports or if they publish unfavorable or inaccurate research about our business and our stock, 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 of our company or our stock, 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 certificate of incorporation, our 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: 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 requirements for nominations for election to our Board or for proposing matters that can be acted on by stockholders at stockholder meetings, 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; the ability of our Board of Directors, by majority vote, 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.

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 certificate of incorporation or 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

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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.

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, clean, renewable green 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, to existing or future customers, or to large-scale economic, environmental, or geopolitical conditions. We are firm believers that our fuel cell and hydrogen solutions along with our green hydrogen strategy will play a significant role in helping to get to the scale needed to help stop the substantial damage that may otherwise occur due to the future risks of climate change. Given the global nature of climate change, we all share the responsibility of developing or supporting new methods for generating and using energy that will curb or offset greenhouse gas emissions.

Item 1B. Unresolved Staff Comments

The Company received a comment letter from the staff (the "Staff") of the SEC's Division of Corporation Finance on December 16, 2020 and, after interim responses from the Company, resolution of certain comments, and supplemental comments from the Staff, the Company received the most recent comment letter from the Staff on October 19, 2021 (the "Comment Letter"). The Company responded to the Comment Letter on January 19, 2022 (the "Response Letter"), following discussions with the Staff. The Company believes that all matters raised in the Comment Letter have been resolved, other than the Staff's comment to amend the Company's Form 10-K for the year ended December 31, 2020 (the "2020 Form 10-K") to include revised management's discussion and analysis disclosures for all restated periods, including restated quarterly periods, and to disclose that the material weakness identified as of December 31, 2020 also existed in 2018 and 2019. The Company expects to file an amended 2020 Form 10-K as promptly as practicable after the filing of this Form 10-K. The amended 2020 Form 10-K will not include any changes to the Company's audited consolidated financial statements, or the notes thereto, that were previously filed.

Item 2. Properties

Our principal offices are located in Latham, New York, where we lease a 159,000 square foot facility that includes our headquarter office building, our manufacturing facility, and our primary research and development center. We also lease the following properties:

- we lease a 150,000 square foot facility in Rochester, New York that includes additional office and research and development space;
- we lease a 29,200 square foot facility in Spokane, Washington that includes an office building and a manufacturing facility;
- we lease a 38,400 square foot warehousing space in Clifton Park, New York;
- we lease manufacturing and warehousing space of 27,000 feet in Latham, New York for H2 infrastructure;
- we lease a manufacturing site in Concord, Massachusetts of 33,000 square feet;
- we lease a 37,000 square foot warehouse service center in Dayton, Ohio;
- we lease a 13,000 square foot service center in Romeoville, Illinois;
- we lease space from a third-party vendor in Watervliet, New York for service and inventory, which is 60,000 to 100,000 square feet as needed;
- we lease a 7,600 square foot office space in Canonsburg, Pennsylvania;
- we acquired a lease for a 175,000 square foot facility in Houston, TX that includes office space and a manufacturing facility as part of our acquisition of Applied Cryo Technologies; and
- we acquired two leases as part of the acquisition of Frames comprising of office space of 30,000 square feet in Alphen aan den Rijn in the Netherlands, and office space with 35,000 square feet in Shivajinagar, India.

See Note 22, “Commitments and Contingencies,” to the consolidated financial statements, 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 for at least the next two years.

Item 3. Legal Proceedings

On August 28, 2018, a lawsuit was filed on behalf of multiple individuals against the Company and five corporate co-defendants in the 9th Judicial District Court, Rapides Parish, Louisiana. The lawsuit relates to the previously disclosed May 2018 accident involving a forklift powered by the Company’s fuel cell at a Procter & Gamble facility in Louisiana. The lawsuit alleges claims against the Company and co-defendants, including Structural Composites Industries, Deep South Equipment Co., Air Products and Chemicals, Inc., and Hyster-Yale Group, Inc. for claims under the Louisiana Product Liability Act (“LPLA”) including defect in construction and/or composition, design defect, inadequate warning, breach of express warranty and negligence for wrongful death and personal injuries, among other damages. Procter & Gamble has intervened in that suit to recover worker’s compensation benefits paid to or for the employees/dependents. Procter & Gamble has also filed suit for property damage, business interruption, loss of revenue, expenses, and other damages. Procter & Gamble alleges theories under the LPLA, breach of warranty and quasi-contractual claims under Louisiana law. Defendants include the Company and several of the same co-defendants from the August 2018 lawsuit, including Structural Composites Industries, Deep South Equipment Co., and Hyster-Yale Group, Inc.

On March 8, 2021, Company stockholder Dawn Beverly, individually and on behalf of all persons who purchased or otherwise acquired Plug securities between November 9, 2020 and March 1, 2021, filed a complaint in the U.S. District Court for the Southern District of New York against the Company, Plug Chief Executive Officer Andrew Marsh, and Plug Chief Financial Officer Paul Middleton (together, the “Defendants”), captioned *Dawn Beverly et al. v. Plug Power Inc. et al.*, Case No. 1:21-cv-02004 (S.D.N.Y.) (the “Beverly Complaint”). The Beverly Complaint includes two claims, for (1) violation of Section 10(b) of the Exchange Act and Rule 10b5 promulgated thereunder (against all Defendants); and (2) violation of Section 20(a) of the Exchange Act (against Mr. Marsh and Mr. Middleton). The Beverly Complaint alleges that Defendants failed to disclose that the Company (i) “would be unable to timely file its 2020 annual report due to delays related to the review of classification of certain costs and the recoverability of the right to use assets with certain leases”; and (ii) “was reasonably likely to report material weaknesses in its internal control over financial reporting[.]” The Beverly Complaint alleges that, a result, “positive statements about the Company’s business, operations, and prospects were materially misleading and/or lacked a reasonable basis,” causing losses and damages. The Beverly Complaint seeks compensatory damages “in an amount to be proven at trial, including interest thereon”; “reasonable costs and expenses incurred in th[e] action”; and “[s]uch other and further relief as the [c]ourt may deem just and proper.”

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On March 18, 2021, Company stockholder Branislav Smoliček, individually and on behalf of all persons who purchased or otherwise acquired Plug securities between November 9, 2020 and March 1, 2021, filed in U.S. District Court for the Central District of California a complaint captioned *Smoliček v. Plug Power Inc. et al.*, Case No. 2:21-cv-02402 (C.D. Cal.) (the “*Smoliček* Complaint”). The *Smoliček* Complaint is substantially similar to the *Beverly* Complaint, asserting the same claims, for the same damages, against the same Defendants as the *Beverly* Complaint. On May 4, 2021, Company stockholder Laxman Tank, individually and on behalf of all persons who purchased or otherwise acquired Plug securities between November 9, 2020 and March 16, 2021, filed in U.S. District Court for the Southern District of New York a complaint captioned *Tank v. Plug Power Inc. et al.*, Case No. 1:21-cv-03985 (S.D.N.Y.) (the “*Tank* Complaint”). The *Tank* Complaint is substantially similar to the *Beverly* Complaint, asserting the same claims, for the same damages, against the same Defendants as the *Beverly* Complaint.

On July 22, 2021, the U.S. District Court for the Southern District of New York consolidated the *Beverly*, *Smoliček*, and *Tank* Complaints (the “Class Action”) and appointed a lead plaintiff. On July 28, 2021, the plaintiff voluntarily dismissed the *Tank* Complaint. On October 6, 2021, lead plaintiff filed a Consolidated Amended Class Action Complaint (the “Class Action Amended Complaint”) which asserts claims individually and on behalf of all persons who purchased or otherwise acquired Plug securities between November 9, 2020 and March 9, 2021 (the “Class”). The Class Action Amended Complaint includes two claims, for (1) violation of Section 10(b) of the Exchange Act and Rule 10b5 promulgated thereunder (against all Defendants); and (2) violation of Section 20(a) of the Exchange Act (against Mr. Marsh and Mr. Middleton). The Class Action Amended Complaint alleges that 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, and that these alleged misstatements caused Class members losses and damages. The Class Action Amended Complaint seeks compensatory damages “in an amount to be proven at trial, including prejudgment interest thereon”; “reasonable costs and expenses incurred in th[e] action”; and “[s]uch other and further relief as the [c]ourt may deem just and proper.” On December 6, 2021, defendants filed a motion to dismiss the Class Action Amended Complaint, and briefing is expected to be completed in March 2022.

On March 31, 2021, Company stockholder Junwei Liu, 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”). The *Liu* Derivative Complaint alleges 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 *Liu* Derivative Complaint asserts claims 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 *Liu* Derivative Complaint 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.”

On April 5, 2021, 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 *Levy* Derivative Complaint alleges that, from November 9, 2020 to April 5, 2021, the Derivative Defendants “breached their duties of loyalty and good faith” by failing to disclose “(1) that the Company would be unable to timely file its 2020 annual report due to delays related to the review of classification of certain costs and the recoverability of the right to use assets with certain leases; (2) that the Company was reasonably likely to report material weaknesses in its internal control over financial reporting; and (3) that, as a result of the foregoing, Defendants’ positive statements about the Company’s business, operations, and prospects were materially misleading and/or lacked a reasonable basis.” The *Levy* Derivative Complaint asserts claims for (1) breach of fiduciary

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duty (as to the named director defendants), (2) unjust enrichment (as to certain named director defendants), (3) waste of corporate assets (as to the named director defendants), and (4) violations of Sections 10(b) and 21D of the Exchange Act (as to the named officer defendants). The *Levy* Derivative Complaint seeks a judgment “declaring that Plaintiffs may maintain this action on behalf of the Company”; finding the Derivative Defendants “liable for breaching their fiduciary duties owed to the Company”; directing the Derivative Defendants “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”; “awarding damages to the Company for the harm the Company suffered as a result of Defendants’ wrongful conduct”; “awarding damages to the Company for [the named officer Derivative Defendants’] violations of Sections 10(b) and 21D of the Exchange Act”; “awarding Plaintiffs the costs and disbursements of this action, including attorneys’, accountants’, and experts’ fees”; and “awarding such other and further relief as is just and equitable.”

On April 27, 2021, the U.S. District Court for the Southern District of New York consolidated the *Liu* Derivative Complaint and the *Levy* Derivative Complaint under Case No. 1:21-cv-02753-ER (the “Consolidated Action”). On June 29, 2021, the Consolidated Action was stayed pending the resolution of the motion to dismiss in the Securities Class Action.

On May 13, 2021, 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 development costs versus costs of good 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.” The parties have agreed to stay the case.

Item 4. Mine Safety Disclosures

Not applicable.

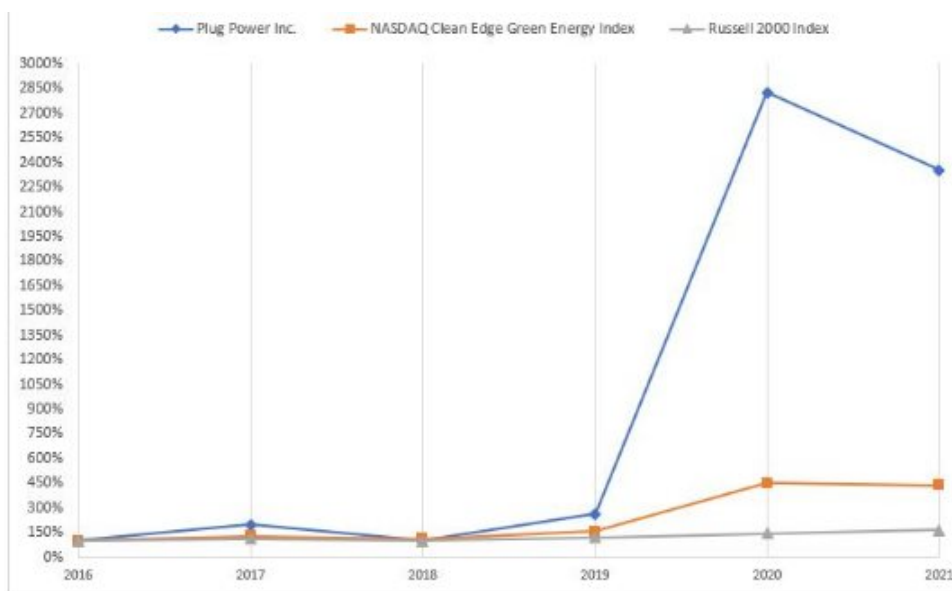
PART II

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 18, 2021, there were approximately 670,094 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 837.

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 percentage 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, 2016 and ending December 31, 2021. 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, 2016 and the reinvestment of all dividends, if any.



Index	2016	2017	2018	2019	2020	2021
Plug Power Inc.	\$ 100.00	\$ 196.67	\$ 103.33	\$ 263.33	\$ 2,825.83	\$ 2,352.50
NASDAQ Clean Edge Green Energy Index	\$ 100.00	\$ 130.78	\$ 113.56	\$ 158.34	\$ 451.25	\$ 437.48
Russell 2000 Index	\$ 100.00	\$ 113.14	\$ 99.37	\$ 122.32	\$ 145.52	\$ 165.42

- 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, 2016 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.

Overview

Plug is facilitating the paradigm shift to an increasingly electrified world by innovating cutting-edge hydrogen and fuel cell solutions. In our core business, we provide and continue to develop commercially-viable hydrogen and fuel cell product solutions to replace lead-acid batteries in electric material handling vehicles and industrial trucks for some of the world’s largest retail-distribution and manufacturing businesses. We are focusing our efforts on 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. Additionally, we manufacture and sell fuel cell products to replace batteries and diesel generators in stationary back-up power applications for telecommunications, transportation, and utility customers. Plug supports these markets with an ecosystem of vertically integrated products that make, transport, handle, dispense and use hydrogen.

Our current products and services include:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling electric vehicles, including Class 1, 2, 3 and 6 electric forklifts, Automated Guided Vehicles (“AGVs”), and ground support equipment.

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.

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

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.

ProGen: ProGen is our fuel cell stack and engine technology currently used globally in mobility and stationary fuel cellsystems, and as engines in electric delivery vans. This includes the Plug Power MEA (membrane electrode assembly), a critical component of the fuel cell stack used in zero-emission fuel cell electric vehicle engines.

GenFuel electrolyzers: GenFuel electrolyzers are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and “green” hydrogen generated by using renewable energy inputs, such as solar or wind power.

Other services include our ongoing ‘internet of things’-based maintenance and on-site service program for material handling fuel cells, mobility and stationary fuels cells, hydrogen handling and dispensing systems.

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. Europe has rolled out ambitious targets for the hydrogen economy and Plug is seeking to execute on its strategy to become one of the European leaders. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business. Our global strategy includes leveraging a network of integrators or contract manufacturers. We manufacture our commercially viable products in Latham, New York, Rochester, New York, Houston, Texas and Spokane, Washington and support liquid hydrogen generation and logistics in Charleston, Tennessee.

Part of our long-term plan includes Plug penetrating the on-road vehicle market and large-scale stationary market. Plug’s formation of joint ventures with HyVia and AccionaPlug S.L. in Europe and SK in Asia not only support this goal but are expected to provide us with a more global footprint. Plug has been successful with acquisitions, strategic partnerships and joint ventures, and we plan to continue this mix. For example, we expect our relationships with Brookfield and Apex to provide us access to low-cost renewable energy, which is critical to low-cost green hydrogen.

Recent Developments

COVID-19 Update

As a result of the COVID-19 pandemic outbreak in March 2020, state governments—including those in New York and Washington, where our manufacturing facilities are located—issued orders requiring businesses that do not conduct essential services to temporarily close their physical workplaces to employees and customers. As a result, we put in place a number of protective measures in response to the COVID-19 outbreak, which included the canceling of all commercial air travel and all other non-critical travel, requesting that employees limit non-essential personal travel, eliminating all but essential third-party access to our facilities, enhancing our facilities’ janitorial and sanitary procedures, encouraging employees to work from home to the extent their job function enabled them to do so, encouraging the use of virtual employee meetings, and providing staggered shifts and social distancing measures for those employees associated with manufacturing and service operations.

In June 2021, in accordance with revised CDC guidelines and where permitted by state law, employees who were fully vaccinated against COVID-19 and have been through Plug’s certification process, were permitted to enter Plug facilities without a face covering. Individuals inside Plug facilities who did not wish to go through the certification process were required to wear proper face coverings and continued to maintain social distancing of six feet or greater. In states where the guidelines for face coverings was still government mandated, Plug complied with the state and local jurisdictions and enforced face mask usage, as well as social distancing at our sites. In early August 2021, we adjusted our guidance as a result of an influx of COVID-19 cases and began requiring all employees and visitors regardless of vaccination status to wear a face-covering at all times while within a Plug facility, and strongly encouraged social distancing. We continue to provide enhanced janitorial and sanitary procedures, encourage employees to work from home to the extent their job function enables them to do so, and encourage the use of virtual employee meetings. Additionally, starting on January 3, 2022, all U.S. based employees, including temporary employees are required to either be vaccinated against COVID-19, or be subject to weekly COVID-19 testing in an effort to stop the spread of COVID-19 and continue to protect our workforce.

We cannot predict at this time the full extent to which COVID-19 will impact our business, results, and financial condition, which will depend on many factors. We are staying in close communication with our manufacturing facilities, employees, customers, suppliers, and partners, and acting to mitigate the impact of this dynamic and evolving situation, but there is no guarantee that we will be able to do so. Many of the parts for our products are sourced from suppliers in China and the manufacturing situation in China remains variable. Supply chain disruptions could reduce the availability of key components, increase prices or both, as the COVID-19 pandemic has caused significant challenges for global supply chains resulting primarily in transportation delays. These transportation delays have caused incremental freight charges, which have negatively impacted our results of operations. We expect that these challenges will continue to have an impact on our businesses for the foreseeable future. Certain of our customers, such as Walmart, significantly increased their use of units and hydrogen fuel consumption as a result of COVID-19. In the year ended December 31, 2021, our services and PPA margins were negatively impacted by incremental service costs associated with increased usage of units at some of our primary customer sites.

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We continue to take proactive steps to limit the impact of these challenges and are working closely with our suppliers and transportation vendors to ensure availability of products and implement other cost savings initiatives. In addition, we continue to invest in our supply chain to improve its resilience with a focus on automation, dual sourcing of critical components and localized manufacturing when feasible. To date, there has been limited disruption to the availability of our products, though it is possible that more significant disruptions could occur if these supply chain challenges continue.

Capital Raises and Strategic Investments

On December 9, 2021, we completed the previously announced acquisition of Frames, a leader in engineering, process and systems integration serving the energy sector, for a purchase price of approximately \$123.6 million, consisting of \$94.5 million in cash, and \$29.1 million based on future earnouts over the next four years from the closing date.

On November 22, 2021, we completed the previously announced acquisition of Applied Cryo for a purchase price of approximately \$159.3 million, consisting of \$98.6 million in cash, \$46.7 million in stock and \$14.0 million based on future earnouts over the next two and half years.

On February 24, 2021, the Company completed the previously announced sale of its common stock in connection with a strategic partnership with SK Holdings Co., Ltd. (“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.

Inflation, Material Availability and Labor Shortages

In 2021, we experienced higher than expected commodity costs and supply chain costs, including logistics, procurement, and manufacturing costs, largely due to inflationary pressures. We expect this cost inflation to remain elevated through at least 2022.

Our operations require significant amounts of necessary parts and raw materials. From time to time, the Company may encounter difficulties in obtaining certain raw materials or components necessary for production due to supply chain constraints and logistical challenges, which may also negatively impact the pricing of materials and components sourced or used by the Company. While the Company does not currently anticipate any significant, broad-based difficulties in obtaining raw materials or components necessary for production, there have been supply chain and logistical challenges that have resulted in supply constraints and commodity price increases on certain raw materials and components used by the Company in production, as well as increased prices for freight and logistics, including air, sea and ground freight. Consequently, the Company may experience supply shortages for raw materials or components in the future, which could be further exacerbated by increased commodity prices as a result of additional inflationary pressures. Although we have offset a portion of these increased costs through price increases and operational efficiencies to date, there can be no assurance that we will be able to continue to do so. If we are unable to manage fluctuations through pricing actions, cost savings projects, and sourcing decisions as well as through productivity improvements, it may adversely impact our gross margins in future periods. For a discussion of certain risks related to inflation and costs, refer to the risk factor titled “Market Risks—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.” in Part I, Item 1A herein.

Additionally, we have observed an increasingly competitive labor market. Tight labor markets have resulted in longer times to fill open positions and labor inflation. Increased employee turnover, changes in the availability of our workers, including as a result of COVID-19-related absences, and labor shortages in our supply chain have resulted in, and could continue to result in, increased costs which could negatively affect our financial condition, results of operations, or cash flows.

Results of Operations

Our primary sources of revenue are from sales of fuel cell systems, related infrastructure and equipment, services performed on fuel cell systems and related infrastructure, PPAs, and fuel delivered to customers. Revenue from sales of fuel cell systems, related infrastructure and equipment represents sales of our GenDrive units, GenSure stationary backup power units, cryogenic stationary and onroad storage, 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 PPAs primarily represents payments received from customers who make monthly payments to access the Company's GenKey solution. 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 on site.

Information pertaining to fiscal year 2019 was included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020 starting on page 36 under Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," which was filed with the SEC on May 13, 2021. Such information is hereby incorporated by reference into this "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Provision for Common Stock Warrants

In 2017, in separate transactions, the Company issued to each of Amazon.com NV Investment Holdings LLC and Walmart, Inc. ("Walmart") warrants to purchase shares of the Company's common stock. 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. During the fourth quarter of 2019, the Company adopted ASU 2019-08, with retrospective adoption as of January 1, 2019. As a result, the amount recorded as a reduction of revenue was measured based on the grant-date fair value of the warrants. Previously, this amount was measured based on vesting date fair value with estimates of fair value determined at each financial reporting date for unvested warrant shares considered to be probable of vesting. Except for the third tranche, all existing unvested warrants are measured using a measurement date of January 1, 2019, the adoption date, in accordance with ASU 2019-08. For the third tranche of the shares under Walmart's warrant, the exercise price will be determined once the second tranche vests. For the third tranche of the Amazon Warrant Shares, see below for the exercise price and measurement dates used.

The amount of provision for common stock warrants recorded as a reduction of revenue during the years ended December 31, 2021 and 2020 respectively, is shown in the table below (in thousands):

	Year ended December 31,	
	2021	2020
Sales of fuel cell systems, related infrastructure and equipment	\$ —	\$ (331,135)
Services performed on fuel cell systems and related infrastructure	(497)	(35,972)
Power Purchase Agreements	(3,444)	(2,777)
Fuel delivered to customers	(2,625)	(55,163)
Total	<u>\$ (6,566)</u>	<u>\$ (425,047)</u>

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Net revenue, cost of revenue, gross profit/(loss) and gross margin for the years ended December 31, 2021 and 2020 were as follows (in thousands):

	<u>Net Revenue</u>	<u>Cost of Revenue</u>	<u>Gross Profit/(Loss)</u>	<u>Gross Margin</u>
For the year ended December 31, 2021:				
Sales of fuel cell systems, related infrastructure and equipment	\$ 392,777	\$ 307,157	\$ 85,620	21.8 %
Services performed on fuel cell systems and related infrastructure	26,706	63,729	(37,023)	(138.6)%
Provision for loss contracts related to service	—	71,988	(71,988)	— %
Power Purchase Agreements	35,153	102,417	(67,264)	(191.3)%
Fuel delivered to customers	46,917	127,196	(80,279)	(171.1)%
Other	789	1,165	(376)	(47.7)%
Total	<u>\$ 502,342</u>	<u>\$ 673,652</u>	<u>\$ (171,310)</u>	<u>(34.1)%</u>
For the year ended December 31, 2020:				
Sales of fuel cell systems, related infrastructure and equipment	\$ (94,295)	\$ 171,404	\$ (265,699)	(281.8)%
Services performed on fuel cell systems and related infrastructure	(9,801)	42,524	(52,325)	(533.9)%
Provision for loss contracts related to service	—	35,473	(35,473)	— %
Power Purchase Agreements	26,620	64,640	(38,020)	(142.8)%
Fuel delivered to customers	(16,072)	61,815	(77,887)	(484.6)%
Other	311	323	(12)	(3.9)%
Total	<u>\$ (93,237)</u>	<u>\$ 376,179</u>	<u>\$ (469,416)</u>	<u>(503.5)%</u>

Net Revenue

Revenue – 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, cryogenic stationary and onroad storage, electrolyzers and hydrogen fueling infrastructure referred to at the site level as hydrogen installations. Revenue from sales of fuel cell systems, related infrastructure and equipment for the year ended December 31, 2021 increased \$487.1 million, or 516.5%, to \$392.8 million from (\$94.3) million for the year ended December 31, 2020. Included within revenue was a provision for common stock warrants of \$0 and \$331.1 million for the years ended December 31, 2021 and 2020, respectively. The main driver for the increase in revenue was the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020. Additionally, there was an increase in both the number of hydrogen fueling infrastructure sites and GenDrive units recognized as revenue. There were 49 hydrogen fueling infrastructure sites recognized as revenue during the year ended December 31, 2021 as compared to 27 in 2020. There were 12,806 GenDrive units recognized as revenue in 2021, as compared to 9,418 in 2020.

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, 2021 increased \$36.5 million, or 372.5%, to \$26.7 million from (\$9.8) million for the year ended December 31, 2020. Included within revenue from services was provision for common stock warrants of \$497 thousand and \$36.0 million for the years ended December 31, 2021 and 2020, respectively. The main driver for the increase in revenue was the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020. In addition, the average number of GenDrive units under maintenance contracts during the year ended December 31, 2021 was 16,987, compared to 12,417 in 2020. The increase in revenue from services performed on fuel cell systems and related infrastructure in 2021 was also related to our expanding customer base and growth within in our current customer base, offset by a reduction in billings for run time hours that exceeded certain levels given certain changes in the overall contract with a customer.

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, 2021 increased \$8.5 million, or 32.1%, to \$35.2 million from \$26.6 million for the year ended December 31, 2020. Included within revenue was provision for common stock warrants of \$3.4 million and \$2.8 million for the years ended December 31, 2021 and 2020, respectively. 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 19,370 units under PPAs generating revenue in 2021, compared to 15,469 in 2020. The average number of sites under PPA arrangements was 61 in 2021, compared to 39 in 2020. We continue to enhance our GenDrive units, which has resulted in higher demand for our GenDrive product.

Revenue – fuel delivered to customers. Revenue associated with fuel delivered to customers represents the sale of hydrogen that has been purchased by the Company from a third party or generated on site. Revenue associated with fuel

delivered to customers for the year ended December 31, 2021 increased \$63.0 million, or 391.9%, to \$46.9 million from (\$16.1) million for the year ended December 31, 2020. Included within revenue was provision for common stock warrants of \$2.6 million and \$55.2 million for the years ended December 31, 2021 and 2020, respectively. The main driver for the increase in revenue was the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020. In addition, there were 152 sites associated with fuel contracts at December 31, 2021, compared to 103 at December 31, 2020. While there has been an increase in the number of sites associated with fuel contracts, the full hydrogen supply will not commence until distribution centers are utilized at capacity. This is consistent with the increased sales of fuel cell systems, related infrastructure and equipment sales as well as increases in the level of deployment of PPA sites.

Cost of Revenue

Cost of revenue – sales of fuel cell systems, related infrastructure and equipment. Cost of revenue from sales of fuel cell systems, related infrastructure and equipment 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 onroad storage, and electrolyzers, as well as hydrogen fueling infrastructure referred to at the site level as hydrogen installations.

Cost of revenue from sales of fuel cell systems, related infrastructure and equipment for the year ended December 31, 2021 increased \$135.8 million, or 79.2%, to \$307.2 million, compared to \$171.4 million for the year ended December 31, 2020. This increase was primarily driven by an increase in the number of GenDrive units recognized as revenue, as well as an increase in hydrogen infrastructure installations recognized as revenue. There were 12,806 GenDrive units recognized as revenue during the year ended December 31, 2021, compared to 9,418 for the year ended December 31, 2020. There were 49 sites associated with hydrogen fueling infrastructure revenue for the year ended December 31, 2021 compared to 27 for the year ended December 31, 2020. The gross margin generated from sales of fuel cell systems, related infrastructure and equipment was 21.8% for the year ended December 31, 2021, compared to (281.8)% for the year ended December 31, 2020. This change was primarily due to the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020, offset by increased costs related to recent macroeconomic conditions.

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, 2021 increased \$21.2 million, or 49.9%, from \$42.5 million to \$63.7 million for the year ended December 31, 2020 due to an increase in the number of units under maintenance contracts, as well as certain unexpected costs including varied COVID related issues such as freight, certain vendor transition and force majeure issues that impacted hydrogen infrastructure service costs, and scrap charges associated with certain parts. There were 16,987 units under maintenance contracts generating revenue during the year ended December 31, 2021, compared to 12,417 for the year ended December 31, 2020, on average. Gross margin (138.6)% for the year ended December 31, 2021 compared to (533.9)% for the year ended December 31, 2020. This change was primarily due to the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020. This was offset by certain unexpected costs including varied COVID related issues such as increased freight costs, certain vendor transition and force majeure issues that impacted hydrogen infrastructure service costs, and scrap charges associated with certain parts, as well as a reduction in billings for run time hours that exceeded certain levels given certain changes in the overall contract.

Cost of revenue – Provision (benefit) for loss accrual. The Company recorded a provision for loss accrual during 2021 of \$72.0 million, an increase of \$36.5 million over the provision for loss accrual of \$35.5 million in 2020. The increase in the provision for loss accrual during 2021 was driven primarily by an increase in estimated projected costs to service units and an increase in the number of service contracts during 2021. The Company increased the provision due to cost increases in 2021 in combination with certain cost down initiatives taking longer to achieve than previously estimated. As a result, 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, 2021 increased \$37.8 million, or 58.4%, to \$102.4 million from \$64.6 million for the year ended December 31, 2020. The increase in cost was a result of an increase in the

average number of units and customer sites party to these agreements. There was an average of 19,370 units under PPAs recognized as revenue in 2021, compared to 15,469 in 2020. The average number of sites under PPA arrangements was 61 in 2021, compared to 39 in 2020. Gross loss increased to (191.3)% for the year ended December 31, 2021 compared to (142.8)% for the year ended December 31, 2020. This is primarily due to certain COVID related issues such as increased freight costs, scrap charges associated with certain parts. Additionally, the provision for warrants for PPAs increased \$0.6 million from \$2.8 million at December 31, 2020 to \$3.4 million at December 31, 2021.

Cost of revenue – fuel delivered to customers. Cost of revenue from fuel delivered to customers 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, 2021 increased \$65.4 million, or 105.8%, to \$127.2 million from \$61.8 million for the year ended December 31, 2020. The increase was due primarily to higher volume of liquid hydrogen delivered to customer sites as a result of an increase in the number of hydrogen installations completed under GenKey agreements and higher fuel costs. There were 152 sites associated with fuel contracts at December 31, 2021, compared to 103 at December 31, 2020. Gross loss improved to (171.1)% during the year ended December 31, 2021 compared to (484.6)% during the year ended December 31, 2020. This is primarily due to the provision for common stock warrants related to the accelerated vesting of the third tranche of the Amazon Warrant Shares, which was fully vested in 2020. This was offset by increased costs for the year ended December 31, 2021 due to vendor transition and force majeure events primarily related to hydrogen plant shutdowns. Additionally, 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.

Expenses

Research and development expense. Research and development expense includes: 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, 2021 increased \$36.9 million, or 132.6%, to \$64.8 million from \$27.8 million for the year ended December 31, 2020. The overall growth in R&D investment is commensurate with the Company's future expansion into new markets, new product lines, and varied vertical integrations.

Selling, general and administrative expenses. Selling, general and administrative expenses includes 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, 2021 increased \$100.5 million, or 126.7%, to \$179.9 million from \$79.3 million for the year ended December 31, 2020. This increase was primarily related to acquisition charges, and increases in compensation expense due to increased headcount, stock-based compensation and branding expenses.

Impairment of long-lived assets. The Company recorded an impairment of \$10.2 million for the year ended December 31, 2020, as compared to \$6.4 million for the year ended December 31, 2020. The impairment of long-lived assets in both years primarily related to right of use assets and equipment related to delivery of fuel to customers.

Change in fair value of contingent consideration. The fair value of the contingent consideration related to the acquisition of Giner ELX, Inc. and United Hydrogen Group, Inc. was remeasured as of December 31, 2021, which resulted in a \$11.2 million charge for the year ended December 31, 2021, as compared to \$1.2 million for the year ended December 31, 2020. The increase in fair value is primarily due to an increase in projected revenues associated with electrolyzers.

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, 2021, increased \$3.3

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million or 428.1%, as compared to the year ended December 31, 2020, and was due to an increase in available-for-sale securities during 2021 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, 2021, decreased \$17.3 million or 28.6%, as compared to the year ended December 31, 2020. This decrease was primarily driven by the exchange and conversion during both 2020 and 2021 of the 7.5% Convertible Senior Note and 5.5% Convertible Senior Notes, and the adoption of ASU 2020-06 which reduced the noncash interest expense on convertible notes.

Other expense, net. Other expense, net consists of other expenses related to our foreign currency exchange losses, offset by interest and other income. Other expense, net increased \$26 thousand for the year ended December 31, 2021 in comparison to 2020.

Realized loss on investments, net. Realized loss on investments, net consists of the sales related to available-for-sale debt securities. For the year ended December 31, 2021, the Company had \$81 thousand of net realized loss on investments. The Company did not have an investment portfolio in 2020, and as such there were no realized gains or losses.

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, 2021, the Company had \$6.7 million of change in the fair value of equity securities. The Company did not have equity securities in 2020.

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 and our interest in AccionaPlug S.L., our 50/50 joint venture with Acciona. For the year ended December 31, 2021, the Company recorded a loss of \$5.7 million on equity method investments as neither HyVia nor AccionaPlug S.L. had started commercial operations. The Company did not have any equity method investments in 2020.

Gain (Loss) on Extinguishment of Debt

During the fourth quarter of 2020, the Company issued an aggregate of 14,615,615 shares in connection with the conversion of approximately \$33.5 million of its 5.5% Convertible Senior Notes. The resulting gain of approximately \$4.5 million is reflected in the consolidated statement of operations for the year ended December 31, 2020.

In May 2020, the Company used a portion of the net proceeds from the issuance of the 3.75% Convertible Senior Notes to repurchase approximately \$66.3 million of the 5.5% Convertible Senior Notes which resulted in a \$13.2 million gain on early debt extinguishment.

Income Tax

The Company recognized an income tax benefit for the year ended December 31, 2021 of \$16.2 million related to the recognition of net deferred tax liabilities in connection with the acquisition of Applied Cryo. This resulted in a corresponding reduction in our deferred tax asset valuation allowance. 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.

The net deferred tax asset generated from the Company's current period NOL has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the NOL carry forward will not be realized. The Company recognizes interest and penalties on the Interest and other expense, net line in the accompanying consolidated statements of operations.

The Company recognized an income tax benefit for the year ended December 31, 2020 of \$30.8 million resulting from a source of future taxable income attributable to the net credit to additional paid-in capital of \$25.6 million related to the issuance of the 3.75% Convertible Senior notes, offset by the partial extinguishment of the 5.5% Convertible Senior notes and \$5.2 million of income tax benefit for the year ended December 31, 2020 related to the recognition of net deferred tax liabilities in connection with the acquisition of Giner ELX. This resulted in a corresponding reduction in our deferred

tax asset valuation allowance. 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.

Liquidity and Capital Resources

As of December 31, 2021, the Company had \$2.5 billion of cash and cash equivalents, \$650.9 million of restricted cash and \$1.2 billion of available-for-sale securities and \$148.0 million of equity securities. In addition, the Company had net working capital of \$4.0 billion as of December 31, 2021.

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 the previously announced sale of its common stock in connection with a strategic partnership with SK Holdings Co., Ltd. (“SK Holdings”) to accelerate the use of hydrogen as an alternative energy source in Asian markets. The Company sold 54,996,188 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.

The Company has continued to experience negative cash flows from operations and net losses. The Company incurred net losses attributable to common stockholders of \$460.0 million, \$596.2 million and \$85.6 million for the years ended December 31, 2021, 2020, and 2019, respectively. The Company’s cash used in operations totaled \$358.2 million, \$155.5 million, and \$53.3 million for the year ended December 31, 2021, 2020 and 2019, and has an accumulated deficit of \$2.4 billion at December 31, 2021.

The Company’s significant obligations consisted of the following as of December 31, 2021:

- (i) Operating and finance leases totaling \$206.5 million and \$29.3 million, respectively, of which \$30.8 million and \$4.7 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.
- (ii) Finance obligations totaling \$253.7 million of which approximately \$42.0 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.
- (iii) Long-term debt, primarily related to the Company’s loan and security agreement (Loan Agreement) with Generate Lending, LLC (Generate Capital) totaling \$128.0 million of which \$15.3 million is classified as short term on the consolidated balance sheets. See Note 14, “Long-Term Debt”, for more details.
- (iv) Convertible senior notes totaling \$192.6 million at December 31, 2021. See Note 15, “Convertible Senior Notes,” for more details.

The Company believes that its current working capital of \$4.0 billion at December 31, 2021, which includes unrestricted cash, cash equivalents of \$2.5 billion, and available-for-sale securities of \$1.2 billion, will provide sufficient liquidity to fund operations for a least one year after the date the financial statements are issued.

The Company plans to invest a portion of its available cash to expand its current production and manufacturing capacity and to fund strategic acquisitions and partnerships and capital projects. Future use of the Company’s funds is discretionary and the Company believes that its future working capital and cash position will be sufficient to fund operations even after these growth investments.

Common Stock Issuances

In November 2020, the Company issued and sold in a registered direct offering an aggregate of 43,700,000 shares of its common stock at a purchase price of \$22.25 per share for net proceeds of approximately \$927.3 million.

In August 2020, the Company issued and sold in a registered direct offering an aggregate of 35,276,250 shares of its common stock at a purchase price of \$10.25 per share for net proceeds of approximately \$344.4 million.



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In December 2019, the Company issued and sold in a registered public offering an aggregate of 46 million shares of its common stock at a purchase price of \$2.75 per share for net proceeds of approximately \$120.4 million.

In March 2019, the Company issued and sold in a registered direct offering an aggregate of 10 million shares of its common stock at a purchase price of \$2.35 per share. The net proceeds to the Company were approximately \$23.5 million.

Secured Debt

In March 2019, the Company entered into a loan and security agreement, as amended (the “Loan Agreement”), with Generate Lending, LLC (“Generate Capital”), providing for a secured term loan facility in the amount of \$100 million (the “Term Loan Facility”).

Additionally, during the year ended December 31, 2020, the Company, under another series of amendments to the Loan Agreement, borrowed an incremental \$100 million. As part of the amendment to the Loan Agreement, the Company’s interest rate on the secured term loan facility was reduced to 9.50% from 12.00% per annum, and the maturity date was extended to October 31, 2025 from October 6, 2022. On December 31, 2021, the outstanding balance under the Term Loan Facility was \$118.9 million. In addition to the Term Loan Facility, on December 31, 2021 there was approximately \$9.1 million of debt related to United Hydrogen Group Inc, acquisition.

The Loan Agreement includes covenants, limitations, and events of default customary for similar facilities. Interest and a portion of the principal amount is payable on a quarterly basis. Principal payments will be funded in part by releases of restricted cash, as described in Note 22, “Commitments and Contingencies.” Based on the amortization schedule as of December 31, 2021, the aforementioned loan balance under the Term Loan Facility will be fully paid by October 31, 2025. The Company is in compliance with, or has obtained waivers for, all debt covenants.

The Term Loan Facility is secured by substantially all of the Company’s and the guarantor subsidiaries’ assets, including, among other assets, all intellectual property, all securities in domestic subsidiaries and 65% of the securities in foreign subsidiaries, subject to certain exceptions and exclusions.

The Loan Agreement provides that if there is an event of default due to the Company’s insolvency or if the Company fails to perform in any material respect the servicing requirements for fuel cell systems under certain customer agreements, which failure would entitle the customer to terminate such customer agreement, replace the Company or withhold the payment of any material amount to the Company under such customer agreement, then Generate Capital has the right to cause Proton Services Inc., a wholly owned subsidiary of the Company, to replace the Company in performing the maintenance services under such customer agreement.

As of December 31, 2021 the Term Loan Facility requires the principal balance as of each of the following dates not to exceed the following (in thousands):

December 31, 2022	105,904
December 31, 2023	72,955

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.

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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 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.

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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, 2021
Principal amounts:	
Principal	\$ 197,278
Unamortized debt issuance costs (1)	(4,645)
Net carrying amount	<u>\$ 192,633</u>

- 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, 2021
Interest expense	\$ 7,446
Amortization of debt issuance costs	1,670
Total	<u>9,116</u>
Effective interest rate	4.50%

Based on the closing price of the Company's common stock of \$28.23 on December 31, 2021, the if-converted value of the notes was greater than the principal amount. The estimated fair value of the note at December 31, 2021 was approximately \$1.1 billion. Fair value estimation was primarily based on a stock exchange, active trade on January 3, 2022 of the 3.75% Senior Convertible Note. The Company considers this a Level 2 fair value measurement. Refer to Note 5, "Fair value measurements."

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.

Common Stock Forward

In connection with the issuance of the 5.5% Convertible Senior Notes, the Company also 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 net cost incurred in connection with the Common Stock Forward of \$27.5 million was recorded as an increase in treasury stock in the consolidated balance sheets. The related shares were accounted for as a repurchase of common stock.

The book value of the 5.5% Notes Capped Call and Common Stock Forward are not remeasured.

During the fourth quarter of 2020, the Common Stock Forward was partially settled and, as a result, the Company received 4.4 million shares of its common stock. During the year ended December 31, 2021, 8.1 million shares were settled and received by the Company.

Amazon Transaction Agreement

On April 4, 2017, the Company and Amazon entered into a Transaction Agreement (the “Amazon Transaction Agreement”), pursuant to which the Company agreed to issue Amazon the Amazon Warrant to acquire up to 55,286,696 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 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 existing commercial agreements contemplate, but do not guarantee, future purchase orders for the Company’s fuel cell technology. The vesting of the 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.

Under the terms of the original Amazon Warrant, the first tranche of the 5,819,652 Amazon Warrant Shares vested upon execution of the Amazon Warrant, and the remaining Amazon Warrant Shares vest based on Amazon’s payment of up to \$600.0 million to the Company in connection with Amazon’s purchase of goods and services from the Company. The \$6.7 million fair value of the first tranche of the Amazon Warrant Shares, was recognized as selling, general and administrative expense upon execution of the Amazon Warrant.

Provision for the second and third tranches of Amazon Warrant Shares was recorded as a reduction of revenue, because they represent consideration payable to a customer.

The fair value of the second tranche of Amazon Warrant Shares was measured at January 1, 2019, upon adoption of ASU 2019-08. The second tranche of 29,098,260 Amazon Warrant Shares vested in four equal installments, as Amazon 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 last installment of the second tranche vested on November 2, 2020. Revenue reductions of \$497 thousand, \$9.0 million and \$4.1 million were associated with the second tranche of Amazon Warrant Shares were recorded in 2021, 2020, and 2019, respectively, under the terms of the original Amazon Warrant.

Under the terms of the original Amazon Warrant, the third tranche of 20,368,784 Amazon Warrant Shares vests in eight equal installments, as Amazon 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 \$400.0 million in the aggregate. The measurement date for the third tranche of Amazon Warrant Shares was November 2, 2020, when their exercise price was determined, as discussed further below. The fair value of the third tranche of Amazon Warrant Shares was determined to be \$10.57 each. During 2020, revenue reductions of \$24.1 million associated with the third tranche Amazon Warrant Shares were recorded under the terms of the original Amazon Warrant, prior to the December 31, 2020 waiver described below.

On December 31, 2020, the Company waived the remaining vesting conditions under the Amazon Warrant, which resulted in the immediate vesting of all the third tranche of the Amazon Warrant Shares and recognition of an additional \$399.7 million reduction to revenue.

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The \$399.7 million reduction to revenue resulting from the December 31, 2020 waiver was determined based upon a probability assessment of whether the underlying shares would have vested under the terms of the original Amazon Warrant. Based upon the Company's projections of probable future cash collections from Amazon (i.e., a Type I share based payment modification), a reduction of revenue associated with 5,354,905 Amazon Warrant Shares was recognized at their previously measured November 2, 2020 fair value of \$10.57 per warrant. A reduction of revenue associated with the remaining 12,730,490 Amazon Warrant Shares was recognized at their December 31, 2020 fair value of \$26.95 each, based upon the Company's assessment that associated future cash collections from Amazon were not deemed probable (i.e., a Type III share-based payment modification).

The \$399.7 million reduction to revenue was recognized during the year ended December 31, 2020 because the Company concluded such amount was not recoverable from the margins expected from future purchases by Amazon under the Amazon Warrant, and no exclusivity or other rights were conferred to the Company in connection with the December 31, 2020 waiver. Additionally, for the year ended December 31, 2020, the Company recorded a reduction to the provision for warrants of \$12.8 million in connection with the release of the service loss accrual.

The warrant was exercised with respect to 17,461,994 and 0 shares of the Company's common stock as of December 31, 2021 and 2020, respectively.

At both December 31, 2021 and December 31, 2020, 55,286,696 of the Amazon Warrant Shares had fully vested. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the years ended December 31, 2021, 2020, and 2019 was \$0.5 million, \$420.0 million and \$4.1 million, respectively.

The exercise price for the first and second tranches of Amazon Warrant Shares is \$1.1893 per share. The exercise price of the third tranche of Amazon Warrant Shares is \$13.81 per share, which was determined pursuant to the terms of the Amazon Warrant as an amount equal to ninety percent (90%) of the 30-day volume weighted average share price of the Company's common stock as of November 2, 2020, the final vesting date of the second tranche of Amazon Warrant Shares. The Amazon Warrant is exercisable through April 4, 2027. The Amazon 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 Amazon 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 Amazon Warrant is classified as an equity instrument.

Fair value of the Amazon Warrant at December 31, 2020 and November 2, 2020 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. All Amazon Warrant Shares were fully vested as of December 31, 2020.

The Company used the following assumptions for its Amazon Warrant:

	December 31, 2020	November 2, 2020
Risk-free interest rate	0.58%	0.58%
Volatility	75.00%	75.00%
Expected average term	6.26	6.42
Exercise price	\$13.81	\$13.81
Stock price	\$33.91	\$15.47

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.

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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 their grant-date fair value and recorded as a charge against revenue. The second tranche of 29,098,260 Walmart Warrant Shares vests in four installments of 7,274,565 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 \$200.0 million in the aggregate. The exercise price for the first and second tranches of Walmart Warrant Shares is \$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 Walmart Warrant Shares will be an amount per share equal to ninety percent (90%) of the 30-day volume weighted average share price of the common stock as of the final vesting date of the second tranche of Walmart Warrant Shares, provided that, with limited exceptions, the exercise price for the third tranche will be no lower than \$1.1893. 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 and 5,819,652 shares of the Company's common stock as of December 31, 2021 and 2020, respectively.

At December 31, 2021 and December 31, 2020, 20,368,782 and 13,094,217 of the Walmart Warrant Shares had vested, respectively. 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, 2021, 2020, and 2019 \$6.1 million, \$5.0 million, and \$2.4 million, respectively.

Fair value of the Walmart Warrant 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. Except for the third tranche, all existing unvested Walmart Warrant Shares are measured using a measurement date of January 1, 2019, the adoption date, in accordance with ASU 2019-08.

The Company used the following assumptions for its Walmart Warrant:

	January 1, 2019
Risk-free interest rate	2.63%
Volatility	95.00%
Expected average term	8.55
Exercise price	\$2.12
Stock price	\$1.24

Lessee Obligations

As of December 31, 2021, 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 nine 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

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the form of either cash, collateral or letters of credit. See Note 22, “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. The fair value of this finance obligation approximated the carrying value as of December 31, 2021.

Future minimum lease payments under operating and finance leases (with initial or remaining lease terms in excess of one year) as of December 31, 2021 were as follows (in thousands):

	Operating Lease Liability	Finance Lease Liability	Total Lease Liabilities
2022	\$ 51,538	\$ 6,402	\$ 57,940
2023	51,288	6,306	57,594
2024	50,437	6,278	56,715
2025	46,733	9,177	55,910
2026	38,760	5,847	44,607
2027 and thereafter	37,342	773	38,115
Total future minimum payments	276,098	34,783	310,881
Less imputed interest	(69,641)	(5,454)	(75,095)
Total	<u>\$ 206,457</u>	<u>\$ 29,329</u>	<u>\$ 235,786</u>

Rental expense for all operating leases was \$38.6 million, \$22.3 million, and \$14.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The gross profit on sale/leaseback transactions for all operating leases was \$99.8 million, \$61.0 million, and \$26.2 million for the years ended December 31, 2021, 2020 and 2019, respectively. Right of use assets obtained in exchange for new operating lease liabilities was \$120.7 million, \$58.5 million and \$37.7 million for the years ended December 31, 2021, 2020 and 2019, respectively.

At December 31, 2021 and 2020, the right of use assets, net associated with operating leases was \$212.5 million and \$117.0 million respectively.

At December 31, 2021 and 2020, the right of use assets associated with finance leases was \$33.9 million and \$5.7 million, respectively. The accumulated depreciation for these right of use assets was \$1.5 million and \$102 thousand at December 31, 2021 and 2020, respectively.

At December 31, 2021 and 2020, security deposits associated with sale/leaseback transactions were \$3.5 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, 2021	Year ended December 31, 2020
Cash payments (in thousands)	\$ 37,463	\$ 22,626
Weighted average remaining lease term (years)	5.6	6.0
Weighted average discount rate	10.9%	11.7%

Finance lease costs include amortization of the right of use assets (i.e., depreciation expense) and interest on lease liabilities (i.e., interest and other expense, net in the consolidated statement of operations), and were \$2.1 million for the year ended December 31, 2021. Finance lease costs were immaterial for the years ended December 31, 2020 and 2019.

Right of use assets obtained in exchange for new finance lease liabilities were \$30.2 million and \$4.1 million for the years ended December 31, 2021 and 2020, respectively.

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

	Year ended December 31, 2021	Year ended December 31, 2020
Cash payments (in thousands)	\$ 3,648	\$ 471
Weighted average remaining lease term (years)	4.56	5.6
Weighted average discount rate	6.7%	8.2%

The Company has outstanding obligations to Wells Fargo under several Master Lease Agreements totaling \$123.5 million at December 31, 2021. 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 \$275.1 million and \$169.0 million, respectively, was required to be restricted as security as of December 31, 2021 and 2020, which will be released over the lease term. As of December 31, 2021 and 2020, the Company also had certain letters of credit backed by security deposits totaling \$286.0 million and \$152.4 million, respectively, that are security for the above noted sale/leaseback agreements.

As of December 31, 2021 and 2020, the Company had \$67.7 million and \$0 held in escrow related to the construction of certain hydrogen plants.

The Company also had \$10.0 million of consideration held by our paying agent in connection with the Applied Cryo acquisition reported as restricted cash as of December 31, 2021, with a corresponding accrued liability on the Company's consolidated balance sheet.

The Company also had letters of credit in the aggregate amount of \$0 and \$0.5 million, respectively, at December 31, 2021 and 2020 associated with a finance obligation from the sale/leaseback of its building. We consider cash collateralizing this letter of credit as restricted cash.

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 those related to revenue recognition, bad debts, inventories, goodwill and intangible assets, valuation of long-lived assets, accrual for service loss contracts, operating and finance leases, product warranty accruals, unbilled revenue, common stock warrants, income taxes, stock-based compensation, 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.

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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.

In 2017, in separate transactions, the Company 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 a 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 18, "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.

(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 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 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. In certain instances, control of hydrogen infrastructure installations transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. 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. Electrolyzer systems are sold either on a standalone basis or with an extended service agreement and other equipment. The Company uses an adjusted market assessment approach to determine the standalone selling price of electrolyzer systems. 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 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. 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.

(iii) 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, the Company's market share, pricing strategies and objectives 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 commercial 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 services that provide for 97% to 98% uptime of the fleet. 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. As of December 31, 2021 and 2020, the Company recorded a loss accrual of \$89.8 million and \$24.0 million, respectively. Costs are estimated based upon historical experience and consider the estimated impact of the Company's cost reduction initiatives. 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.

(iv) Power Purchase Agreements

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

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Revenue associated with these agreements is recognized on a straight-line basis over the life of the agreements as the customers receive 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 transactions with third-party financial institutions in which it 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 a 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, which is based on an analysis of the interest rates on the Company's secured borrowings. 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 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 PPA 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. Costs to service the property, depreciation of the assets related to PPAs and fuel delivered to the customers, and other related costs are included in cost of PPA revenue in the consolidated statements of operations. 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.

(v) Fuel Delivered to Customers

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 on site. 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” lines on the consolidated statements of operations.

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 5 to 10 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.

Impairment of Long-Lived Assets and PPA Executory Contract Considerations

We evaluate long-lived 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. Long-lived assets that we evaluate include right of use lease assets, equipment deployed to our PPAs, assets related primarily to our fuel delivery business and other company owned long-lived assets.

Upon the occurrence of a triggering event, long-lived 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 long-lived 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.



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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. 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 5 years. Based on the future estimates with these assumptions, the losses could approximate \$169.3 million. This estimate includes \$24.0 million in non-cash charges for provision for customer warrants. Actual results could be significantly different than these estimates.

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 significant judgement related to expected cost saving estimates for initiatives being 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. Service costs during 2021 have been higher than previously estimated. 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 attributable to the global pandemic 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 are 10% more than those estimated in the determination of the loss accrual for fuel cell systems and related infrastructure at December 31, 2021, the loss accrual would be approximately \$18.3 million higher.

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

	December 31, 2021	December 31, 2020	December 31, 2019
Beginning balance	\$ 24,013	\$ 3,702	\$ 5,345
Provision (benefit) for loss accrual	71,988	35,473	(394)
Loss accrual from acquisition	2,636	—	—
Released to service cost of sales	(8,864)	(2,348)	(1,249)
Released to provision for warrants	—	(12,814)	—
Ending balance	\$ 89,773	\$ 24,013	\$ 3,702

Equity Instruments

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

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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 18, “Warrant Transaction Agreements.” The Company adopted FASB Accounting Standards Update 2019-08, Compensation – Stock Compensation (Topic 718) and Revenue from Contracts with Customers (Topic 606) (ASU 2019-08), which requires entities to measure and classify share-based payment awards granted to a customer by applying the guidance under Topic 718, as of January 1, 2019.

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 statements of operations.

Stock-based compensation

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 estimated under the current provisions of ASC Topic 718, Compensation - Stock Compensation. For service stock options and restricted stock awards, the Company estimates the fair value of stock-based awards using a Black-Scholes valuation model and recognizes the cost as expense on a straight-line basis over the option’s requisite service period. 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. 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.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In October of 2021, ASU No. 2021-08- Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers was issued. The standard update provides an exception to the fair value measurement for revenue contracts acquired in a business combination. The Company has elected to early adopt the standards update as of the fourth quarter of 2021.

On January 1, 2021, we early adopted 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 Company’s 3.75% Convertible Senior Notes due 2025 (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. 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 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.

In December 2019, Accounting Standards Update (ASU) 2019-12, Simplifying the Accounting for Income Taxes, was issued to identify, evaluate, and improve areas of GAAP for which cost and complexity can be reduced while maintaining or improving the usefulness of the information provided to users of financial statements. This update was adopted January 1, 2021 and did not have a material impact on the Company’s consolidated financial statements.

Recently Issued and Not Yet Adopted Accounting Pronouncements

In March 2020, ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting, was issued to provide temporary optional expedients and exceptions to the GAAP

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guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. This update was effective starting March 12, 2020 and the Company may elect to apply the amendments prospectively through December 31, 2022. The adoption of this standard is not expected to have a material impact on the Company's consolidated financial statements.

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 does not have a material impact on the Company's consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

During the year ended December 31, 2021, the Company purchased U.S. Treasury securities, corporate bonds, commercial paper, certificates of deposit and money market funds, in which the major components of market risk affecting us are credit risk and interest rate risk. We also purchased equity securities, in which the major component of market risk affecting us is equity risk.

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 Capped Call purchased in May 2020, and March 2018, respectively, related to the issuance of the 3.75% Convertible Senior Notes and 5.5% 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.

Our exposure to changes in foreign currency rates is primarily related to sourcing inventory from foreign locations and operations of HyPulsion, S.A.S., our French subsidiary that develops and sells hydrogen fuel cell systems for the European material handling market. In addition, 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 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 and Acciona, which both operate in Europe, and SK which operates in Asia. The Company reviews the level of foreign content as part of its ongoing evaluation of overall sourcing strategies and considers the exposure to be not significant. Our HyPulsion exposure presently is mitigated by low levels of operations and its sourcing is primarily intercompany in nature and denominated in U.S. dollars. Our HyVia, Acciona and SK exposure presently is immaterial as we have not yet commenced commercial activities.

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, 2021 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

(a) 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, are 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.



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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, 2021. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2021, our disclosure controls and procedures were not effective because of 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, 2021 and 2020, the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficit), and cash flows each of years in the three-year period ended December 31, 2021, 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.

(b) Management's Annual Report on Internal Control over Financial Reporting

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.

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, 2021, based on the criteria established in Internal Control -- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

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 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.

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.

Management identified certain deficiencies in internal control over financial reporting that have been previously reported and continued to exist as of December 31, 2021. The Company did not maintain a sufficient complement of trained, knowledgeable resources to execute its responsibilities with respect to internal control over financial reporting. As a consequence, the Company did not conduct an effective risk assessment process that was responsive to changes in the Company's operating environment and did not design and implement effective process-level controls activities for certain financial statement accounts and disclosures as follows:

- (a) presentation of operating expenses;
- (b) accrual for loss contracts related to service; and
- (c) identification of adjustments to physical inventory.

As of December 31, 2021, management identified additional deficiencies which are also the result of the Company not maintaining a sufficient complement of trained, knowledgeable resources to execute its responsibilities and conduct an effective risk assessment. Specifically, the process-level controls to ensure proper capitalization of inventory costs were not performed with an appropriate level of precision to detect and prevent a material misstatement. Additionally, management identified ineffective general information technology control activities over an information technology system that is used in calculating fuel billings due to the ineffective risk assessment in identifying the relevant system. Management did not design and implement general information technology control activities in response to the current year growth in fuel delivered to customers.



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The control deficiency related to the accrual for loss contracts related to service resulted in a material misstatement that was corrected prior to the issuance of the 2021 consolidated financial statements included in this Form 10-K. We did not identify any other material misstatements to the consolidated financial statements and there were no changes to previously released financial results as a result of the other control deficiencies; however, the control deficiencies described above created a reasonable possibility that a material misstatement to the consolidated financial statements would not be prevented or detected on a timely basis. As a result, we concluded the deficiencies described above represent material weaknesses in our internal control over financial reporting and our internal control over financial reporting was not effective as of December 31, 2021.

The Company acquired Applied Cryo Technologies and Frames Holdings B.V. (together, the “Acquired Companies”) during 2021, and management excluded from its assessment of the effectiveness of the Company’s internal control over financial reporting as of December 31, 2021, the Acquired Companies’ internal control over financial reporting associated with total assets of \$369.1 million and total revenues of \$15.8 million included in the consolidated financial statements of the Company as of and for the year ended December 31, 2021.

The Company’s independent registered public accounting firm, KPMG 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. KPMG LLP’s report appears on page F-5 of this Annual Report on Form 10-K.

Remediation Activities

During fiscal year 2021, with the oversight of the Audit Committee of the Board of Directors, the Company began implementing the previously disclosed remediation plan to address the material weakness. The Company expanded its finance and accounting team including hiring a number of additional individuals with the requisite knowledge and experience to assist with the enhancement and implementation of policies and procedures related to the complex technical accounting matters in our business. As additional resources have been onboarded, we have implemented enhanced process-level controls around the accounting for lease-related transactions, identification and evaluation of impairment, and certain expense accruals. Management has determined that these enhancements to our process-level controls are operating effectively and consider the process-level control deficiencies in these areas remediated as of December 31, 2021.

Management’s remediation plan to address the control deficiencies existing as of December 31, 2021 includes the following:

- a) Hiring additional resources, including third-party resources, with the appropriate technical accounting expertise, and strengthening internal training, to assist us in identifying and addressing any complex technical accounting issues that affect our consolidated financial statements.
- b) Designing and implementing a comprehensive and continuous risk assessment process to identify and assess risks of material misstatements and ensure that the impacted financial reporting processes and related internal controls are properly designed, maintained, and documented to respond to those risks in our financial reporting.
- c) Implementing more structured analysis and review procedures and documentation for the application of GAAP, complex accounting matters, and key accounting policies.
- d) Augmenting our current estimation policies and procedures to be more robust and in-line with overall market dynamics including an evaluation of our operating environment in order to ensure operating effectiveness of certain process-level control activities.
- e) Deploying new tools and tracking mechanisms to help enhance and maintain the appropriate documentation surrounding our classification of operating expenses.
- f) Further enhancing our policies, procedures and controls related to physical inventory counting both in interim periods and at year-end.
- g) Implementing general information technology controls over our information technology system used in calculating fuel billings.
- h) Implementing structured analysis and review procedures around the manual processes related to capitalization of inventory costs.
- i) Reporting regularly to the Company’s Audit Committee on the progress and results of the remediation plan, including the identification, status, and resolution of internal control deficiencies.

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As our remediation efforts are still on-going, we will continue to hire additional resources and implement further enhancements to our policies and procedures as necessary to further improve our internal control over financial reporting.

As we work to improve our internal control over financial reporting, we may modify our remediation plan and may implement measures as we continue to review, optimize and enhance our financial reporting controls and procedures in the ordinary course. The material weaknesses will not be considered remediated until the remediated controls have been operating for a sufficient period of time and can be evidenced through testing that these are operating effectively. Management expects to complete its remediation plan during the year ending December 31, 2022.

(c) Changes in internal control over financial reporting

Exclusive of the steps taken as part of the remediation activities, there were no changes in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the year ended December 31, 2021 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

None.

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 to 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, 2021.

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 and principal accounting officer. 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. 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 to 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, 2021.

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 to 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, 2021.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table gives information, as of December 31, 2021, about the shares of our common stock that may be issued upon the exercise of options and restricted stock under the Company’s Third Amended and Restated 2011 Stock Option and Incentive Plan (the “2011 Stock Option Plan”) and the Company’s 2021 Stock Option and Incentive Plan (the “2021 Stock Option Plan”):

Plan Category	Number of shares to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted average exercise price of outstanding options, warrants and rights (b) (1)	Number of shares remaining for future issuance under equity compensation plans (excluding shares reflected in column (a)) (c)
Equity compensation plans approved by security holders	27,800,764 (2)	\$ 17.55	6,134,910 (3)
Equity compensation plans not approved by security holders	858,018 (4)	\$ 4.21	—
Total	28,658,782		6,134,910

- (1) The weighted-average exercise price is calculated solely based on outstanding options.
- (2) Represents 15,246,356 shares underlying the outstanding options issued under the 2021 Stock Option Plan, 7,702,535 outstanding options issued under the 2011 Stock Option Plan, 1,191,356 shares of restricted stock granted under the 2021 Stock Option Plan, and 3,660,517 shares of restricted stock granted under the 2011 Stock Option Plan.
- (3) Includes shares available for future issuance under the 2011 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 to 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, 2021.

Item 14. Principal Accounting Fees and Services

Our independent public accounting firm is KPMG LLP, Albany, New York, United States, PCAOB Audit ID 185.

The information required under this item is incorporated herein by reference to 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, 2021.

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 financial statement schedules are listed in the Index to Consolidated Financial Statements on page F-1 of this Annual Report on Form 10-K.



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All other schedules not filed herein have been omitted as they are not applicable, or the required information or equivalent information has been included in the Consolidated Financial Statements or the notes thereto.

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 for the year ended December 31, 2008 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 for the year ended December 31, 2008 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 for the year ended December 31, 2016 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	Fourth Amended and Restated By-laws of Plug Power Inc. (filed as Exhibit 3.9 to Plug Power Inc.'s Annual Report on Form 10-K for the year ended December 31, 2020 and incorporated by reference herein)

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Exhibit No.	Description
3.10	Certificate of Designations, Preferences and Rights of a Series of Preferred Stock of Plug Power Inc. classifying and designating the Series E Convertible Preferred Stock (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on November 2, 2018 and incorporated by reference herein)
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)
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 4.2 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	Description of the Registrant's securities registered under Section 12 of the Securities Exchange Act of 1934 (filed as Exhibit 4.6 to Plug Power Inc.'s Annual Report on Form 10-K filed on May 14, 2021 and incorporated by reference herein)
10.1#	Employee Stock Purchase Plan (filed as Exhibit 10.34 to Plug Power Inc.'s Registration Statement on Form S-1 (File Number 333-86089) and incorporated by reference herein)
10.2#	Form of Director Indemnification Agreement (filed as Exhibit 10.2 to Plug Power Inc.'s Current 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 Current 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 December 28, 2021, between Jose Luis Crespo and Plug Power Inc.

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Exhibit No.	Description
10.9*#	Form of Non-Qualified Stock Option Agreement for Company Employees
10.10*#	Form of Non-Qualified Stock Option Agreement for Non-Employee Directors
10.11*#	Form of Restricted Stock Award Agreement for Company Employees
10.12*#	Form of Restricted Stock Award Agreement for Non-Employee Directors
10.13*#	Form of Performance-Based Non-Qualified Stock Option Agreement for Executives Residing in the States of New York or New Jersey
10.14*#	Form of Performance-Based Non-Qualified Stock Option Agreement for Chief Executive Officer
10.15	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)
10.16	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)
10.17	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)
10.18	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)
10.19	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)
10.20	Master Lease Agreement, dated as of June 30, 2017, between Plug Power Inc. and Wells Fargo Equipment Finance, Inc. (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on July 21, 2017 and incorporated by reference herein)
10.21	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)
10.22	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)
10.23	Forward Stock Purchase Transaction Confirmation, dated as of March 22, 2018, 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 March 28, 2018 and incorporated by reference herein)
10.24	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)

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Exhibit No.	Description
10.25	At Market Issuance Sales Agreement, dated April 13, 2020, by and between Plug Power Inc. and B. Riley FBR, Inc. (filed as Exhibit 1.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 13, 2020 and incorporated by reference herein)
10.26	Loan and Security Agreement dated March 29, 2019, among Plug Power Inc., Emerging Power Inc., Emergent Power Inc., and Generate Lending, LLC (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 3, 2019 and incorporated by reference herein)
10.27	First Amendment to Loan and Security Agreement dated March 29, 2019, among Plug Power Inc. and Emerging Power Inc., Emergent Power Inc., and Generate Lending, LLC (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on April 3, 2019 and incorporated by reference herein)
10.28	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 Current Report on Form 10-Q filed on May 8, 2019 and incorporated by reference herein)
10.29#	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)
10.30	Third Amendment to Loan and Security Agreement, dated September 6, 2019, among Plug Power Inc. and Emerging Power Inc., Emergent Power Inc., and Generate Lending, LLC (filed as Exhibit 10.3 to Plug Power Inc.'s Current Report on Form 8-K filed on September 9, 2019 and incorporated by reference herein)
10.31	Fourth Amendment to Loan and Security Agreement, dated November 27, 2019, among Plug Power Inc. and Emerging Power Inc., Emergent Power Inc., and Generate Lending, LLC (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on December 2, 2019 and incorporated by reference herein)
10.32	Sixth Amendment to Loan and Security Agreement, dated as of May 13, 2020, by and among Plug Power Inc., Emerging Power Inc., Emergent Power Inc. and Generate Lending, LLC (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 14, 2020 and incorporated by reference herein)
10.33	Eleventh Amendment and Waiver to the Loan and Security Agreement, dated September 30, 2021, by and among Plug Power Inc., Emerging Power Inc., Emergent Power Inc., the other borrowers from time to time party thereto, and Generate PPL SPV I, LLC, as assignee of Generate Lending, LLC. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 10-Q filed on November 9, 2021 and incorporated by reference herein)
10.34	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 Current Report on Form 10-K filed on May 14, 2021 and incorporated by reference herein)
23.1*	Consent of KPMG LLP
24.1*	Power of Attorney (incorporated by reference to the signature page of this 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

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Exhibit No.	Description
32.2**	Section 1350 Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
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: March 1, 2022

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)	March 1, 2022
<u>/s/ PAUL B. MIDDLETON</u> Paul B. Middleton	Chief Financial Officer (Principal Financial Officer)	March 1, 2022
<u>/s/ MARTIN D. HULL</u> Martin D. Hull	Controller & Chief Accounting Officer (Principal Accounting Officer)	March 1, 2022
<u>/s/ LUCAS P. SCHNEIDER</u> Lucas P. Schneider	Director	March 1, 2022
<u>/s/ MAUREEN O. HELMER</u> Maureen O. Helmer	Director	March 1, 2022
<u>/s/ JONATHAN SILVER</u> Jonathan Silver	Director	March 1, 2022
<u>/s/ GREGORY L. KENAUSIS</u> Gregory L. Kenausis	Director	March 1, 2022
<u>/s/ GEORGE C. MCNAMEE</u> George C. McNamee	Director	March 1, 2022
<u>/s/ JOHANNES MINHO ROTH</u> Johannes Minho Roth	Director	March 1, 2022
<u>/s/ GARY K. WILLIS</u> Gary K. Willis	Director	March 1, 2022

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<u>/s/ KYUNGYEOL SONG</u> Kyungyeol Song	Director	March 1, 2022
<u>/s/ KIMBERLY A. HARRIMAN</u> Kimberly A. Harriman	Director	March 1, 2022

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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 balance sheets of Plug Power Inc. and subsidiaries (the Company) as of December 31, 2021 and 2020, 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, 2021, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2021, in conformity with U.S. generally accepted accounting principles.

We also have 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, 2021, 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 March 1, 2022 expressed an adverse opinion on the effectiveness of the Company's internal control over financial reporting.

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 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 consolidated 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 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 audits 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 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 consolidated 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 consolidated 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 consolidated 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.

Standalone Selling Price

As discussed in Notes 2 and 19 to the consolidated financial statements, the Company's contracts with customers generally contain multiple performance obligations, and the total transaction price is allocated for purposes of recognizing revenue based on relative standalone selling prices. The Company estimates standalone selling prices for fuel cells by considering 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. For services performed on fuel cells and infrastructure, the Company uses an adjusted market assessment approach that considers market conditions and constraints, the Company's market share, pricing strategies and objectives while maximizing the use of available observable inputs obtained from a limited number of historical standalone service renewal prices and negotiations with customers. The Company recognized net revenue from the sales of fuel cells of \$225.2 million and sales of services of \$26.7 million for the year ended December 31, 2021.

We identified the evaluation of the sufficiency of audit evidence obtained related to the standalone selling prices for fuel cells and services as a critical audit matter. Significant auditor judgment was required to evaluate the appropriateness of the estimate of standalone selling prices for fuel cells as well as services performed on fuel cells and infrastructure, because of the nature of the technology, its emerging market acceptance and the Company's limited history of selling these products and services on a standalone basis.

The following are the primary procedures we performed to address this critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's process to estimate standalone selling prices. This included controls related to the assessment of the relevance and reliability of the inputs mentioned above. We applied auditor judgment to determine the nature and extent of procedures to be performed over standalone selling prices. We inquired of operational and financial personnel to understand the Company's pricing strategies, negotiations with customers, and prices that customers are willing to pay for fuel cells and services. We evaluated the Company's estimates of standalone selling prices by comparing those estimates to supporting documentation, such as a selection of historical sales transactions, correspondence with customers, and industry research. We evaluated the sufficiency of audit evidence obtained over standalone selling prices by assessing the results of procedures performed, including the appropriateness of the nature of such evidence.

Maintenance cost projections in the accrual for loss contracts related to service

As discussed in Note 2 to the consolidated 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 related unearned net revenues over the remaining contract term. The Company recorded an accrual for loss contracts of \$89.8 million as of December 31, 2021. Maintenance costs are estimated in determining the accrual for loss contracts based upon current service cost levels and the estimated impact of the Company's expected cost savings initiatives. Estimating the impact of the expected cost savings initiatives requires significant judgment. The estimated accrual for loss contracts is sensitive to changes in the assumed cost savings.

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. Specifically, assessing the likelihood of achieving as well as the expected impact of the cost savings initiatives required challenging auditor judgment. Minor 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.

The following are the primary procedures we performed to address this critical audit matter. We inquired of operational and financial personnel to understand the technical elements of planned operational changes and how and when those initiatives are expected to result in cost savings relative to the Company's current cost of providing maintenance services. We obtained underlying documentation supporting expected cost savings associated with certain initiatives, and actual cost savings realized in 2020 and 2021 in connection with one customer site and compared them to the Company's analysis of expected costs of providing maintenance services utilized in the accrual for loss contracts. We inspected the Company's plans for operational changes as approved by the Board of Directors and assessed evidence of management's progress against the plans. We performed sensitivity analyses to

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assess the impact of possible changes to the expected costs of providing maintenance services on the Company's estimated accrual for loss contracts.

KPMG LLP

We have served as the Company's auditor since 2001.

Albany, New York
March 1, 2022

Report of Independent Registered Public Accounting Firm

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

Opinion on Internal Control Over Financial Reporting

We have audited Plug Power Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, because of the effect of the material weaknesses, described 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, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2021 and 2020, 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, 2021, and the related notes (collectively, the consolidated financial statements), and our report dated March 1, 2022 expressed an unqualified opinion on those consolidated financial statements.

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 maintain a sufficient complement of trained, knowledgeable resources to execute its responsibilities with respect to internal control over financial reporting. As a consequence, the Company did not conduct an effective risk assessment process that was responsive to changes in the Company's operating environment and did not design and implement effective process-level control activities for certain financial statement accounts and disclosures as follows:

- presentation of operating expenses;
- accrual for loss contracts related to service;
- capitalization of inventory costs; and
- identification of adjustments to physical inventory.

Additionally, as a result of ineffective risk assessment, the Company did not maintain effective general information technology control activities over an information technology system that is used in calculating fuel billings.

The material weaknesses were considered in determining the nature, timing, and extent of audit tests applied in our audit of the 2021 consolidated financial statements, and this report does not affect our report on those consolidated financial statements.

The Company acquired Applied Cryo Technologies and Frames Holdings B.V. (the Acquired Companies) during 2021, and management excluded from its assessment of the effectiveness of the Company's internal control over financial reporting as of December 31, 2021, the Acquired Companies' internal control over financial reporting associated with total assets of \$369.1 million and total revenues of \$15.8 million included in the consolidated financial statements of the Company as of and for the year ended December 31, 2021. Our audit of internal control over financial reporting of the Company also excluded an evaluation of the internal control over financial reporting of the Acquired Companies.

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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 Annual Report on Internal Control over Financial Reporting. 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 of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included 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.

KPMG LLP

Albany, New York
March 1, 2022

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

As of December 31, 2021 and 2020

(In thousands, except share and per share amounts)

	2021	2020
Assets		
Current assets:		
Cash and cash equivalents	\$ 2,481,269	\$ 1,312,404
Restricted cash	118,633	64,041
Available-for-sale securities, at fair value (amortized cost \$1,242,993 and allowance for credit losses of \$0 at December 31, 2021)	1,240,265	—
Equity securities	147,995	—
Accounts receivable	92,675	43,041
Inventory	269,163	139,386
Contract assets	38,637	15,351
Prepaid expenses and other current assets	59,888	28,973
Total current assets	<u>4,448,525</u>	<u>1,603,196</u>
Restricted cash	532,292	257,839
Property, plant, and equipment, net	255,623	74,549
Right of use assets related to finance leases, net	32,494	5,724
Right of use assets related to operating leases, net	212,537	117,016
Equipment related to power purchase agreements and fuel delivered to customers, net	72,902	75,807
Contract assets	120	2,838
Goodwill	220,436	72,387
Intangible assets, net	158,208	39,251
Investments in non-consolidated entities and non-marketable equity securities	12,892	1,000
Other assets	4,047	1,675
Total assets	<u>\$ 5,950,076</u>	<u>\$ 2,251,282</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 92,307	\$ 50,198
Accrued expenses	79,237	46,083
Deferred revenue and other contract liabilities	116,377	43,341
Operating lease liabilities	30,822	14,314
Finance lease liabilities	4,718	903
Finance obligations	42,040	32,717
Current portion of long-term debt	15,252	25,389
Loss accrual for service contracts and other current liabilities	39,800	9,421
Total current liabilities	<u>420,553</u>	<u>222,366</u>
Deferred revenue and other contract liabilities	66,713	32,944
Operating lease liabilities	175,635	99,624
Finance lease liabilities	24,611	4,493
Finance obligations	211,644	148,836
Convertible senior notes, net	192,633	85,640
Long-term debt	112,794	150,013
Loss accrual for service contracts and other liabilities	139,797	40,447
Total liabilities	<u>1,344,380</u>	<u>784,363</u>
Stockholders' equity:		
Common stock, \$0.01 par value per share; 1,500,000,000 shares authorized; Issued (including shares in treasury): 594,729,610 at December 31, 2021 and 473,977,469 at December 31, 2020	5,947	4,740
Additional paid-in capital	7,070,710	3,446,650
Accumulated other comprehensive (loss) income	(1,532)	2,451
Accumulated deficit	(2,396,903)	(1,946,488)
Less common stock in treasury: 17,074,710 at December 31, 2021 and 15,926,068 at December 31, 2020	(72,526)	(40,434)
Total stockholders' equity	<u>4,605,696</u>	<u>1,466,919</u>
Total liabilities and stockholders' equity	<u>\$ 5,950,076</u>	<u>\$ 2,251,282</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

For the years ended December 31, 2021, 2020 and 2019

(In thousands, except share and per share amounts)

	2021	2020	2019
Net revenue:			
Sales of fuel cell systems, related infrastructure and equipment	\$ 392,777	\$ (94,295)	\$ 149,920
Services performed on fuel cell systems and related infrastructure	26,706	(9,801)	25,217
Power Purchase Agreements	35,153	26,620	25,553
Fuel delivered to customers and related equipment	46,917	(16,072)	29,099
Other	789	311	186
Net revenue	<u>502,342</u>	<u>(93,237)</u>	<u>229,975</u>
Cost of revenue:			
Sales of fuel cell systems, related infrastructure and equipment	307,157	171,404	97,915
Services performed on fuel cell systems and related infrastructure	63,729	42,524	34,582
Provision (benefit) for loss contracts related to service	71,988	35,473	(394)
Power Purchase Agreements	102,417	64,640	41,777
Fuel delivered to customers	127,196	61,815	45,247
Other	1,165	323	200
Total cost of revenue	<u>673,652</u>	<u>376,179</u>	<u>219,327</u>
Gross (loss) profit	(171,310)	(469,416)	10,648
Operating expenses:			
Research and development	64,762	27,848	15,059
Selling, general and administrative	179,852	79,348	43,202
Impairment of long lived assets	10,224	6,430	—
Change in fair value of contingent consideration	11,176	1,160	—
Total operating expenses	<u>266,014</u>	<u>114,786</u>	<u>58,261</u>
Operating loss	(437,324)	(584,202)	(47,613)
Interest income	4,040	765	1,502
Interest expense	(43,225)	(60,510)	(37,033)
Other expense, net	(765)	(739)	(160)
Realized loss on investments, net	(81)	—	—
Change in fair value of equity securities	6,738	—	—
Change in fair value of common stock warrant liability	—	—	79
Gain (loss) on extinguishment of debt	—	17,686	(518)
Loss on equity method investments	(5,704)	—	—
Other gain	159	—	—
Loss before income taxes	\$ (476,162)	\$ (627,000)	\$ (83,743)
Income tax benefit	16,197	30,845	—
Net loss attributable to the Company	\$ (459,965)	\$ (596,155)	\$ (83,743)
Preferred stock dividends declared	—	(26)	(1,812)
Net loss attributable to common stockholders	<u>\$ (459,965)</u>	<u>\$ (596,181)</u>	<u>\$ (85,555)</u>
Net loss per share:			
Basic and diluted	<u>\$ (0.82)</u>	<u>\$ (1.68)</u>	<u>\$ (0.36)</u>
Weighted average number of common stock outstanding	<u>558,182,177</u>	<u>354,790,106</u>	<u>237,152,780</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

For the years ended December 31, 2021, 2020 and 2019

(In thousands)

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Net loss attributable to the Company	\$ (459,965)	\$ (596,155)	\$ (83,743)
Other comprehensive gain (loss):			
Foreign currency translation (loss) gain	(1,315)	1,163	(296)
Change in net unrealized loss on available-for-sale securities	(2,668)	—	—
Comprehensive loss attributable to the Company	<u>\$ (463,948)</u>	<u>\$ (594,992)</u>	<u>\$ (84,039)</u>
Preferred stock dividends declared	—	(26)	(1,812)
Comprehensive loss attributable to common stockholders	<u>\$ (463,948)</u>	<u>\$ (595,018)</u>	<u>\$ (85,851)</u>

See notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (DEFICIT)

For the years ended December 31, 2021, 2020 and 2019

(In thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount			Shares	Amount		
December 31, 2018	234,160,661	\$ 2,342	\$ 1,289,636	\$ 1,584	15,002,663	\$ (30,637)	\$ (1,266,513)	\$ (3,588)
Net loss attributable to the Company	—	—	—	—	—	—	(83,743)	(83,743)
Other comprehensive loss	—	—	—	(296)	—	—	—	(296)
Stock-based compensation	1,876,503	19	10,871	—	—	—	—	10,890
Stock dividend	19,286	—	52	—	—	—	(52)	—
Public offerings, common stock, net	62,333,585	622	157,722	—	—	—	—	158,344
Stock option exercises	1,151,307	12	1,784	—	256,382	(579)	—	1,217
Exercise of warrants	5,250,750	53	14,099	—	—	—	—	14,152
Provision for common stock warrants	—	—	6,513	—	—	—	—	6,513
Accretion of discount, preferred stock	—	—	(1,978)	—	—	—	—	(1,978)
Conversion of preferred stock	13,845,468	138	28,254	—	—	—	—	28,392
December 31, 2019	318,637,560	\$ 3,186	\$ 1,506,953	\$ 1,288	15,259,045	\$ (31,216)	\$ (1,350,307)	\$ 129,904
Net loss attributable to the Company	—	—	—	—	—	—	(596,155)	(596,155)
Other comprehensive gain	—	—	—	1,163	—	—	—	1,163
Stock-based compensation	439,649	4	17,131	—	—	—	—	17,135
Stock dividend	5,156	—	26	—	—	—	(26)	—
Public offerings, common stock, net	78,976,250	790	1,270,872	—	—	—	—	1,271,662
Stock option exercises	18,056,200	181	41,060	—	667,023	(9,218)	—	32,023
Equity component of 3.75% Convertible Senior Notes issued, net of issuance costs and income tax expense	—	—	100,761	—	—	—	—	100,761
Purchase of capped calls	—	—	(16,253)	—	—	—	—	(16,253)
Termination of capped calls	—	—	24,158	—	—	—	—	24,158
Exercise of warrants	5,180,457	52	(52)	—	—	—	—	—
Provision for common stock warrants	—	—	439,915	—	—	—	—	439,915
Accretion of discount, preferred stock	—	—	(29)	—	—	—	—	(29)
Conversion of preferred stock	2,998,526	30	1,149	—	—	—	—	1,179
Conversion of 5.5% and 7.5% Convertible Senior Notes	30,615,615	306	62,247	—	—	—	—	62,553
Repurchase of 5.5% Convertible Senior Notes, net of income tax benefit	9,409,591	94	(50,864)	—	—	—	—	(50,770)
Common stock issued for acquisitions	9,658,465	97	49,576	—	—	—	—	49,673
December 31, 2020	473,977,469	\$ 4,740	\$ 3,446,650	\$ 2,451	15,926,068	\$ (40,434)	\$ (1,946,488)	\$ 1,466,919
Net loss attributable to the Company	—	—	—	—	—	—	(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	5,097,667	51	7,469	—	—	—	—	7,520
Stock exchanged for tax withholding	—	—	—	—	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	594,729,610	\$ 5,947	\$ 7,070,710	\$ (1,532)	17,074,710	\$ (72,526)	\$ (2,396,903)	\$ 4,605,696

See notes to consolidated financial statements.

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PLUG POWER INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the years ended December 31, 2021, 2020 and 2019
(In thousands)

	2021	2020	2019
Operating Activities			
Net loss attributable to the Company	\$ (459,965)	\$ (596,155)	\$ (83,743)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation of long-lived assets	20,900	14,434	11,938
Amortization of intangible assets	2,469	1,135	698
Stock-based compensation	76,470	17,135	10,890
(Gain) loss on extinguishment of debt	—	(17,686)	518
Amortization of debt issuance costs and discount on convertible senior notes	3,018	17,061	9,006
Provision for common stock warrants	6,566	425,047	6,513
Deferred income tax benefit	(16,197)	(30,845)	—
Impairment of long-lived assets	10,224	6,430	—
Loss (benefit) on service contracts	63,124	33,125	(1,643)
Fair value adjustment to contingent consideration	11,176	(1,160)	—
Net realized loss on investments	81	—	—
Amortization of premium on available-for-sale securities	9,232	—	—
Lease origination costs	(10,410)	—	—
Change in fair value for equity securities	(6,738)	—	—
Loss on equity method investments	5,704	—	—
Provision for bad debts and other assets	—	700	1,981
Loss on disposal of leased assets	—	—	212
Change in fair value of common stock warrant liability	—	—	(79)
Changes in operating assets and liabilities that provide (use) cash:			
Accounts receivable	(27,601)	(15,701)	10,594
Inventory	(98,791)	(63,389)	(24,633)
Contract assets	(10,608)	—	—
Prepaid expenses and other assets	(32,392)	(18,401)	(8,110)
Accounts payable, accrued expenses, and other liabilities	24,908	51,880	17,234
Deferred revenue	70,654	20,914	(4,700)
Net cash used in operating activities	<u>(358,176)</u>	<u>(155,476)</u>	<u>(53,324)</u>
Investing activities			
Purchases of property, plant and equipment	(172,166)	(22,526)	(5,683)
Purchase of intangible assets	(928)	(1,957)	(2,404)
Purchases of equipment related to power purchase agreements and equipment related to fuel delivered to customers	(20,172)	(25,738)	(6,532)
Purchase of available-for-sale securities	(3,159,372)	—	—
Proceeds from sales of available-for-sale securities	778,038	—	—
Proceeds from maturities of available-for-sale securities	1,129,088	—	—
Purchase of equity securities	(169,793)	—	—
Proceeds from sales of equities	28,536	—	—
Net cash paid for acquisitions	(136,526)	(45,113)	—
Cash paid for non-consolidated entities and non marketable equity securities	(17,596)	—	—
Proceeds from sale of leased assets	—	—	375
Net cash used in investing activities	<u>(1,740,891)</u>	<u>(95,334)</u>	<u>(14,244)</u>
Financing activities			
Proceeds from exercise of warrants, net of transaction costs	15,445	—	14,089
Payments of contingent consideration	(1,541)	—	—
Proceeds from public and private offerings, net of transaction costs	3,587,833	1,271,714	158,343
Payments of tax withholding on behalf of employees for net stock settlement of stock-based compensation	(32,092)	—	—
Proceeds from exercise of stock options	7,520	32,023	1,217
Payments for redemption of preferred stock	—	—	(4,040)
Proceeds from issuance of convertible senior notes, net	—	205,098	39,052
Repurchase of convertible senior notes	—	(90,238)	—
Purchase of capped calls and common stock forward	—	(16,253)	—
Proceeds from long-term debt, net	—	99,000	119,186
Proceeds from termination of capped calls	—	24,158	—
Principal payments on long-term debt	(48,681)	(48,020)	(25,345)
Proceeds from finance obligations	108,925	65,259	83,668
Repayments of finance obligations and finance leases	(39,630)	(27,212)	(59,196)
Net cash provided by financing activities	<u>3,597,779</u>	<u>1,515,529</u>	<u>326,974</u>
Effect of exchange rate changes on cash	(802)	65	(59)
Increase in cash, cash equivalents and restricted cash	1,497,910	1,264,784	259,347
Cash, cash equivalents, and restricted cash beginning of period	1,634,284	369,500	110,153
Cash, cash equivalents, and restricted cash end of period	\$ 3,132,194	\$ 1,634,284	\$ 369,500
Supplemental disclosure of cash flow information			
Cash paid for interest, net capitalized interest of \$4.8 million, \$0 and \$0	<u>\$ 19,327</u>	<u>\$ 28,942</u>	<u>\$ 19,180</u>
Summary of non-cash activity			
Recognition of right of use asset - finance leases	\$ 28,180	\$ —	\$ —
Recognition of right of use asset - operating leases	110,337	55,651	52,924
Net tangible assets (liabilities) acquired (assumed) in a business combination	(26,066)	8,751	—
Common stock issued for acquisitions	46,697	—	—
Intangible assets acquired in a business combination	120,962	32,268	—

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Conversion of convertible senior notes to common stock	—	62,553	—
Net transfers between inventory and long-lived assets	6,297	—	—
Conversion of convertible senior notes to common stock	15,345	62,553	—
Accrued purchase of fixed assets, cash to be paid in subsequent period	14,006	—	—
Settlement of intercompany liability from acquisition	7,100	—	—
Conversion of preferred stock to common stock	—	1,179	28,392

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. In our core business, we provide and continue to develop commercially-viable hydrogen and fuel cell product solutions to replace lead-acid batteries in electric material handling vehicles and industrial trucks for some of the world's largest retail-distribution and manufacturing businesses. We are focusing our efforts on 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. Additionally, we manufacture and sell fuel cell products to replace batteries and diesel generators in stationary back-up power applications for telecommunications, transportation, and utility customers. Plug supports these markets with an ecosystem of vertically integrated products that make, transport, handle, dispense and use hydrogen.

Our current products and services include:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system, providing power to material handling electric vehicles, including Class 1, 2, 3 and 6 electric forklifts, Automated Guided Vehicles ("AGVs"), and ground support equipment.

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.

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

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.

ProGen: ProGen is our fuel cell stack and engine technology currently used globally in mobility and stationary fuel cellsystems, and as engines in electric delivery vans. This includes the Plug Power MEA (membrane electrode assembly), a critical component of the fuel cell stack used in zero-emission fuel cell electric vehicle engines.

GenFuel electrolyzers: GenFuel electrolyzers are modular, scalable hydrogen generators optimized for clean hydrogen production. Electrolyzers generate hydrogen from water using electricity and a special membrane and "green" hydrogen generated by using renewable energy inputs, such as solar or wind power.

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. Europe has rolled out ambitious targets for the hydrogen economy and Plug is seeking to execute on its strategy to become one of the European leaders. This includes a targeted account strategy for material handling, securing strategic partnerships with European OEMs, energy companies, utility leaders and accelerating our electrolyzer business. Our global strategy includes leveraging a network of integrators or contract manufacturers. We manufacture our commercially viable products in Latham, New York, Rochester, New York, Houston, Texas and Spokane, Washington and support liquid hydrogen generation and logistics in Charleston, Tennessee.

Notes to Consolidated Financial Statements (Continued)

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

Our wholly-owned subsidiary, Plug Power Spain, created a joint venture with Acciona Generación Renovable, S.A., (“Acciona”), named AccionaPlug S.L., in the fourth quarter 2021. AccionaPlug S.L. will develop, operate, and maintain green hydrogen projects throughout Spain and Portugal. AccionaPlug S.L. is owned 50% by Plug Power Spain and 50% by Acciona. This joint venture was funded equally by Acciona and the Company as of December 31, 2021 but had not yet commenced any related activities.

Plug Inc. created a joint venture with SK E&S Co., Ltd. (“SK E&S”), in the fourth quarter 2021. This joint venture with SK will accelerate the use of hydrogen as an alternative energy source in Asian markets. Through this initiative, the two companies will collaborate to provide hydrogen fuel cell systems, hydrogen fueling stations, electrolyzers and green hydrogen to the Korean and other Asian markets. This joint venture is owned 49% by Plug Power Inc. and 51% by SK E&S. As of December 31, 2021, this joint venture had not been funded by either party.

Liquidity

As of December 31, 2021, the Company had \$2.5 billion of cash and cash equivalents, \$650.9 million of restricted cash, \$1.2 billion of available-for-sale securities and \$148.0 million of equity securities. In January and February 2021, the Company issued and sold in another 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 the previously announced sale of its common stock in connection with a strategic partnership with SK Holdings Co., Ltd. (“SK Holdings”) to accelerate the use of hydrogen as an alternative energy source in Asian markets. 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.

The Company has continued to experience negative cash flows from operations and net losses. The Company incurred net losses attributable to common stockholders of \$460.0 million, \$596.2 million and \$85.6 million for the years ended December 31, 2021, 2020, and 2019, respectively. The Company’s cash used in operations totaled \$358.2 million, \$155.5 million, and \$53.3 million for the year ended December 31, 2021, 2020 and 2019, and has an accumulated deficit of \$2.4 billion at December 31, 2020.

The Company’s significant obligations consisted of the following as of December 31, 2021:

- Operating and finance leases totaling \$206.5 million and \$29.3 million, respectively, of which \$30.8 million and \$4.7 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 \$253.7 million of which approximately \$42.0 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.
- Long-term debt, primarily related to the Company’s loan and security agreement (Loan Agreement) with Generate Lending, LLC (Generate Capital) totaling \$128.0 million of which \$15.3 million is classified as short term on the consolidated balance sheets. See Note 14, “Long-Term Debt”, for more details.
- Convertible senior notes totaling \$192.6 million at December 31, 2021. See Note 15, “Convertible Senior Notes,” for more details.

Notes to Consolidated Financial Statements (Continued)

The Company believes that its current working capital of \$4.0 billion at December 31, 2021, which includes unrestricted cash and cash equivalents of \$2.5 billion, and available-for-sale securities of \$1.2 billion, will provide sufficient liquidity to fund operations for a least one year after the date the financial statements are issued.

The Company plans to invest a portion of its available cash to expand its current production and manufacturing capacity and to fund strategic acquisitions and partnerships and capital projects. Future use of the Company's funds is discretionary and the Company believes that its future working capital and cash position will be sufficient to fund operations for one year after the date of the consolidated balance sheet.

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 HyVia and Acciona and 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 and Acciona.

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 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 unpaid 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 the 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 as the discount rate for the 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

Notes to Consolidated Financial Statements (Continued)

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.

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.

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

Notes to Consolidated Financial Statements (Continued)

transaction price for a significant financing component when the performance obligation is expected to be fulfilled within a year.

In 2017, in separate transactions, the Company 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 a 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 18, "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.

(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 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 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. In certain instances, control of hydrogen infrastructure installations transfers to the customer over time, and the related revenue is recognized over time as the performance obligation is satisfied. 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. Electrolyzer systems are sold either on a standalone basis or with an extended service agreement and other equipment. The Company uses an adjusted market assessment approach to determine the standalone selling price of electrolyzer systems. 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 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. 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

Notes to Consolidated Financial Statements (Continued)

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.

(iii) 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, the Company's market share, pricing strategies and objectives 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 commercial 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 services that provide for 97% to 98% uptime of the fleet. 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. As of December 31, 2021 and 2020, the Company recorded a loss accrual of \$89.8 million and \$24.0 million, respectively. Costs are estimated based upon historical experience and consider the estimated impact of the Company's cost reduction initiatives. 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.

(iv) 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 receive 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 transactions with third-party financial institutions in which it 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 a 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, which is based on an analysis of the interest

Notes to Consolidated Financial Statements (Continued)

rates on the Company's secured borrowings. 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 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 PPA 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. Costs to service the property, depreciation of the assets related to PPAs and fuel delivered to the customers, and other related costs are included in cost of PPA revenue in the consolidated statements of operations. 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.

(v) Fuel Delivered to Customers

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 on site. 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" lines on the consolidated statements of operations.

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 5 to 10 years. Amortization of the capitalized commission fees is included in selling, general and administrative expenses.

Notes to Consolidated Financial Statements (Continued)

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.

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. At December 31, 2021, cash equivalents consisted of commercial paper and U.S. Treasury securities with original maturities of three months or less, and money market funds. Due to their short-term nature, the carrying amounts reported in the consolidated balance sheets approximate the fair value of cash and cash equivalents. At December 31, 2021 and 2020, cash equivalents consist of money market accounts. The Company's cash and cash equivalents are deposited with financial institutions located in the U.S. and may at times exceed insured limits.

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 net gain (loss) from accumulated other comprehensive income (loss) reclassifications for previously unrealized net gains (losses) on available-for-sale debt securities.

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 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.

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

The Company accounts for its investments in non-consolidated entities, such as HyVia and Acciona, as equity method investments. The Company accounts for its non-marketable equity investments equivalent as an equity method investment.

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 \$5.0 million and \$1.0 million as of December 31, 2021 and 2020, respectfully.

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.

Notes to Consolidated Financial Statements (Continued)

Accounts Receivable

Accounts receivable are stated at the amount billed or billable to customers and are ordinarily due between 30 and 60 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, 2021, and 2020, the allowance for doubtful accounts was \$39 thousand and \$172 thousand, respectively.

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.

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, which includes depreciation on the Company's primary manufacturing facility, which is accounted for as a financing obligation, is calculated on the straight-line method over the estimated useful lives of the assets. Included within software, machinery and equipment is certain equipment related to our hydrogen plants. The Company records depreciation and amortization over the following estimated useful lives:

Leasehold improvements	5 - 10 years
Software, machinery and equipment	1- 30 years

Gains and losses resulting from the sale of property and equipment are recorded in current operations.

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. 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 of Long-Lived Assets and PPA Executory Contract Considerations

We evaluate long-lived 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. Long-lived assets that we evaluate include right of use lease assets, equipment deployed to our PPAs, assets related primarily to our fuel delivery business and other company owned long-lived assets.

Upon the occurrence of a triggering event, long-lived 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

Notes to Consolidated Financial Statements (Continued)

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 long-lived 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. 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 5 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 significant judgement related to expected cost saving estimates for initiatives being 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. Service costs during 2021 have been higher than previously estimated. 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 attributable to the global pandemic 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.

Notes to Consolidated Financial Statements (Continued)

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

	December 31, 2021	December 31, 2020	December 31, 2019
Beginning balance	\$ 24,013	\$ 3,702	\$ 5,345
Provision (benefit) for loss accrual	71,988	35,473	(394)
Loss accrual from acquisition	2,636	—	—
Released to service cost of sales	(8,864)	(2,348)	(1,249)
Released to provision for warrants	—	(12,814)	—
Ending balance	\$ 89,773	\$ 24,013	\$ 3,702

Goodwill and indefinite-lived intangible assets

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. Goodwill is reviewed for impairment at least annually. The indefinite-lived intangible asset represents in-process research and development for cumulative research and development efforts associated with dry stack electrolyzer technology acquired in connection with the Giner ELX, Inc. acquisition in June 2020.

The Company has the option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount. If this is the case, the quantitative goodwill impairment test is required. If it is more-likely-than-not that the fair value of a reporting unit is greater than its carrying amount, the quantitative goodwill impairment test is not required.

The indefinite-lived intangible asset is tested for impairment annually, and more frequently when there is a triggering event. Annually, or when there is a triggering event, the Company first performs a qualitative assessment by evaluating all relevant events and circumstances to determine if it is more likely than not that the indefinite-lived intangible asset is impaired; this includes considering any potential effect on significant inputs to determining the fair value of the indefinite-lived intangible asset. When it is more likely than not that the indefinite-lived intangible asset is impaired, then the Company calculates the fair value of the intangible asset and performs a quantitative impairment test.

The Company performs an impairment review of goodwill and the indefinite lived intangible asset on an annual basis at December 1, and when a triggering event is determined to have occurred between annual impairment tests. For the years ended December 31, 2021, 2020, and 2019, the Company performed a qualitative assessment of goodwill for its single reporting unit based on multiple factors including market capitalization and determined that it is not more likely than not that the fair value of its reporting unit is less than the carrying amount. For the year ended December 31, 2021 and 2020, the Company performed a qualitative assessment of its indefinite lived intangible asset and determined that it is not more likely than not that its fair value is less than the carrying amount.

Intangible Assets

Intangible assets consist of acquired technology, customer relationships and trademarks, and are amortized using a straight-line method over their useful lives of 5–15 years. Additionally, the intangible assets are reviewed for impairment when certain triggering events occur.

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.

Notes to Consolidated Financial Statements (Continued)

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.

Equity Instruments

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 18, “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 by applying the guidance under Topic 718, as of January 1, 2019.

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.

Redeemable Preferred Stock

We account for redeemable preferred stock as temporary equity in accordance with applicable accounting guidance in FASB ASC Topic 480, *Distinguishing Liabilities from Equity*. Dividends on the redeemable preferred stock are accounted for as an increase in the net loss attributable to common stockholders.

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 on the Other expense, net line 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 in stockholders' equity on the consolidated balance sheets. 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 interest and other income and interest and other expense, respectively, in the consolidated statements of operations.

Research and Development

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 20, "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 was 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. No tax benefit or expense for stock-based compensation has been recorded during the years ended December 31, 2021, 2020 and 2019 since the Company remains in a full valuation allowance position.

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.

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. Actual results could differ from those estimates.

Reclassifications

Reclassifications are made, whenever necessary, to prior period financial statements to conform to the current period presentation.

Notes to Consolidated Financial Statements (Continued)

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 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 Adopted Accounting Pronouncements

In October of 2021, ASU No. 2021-08- Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers was issued. The standard update provides an exception to the fair value measurement for revenue contracts acquired in a business combination. The Company has elected to early adopt the standards update as of the fourth quarter of 2021.

On January 1, 2021, we early adopted 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 Company’s 3.75% Convertible Senior Notes due 2025 (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. 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 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.

In December 2019, Accounting Standards Update (ASU) 2019-12, Simplifying the Accounting for Income Taxes, was issued to identify, evaluate, and improve areas of GAAP for which cost and complexity can be reduced while maintaining or improving the usefulness of the information provided to users of financial statements. This update was adopted January 1, 2021 and did not have a material impact on the Company’s consolidated financial statements.

Recently Issued and Not Yet Adopted Accounting Pronouncements

In March 2020, ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting, was issued to provide temporary optional expedients and exceptions to the GAAP guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate (LIBOR) and other interbank offered rates to alternative reference rates. This update was effective starting March 12, 2020 and the Company may elect to apply the amendments prospectively through December 31, 2022. The adoption of this standard is not expected to have a material impact on the Company’s consolidated financial statements.

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 does not have a material impact on the Company’s consolidated financial statements.

Notes to Consolidated Financial Statements (Continued)

3. Acquisitions

Applied Cryo Technologies Acquisition

On November 22, 2021, the Company acquired 100% of the outstanding shares of Applied Cryo Technologies, Inc. (“Applied Cryo”). Applied Cryo is a manufacturer of engineered equipment servicing multiple applications, including cryogenic trailers and mobile storage equipment for the oil and gas markets and equipment for the distribution of liquified hydrogen, oxygen, argon, nitrogen and other cryogenic gases.

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

Cash	\$	98,559
Plug Power Stock		46,697
Contingent consideration		14,000
Settlement of preexisting relationship		2,837
Total consideration	\$	<u>162,093</u>

Included in the \$98.6 million of cash consideration above, \$10.0 million is consideration held by our paying agent in connection with this acquisition reported as restricted cash, with a corresponding accrued liability as of December 31, 2021 on the Company’s consolidated balance sheet.

The contingent consideration represents the estimated fair value associated with earn-out payments of up to \$30.0 million that the sellers are eligible to receive in the form of cash or shares of the Company’s Common Stock (at the Company’s election). Of the total earnout consideration, \$15.0 million is related to the achievement of certain production targets during the period of January 1, 2022 through July 1, 2024, and \$15.0 million is associated with the achievement of certain cost targets during the same period.

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

Cash	\$	1,180
Accounts receivable		4,123
Inventory		24,655
Prepaid expenses and other assets		1,506
Property, plant and equipment		4,515
Right of use asset		2,788
Identifiable intangible assets		70,484
Lease liability		(2,672)
Accounts payable, accrued expenses and other liabilities		(8,206)
Deferred tax liability		(16,541)
Deferred revenue		(12,990)
Total net assets acquired, excluding goodwill	\$	<u>68,842</u>

Identifiable intangible assets consisted of developed technology, non-compete agreements, backlog, tradename, and customer relationships.

The fair value of the developed technology totaling \$26.3 million was calculated using the relief from royalty approach which is a variant of the income approach. The application of the relief from royalty approach involves estimating the value of an intangible asset by quantifying the present value of the stream of market derived royalty payments that the owner of the intangible asset is exempted or ‘relieved’ from paying. The fair value of the tradename totaling \$13.7 million was calculated using the relief from royalty approach. The fair value of the acquired customer relationships totaling \$26.6 million was calculated using the multi-period excess earnings method (“MPEEM”) approach which is a variant of the income approach. The basic principle of the MPEEM approach is that a single asset, in isolation, is not capable of

Notes to Consolidated Financial Statements (Continued)

generating cash flow for an enterprise. Several assets are brought together and exploited to generate cash flow. Therefore, to determine cash flow from the exploitation of customer relationships, 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 customer relationships was estimated by discounting the net cash flow derived from the expected revenues attributable to the acquired customer relationships. The fair value of the non-compete agreements and backlog was \$3.9 million.

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

Included in the purchase consideration are four contingent earn-out payments (as described above): the first production earn-out, second production earn-out, the first cost earn-out, and the second cost earn-out. Due to the nature of the earn-outs, as outlined in the purchase agreement, a scenario based method (“SBM”) was used to value these contingent payments as the payments are milestone based in nature. These fair value measurements were based on unobservable inputs and are considered to be level 3 financial instruments.

In connection with the acquisition, the Company recorded on its consolidated balance sheet a liability of \$14.0 million representing the fair value of contingent consideration payable. The fair value of this contingent consideration was remeasured as of December 31, 2021, and the change was immaterial to the consolidated statement of operations for the year ended December 31, 2021.

Included in Applied Cryo’s net assets acquired are net deferred tax liabilities of \$16.5 million. In connection with the acquisition of these net deferred tax liabilities, the Company reduced its valuation allowance by \$16.5 million and recognized a tax benefit \$16.5 million during the year ended December 31, 2021.

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 not deductible for income tax purposes. Goodwill associated with the Applied Cryo acquisition was calculated as follows (in thousands):

Consideration paid	\$ 162,093
Less: net assets acquired	(68,842)
Total goodwill recognized	\$ <u>93,251</u>

Frames Holding B.V. Acquisition

On December 9, 2021, the Company acquired 100% of the outstanding shares of Frames Holding B.V. (“Frames”). Frames, a leader in turnkey systems integration for the energy section, designs, builds, and delivers processing equipment, separation technologies, flow control and safeguarding systems, renewable energy and water solutions.

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

Cash	\$ 94,541
Contingent consideration	29,057
Settlement of preexisting relationship	<u>4,263</u>
Total consideration	\$ <u>127,861</u>

The contingent consideration represents the estimated fair value associated with earn-out payments of up to €30.0 million that the sellers are eligible to receive in the form of cash or shares of the Company’s Common Stock. The contingent consideration is related to the achievement of certain production targets during the four years following the closing date and is payable in two equal installments. The first target is achieved when the Company has shipped or has made ready for shipment 100MW of containerized electrolyzer systems, or non-containerized electrolyzer systems or arrays. The remaining targets are achieved when the Company has shipped or has made ready for shipment an additional 50MW of containerized electrolyzer systems, or non-containerized electrolyzer systems or arrays, with a maximum of additional 150MW.

Notes to Consolidated Financial Statements (Continued)

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

Cash	\$	45,394
Accounts receivable		17,910
Inventory		34
Prepaid expenses and other assets		3,652
Property, plant and equipment		709
Right of use asset		1,937
Contract asset		9,960
Identifiable intangible assets		50,478
Lease liability		(1,937)
Contract liability		(22,737)
Accounts payable, accrued expenses and other liabilities		(18,465)
Deferred tax liability		(4,105)
Provision for loss contracts		(2,636)
Warranty provisions		(7,566)
Total net assets acquired, excluding goodwill	\$	<u>72,628</u>

Identifiable intangible assets consisted of developed technology, non-compete agreements, backlog, tradename, and customer relationships.

The fair value of the developed technology totaling \$5.3 million was calculated using the relief from royalty approach which is a variant of the income approach. The fair value of the tradename totaling \$11.6 million was calculated using the relief from royalty approach. The fair value of the acquired customer relationships totaling \$27.2 million was calculated using the MPEEM approach which is a variant of the income approach. The fair value of the customer relationships was estimated by discounting the net cash flow derived from the expected revenues attributable to the acquired customer relationships. The fair value of the non-compete agreements totaling \$4.9 million was calculated using the with and without income approach. The fair value of the backlog was \$1.4 million.

Included in the purchase consideration are four contingent earn-out payments (as described above). Due to the nature of the earn-outs, as outlined in the purchase agreement, 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.

In connection with the 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 remeasured as of December 31, 2021, and the change was immaterial to the consolidated statement of operations for the year ended December 31, 2021.

Included in Frames' net assets acquired are net deferred tax liabilities of \$4.1 million.

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 not deductible for income tax purposes. Goodwill associated with the Frames acquisition was calculated as follows (in thousands):

Consideration paid	\$	127,861
Less: net assets acquired		(72,628)
Total goodwill recognized	\$	<u>55,233</u>

The above estimates are preliminary in nature and subject to adjustments. Any necessary adjustments will be finalized within one year from the date of acquisition. Substantially all the receivables acquired are expected to be collectible. We have not identified any material unrecorded pre-acquisition contingencies where the related asset or

Notes to Consolidated Financial Statements (Continued)

liability, or an impairment is probable and the amount can be reasonably estimated. Purchased goodwill is not expected to be deductible for tax purposes.

Neither the Applied Cryo Technologies acquisition nor the Frames acquisition was material to our consolidated results of operations or financial position and, therefore, pro forma financial information is not presented.

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 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, 2021 are summarized as follows (in thousands):

	December 31, 2021				
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Allowance for Credit Losses
Corporate bonds	\$ 228,614	\$ —	(2,232)	226,382	—
U.S. Treasuries	1,014,319	20	(456)	1,013,883	—
Total	\$ 1,242,933	\$ 20	\$ (2,688)	\$ 1,240,265	\$ —

The aggregate fair value of available-for-sale securities in an unrealized loss position at December 31, 2021 was \$969.0 million. No available-for-sale securities have been in a continuous unrealized loss position for greater than 12 months.

The cost, gross unrealized gains and losses, and fair value of those investments classified as equity securities at December 31, 2021 are summarized as follows (in thousands):

	December 31, 2021			
	Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Fixed income mutual funds	\$ 70,247	\$ —	\$ (574)	\$ 69,673
Exchange traded mutual funds	71,010	7,312	—	78,322
Total	\$ 141,257	\$ 7,312	\$ (574)	\$ 147,995

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):

Maturity:	December 31, 2021	
	Amortized Cost	Fair Value
Within one year	\$ 670,584	\$ 670,306
After one through five years	572,349	569,959
Total	\$ 1,242,933	\$ 1,240,265

Accrued interest income was \$3.7 million and zero at December 31, 2021 and December 31, 2020, respectively, and is included within the balance for prepaid expenses and other current assets in the consolidated balance sheets.

Notes to Consolidated Financial Statements (Continued)**5. Fair value measurements**

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 2 assets, as their fair values 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, 2021.

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 and AccionaPlug S.L.

The following table summarizes the carrying amount and estimated fair value of the Company's financial instruments at December 31, 2021 and 2020 (in thousands):

	As of December 31, 2021					
	Carrying Amount	Fair Value	Fair Value Measurements			
			Level 1	Level 2	Level 3	
Assets						
Cash equivalents	\$ 115,241	\$ 115,241	\$ 115,241	\$ —	\$ —	
Corporate bonds	226,382	226,382	—	226,382	—	
U.S. Treasuries	1,013,883	1,013,883	1,013,883	—	—	
Equity securities	147,995	147,995	147,995	—	—	
Swaps and forward contracts	70	70	70	—	—	
Liabilities						
Contingent consideration	62,297	62,297	—	—	62,297	
Convertible senior notes	192,633	1,129,765	—	1,129,765	—	
Long-term debt	128,046	129,437	—	—	129,437	
Finance obligations	253,684	253,684	—	—	253,684	
Swaps and forward contracts	981	981	981	—	—	
As of December 31, 2020						
	Carrying Amount	Fair Value	Level 1	Level 2	Level 3	
Liabilities						
Contingent consideration	9,760	9,760	—	—	9,760	
Convertible senior notes	85,640	1,272,766	—	1,272,766	—	
Long-term debt	175,402	175,402	—	—	175,402	
Finance obligations	181,553	181,553	—	—	181,553	

6. Earnings Per Share

Basic earnings per common stock are computed by dividing net loss attributable to common stockholders 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.

Notes to Consolidated Financial Statements (Continued)

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

	Year ended December 31,		
	2021	2020	2019
Numerator:			
Net loss attributable to common stockholders	\$ (459,965)	\$ (596,181)	\$ (85,555)
Denominator:			
Weighted average number of common stock outstanding	558,182,177	354,790,106	237,152,780

The potentially dilutive securities are summarized as follows:

	At December 31,		
	2021	2020	2019
Stock options outstanding (1)	23,806,909	10,284,498	23,013,590
Restricted stock outstanding (2)	4,851,873	5,874,642	4,608,560
Common stock warrants (3)	80,017,181	104,753,740	110,573,392
Preferred stock (4)	—	—	2,998,527
Convertible Senior Notes (5)	39,170,766	42,256,610	59,133,896
Number of dilutive potential shares of common stock	147,846,729	163,169,490	200,327,965

- (1) During the years ended December 31, 2021, 2020, and 2019, the Company granted 16,502,335, 3,509,549, and 3,221,892, stock options, respectively.
- (2) During the years ended December 31, 2021, 2020, and 2019, the Company granted 1,894,356, 3,227,149, and 3,201,892, shares of restricted stock, respectively.
- (3) 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 18, "Warrant Transaction Agreements." The warrant was exercised with respect to 17,461,994 and 0 shares of the Company's common stock as of December 31, 2021 and 2020, 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 18, "Warrant Transaction Agreements." The warrant had been exercised with respect to 13,094,217 and 5,819,652 shares of the Company's common stock as of December 31, 2021 and 2020, respectively.

- (4) The preferred stock amount represents the dilutive potential on the shares of common stock as a result of the conversion of the Series C Redeemable Convertible Preferred Stock (Series C Preferred Stock) and Series E Convertible Preferred Stock (Series E Preferred Stock), based on the conversion price of each preferred stock as of December 31, 2019, and 2018, respectively. Of the 10,431 shares of Series C Preferred Stock issued on May 16, 2013, all shares had been converted to common stock as of December 31, 2020. On November 1, 2018, the Company issued 35,000 shares of Series E Preferred Stock. As of December 31, 2019, 30,462 shares of the Series E Preferred Stock had been converted to common stock and 4,038 shares were redeemed for cash. All of the remaining Series E Preferred Stock were converted to either common stock or cash, in January 2020.
- (5) In March 2018, the Company issued \$100.0 million in aggregate principal amount of the 5.5% Convertible Senior Notes due 2023 (the "5.5% Convertible Senior Notes"). In May 2020, the Company repurchased \$66.3 million of the 5.5% Convertible Senior Notes due 2023 (the "5.5% Convertible Senior Notes") and in the fourth quarter of 2020, \$33.5 million of the 5.5% Convertible Senior Notes were converted into approximately 14.6 million shares of common stock. The remaining \$160 thousand aggregate principal amount of the 5.5% Convertible Senior Notes were converted into 69,808 shares of common stock in January 2021. In September 2019, the Company issued \$40.0 million in aggregate principal amount of the 7.5% Convertible Senior Note due 2023 (the "7.5% Convertible Senior Note"), which was fully converted into 16.0 million shares of common stock on July 1, 2020. In May 2020, the Company

Notes to Consolidated Financial Statements (Continued)

issued \$212.5 million in aggregate principal amount of the 3.75% Convertible Senior Notes. During the first quarter of 2021, \$15.2 million of the 3.75% Convertible Senior Notes were converted into 3,016,036 shares of common stock. There were no other conversions for the year ended December 31, 2021.

7. Inventory

Inventory as of December 31, 2021 and 2020, consists of the following (in thousands):

	December 31, 2021	December 31, 2020
Raw materials and supplies - production locations	\$ 187,449	\$ 92,221
Raw materials and supplies - customer locations	16,294	12,405
Work-in-process	58,341	29,349
Finished goods	7,079	5,411
Inventory	<u>\$ 269,163</u>	<u>\$ 139,386</u>

8. Property, Plant and Equipment

Property, plant and equipment at December 31, 2021 and 2020 consists of the following (in thousands):

	December 31, 2021	December 31, 2020
Land	\$ 1,165	\$ 1,165
Construction in progress	169,415	15,590
Leasehold improvements	2,099	1,121
Software, machinery and equipment	112,068	78,859
Property, plant, and equipment	<u>\$ 284,747</u>	<u>\$ 96,735</u>
Less: accumulated depreciation	(29,124)	(22,186)
Property, plant, and equipment, net	<u>\$ 255,623</u>	<u>\$ 74,549</u>

Construction in progress is primarily comprised of construction of hydrogen production plants and the Gigafactory in Rochester. 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, 2021 and 2020, we capitalized \$5.5 million and \$0 of interest.

Depreciation expense related to property, plant and equipment was \$6.9 million, \$4.8 million, and \$3.6 million for the years ended December 31, 2021, 2020, and 2019, 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, 2021 and 2020 consists of the following (in thousands):

	December 31, 2021	December 31, 2020
Equipment related to power purchase agreements and fuel delivered to customers	\$ 89,641	\$ 92,736
Less: accumulated depreciation	(16,739)	(16,929)
Equipment related to power purchase agreements and fuel delivered to customers, net	<u>\$ 72,902</u>	<u>\$ 75,807</u>

Notes to Consolidated Financial Statements (Continued)

As of December 31, 2021 and 2020, 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 \$7.4 million, \$7.9 million and \$6.3 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The Company recorded an impairment of \$10.2 million and \$6.4 million for the years ended December 31, 2021 and 2020, 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.

10. Intangible Assets and Goodwill

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2021 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	13 years	\$ 45,530	\$ (5,392)	\$ 40,138
Customer relationship, backlog & trademark	12 years	90,497	(1,427)	89,070
In process research and development	Indefinite	29,000	—	29,000
		<u>\$ 165,027</u>	<u>\$ (6,819)</u>	<u>\$ 158,208</u>

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2020 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	10 years	\$ 13,697	\$ (4,042)	\$ 9,655
Customer relationship, backlog & trademark	6 years	890	(294)	596
In process research and development	Indefinite	29,000	—	29,000
		<u>\$ 43,587</u>	<u>\$ (4,336)</u>	<u>\$ 39,251</u>

The change in the gross carrying amount of the Company's acquired intangible assets from December 31, 2020 to December 31, 2021 was primarily due to the acquisitions of Applied Cryo and Frames. In addition, the Company acquired \$928 thousand of intangible assets from an asset acquisition of Protium, as well as changes in foreign currency translation.

The Company's in-process research and development is related to the development of the dry build process associated with electrolyzer stacks, as part of acquisition of Giner ELX. The related intangible asset is not currently amortized, as research and development is ongoing. Upon completion of the dry build process, amortization will commence based upon the estimated useful life of the underlying asset. Company expects to begin using this technology in 2022 with an expected useful life of 5 years. The future amortization expense is included in the estimated amortization expense table below.

Notes to Consolidated Financial Statements (Continued)

In 2019, the Company acquired intellectual property from EnergyOr for \$1.5 million. In addition, the Company agreed to pay the sellers a royalty based on future sales of relevant applications, not to exceed \$3.0 million, by May 22, 2025. These royalties are added to the intangible asset balance, as incurred. To date, no royalties have been earned.

As of December 31, 2020, as part of the agreement to acquire the intellectual property from AFC, the Company paid AFC milestone payments of \$2.9 million.

Amortization expense for acquired identifiable intangible assets for the years ended December 31, 2021, 2020 and 2019 was \$2.5 million, \$1.1 million and \$0.7 million, respectively.

Estimated amortization expense for subsequent years was as follows (in thousands):

2022	21,032
2023	17,072
2024	17,015
2025	22,029
2026 and thereafter	81,060
Total	<u>\$ 158,208</u>

Goodwill was \$220.4 million and \$72.4 million as of December 31, 2021 and 2020 respectively, which increased \$148.5 million as a result of the Applied Cryo and Frames acquisitions, and decreased \$0.5 million due to translation adjustments for Hypulsion and Frames goodwill. There were no impairments during the years ended December 31, 2021, 2020 and 2019.

11. Accrued Expenses

Accrued expenses at December 31, 2021 and 2020 consist of (in thousands):

	2021	2020
Accrued payroll and compensation related costs	\$ 22,005	\$ 29,167
Accrued accounts payable	43,436	11,750
Accrued sales and other taxes	10,632	3,665
Accrued interest	429	649
Accrued other	2,735	852
Total	<u>\$ 79,237</u>	<u>\$ 46,083</u>

12. Operating and Finance Lease Liabilities

As of December 31, 2021, 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 nine 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 22, "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. The fair value of this finance obligation approximated the carrying value as of December 31, 2021.

Notes to Consolidated Financial Statements (Continued)

Future minimum lease payments under operating and finance leases (with initial or remaining lease terms in excess of one year) as of December 31, 2021 were as follows (in thousands):

	Operating Lease Liability	Finance Lease Liability	Total Lease Liabilities
2022	\$ 51,538	\$ 6,402	\$ 57,940
2023	51,288	6,306	57,594
2024	50,437	6,278	56,715
2025	46,733	9,177	55,910
2026	38,760	5,847	44,607
2027 and thereafter	37,342	773	38,115
Total future minimum payments	276,098	34,783	310,881
Less imputed interest	(69,641)	(5,454)	(75,095)
Total	\$ 206,457	\$ 29,329	\$ 235,786

Rental expense for all operating leases was \$38.6 million, \$22.3 million, and \$14.6 million for the years ended December 31, 2021, 2020 and 2019, respectively.

The gross profit on sale/leaseback transactions for all operating leases was \$99.8 million, \$61.0 million, and \$26.2 million for the years ended December 31, 2021, 2020 and 2019, respectively. Right of use assets obtained in exchange for new operating lease liabilities was \$120.7 million, \$58.5 million and \$37.7 million for the years ended December 31, 2021, 2020 and 2019, respectively.

At December 31, 2021 and 2020, the right of use assets, net associated with operating leases was \$212.5 million and \$117.0 million respectively.

At December 31, 2021 and 2020, the right of use assets associated with finance leases was \$33.9 million and \$5.7 million, respectively. The accumulated depreciation for these right of use assets was \$1.5 million and \$102 thousand at December 31, 2021 and 2020, respectively.

At December 31, 2021 and 2020, security deposits associated with sale/leaseback transactions were \$3.5 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, 2021	Year ended December 31, 2020
Cash payments (in thousands)	\$ 37,463	\$ 22,626
Weighted average remaining lease term (years)	5.6	6.0
Weighted average discount rate	10.9%	11.7%

Finance lease costs include amortization of the right of use assets (i.e., depreciation expense) and interest on lease liabilities (i.e., interest and other expense, net in the consolidated statement of operations), and were \$2.1 million for the year ended December 31, 2021. Finance lease costs were immaterial for the year ended December 31, 2020 and 2019.

Right of use assets obtained in exchange for new finance lease liabilities were \$30.2 million and \$4.1 million for the years ended December 31, 2021 and 2020, respectively.

Notes to Consolidated Financial Statements (Continued)

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

	Year ended December 31, 2021	Year ended December 31, 2020
Cash payments (in thousands)	\$ 3,648	\$ 471
Weighted average remaining lease term (years)	4.56	5.6
Weighted average discount rate	6.7%	8.2%

The Company has outstanding obligations to Wells Fargo under several Master Lease Agreements totaling \$123.5 million at December 31, 2021. 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, 2021 was \$236.6 million, \$37.5 million and \$199.1 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, 2020 was \$157.7 million, \$24.7 million and \$132.9 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. The fair value of this finance obligation approximated the carrying value as of both December 31, 2021 and 2020.

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, 2021 was \$17.0 million, \$4.5 million and \$12.5 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, 2020 was \$23.9 million, \$8.0 million and \$15.9 million of which was classified as short-term and long-term, respectively on the accompanying consolidated balance sheet. The fair value of this finance obligation approximated the carrying value as of both December 31, 2021 and December 31, 2020.

Future minimum payments under finance obligations notes above as of December 31, 2021 were as follows (in thousands):

	Sale of Future revenue - debt	Sale/leaseback financings	Total Finance Obligations
2022	\$ 62,080	\$ 5,219	\$ 67,299
2023	62,080	3,392	65,472
2024	62,080	9,148	71,228
2025	56,824	244	57,068
2026	40,100	244	40,344
2027 and thereafter	28,518	325	28,843
Total future minimum payments	311,682	18,572	330,254
Less imputed interest	(74,991)	(1,579)	(76,570)
Total	\$ 236,691	\$ 16,993	\$ 253,684

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

	Year ended December 31, 2021	Year ended December 31, 2020
Cash payments (in thousands)	\$ 57,016	\$ 44,245
Weighted average remaining term (years)	5.03	5.00
Weighted average discount rate	10.8%	11.3%

Notes to Consolidated Financial Statements (Continued)

14. Long-Term Debt

In March 2019, the Company entered into a loan and security agreement, as amended (the “Loan Agreement”), with Generate Lending, LLC (“Generate Capital”), providing for a secured term loan facility in the amount of \$100 million (the “Term Loan Facility”).

Additionally, during the year ended December 31, 2020, the Company, under another series of amendments to the Loan Agreement, borrowed an incremental \$100 million. As part of the amendment to the Loan Agreement, the Company’s interest rate on the secured term loan facility was reduced to 9.50% from 12.00% per annum, and the maturity date was extended to October 31, 2025 from October 6, 2022. On December 31, 2021, the outstanding balance under the Term Loan Facility was \$118.9 million. In addition to the Term Loan Facility, on December 31, 2021 there was approximately \$9.1 million of debt related to United Hydrogen Group Inc. acquisition.

The Loan Agreement includes covenants, limitations, and events of default customary for similar facilities. Interest and a portion of the principal amount is payable on a quarterly basis. Principal payments will be funded in part by releases of restricted cash, as described in Note 22, “Commitments and Contingencies.” Based on the amortization schedule as of December 31, 2021, the aforementioned loan balance under the Term Loan Facility will be fully paid by October 31, 2025. The Company is in compliance with, or has obtained waivers for, all debt covenants.

The Term Loan Facility is secured by substantially all of the Company’s and the guarantor subsidiaries’ assets, including, among other assets, all intellectual property, all securities in domestic subsidiaries and 65% of the securities in foreign subsidiaries, subject to certain exceptions and exclusions.

The Loan Agreement provides that if there is an event of default due to the Company’s insolvency or if the Company fails to perform in any material respect the servicing requirements for fuel cell systems under certain customer agreements, which failure would entitle the customer to terminate such customer agreement, replace the Company or withhold the payment of any material amount to the Company under such customer agreement, then Generate Capital has the right to cause Proton Services Inc., a wholly owned subsidiary of the Company, to replace the Company in performing the maintenance services under such customer agreement.

As of December 31, 2021 the Term Loan Facility requires the principal balance as of each of the following dates not to exceed the following (in thousands):

December 31, 2022	105,904
December 31, 2023	72,955

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:

	Amount (in thousands)
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.

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 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, 2021
Principal amounts:	
Principal	\$ 197,278
Unamortized debt issuance costs (1)	(4,645)
Net carrying amount	<u>\$ 192,633</u>

- 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, 2021
Interest expense	\$ 7,446
Amortization of debt issuance costs	1,670
Total	<u>9,116</u>
Effective interest rate	4.50%

Based on the closing price of the Company's common stock of \$28.23 on December 31, 2021, the if-converted value of the notes was greater than the principal amount. The estimated fair value of the note at December 31, 2021 was approximately \$1.1 billion. Fair value estimation was primarily based on a stock exchange, active trade on January 3, 2022 of the 3.75% Senior Convertible Note. The Company considers this a Level 2 fair value measurement. Refer to Note 5, "Fair value measurements."

Notes to Consolidated Financial Statements (Continued)

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.

7.5% Convertible Senior Note

In September 2019, the Company issued \$40.0 million aggregate principal amount of 7.5% Convertible Senior Note due on January 5, 2023, which is referred to herein as the 7.5% Convertible Senior Note, in exchange for net proceeds of \$39.1 million, in a private placement to an accredited investor pursuant to Rule 144A under the Securities Act. There were no required principal payments prior to the maturity of the 7.5% Convertible Senior Note. Upon maturity of the 7.5% Convertible Senior Note, the Company was required to repay 120% of \$40.0 million, or \$48.0 million. The 7.5% Convertible Senior Note bore interest at 7.5% per year, payable quarterly in arrears on January 5, April 5, July 5 and October 5 of each year beginning on October 5, 2019 and was to mature on January 5, 2023 unless earlier converted or repurchased in accordance with its terms. The 7.5% Convertible Senior Note was unsecured and did not contain any financial covenants or any restrictions on the payment of dividends, or the issuance or repurchase of common stock by the Company.

On July 1, 2020, the 7.5% Convertible Senior Note automatically converted into 16.0 million shares of common stock.

5.5% Convertible Senior Notes

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, in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act.

In May 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 the 5.5% Convertible Senior Notes, which consisted of a repurchase of approximately \$66.3 million in aggregate principal amount of the 5.5% Convertible Senior Notes in privately-negotiated transactions for aggregate consideration of \$128.9 million, consisting of approximately \$90.2 million in cash and approximately 9.4 million shares of the Company’s common stock. The partial repurchase of the 5.5% Convertible Senior Notes resulted in a \$13.2 million gain on early debt extinguishment. In the fourth quarter of 2020, \$33.5 million of the remaining 5.5% Convertible Senior Notes were converted into 14.6 million shares of common stock which resulted in a gain of approximately \$4.5 million which was recorded on the consolidated statement of operations on the gain (loss) on extinguishment of debt line.

On January 7, 2021, the remaining aggregate principal of \$160 thousand aggregate principal amount of the 5.5% Convertible Senior Notes were converted into 69,808 shares of common stock. Interest expense and amortization for the period were immaterial.

Notes to Consolidated Financial Statements (Continued)

Capped Call

In conjunction with the pricing of the 5.5% Convertible Senior Notes, the Company entered into privately negotiated capped call transactions (the “5.5% Notes Capped Call”) with certain counterparties at a price of \$16.0 million to reduce the potential dilution to the Company’s common stock upon any conversion of the 5.5% Convertible Senior Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the converted 5.5% Convertible Senior Notes, as the case may be. The net cost incurred in connection with the 5.5% Notes Capped Call has been recorded as a reduction to additional paid-in capital in the consolidated balance sheets.

In conjunction with the pricing of the partial repurchase of the 5.5% Convertible Senior Notes, the Company terminated 100% of the 5.5% Notes Capped Call on June 5, 2020. As a result of the termination, the Company received \$24.2 million, which was recorded in additional paid-in capital in the consolidated balance sheets.

Senior Notes and is generally expected to reduce the potential dilution to the Company’s common stock upon any conversion of the 5.5% Convertible Senior Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the converted 5.5% Convertible Senior 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 5.5% Notes Capped Call is initially \$3.82 per share, which represents a premium of 100% over the last then-reported sale price of the Company’s common stock of \$1.91 per share on the date of the transaction and is subject to certain adjustments under the terms of the 5.5% Notes Capped Call. The 5.5% Notes Capped Call becomes exercisable if the conversion option is exercised.

The net cost incurred in connection with the 5.5% Notes Capped Call has been recorded as a reduction to additional paid-in capital in the consolidated balance sheets.

In conjunction with the partial repurchase of the 5.5% Convertible Senior Notes, the Company terminated 100% of the 5.5% Notes Capped Call on June 5, 2020. As a result of the termination, the Company received \$24.2 million which was recorded in additional paid-in capital.

Common Stock Forward

In connection with the issuance of the 5.5% Convertible Senior Notes, the Company also 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 net cost incurred in connection with the Common Stock Forward of \$27.5 million was recorded as an increase in treasury stock in the consolidated balance sheets. The related shares were accounted for as a repurchase of common stock.

The book value of the 5.5% Notes Capped Call and Common Stock Forward are not remeasured.

During the fourth quarter of 2020, the Common Stock Forward was partially settled and, as a result, the Company received 4.4 million shares of its common stock. During the year ended December 31, 2021, 8.1 million shares were settled and received by the Company.

16. Stockholders’ Equity

Preferred Stock

The Company has authorized 5.0 million shares of preferred stock, par value \$0.01 per share. The Company’s certificate of incorporation provides that shares of preferred stock may be issued from time to time in one or more series.

Notes to Consolidated Financial Statements (Continued)

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.

The Company has authorized Series A Junior Participating Cumulative Preferred Stock, par value \$0.01 per share. As of December 31, 2021 and December 31, 2020, there were no shares of Series A Junior Participating Cumulative Preferred Stock issued and outstanding. See Note 17, "Redeemable Convertible Preferred Stock," for a description of the Company's Series C Preferred Stock and Series E Preferred Stock.

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.

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.

In November 2020, the Company issued and sold in a registered direct offering an aggregate of 43,700,000 shares of its common stock at a purchase price of \$22.25 per share for net proceeds of approximately \$927.3 million.

In August 2020, the Company issued and sold in a registered direct offering an aggregate of 35,276,250 shares of its common stock at a purchase price of \$10.25 per share for net proceeds of approximately \$344.4 million.

In December 2019, the Company issued and sold in a registered public offering an aggregate of 46 million shares of its common stock at a purchase price of \$2.75 per share for net proceeds of approximately \$120.4 million.

In March 2019, the Company issued and sold in a registered direct offering an aggregate of 10 million shares of its common stock at a purchase price of \$2.35 per share. The net proceeds to the Company were approximately \$23.5 million.

There were 577,654,900 and 458,051,401 shares of common stock outstanding as of December 31, 2021 and December 31, 2020, respectively.

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 18, "Warrant Transaction Agreements." At December 31, 2021 and December 31, 2020, 75,655,478 and 68,380,913 of the warrant shares had vested, respectively, and are therefore exercisable. These warrants are measured at fair value at the time of grant or modification and are classified as equity instruments on the consolidated balance sheets.

At Market Issuance Sales Agreement

On April 13, 2020, the Company entered into the At Market Issuance Sales Agreement with B. Riley Financial ("B. Riley") as sales agent, pursuant to which the Company may offer and sell, from time to time through B. Riley, shares of Company common stock having an aggregate offering price of up to \$75.0 million. As of the date of this filing, the Company has not issued any shares of common stock pursuant to the At Market Issuance Sales Agreement.

Prior to December 31, 2019, the Company entered into a previous At Market Issuance Sales Agreement with B. Riley, which was terminated in the fourth quarter of 2019. Under this At Market Issuance Sales Agreement, for the year ended December 31, 2019, the Company issued 6.3 million shares of common stock, resulting in net proceeds of \$14.5 million.

Notes to Consolidated Financial Statements (Continued)

17. Redeemable Convertible Preferred Stock

Series E Preferred Stock

In November 2018, the Company issued an aggregate of 35,000 shares of the Company's Series E Preferred Stock in a private placement to certain accredited investors in reliance on Section 4(a)(2) of the Securities Act. The Company received net proceeds of approximately \$30.9 million, after deducting placement agent fees and expenses payable by the Company. The Company is required to redeem the Series E Preferred Stock in thirteen monthly installments in the amount of \$2.7 million each from May 2019 through May 2020. The Company had no shares of Series E Preferred Stock outstanding at December 31, 2021 and 2020, as the Series E Preferred Stock was fully converted by early 2020.

During 2019, certain conversions of the Series E preferred stock resulted in a deemed dividend of approximately \$1.8 million that is reflected on the Company's consolidated statement of operations as Preferred stock dividends declared, deemed dividends and accretion of discount.

Series C Preferred Stock

There were no shares of Series C Preferred Stock that were outstanding at December 31, 2021 or 2020.

In April 2020, 870 shares of Series C Preferred Stock were converted to 923,819 shares of common stock. In May 2020, the remaining 1,750 shares of Series C Preferred Stock were converted into 1,858,256 shares of common stock.

18. Warrant Transaction Agreements

Amazon Transaction Agreement

On April 4, 2017, the Company and Amazon entered into a Transaction Agreement (the "Amazon Transaction Agreement"), pursuant to which the Company agreed to issue to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (the "Amazon Warrant") to acquire up to 55,286,696 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 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 existing commercial agreements contemplate, but do not guarantee, future purchase orders for the Company's fuel cell technology. The vesting of the 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.

Under the terms of the original Amazon Warrant, the first tranche of the 5,819,652 Amazon Warrant Shares vested upon execution of the Amazon Warrant, and the remaining Amazon Warrant Shares vest based on Amazon's payment of up to \$600.0 million to the Company in connection with Amazon's purchase of goods and services from the Company. The \$6.7 million fair value of the first tranche of the Amazon Warrant Shares, was recognized as selling, general and administrative expense upon execution of the Amazon Warrant.

Provision for the second and third tranches of Amazon Warrant Shares was recorded as a reduction of revenue, because they represent consideration payable to a customer.

The fair value of the second tranche of Amazon Warrant Shares was measured at January 1, 2019, upon adoption of ASU 2019-08. The second tranche of 29,098,260 Amazon Warrant Shares vested in four equal installments, as Amazon 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 last installment of the second tranche vested on November 2, 2020. Revenue reductions of \$497 thousand, \$9.0 million and \$4.1 million were associated with the second tranche of Amazon Warrant Shares were recorded in 2021, 2020, and 2019, respectively, under the terms of the original Amazon Warrant.

Under the terms of the original Amazon Warrant, the third tranche of 20,368,784 Amazon Warrant Shares vests in eight equal installments, as Amazon or its affiliates, directly or indirectly through third parties, made an aggregate of

Notes to Consolidated Financial Statements (Continued)

\$50.0 million in payments for goods and services to the Company, up to payments totaling \$400.0 million in the aggregate. The measurement date for the third tranche of Amazon Warrant Shares was November 2, 2020, when their exercise price was determined, as discussed further below. The fair value of the third tranche of Amazon Warrant Shares was determined to be \$10.57 each. During 2020, revenue reductions of \$24.1 million associated with the third tranche Amazon Warrant Shares were recorded under the terms of the original Amazon Warrant, prior to the December 31, 2020 waiver described below.

On December 31, 2020, the Company waived the remaining vesting conditions under the Amazon Warrant, which resulted in the immediate vesting of all the third tranche of the Amazon Warrant Shares and recognition of an additional \$399.7 million reduction to revenue.

The \$399.7 million reduction to revenue resulting from the December 31, 2020 waiver was determined based upon a probability assessment of whether the underlying shares would have vested under the terms of the original Amazon Warrant. Based upon the Company's projections of probable future cash collections from Amazon (i.e., a Type I share based payment modification), a reduction of revenue associated with 5,354,905 Amazon Warrant Shares was recognized at their previously measured November 2, 2020 fair value of \$10.57 per warrant. A reduction of revenue associated with the remaining 12,730,490 Amazon Warrant Shares was recognized at their December 31, 2020 fair value of \$26.95 each, based upon the Company's assessment that associated future cash collections from Amazon were not deemed probable (i.e., a Type III share-based payment modification).

The \$399.7 million reduction to revenue was recognized during the year ended December 31, 2020 because the Company concluded such amount was not recoverable from the margins expected from future purchases by Amazon under the Amazon Warrant, and no exclusivity or other rights were conferred to the Company in connection with the December 31, 2020 waiver. Additionally, for the year ended December 31, 2020, the Company recorded a reduction to the provision for warrants of \$12.8 million in connection with the release of the service loss accrual.

The warrant was exercised with respect to 17,461,994 and 0 shares of the Company's common stock as of December 31, 2021 and 2020, respectively.

At both December 31, 2021 and December 31, 2020, 55,286,696 of the Amazon Warrant Shares had vested. The total amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the years ended December 31, 2021, 2020, and 2019 was \$0.5 million, \$420.0 million and \$4.1 million, respectively.

The exercise price for the first and second tranches of Amazon Warrant Shares is \$1.1893 per share. The exercise price of the third tranche of Amazon Warrant Shares is \$13.81 per share, which was determined pursuant to the terms of the Amazon Warrant as an amount equal to ninety percent (90%) of the 30-day volume weighted average share price of the Company's common stock as of November 2, 2020, the final vesting date of the second tranche of Amazon Warrant Shares. The Amazon Warrant is exercisable through April 4, 2027. The Amazon 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 Amazon 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 Amazon Warrant is classified as an equity instrument.

Fair value of the Amazon Warrant at December 31, 2020 and November 2, 2020 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. All Amazon Warrant Shares were fully vested as of December 31, 2020.

Notes to Consolidated Financial Statements (Continued)

The Company used the following assumptions for its Amazon Warrant:

	December 31, 2020	November 2, 2020
Risk-free interest rate	0.58%	0.58%
Volatility	75.00%	75.00%
Expected average term	6.26	6.42
Exercise price	\$13.81	\$13.81
Stock price	\$33.91	\$15.47

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 their grant-date fair value and recorded as a charge against revenue. The second tranche of 29,098,260 Walmart Warrant Shares vests in four installments of 7,274,565 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 \$200.0 million in the aggregate. The exercise price for the first and second tranches of Walmart Warrant Shares is \$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 Walmart Warrant Shares will be an amount per share equal to ninety percent (90%) of the 30-day volume weighted average share price of the common stock as of the final vesting date of the second tranche of Walmart Warrant Shares, provided that, with limited exceptions, the exercise price for the third tranche will be no lower than \$1.1893. 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 and 5,819,652 shares of the Company’s common stock as of December 31, 2021 and 2020, respectively.

At December 31, 2021 and December 31, 2020, 20,368,782 and 13,094,217 of the Walmart Warrant Shares had vested, respectively. 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, 2021, 2020, and 2019 \$6.1 million, \$5.0 million, and \$2.4 million, respectively.

Fair value of the Walmart Warrant 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

Notes to Consolidated Financial Statements (Continued)

assumptions. Except for the third tranche, all existing unvested Walmart Warrant Shares are measured using a measurement date of January 1, 2019, the adoption date, in accordance with ASU 2019-08.

The Company used the following assumptions for its Walmart Warrant:

	January 1, 2019
Risk-free interest rate	2.63%
Volatility	95.00%
Expected average term	8.55
Exercise price	\$2.12
Stock price	\$1.24

19. Revenue

Disaggregation of revenue

The following table provides information about disaggregation of revenue (in thousands):

Major products/services lines

	Year ended December 31,		
	2021	2020	2019
Sales of fuel cell systems	\$ 225,229	\$ (55,091)	\$ 130,757
Sale of hydrogen infrastructure	135,055	(43,391)	19,163
Sale of electrolyzers	16,667	4,187	—
Sales of oil and gas equipment	7,571	—	—
Services performed on fuel cell systems and related infrastructure	26,706	(9,801)	25,217
Power Purchase Agreements	35,153	26,620	25,553
Fuel delivered to customers	46,917	(16,072)	29,099
Sale of cryogenic equipment	8,255	—	—
Other	789	311	186
Net revenue	<u>\$ 502,342</u>	<u>\$ (93,237)</u>	<u>\$ 229,975</u>

Contract balances

The following table provides information about receivables, contract assets and contract liabilities from contracts with customers (in thousands):

	2021	2020
Accounts receivable	\$ 92,675	\$ 43,041
Contract assets	38,757	18,189
Contract liabilities	183,090	76,285

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 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). 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	Year ended December 31, 2021	
Transferred to receivables from contract assets recognized at the beginning of the period	\$	(14,638)
Contract assets assumed as part of acquisitions		9,960
Revenue recognized and not billed as of the end of the period		25,246
Net change in contract assets	\$	20,568

Contract liabilities	Year ended December 31, 2021	
Increases due to cash received, net of amounts recognized as revenue during the period	\$	182,052
Contract liabilities assumed as part of acquisitions		35,727
Revenue recognized that was included in the contract liability balance as of the beginning of the period		(110,974)
Net change in contract liabilities	\$	106,805

Estimated future revenue

The following table includes estimated revenue included in the backlog expected to be recognized in the future (sales of fuel cell systems and hydrogen installations are expected to be recognized as revenue within one year; sales of services and PPAs are expected to be recognized as revenue over five to seven years) 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):

Estimated future revenue	December 31, 2021	
Sales of fuel cell systems	\$	23,142
Sale of hydrogen installations and other infrastructure		36,243
Sale of electrolyzers		49,158
Sales of oil and gas equipment		91,586
Services performed on fuel cell systems and related infrastructure		102,362
Power Purchase Agreements		249,063
Fuel delivered to customers		61,602
Sale of cryogenic equipment		46,513
Other rental income		22,749
Total estimated future revenue	\$	682,418

Contract costs

Contract costs consists of capitalized commission fees and other expenses related to obtaining or fulfilling a contract.

Capitalized contract costs at December 31, 2021 and 2020 were \$428 thousand and \$1.5 million, respectively.

Notes to Consolidated Financial Statements (Continued)**20. 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. Through various amendments to the 2011 Plan approved by the Company's stockholders, the number of shares of the Company's common stock authorized for issuance under the 2011 Plan had been increased to 42.4 million. 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 473,491 shares remaining under the 2011 Plan that were rolled into the 2021 Plan, plus (iii) shares underlying any awards under the 2011 Plan that are forfeited, canceled, cash-settled or otherwise terminated, other than by exercise. The Company recorded expenses of approximately \$72.4 million, \$14.4 million and \$8.8 million for the years ended December 31, 2021, 2020 and 2019, respectively, in connection with the 2011 and 2021 Plans.

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 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 this plan 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 1,942,335, 3,509,549, and 3,221,892 Service Stock Options granted during years ended December 31, 2021, 2020 and 2019, respectively were as follows:

	2021	2020	2019
Expected term of options (years)	3 - 5	6	6
Risk free interest rate	0.61% - 1.23%	0.37% - 1.37%	1.52% - 2.53%
Volatility	72.46% - 76.60%	64.19% - 68.18%	69.32% - 87.94%

There was no expected dividend yield for the Service Stock Options granted.

Beginning in the second quarter of 2021, the expected term is based on the Company's historical experience with employee early exercise behavior. 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. Prior to this, the Company used the simplified method in determining its expected term of all its Service Stock Option grants in all periods presented. The simplified method was used because the Company did not believe historical exercise data provided a reasonable basis for the expected term of its grants, primarily as a result of the limited number of Service Stock Option exercises that had historically occurred.

Notes to Consolidated Financial Statements (Continued)

The following table reflects the Service Stock Option activity for the year ended December 31, 2021:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms	Aggregate Intrinsic Value
Options outstanding at December 31, 2020	10,284,498	\$ 5.78	7.8	\$ 289,316
Granted	1,942,335	32.52		
Exercised	(2,331,656)	3.23		
Forfeited	(104,168)	10.63		
Expired	(4,100)	6.10		
Options outstanding at December 31, 2021	<u>9,786,909</u>	\$ 11.65	7.7	\$ 172,412
Options exercisable at December 31, 2021	4,724,624	\$ 4.37	6.5	\$ 112,715
Options unvested at December 31, 2021	5,062,285	\$ 18.44	8.8	\$ 59,697

The weighted average grant-date fair value of the Service Stock Options granted during for the years ended December 31, 2021, 2020 and 2019 was \$19.80, \$7.22 and \$1.67, respectively. The total intrinsic fair value of Service Stock Options exercised during the years ended December 31, 2021, 2020, and 2019, was approximately \$115.5 million, \$145.0 million, and \$2.0 million. The fair value of Service Stock Options vested during the years ended December 31, 2021, 2020, and 2019 were \$11.0 million, \$5.9 million, and \$6.1 million.

Compensation cost associated with Service Stock Options represented approximately \$17.4 million, \$41.5 million, and \$8.4 million of the total share-based payment expense recorded for the years ended December 31, 2021, 2020 and 2019, respectively. As of December 31, 2021 and 2020, there was approximately \$46.2 million and \$41.5 million of unrecognized compensation cost related to Service Stock Options to be recognized over a weighted average remaining period of 1.49 years.

Performance Stock Option Awards

In September 2021, the Compensation Committee approved the grant of Performance Stock Option Awards (“Performance Stock Options”) to the Company’s Chief Executive Officer and certain other executive officers. These Performance Stock Options are subject to both market 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. For the Company’s Chief Executive Officer, 25% of his Performance Stock Options will be deemed to have satisfied the performance-based conditions and will be eligible to be exercised over time if the VWAP equals or exceeds \$35; an additional 25% of his options will be deemed to have satisfied the performance-based condition and will be eligible to be exercised if the VWAP equals or exceeds \$50; an additional 16.675% 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 \$65; an additional 16.65% 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 \$80; and the remaining 16.675% 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 \$100. There will be no interpolation for the Chief Executive Officer’s performance stock option if the VWAP falls between any two stock price hurdles, unless in the event of a change in control. For executive officers other than the Chief Executive Officer, 25% 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 \$35; an additional 25% of the options will be deemed to have satisfied the performance-based condition and will be eligible to be exercised if the VWAP equals \$50; and the remaining 50% 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 \$100. If the VWAP falls between two of the stock price hurdles, an incremental number of options will become exercisable based on linear interpolation in \$1 increments. Failure to achieve any of the stock price hurdles applicable to a performance stock option

Notes to Consolidated Financial Statements (Continued)

during the three-year performance period will result in the applicable options not becoming exercisable. The performance-based 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 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 2021:

	December 31, 2021
Remaining VWAP performance period (years)	3
Risk-free interest rate	1.12%
Expected volatility	70.00%
Closing stock price on grant date	\$ 26.92

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. 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, 2021. Solely for the purposes of this table, the number of performance options is based on participants earning the maximum number of performance options (i.e., 200% of the target number of performance options).

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms	Aggregate Intrinsic Value
Options outstanding at December 31, 2020	—	\$ —	—	\$ —
Granted	14,560,000	26.92	—	—
Exercised	—	—	—	—
Forfeited	(540,000)	26.92	—	—
Expired	—	—	—	—
Options outstanding at December 31, 2021	<u>14,020,000</u>	\$ 26.92	6.7	\$ 18,366
Options exercisable at December 31, 2021	—	—	—	—
Options unvested at December 31, 2021	14,020,000	\$ 26.92	6.7	\$ 18,366

The weighted average grant-date fair value of performance stock options granted during the year ended December 31, 2021 was \$12.70. There were no Performance Stock Options exercised during the year ended December 31, 2021.

Compensation cost associated with performance stock options represented approximately \$27.8 million of the total share-based payment expense recorded for the year ended December 31, 2021. As of December 31, 2021, there was approximately \$150.2 million of unrecognized compensation cost related to Performance Stock Options to be recognized over a weighted average remaining period of 2.73 years.

Restricted Stock Awards

Restricted stock awards generally vest in equal installments over a period of one to three years. Restricted stock 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 share vesting period. The Company recorded expense associated with its

Notes to Consolidated Financial Statements (Continued)

restricted stock awards of approximately \$27.2 million, \$7.6 million, and \$2.8 million, for the years ended December 31, 2021, 2020 and 2019, respectively. Additionally, for the years ended December 31, 2021, 2020 and 2019, there was \$74.5 million, \$41.5 million, and \$8.4 million, respectively, of unrecognized compensation cost related to restricted stock awards to be recognized over a weighted average remaining period of 2.3 years.

A summary of restricted stock activity for the year ended December 31, 2021 is as follows (in thousands except share amounts):

	Shares	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
Unvested restricted stock at December 31, 2020	5,874,642	\$ 7.88	\$ —
Granted	1,894,356	32.35	—
Vested	(2,807,124)	6.19	—
Forfeited	(110,001)	11.23	—
Unvested restricted stock at December 31, 2021	<u>4,851,873</u>	<u>\$ 21.59</u>	<u>\$ 136,968</u>

The weighted average grant-date fair value of the restricted stock units granted during the years ended December 31, 2021, 2020 and 2019, was \$32.35, \$12.61, and \$2.30, respectively. The total fair value of restricted stock units vested for the years ended December 31, 2021, 2020, and 2019 were \$76.0 million, \$23.3 million, and \$2.0 million, respectively.

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 90,580 shares of common stock, 403,474 shares of common stock and 841,539 shares of common stock pursuant to the Plug Power Inc. 401(k) Savings & Retirement Plan during the years ended December 31, 2021, 2020, and 2019, respectively.

The Company's expense for this plan was approximately \$4.3 million, \$2.6 million, and \$1.9 million for the years ended December 31, 2021, 2020 and 2019, respectively.

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. The Company granted 12,258, 36,175, and 114,285 shares of common stock to non-employee directors as compensation for the years ended December 31, 2021, 2020 and 2019, respectively. All common stock issued 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 compensation was approximately \$372 thousand, \$228 thousand and \$243 thousand for the years ended December 31, 2021, 2020 and 2019, respectively.

21. Income Taxes

The components of loss before income taxes and the income tax benefit for the years ended December 31, 2021, 2020, and 2019, by jurisdiction, are as follows (in thousands):

	2021			2020			2019		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Loss before income taxes	\$ (466,825)	\$ (9,337)	\$ (476,162)	\$ (624,302)	\$ (2,698)	\$ (627,000)	\$ (82,188)	\$ (1,555)	\$ (83,743)
Income tax benefit	16,540	(343)	16,197	30,845	—	30,845	—	—	—
Net loss attributable to the Company	<u>\$ (450,285)</u>	<u>\$ (9,680)</u>	<u>\$ (459,965)</u>	<u>\$ (593,457)</u>	<u>\$ (2,698)</u>	<u>\$ (596,155)</u>	<u>\$ (82,188)</u>	<u>\$ (1,555)</u>	<u>\$ (83,743)</u>

Notes to Consolidated Financial Statements (Continued)

The significant components of deferred income tax expense (benefit) for the years ended December 31, 2021, 2020, and 2019, by jurisdiction, are as follows (in thousands):

	2021			2020			2019		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Deferred tax (benefit) expense	\$ (51,999)	\$ 1,064	\$ (50,935)	\$ (31,408)	\$ (67)	\$ (31,475)	\$ (10,621)	\$ (426)	\$ (11,047)
Net operating loss carryforward generated	(105,498)	(2,038)	(107,536)	(51,849)	(438)	(52,287)	(5,099)	(270)	(5,369)
Valuation allowance increase (decrease)	140,957	1,317	142,274	52,412	505	52,917	15,720	696	16,416
Benefit for income taxes	<u>\$ (16,540)</u>	<u>\$ 343</u>	<u>\$ (16,197)</u>	<u>\$ (30,845)</u>	<u>\$ —</u>	<u>\$ (30,845)</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

The Company's effective income tax rate differed from the federal statutory rate as follows:

	2021	2020	2019
U.S. Federal statutory tax rate	(21.00)%	(21.00)%	(21.00)%
Deferred state taxes	(0.60)%	(2.30)%	1.36 %
Common stock warrant liability	(6.00)%	13.40 %	0.0 %
Section 162M Disallowance	1.10 %	0.0 %	0.0 %
Equity Compensation	(4.30)%	0.0 %	0.0 %
Provision to return and deferred tax asset adjustments	(1.30)%	0.0 %	0.0 %
Change in U.S. Federal/Foreign statutory tax rate	0.30 %	0.0 %	0.0 %
Other, net	(1.50)%	(3.50)%	(0.48)%
Change in valuation allowance	29.90 %	8.40 %	20.14 %
	<u>(3.4)%</u>	<u>(5.0)%</u>	<u>0.0 %</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. Significant components of the Company's deferred tax assets and liabilities as of December 31, 2021 and 2020 are as follows (in thousands):

	U.S.		Foreign		Total	
	2021	2020	2021	2020	2021	2020
Intangible assets	\$ —	\$ —	\$ —	\$ 1,197	\$ —	\$ 1,197
Deferred revenue	24,514	16,082	146	192	24,660	16,274
Interest expense	29,095	21,183	—	—	29,095	21,183
Other reserves and accruals	23,398	5,087	7,332	—	30,730	5,087
Tax credit carryforwards	8,960	4,360	1,289	1,253	10,249	5,613
Amortization of stock-based compensation	13,904	3,900	—	—	13,904	3,900
Non-compensatory warrants	4,115	5,020	—	—	4,115	5,020
Capitalized research & development expenditures	37,912	30,870	4,613	4,483	42,525	35,353
Right of use liability (operating leases)	6,118	27,715	485	—	6,603	27,715
Net operating loss carryforwards	205,760	110,978	12,052	10,014	217,812	120,992
Total deferred tax asset	353,776	225,195	25,917	17,139	379,693	242,334
Valuation allowance	(295,424)	(154,467)	(18,444)	(17,127)	(313,868)	(171,594)
Net deferred tax assets	\$ 58,352	\$ 70,728	\$ 7,473	\$ 12	\$ 65,825	\$ 70,740
Intangible assets	(23,244)	(7,360)	(11,098)	—	(34,342)	(7,360)
Convertible debt	(27,346)	(27,420)	—	—	(27,346)	(27,420)
Right of use asset (operating leases)	(247)	(27,684)	(485)	—	(732)	(27,684)
Other reserves and accruals	—	—	—	(12)	—	(12)
Property, plant and equipment and right of use assets	(8,489)	(9,191)	—	—	(8,489)	(9,191)
Deferred tax liability	\$ (59,326)	\$ (71,655)	\$ (11,583)	\$ (12)	\$ (70,909)	\$ (71,667)
Net	<u>\$ (974)</u>	<u>\$ (927)</u>	<u>\$ (4,110)</u>	<u>\$ —</u>	<u>\$ (5,084)</u>	<u>\$ (927)</u>

Notes to Consolidated Financial Statements (Continued)

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, 2021 and 2020 of approximately \$313.9 million and \$171.6 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	\$ 105,544	\$ 2,996	\$ 108,540
Increase in valuation allowance for current year net increase in deferred tax assets other than net operating losses	49,974	686	50,660
Increase in valuation allowance due to change in tax rates	(14,561)	(2,365)	(16,926)
Net increase in valuation allowance	<u>\$ 140,957</u>	<u>\$ 1,317</u>	<u>\$ 142,274</u>

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.

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 \$905.6 million of U.S. net operating loss carryforwards. The NOL carryforwards available at December 31, 2021, include \$736.5 million of NOL that was generated in 2018 through 2021, that do not expire. The remainder, if unused, will expire at various dates from 2034 through 2037. Based on analysis of stock 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 2021 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 \$892.1 million incurred in post-change years are not subject to limitation.

Approximately \$9.0 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, 2021. The remaining credit carryforwards will expire during the periods 2033 through 2041.

At December 31, 2021, the Company has unused Canadian net operating loss carryforwards of approximately \$10.9 million. The net operating loss carryforwards if unused will expire at various dates from 2026 through 2034. At December 31, 2021, the Company has Scientific Research and Experimental Development ("SR&ED") expenditures of \$17.7 million available to offset future taxable income. These SR&ED expenditures have no expiry date. At December 31, 2021, the Company has Canadian ITC credit carryforwards of \$1.3 million available to offset future income tax. These credit carryforwards if unused will expire at various dates from 2022 through 2028.

At December 31, 2021, the Company has unused French net operating loss carryforwards of approximately \$29.6 million. The net operating loss may carryforward indefinitely or until the Company changes its activity.

At December 31, 2021, the Company has unused Netherlands net operating loss carryforwards of approximately \$2.9 million, which can be carried forward 6 years to offset taxable income.

As of December 31, 2021, the Company has no un-repatriated foreign earnings or unrecognized tax benefits.

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.

Notes to Consolidated Financial Statements (Continued)

range from 2018 and forward. Open tax years in the foreign jurisdictions range from 2011 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, 2021, the Company was not under audit in the U.S. or non-U.S. taxing jurisdictions.

The Company recognized an income tax benefit for the year ended December 31, 2021, of \$16.5 million as a result of the acquisition of Applied Cryo and related deferred tax liabilities recorded in acquisition accounting under ASC 805. The increase in deferred tax liabilities recorded to goodwill resulted in an offsetting release of valuation allowance against U.S. deferred tax assets, which is recognized as a component of income tax expense. 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, with the exception of \$17.7 million of DTAs recorded in the Netherlands, which do not require a reserve as the Netherlands entity has approximately \$21.8 million of DTLs that provide a sufficient source of income to support realization of its DTAs.

22. Commitments and Contingencies

Restricted Cash

In connection with certain of the above noted sale/leaseback agreements, cash of \$275.1 million and \$169.0 million, respectively, was required to be restricted as security as of December 31, 2021 and 2020, which will be released over the lease term. As of December 31, 2021 and 2020, the Company also had certain letters of credit backed by security deposits totaling \$286.0 million and \$152.4 million, respectively, that are security for the above noted sale/leaseback agreements.

As of December 31, 2021 and 2020, the Company had \$67.7 million and \$0 held in escrow related to the construction of certain hydrogen plants.

The Company also had \$10.0 million of consideration held by our paying agent in connection with the Applied Cryo acquisition reported as restricted cash as of December 31, 2021, with a corresponding accrued liability on the Company's consolidated balance sheet.

The Company also had letters of credit in the aggregate amount of \$0 and \$0.5 million, respectively, at December 31, 2021 and 2020 associated with a finance obligation from the sale/leaseback of its building. We consider cash collateralizing this letter of credit as restricted cash.

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

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, 2021, one customer comprised approximately 46.6% of the total accounts receivable balance. At December 31, 2020, two customers comprised approximately 62.6% of the total accounts receivable balance.

For the year ended December 31, 2021, three customers accounted for 75.7% of total consolidated revenues.

Notes to Consolidated Financial Statements (Continued)

On December 31, 2020, the Company waived the remaining vesting conditions under the Amazon Warrant, which resulted in a reduction in revenue of \$399.7 million, which resulted in negative consolidated revenue of \$93.2 million for the year ended December 31, 2020. See Note 18, “Warrant Transaction Agreements,” to the consolidated financial statements for further information. Total revenue in 2020 for this customer was negative \$310.1 million. For the year ended December 31, 2020, this customer accounted for (332.4)% of our total consolidated revenues which included a provision for warrant charge of \$420.0 million, which was recorded as a reduction of revenue. Additionally, 156.2% of our total consolidated revenues were associated primarily with two other customers.

For the year ended December 31, 2019, 49.7% of total consolidated revenues were associated primarily with two customers.

23. Segment and Geographic Area Reporting

Our organization is managed from a sales perspective on the basis of “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 fuel cells and hydrogen producing equipment. 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.

	Revenues			Long-Lived Assets	
	Year Ended December 31,			As of December 31,	
	2021	2020	2019	2021	2020
North America	\$ 476,245	\$ (100,522)	\$ 228,257	\$ 570,778	\$ 273,096
Other	26,097	7,285	1,718	2,778	—
Total	\$ 502,342	\$ (93,237)	\$ 229,975	\$ 573,556	\$ 273,096

24. Subsequent Events

On January 14, 2022, Company and its wholly-owned subsidiary Plug Power Hydrogen Holdings, Inc. simultaneously entered into a definitive agreement and closed on the acquisition of Joule Processing LLC (“Joule”) for a purchase price of approximately \$160 million, of which \$130 million will be based on future earnouts over the next four years. Joule is an engineered modular equipment, process design and procurement company founded in 2009 with a strong track record among the largest midstream, EPC and oil & gas companies.

On January 30, 2022, Plug Power Inc. entered into a binding term sheet to create a joint venture with Fortescue Future Industries Pty Ltd.

EXECUTIVE EMPLOYMENT AGREEMENT

This Employment Agreement (“Agreement”) is made as of the 28th day of December, 2021 (the “Commencement Date”), between Plug Power Inc., a Delaware corporation (the “Company”), and Jose Luis Crespo (the “Executive”).

WHEREAS, the Executive and the Company have determined to enter into an agreement related to the employment of Executive by the Company;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Employment. The term of this Agreement shall extend from the Commencement Date until the first anniversary of the Commencement Date; provided, however, that the term of this Agreement shall automatically be extended for one additional year on the anniversary of the Commencement Date and on each anniversary thereafter unless, not less than ninety (90) days prior to each such date, either party shall have given notice to the other that it does not wish to extend this Agreement; provided, further, that if a Change in Control occurs during the original or extended term of this Agreement, the term of this Agreement shall continue in effect for a period of not less than twelve (12) months beyond the month in which the Change in Control occurred. The term of this Agreement shall also terminate upon any Date of Termination (as defined in Section 4) and may be referred to herein as the “Term.”

2. Position and Duties. During the Term, the Executive shall serve as the General Manager, Material Handling Business Unit, and shall have responsibilities and duties consistent with his position and such other responsibilities and duties as may from time to time be prescribed by the Chairman of the Board of Directors of the Company (the “Board”), the Chief Executive Officer of the Company (the “CEO”) or other authorized executives, provided that such responsibilities and duties are consistent with the Executive’s position or other positions that he may hold from time to time. The Executive shall devote his full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may serve on other boards of directors with the approval of the Board, or engage in religious, charitable or other community activities as long as such services and activities are disclosed to the Board and do not materially interfere with the Executive’s performance of his duties to the Company as provided in this Agreement.

3. Policies. Except as provided herein, the Executive shall be covered by and agrees to comply with all of the Company’s policies and procedures, including but not limited to the Company’s Employee Handbook, on the same terms as are applicable to other executives of the Company.

4. Compensation and Related Matters.

(a) Base Salary. The Executive’s initial annual base salary shall be \$400,000. The Executive’s base salary shall be re-determined annually by the Compensation Committee of the Board. The base salary in effect at any given time is referred to herein as “Base Salary.” The

Base Salary shall be payable in substantially equal installments based upon the payroll cycle of the Company and will be subject to applicable withholdings and deductions.

(b) Incentive Compensation. The Executive shall be eligible to receive cash incentive compensation as determined by Compensation Committee of the Board from time to time.

(c) Expenses. The Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by him in performing services hereunder during the Term, in accordance with the policies and procedures then in effect and established by the Company for its senior executive officers.

(d) Other Benefits. During the Term, the Executive shall be entitled to continue to participate in or receive benefits under all of the Company's Employee Benefit Plans in accordance with the terms of such plans in effect on the date hereof, or under plans or arrangements that provide the Executive with benefits at least substantially equivalent to those provided under such Employee Benefit Plans. As used herein, the term "Employee Benefit Plans" includes, without limitation, each retirement plan; stock option plan; life insurance plan; medical insurance plan; disability plan; and health and accident plan or arrangement established and maintained by the Company on the date hereof for employees of the same status within the hierarchy of the Company. During the Term, the Executive shall be entitled to participate in or receive benefits under any employee benefit plan or arrangement which may, in the future, be made available by the Company to its executives and key management employees, subject to and on a basis consistent with the terms, conditions and overall administration of such plan or arrangement. Any payments or benefits payable to the Executive under a plan or arrangement referred to in this Section 3(d) in respect of any calendar year during which the Executive is employed by the Company for less than the whole of such year shall, unless otherwise provided in the applicable plan or arrangement, be prorated in accordance with the number of days in such calendar year during which he is so employed. Should any such payments or benefits accrue on a fiscal (rather than calendar) year, then the proration in the preceding sentence shall be on the basis of a fiscal year rather than calendar year.

(e) Vacations. The Executive shall be entitled to 160 hours of paid vacation in each calendar year, which shall be accrued monthly during the calendar year and shall be subject to the Company's vacation policy. The Executive shall also be entitled to all paid holidays given by the Company to its executives.

5. Termination. The Executive's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder shall automatically terminate upon his death.

(b) Disability. The Company may terminate the Executive's employment if he is disabled and unable to perform the essential functions of the Executive's then existing position or positions under this Agreement with or without reasonable accommodation for a period of 180 days (which need not be consecutive) in any 12-month period. If any question shall arise as to

whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 4(b) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 *et seq.* and the Americans with Disabilities Act, 42 U.S.C. §12101 *et seq.*

(c) Termination by the Company for Cause. At any time during the Term, the Company may terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, "Cause" shall mean: (i) conduct by the Executive constituting a material act of misconduct in connection with the performance of the Executive's duties, including, without limitation, misappropriation of funds or property of the Company or any of its subsidiaries or affiliates other than the occasional, customary and de minimis use of Company property for personal purposes; (ii) the commission by the Executive of (A) any felony; or (B) a misdemeanor involving moral turpitude, deceit, dishonesty or fraud; (iii) any conduct by the Executive that would reasonably be expected to result in material injury or reputational harm to the Company or any of its subsidiaries and affiliates if the Executive were retained in the Executive's position; (iv) continued non-performance by the Executive of the Executive's responsibilities hereunder (other than by reason of the Executive's physical or mental illness, incapacity or disability) which has continued for more than thirty (30) days following written notice of such non-performance from the Board; (v) a breach by the Executive of the Employee Patent, Confidential Information and Non-Compete Agreement between the Executive and the Company (the "Confidentiality Agreement"); (vi) a material violation by the Executive of any of the Company's written employment policies; (vii) failure to cooperate with a bona fide internal investigation or an investigation by regulatory or law enforcement authorities, after being instructed by the Company to cooperate, or the willful destruction or failure to preserve documents or other materials known to be relevant to such investigation or the inducement of others to fail to cooperate or to produce documents or other materials in connection with such investigation; or (viii) the Executive's failure to honor his fiduciary duties to the Company.

(d) Termination Without Cause. At any time during the Term, the Company may terminate the Executive's employment hereunder without Cause. Any termination by the Company of the Executive's employment under this Agreement which does not constitute a termination for Cause under Section 5(c) or result from the death or disability of the Executive under Section 5(a) or (b) shall be deemed a termination without Cause.

(e) Termination by the Executive. At any time during the Term, the Executive may terminate his employment hereunder for any reason, including but not limited to Good Reason. If the Executive provides notice to the Company under Section 1 that he elects to discontinue the extensions, such action shall be deemed a voluntary termination by the Executive

and one without Good Reason. For purposes of this Agreement, “Good Reason” shall mean that the Executive has complied with the “Good Reason Process” (hereinafter defined) following the occurrence of any of the following events after a Change in Control: (i) a material diminution in the Executive’s responsibilities, authority or duties; (ii) a material diminution in the Executive’s Base Salary, except in the event of any Company wide diminution of base salaries of ten percent (10%) or more for executives in similarly situated positions; (iii) a material change in the geographic location at which the Executive provides services to the Company, where material change in the geographic location would be equal to the Executive moving outside of a 25-mile radius from the Executive’s address as of the date of this Agreement; or (iv) the material breach of this Agreement by the Company. “Good Reason Process” shall mean that (i) the Executive reasonably determines in good faith that a “Good Reason” condition has occurred; (ii) the Executive notifies the Company in writing of the occurrence of the Good Reason condition within sixty (60) days of the occurrence of such condition; (iii) the Executive cooperates in good faith with the Company’s efforts, for a period not less than 30 days following such notice (the “Cure Period”), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Executive terminates his employment within sixty (60) days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

(f) Notice of Termination. Except for termination as specified in Section 5(a), any termination of the Executive’s employment by the Company or any such termination by the Executive shall be communicated by written Notice of Termination to the other party hereto. For purposes of this Agreement, a “Notice of Termination” shall mean a notice which shall indicate the specific termination provision in this Agreement relied upon.

(g) Date of Termination. “Date of Termination” shall mean: (i) if the Executive’s employment is terminated by his death, the date of his death; (ii) if the Executive’s employment is terminated by the Company for Cause under Section 5(c), the date on which Notice of Termination is given; (iii) if the Executive’s employment is terminated by the Company under Section 5(b) or 5(d), thirty (30) days after the date on which a Notice of Termination is given; (iv) if the Executive’s employment is terminated by the Executive under Section 5(e) without Good Reason, thirty (30) days after the date on which a Notice of Termination is given, and (v) if the Executive’s employment is terminated by the Executive under Section 5(e) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period. Notwithstanding the foregoing, in the event that the Executive gives a Notice of Termination to the Company, the Company may unilaterally accelerate the Date of Termination and such acceleration shall not constitute a termination by the Company for purposes of this Agreement.

6. Compensation Upon Termination.

(a) Termination Generally. If the Executive’s employment with the Company is terminated for any reason during the Term, the Company shall pay or provide to the Executive (or to his authorized representative or estate) any earned but unpaid base salary, incentive compensation determined by the Board to be earned but not yet paid, unpaid expense reimbursements, accrued but unused vacation and any vested benefits the Executive may have under the Company’s Employee Benefit Plans through the Date of Termination (the “Accrued

Benefit”). The Executive shall not be entitled to receive any other termination payments or benefits from the Company except as specifically provided in Section 6(b) or Section 7.

(b) Termination by the Company Without Cause. Except as provided in Section 7, if the Executive’s employment is terminated by the Company without Cause as provided in Section 5(d), then the Company shall, through the Date of Termination, pay the Executive his Accrued Benefit. Except as provided in Section 7, if (i) the Executive’s employment is terminated by the Company without Cause as provided in Section 5(d), (ii) the Executive signs a general release of claims in a form and manner satisfactory to the Company (the “Release”) within 21 days of the receipt of the Release and does not revoke such Release during the seven-day revocation period (if applicable), and (iii) the Executive complies with the Confidentiality Agreement, then

A. The Company shall pay the Executive an amount equal to the sum of one (1) times the Executive’s Base Salary. Such amount shall be paid out either in a lump sum or in installments, per the discretion of the Company, and commencing on the first payroll date after the Date of Termination or expiration of the seven-day revocation period for the Release, whichever is later.

B. As of the Date of Termination, all vested stock options held by the Executive shall be exercisable for twelve (12) months following the Date of Termination; and any unvested stock options, restricted stock or other stock-based equity award will be immediately forfeited upon the Date of Termination.

C. Executive’s coverage under the Company’s group health insurance will extend through the end of the month in which the Date of Termination occurs. Executive may elect COBRA continuation coverage for the group health plans. Notification of conditions and premiums costs to continue health insurance will be provided to Executive following termination. Executive will be responsible for payment of premiums for health insurance coverage secured after the end of the month in which the Date of Termination occurs. In consideration of the loss of various benefits provided by the Company, the Company shall choose to either provide a lump sum payment to Executive equal to twelve (12) times the Company’s share of the monthly health insurance premium for the health insurance plan in force on the Date of Termination, less applicable withholdings and deductions OR provide a monthly subsidy for a period of twelve (12) months and equivalent to the Company’s share of the monthly health insurance premium for the health insurance plan in force on the Date of Termination to offset the Executive’s COBRA cost.

D. The Company shall have no obligation to make any further payments (salary, bonus or otherwise) or provide any further benefits to Executive except as otherwise provided under the applicable terms of this Agreement or the Company’s Employee Benefit Plans.

7. Change in Control Payment. The provisions of this Section 7 set forth certain terms regarding the Executive’s rights and obligations upon the occurrence of a Change in Control of the Company. These provisions are intended to assure and encourage in advance the Executive’s

continued attention and dedication to his assigned duties and his objectivity during the pendency and after the occurrence of any such event. These provisions shall apply in lieu of, and expressly supersede, the provisions of Section 6(b) regarding severance pay and benefits upon a termination of employment, if such termination of employment occurs within 12 months after the occurrence of the first event constituting a Change in Control, provided that such first event occurs during the Term. These provisions shall terminate and be of no further force or effect beginning 12 months after the occurrence of a Change in Control.

(a) Change in Control. If (i) within twelve (12) months after a Change in Control, the Executive's employment is terminated by the Company without Cause as provided in Section 5(d) or the Executive terminates his employment for Good Reason as provided in Section 5(e), (ii) the Executive signs the Release within twenty-one (21) days of the receipt of the Release and does not revoke the Release during the seven-day revocation period (if applicable), and (iii) the Executive complies with the Confidentiality Agreement, then

A. The Company shall pay to the Executive an amount equal to (i) one-hundred percent (100%) the Executive's average annual base salary over the three (3) fiscal years immediately prior to the Termination Date (or the Executive's annual base salary in effect immediately prior to the Change in Control, if higher) and (ii) one-hundred percent (100%) of the Executive's average annual bonus over the three (3) fiscal years immediately prior to the Change in Control (or the Executive's annual bonus for the last fiscal year immediately prior to the Change in Control, if higher). Such amounts shall be paid out either in a lump sum or in installments, per the discretion of the Company, and commencing on the first payroll date after the Date of Termination or expiration of the seven-day revocation period for the Release, whichever is later, subject to Section 7(b) regarding additional limitations and Section 8 regarding IRC Section 409A.

B. Notwithstanding anything to the contrary in any applicable option agreement or stock-based award agreement, on the Termination Date the Executive shall vest in such portion of his stock options and other stock-based awards as he would have vested in if he had remained employed by the Company for twelve (12) months following the Termination Date.

C. Executive's coverage under the Company's group health insurance will extend through the end of the month in which the Date of Termination occurs. Executive may elect COBRA continuation coverage for the group health plans. Notification of conditions and premiums costs to continue health insurance will be provided to Executive following termination. Executive will be responsible for payment of premiums for health insurance coverage secured after the end of the month in which the Date of Termination occurs. In consideration of the loss of various benefits provided by the Company, the Company shall choose to either provide a lump sum payment to Executive equal to twelve (12) times the Company's share of the monthly health insurance premium for the health insurance plan in force on the Date of Termination, less applicable withholdings and deductions OR provide a monthly subsidy for a period of twelve (12) months and equivalent to the Company's share of the monthly health insurance premium for

the health insurance plan in force on the Date of Termination to offset the Executive's COBRA cost.

D. If any legal action or other proceeding is brought for any breach of this Agreement, the prevailing party shall be entitled to recover all its reasonable legal and arbitration fees and expenses incurred in obtaining or enforcing any right or benefit provided by this Agreement, except in cases involving frivolous or bad faith litigation.

E. The Company shall have no obligation to make any further payments (salary, bonus or otherwise) or provide any further benefits to Executive except as otherwise provided under the applicable terms of this Agreement or the Company's Employee Benefit Plans.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, in the event that any compensation, payment or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise (the "Severance Payments"), would be subject to the excise tax imposed by Section 4999 of the Code, the following provisions shall apply:

A. If the Severance Payments, reduced by the sum of (1) the Excise Tax and (2) the total of the Federal, state, and local income and employment taxes payable by the Executive on the amount of the Severance Payments which are in excess of the Threshold Amount, are greater than or equal to the Threshold Amount, the Executive shall be entitled to the full benefits payable under this Agreement.

B. If the Threshold Amount is less than (x) the Severance Payments, but greater than (y) the Severance Payments reduced by the sum of (1) the Excise Tax and (2) the total of the federal, state, and local income and employment taxes on the amount of the Severance Payments which are in excess of the Threshold Amount, then the benefits payable under this Agreement shall be reduced (but not below zero) to the extent necessary so that the maximum Severance Payments shall not exceed the Threshold Amount.

(ii) For the purposes of this Section 7(b), "Threshold Amount" shall mean three times the Executive's "base amount" within the meaning of Section 280G(b)(3) of the Code and the regulations promulgated thereunder less one dollar (\$1.00); and "Excise Tax" shall mean the excise tax imposed by Section 4999 of the Code, and any interest or penalties incurred by the Executive with respect to such excise tax.

(iii) The determination as to which of the alternative provisions of Section 7(b)(i) shall apply to the Executive shall be made by a nationally recognized accounting firm selected by the Company (the "Accounting Firm"), which shall provide

detailed supporting calculations both to the Company and the Executive within fifteen (15) business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive. For purposes of determining which of the alternative provisions of Section 7(b)(i) shall apply, the Executive shall be deemed to pay federal income taxes at the highest marginal rate of federal income taxation applicable to individuals for the calendar year in which the determination is to be made, and state and local income taxes at the highest marginal rates of individual taxation in the state and locality of the Executive's residence on the Date of Termination, net of the maximum reduction in federal income taxes which could be obtained from deduction of such state and local taxes. Any determination by the Accounting Firm shall be binding upon the Company and the Executive.

(c) Definitions. For purposes of this Section 7, the following terms shall have the following meanings:

“Change in Control” shall be deemed to have occurred in any one of the following events:

(i) any “person,” as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), (other than the Company, any of its subsidiaries, any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries, together with all Affiliates and Associates (as such terms are hereinafter defined) of such person), shall become the “beneficial owner” (as such term is defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of securities of the Company representing 25% or more of the then outstanding shares of common stock of the Company (the “Stock”) (other than as a result of an acquisition of securities directly from the Company); or

(ii) persons who, as of the effective date of this Agreement (the “Effective Date”), constitute the Company's Board of Directors (the “Incumbent Directors”) cease for any reason, including, without limitation, as a result of a tender offer, proxy contest, merger or similar transaction, to constitute at least a majority of the Board, provided that any person becoming a director of the Company subsequent to the Effective Date shall be considered an Incumbent Director if such person's election was approved by or such person was nominated for election by either (A) a vote of at least a majority of the Incumbent Directors or (B) a vote of at least a majority of the Incumbent Directors who are members of a nominating committee comprised, in the majority, of Incumbent Directors; but provided further, that any such person whose initial assumption of office is in connection with an actual or threatened election contest relating to the election of members of the Board of Directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board, including by reason of agreement intended to avoid or settle any such actual or threatened contest or solicitation, shall not be considered an Incumbent Director; or

(iii) Upon (A) the consummation of any consolidation or merger of the Company where the shareholders of the Company, immediately prior to the consolidation

or merger, did not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 of the Exchange Act), directly or indirectly, shares representing in the aggregate more than 50% of the voting shares of the corporation issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), (B) the consummation of any sale, lease, exchange or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company or (C) the completion of a liquidation or dissolution that has been approved by the stockholders of the Company; or

(iv) For purposes of this Agreement, “Affiliate” and “Associate” shall have the respective meanings ascribed to such terms in Rule 12b-2 of the Exchange Act, as in effect on the date of this Agreement; provided, however, that no person who is a director or officer of the Company shall be deemed an Affiliate or an Associate of any other director or officer of the Company solely as a result of his position as director or officer of the Company.

Notwithstanding the foregoing, a “Change in Control” shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Stock outstanding, increases the proportionate number of shares of Stock beneficially owned by any person to 25% or more of the shares of Stock then outstanding; provided, however, that if any such person shall at any time following such acquisition of securities by the Company become the beneficial owner of any additional shares of Stock (other than pursuant to a stock split, stock dividend, or similar transaction) and such person immediately thereafter is the beneficial owner of 25% or more of the shares of Stock then outstanding, then a “Change in Control” shall be deemed to have occurred for purposes of the foregoing clause (i), as applicable.

8. Section 409A.

(a) Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive’s “separation from service” within the meaning of Section 409A of the Code, the Company determines that the Executive is a “specified employee” within the meaning of Section 409A(a)(2)(B)(i) of the Code, and to the extent any payment or benefit that the Executive becomes entitled to under this Agreement would be considered deferred compensation subject to the 20 percent additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, then no such payment shall be payable and no such benefit shall be provided prior to the date that is the earlier of (A) six months and one day after the Executive’s separation from service, or (B) the Executive’s death.

(b) All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Executive during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable

year. Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit.

(c) To the extent that any payment or benefit described in this Agreement constitutes “non-qualified deferred compensation” under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Executive’s termination of employment, then such payments or benefits shall be payable only upon the Executive’s “separation from service.” The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h).

(d) The parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. The parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(e) The Company makes no representation or warranty and shall have no liability to the Executive or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section.

9. Covenants.

(a) Confidentiality Agreement. The Executive acknowledges and agrees that the Employee Patent, Confidentiality, Non-Compete and Non-Solicitation Agreement shall continue in effect as if set forth herein.

(b) Litigation and Regulatory Cooperation. During and after the Term, the Executive shall cooperate fully with the Company and all of its subsidiaries and affiliates (including its and their outside counsel) in connection with the contemplation, prosecution and defense of all phases of existing, past and future claims or actions which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive’s full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Term, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall reimburse the Executive for any pre-approved reasonable business travel expenses that are incurred in connection with the Executive’s performance of obligations pursuant to this Section 8(a) after receipt of appropriate documentation consistent with the Company’s business expense reimbursement policy.

(c) Disparagement. During and after the Term, the Executive agrees not to make any disparaging statements concerning the Company or any of its subsidiaries, affiliates or

current or former officers, directors, shareholders, employees or agents (“Company Parties”). The Executive further agrees not to take any actions or conduct himself in any way that would reasonably be expected to affect adversely the reputation or good will of the Company or any of the Company Parties. The Executive further agrees that he shall not voluntarily provide information to or otherwise cooperate with any individual or entity that is contemplating or pursuing litigation against the Company or any of the Company Parties or that is undertaking any investigation or review of the Company’s or any of the Company Parties’ activities or practices. Nothing in this Agreement prevents Executive from filing a charge with the Equal Employment Opportunity Commission (“EEOC”) or participating in any investigation or proceeding conducted by the EEOC nor does it limit Executive’s ability to file a complaint with the Securities and Exchange Commission (“SEC”) or communicate with the SEC or otherwise participate in any investigation or proceeding that may be conducted by the SEC nor does it prevent Executive from disclosing information about unlawful acts in the workplace, including, but not limited to, sexual harassment. These nondisparagement obligations shall not in any way affect the Executive’s obligation to testify truthfully in any legal proceeding.

(d) Return of Property. As soon as possible in connection with any termination of the Executive’s employment under this Agreement or when otherwise requested by the Company, the Executive shall return to the Company all Company property, including, without limitation, computer equipment, software, keys and access cards, credit cards, files and any documents (including computerized data and any copies made of computer data or software) containing information concerning the Company, its business or its business relationships (in the latter two cases, actual or prospective). The Executive shall also commit to deleting and finally purging any duplicates of files or documents that may contain Company information from any computer or other device that remains his property after any Date of Termination. If requested by the Company, Executive will provide a written acknowledgement and certification that all such Company property has been returned and electronic data permanently deleted and that Executive has not shared or provided such information to any third parties. Executive acknowledges and agrees that failure to surrender such property will cause irreparable damage to the Company.

(e) Injunction. The Executive agrees that it would be difficult to measure any damages caused to the Company which might result from any breach by the Executive of his obligations under this Agreement, and that in any event money damages would be an inadequate remedy for any such breach. Accordingly, subject to Section 10 of this Agreement, the Executive agrees that if the Executive breaches, or proposes to breach, any provision of this Agreement, the Company shall be entitled, in addition to all other remedies that it may have, to an injunction or other appropriate equitable relief to restrain any such breach without showing or proving any actual damage to the Company.

10. Settlement and Arbitration of Disputes. In the event of any dispute or claim relating to or arising out of the employment relationship, Executive and the Company agree that (i) any and all disputes between Executive and the Company shall be fully and finally resolved on an individual basis only (and not as a class or representative action) by binding arbitration, (ii) Executive is waiving any and all rights to a jury trial but all court remedies will be available in arbitration, (iii) all disputes shall be resolved by a neutral arbitrator who shall issue a written opinion, (iv) the arbitration shall provide for adequate discovery, and (v) the Company shall pay all but the first \$200 of the arbitration fees. The arbitration shall be conducted through JAMS

before a single neutral arbitrator, in accordance with the JAMS Employment Arbitration Rules then in effect. The JAMS rules may be found and reviewed at <http://www.jamsadr.com/rules-employment-arbitration>. If Executive is unable to access these rules, the Company will provide a hardcopy upon request. As in any arbitration, the burden of proof shall be allocated as provided by applicable law. The only claims not covered by this agreement to arbitrate are claims that are not arbitrable by law, which include claims for workers' compensation, unemployment compensation benefits, suits brought under the Private Attorneys General Act (Cal. Labor Code § 2698), and any claims which are expressly excluded from binding arbitration by controlling law or public policy. Either party may apply to a court of competent jurisdiction for temporary or preliminary injunctive relief in connection with a claim covered by this agreement to arbitrate, but only upon the ground that the award to which that party may be entitled may be rendered ineffectual without such relief. Such resort to temporary equitable relief shall be pending in and in aid of arbitration only, and in such cases the trial on the merits of the action will occur in front of, and will be decided by, the arbitrator, who will have the same ability to order legal or equitable remedies as could a court of general jurisdiction.

11. Integration. This Agreement constitutes the entire agreement and understanding between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties concerning such subject matter, except the Confidentiality Agreement, which remains in full force and effect.

12. Withholding. All payments made by the Company to the Executive under this Agreement shall be net of any tax or other amounts required to be withheld by the Company under applicable law.

13. Successor to the Executive. This Agreement shall inure to the benefit of and be enforceable by the Executive's personal representatives, executors, administrators, heirs, distributees, devisees and legatees. In the event of the Executive's death after his termination of employment but prior to the completion by the Company of all payments due him under this Agreement, the Company shall continue such payments to the Executive's beneficiary designated in writing to the Company prior to his death (or to his estate, if the Executive fails to make such designation).

14. Conditions of Offer. The Company's offer of employment is conditioned on Executive's submission of satisfactory proof of legal authorization to work in the United States and, if requested, Executive's completion of a standard background check to the satisfaction of the Company. This offer is also conditioned on Executive signing and returning the Company's Employee Patent, Confidentiality, Non-Compete and Non-Solicitation Agreement.

15. Enforceability. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of this Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

16. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

17. Notices. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention of the Board.

18. Effect on Other Plans. Nothing in this Agreement shall be construed to limit the rights of the Executive under the Company's benefit plans, programs or policies except (a) as otherwise provided herein, and (b) that the Executive shall have no rights to any severance or similar benefits under any severance pay plan, policy or practice.

19. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

20. Governing Law. This is a New York contract and shall be construed under and be governed in all respects by the laws of the State of New York, without giving effect to the conflict of laws principles of such State. With respect to any disputes concerning federal law, such disputes shall be determined in accordance with the law as it would be interpreted and applied by the United States Court of Appeals for the Second Circuit.

21. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

22. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession shall be a breach of this Agreement and shall constitute Good Reason if the Executive elects to terminate employment.

23. Gender Neutral. Wherever used herein, a pronoun in the masculine gender shall be considered as including the feminine gender unless the context clearly indicates otherwise.

24. Survival. The provisions of this Agreement shall survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the terms contained herein.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective on the date and year first above written.

PLUG POWER INC.

By: /s/ Andrew Marsh
Name: Andrew Marsh
Title: CEO

JOSE LUIS CRESPO

By: /s/ Jose Luis Crespo
Name: Jose Luis Crespo
Title: GM Material Handling/Global Accounts

**NON-QUALIFIED STOCK OPTION AGREEMENT
FOR COMPANY EMPLOYEES
UNDER THE PLUG POWER INC. 2021 STOCK OPTION AND INCENTIVE PLAN**

Name of Optionee: _____

No. of Option Shares: _____

Option Exercise Price per Share: \$ _____
[FMV on Grant Date]

Grant Date: _____

Expiration Date: _____
[No more than 10 years]

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants to the Optionee named above an option (the "Stock Option") to purchase on or prior to the Expiration Date specified above all or part of the number of shares of Common Stock, par value \$0.01 per share (the "Stock"), of the Company specified above at the Option Exercise Price per Share specified above subject to the terms and conditions set forth herein and in the Plan. This Stock Option is not intended to be an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended.

1. Exercisability Schedule. No portion of this Stock Option may be exercised until such portion shall have become exercisable. Except as set forth below, and subject to the discretion of the Administrator (as defined in Section 1 of the Plan) to accelerate the exercisability schedule hereunder, this Stock Option shall be exercisable with respect to the following number of Option Shares on the dates indicated so long as the Optionee remains in a Service Relationship (as defined in the Plan) on such dates:

<u>Incremental Number of Option Shares Exercisable</u>	<u>Exercisability Date</u>
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____

Notwithstanding anything to the contrary herein or in the Plan, all outstanding Option Shares shall become fully exercisable upon the termination of the Optionee's Service Relationship by reason of the Optionee's death or disability (as determined by the Administrator). In addition, if the



Optionee's Service Relationship is terminated by the Company without Cause (as defined below)[or by the **Optionee for Good Reason (as defined in the employment or other service agreement between the Grantee and the Company), in either case**]¹ upon or within 12 months following a Sale Event, all outstanding Option Shares shall become fully exercisable as of the date of such termination. The Administrator may at any time accelerate the vesting schedule specified in this Paragraph 1. Once exercisable, this Stock Option shall continue to be exercisable at any time or times prior to the close of business on the Expiration Date, subject to the provisions hereof and of the Plan.

2. Manner of Exercise.

(a) The Optionee may exercise this Stock Option only in the following manner: from time to time on or prior to the Expiration Date of this Stock Option, the Optionee may give written notice to the Administrator of his or her election to purchase some or all of the Option Shares purchasable at the time of such notice. This notice shall specify the number of Option Shares to be purchased.

Payment of the purchase price for the Option Shares may be made by one or more of the following methods: (i) in cash, by certified or bank check or other instrument acceptable to the Administrator; (ii) through the delivery (or attestation to the ownership) of shares of Stock that have been purchased by the Optionee on the open market or that are beneficially owned by the Optionee and are not then subject to any restrictions under any Company plan and that otherwise satisfy any holding periods as may be required by the Administrator; (iii) by the Optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company to pay the option purchase price, provided that in the event the Optionee chooses to pay the option purchase price as so provided, the Optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Administrator shall prescribe as a condition of such payment procedure; (iv) by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; or (v) a combination of (i), (ii), (iii) and (iv) above. Payment instruments will be received subject to collection.

The transfer to the Optionee on the records of the Company or of the transfer agent of the Option Shares will be contingent upon (i) the Company's receipt from the Optionee of the full purchase price for the Option Shares, as set forth above, (ii) the fulfillment of any other requirements contained herein or in the Plan or in any other agreement or provision of laws, and (iii) the receipt by the Company of any agreement, statement or other evidence that the Company may require to satisfy itself that the issuance of Stock to be purchased pursuant to the exercise of Stock Options under the Plan and any subsequent resale of the shares of Stock will be in compliance with applicable laws and regulations. In the event the Optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number

¹ **Note to Draft:** To be included only for grants made to executive officers.

of shares of Stock transferred to the Optionee upon the exercise of the Stock Option shall be net of the shares of Stock attested to.

(b) The shares of Stock purchased upon exercise of this Stock Option shall be transferred to the Optionee on the records of the Company or of the transfer agent upon compliance to the satisfaction of the Administrator with all requirements under applicable laws or regulations in connection with such transfer and with the requirements hereof and of the Plan. The determination of the Administrator as to such compliance shall be final and binding on the Optionee. The Optionee shall not be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Stock subject to this Stock Option unless and until this Stock Option shall have been exercised pursuant to the terms hereof, the Company or the transfer agent shall have transferred the shares to the Optionee, and the Optionee's name shall have been entered as the stockholder of record on the books of the Company. Thereupon, the Optionee shall have full voting, dividend and other ownership rights with respect to such shares of Stock.

(c) The minimum number of shares with respect to which this Stock Option may be exercised at any one time shall be 100 shares, unless the number of shares with respect to which this Stock Option is being exercised is the total number of shares subject to exercise under this Stock Option at the time.

(d) Notwithstanding any other provision hereof or of the Plan, no portion of this Stock Option shall be exercisable after the Expiration Date hereof.

3. Termination of Service Relationship. If the Optionee's Service Relationship terminates, the period within which to exercise the Stock Option may be subject to earlier termination as set forth below.

(a) Termination Due to Death. If the Optionee's Service Relationship terminates by reason of the Optionee's death, any portion of this Stock Option outstanding on such date, to the extent exercisable on the date of death, may thereafter be exercised by the Optionee's legal representative or legatee for a period of 12 months from the date of death or until the Expiration Date, if earlier. Any portion of this Stock Option that is not exercisable on the date of death shall terminate immediately and be of no further force or effect.

(b) Termination Due to Disability. If the Optionee's Service Relationship terminates by reason of the Optionee's disability (as determined by the Administrator), any portion of this Stock Option outstanding on such date, to the extent exercisable on the date of such termination, may thereafter be exercised by the Optionee for a period of 12 months from the date of termination or until the Expiration Date, if earlier. Any portion of this Stock Option that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

(c) Termination for Cause. If the Optionee's Service Relationship terminates for Cause, any portion of this Stock Option outstanding on such date shall terminate immediately and be of no further force and effect. For purposes hereof, "Cause" shall mean, unless otherwise provided in an employment or other service agreement between the Company and the Optionee, a determination by the Administrator that the Optionee shall be dismissed as a result of (i) any

material breach by the Optionee of any agreement between the Optionee and the Company; (ii) the conviction of, indictment for or plea of nolo contendere by the Optionee to a felony or a crime involving moral turpitude; or (iii) any material misconduct or willful and deliberate non-performance (other than by reason of disability) by the Optionee of the Optionee's duties to the Company or any Subsidiary.

(d) Other Termination. If the Optionee's Service Relationship terminates for any reason other than the Optionee's death, the Optionee's disability or Cause, and unless otherwise determined by the Administrator, any portion of this Stock Option outstanding on such date may be exercised, to the extent exercisable on the date of termination, for a period of three months from the date of termination or until the Expiration Date, if earlier. Any portion of this Stock Option that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

The Administrator's determination of the reason for termination of the Optionee's Service Relationship shall be conclusive and binding on the Optionee and his or her representatives or legatees.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this Stock Option shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Optionee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution. This Stock Option is exercisable, during the Optionee's lifetime, only by the Optionee, and thereafter, only by the Optionee's legal representative or legatee.

6. Tax Withholding. The Optionee shall, not later than the date as of which the exercise of this Stock Option becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Company shall have the authority to cause the required tax withholding obligation to be satisfied, in whole or in part, by (i) withholding from shares of Stock to be issued to the Optionee a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due; or (ii) causing its transfer agent to sell from the number of shares of Stock to be issued to the Optionee, the number of shares of Stock necessary to satisfy the Federal, state and local taxes required by law to be withheld from the Optionee on account of such transfer.

7. No Obligation to Continue Service Relationship. Neither the Company nor any Subsidiary is obligated by or as a result of the Plan or this Agreement to continue the Optionee's Service Relationship and neither the Plan nor this Agreement shall interfere in any way with the right of the Company or any Subsidiary to terminate the Optionee's Service Relationship at any time.

8. Integration. This Agreement constitutes the entire agreement between the parties with respect to this Stock Option and supersedes all prior agreements and discussions between the parties concerning such subject matter.

9. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Optionee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Optionee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Optionee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

10. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Optionee at the address on file with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title: _____

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company's instructions to the Optionee (including through an online acceptance process) is acceptable.

Dated: _____

Optionee's Signature

Optionee's name and address:

**NON-QUALIFIED STOCK OPTION AGREEMENT
FOR NON-EMPLOYEE DIRECTORS
UNDER THE PLUG POWER INC.
2021 STOCK OPTION AND INCENTIVE PLAN**

Name of Optionee: _____

No. of Option Shares: _____

Option Exercise Price per Share: \$ _____
[FMV on Grant Date]

Grant Date: _____

Expiration Date: _____
[No more than 10 years]

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants to the Optionee named above, who is a Non-Employee Director of the Company but is not an employee of the Company, an option (the "Stock Option") to purchase on or prior to the Expiration Date specified above all or part of the number of shares of Common Stock, par value \$0.01 per share (the "Stock"), of the Company specified above at the Option Exercise Price per Share specified above subject to the terms and conditions set forth herein and in the Plan. This Stock Option is not intended to be an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended.

1. Exercisability Schedule. No portion of this Stock Option may be exercised until such portion shall have become exercisable. Except as set forth below, and subject to the discretion of the Administrator (as defined in Section 1 of the Plan) to accelerate the exercisability schedule hereunder, this Stock Option shall be exercisable with respect to the following number of Option Shares on the dates indicated so long as the Optionee remains in a Service Relationship (as defined in the Plan) on such dates:

<u>Incremental Number of Option Shares Exercisable</u>	<u>Exercisability Date</u>
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____

Notwithstanding anything to the contrary herein or in the Plan, all outstanding Option Shares shall become fully exercisable upon (i) the termination of the Optionee's Service Relationship by reason

of the Optionee's death or disability (as determined by the Administrator) or (ii) subject to the Optionee's continued Service Relationship through the consummation of a Sale Event (as defined in the Plan), immediately prior to the consummation of such Sale Event. Once exercisable, this Stock Option shall continue to be exercisable at any time or times prior to the close of business on the Expiration Date, subject to the provisions hereof and of the Plan.

2. Manner of Exercise.

(a) The Optionee may exercise this Stock Option only in the following manner: from time to time on or prior to the Expiration Date of this Stock Option, the Optionee may give written notice to the Administrator of his or her election to purchase some or all of the Option Shares purchasable at the time of such notice. This notice shall specify the number of Option Shares to be purchased.

Payment of the purchase price for the Option Shares may be made by one or more of the following methods: (i) in cash, by certified or bank check or other instrument acceptable to the Administrator; (ii) through the delivery (or attestation to the ownership) of shares of Stock that have been purchased by the Optionee on the open market or that are beneficially owned by the Optionee and are not then subject to any restrictions under any Company plan and that otherwise satisfy any holding periods as may be required by the Administrator; (iii) by the Optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company to pay the option purchase price, provided that in the event the Optionee chooses to pay the option purchase price as so provided, the Optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Administrator shall prescribe as a condition of such payment procedure; (iv) by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; or (v) a combination of (i), (ii), (iii) and (iv) above. Payment instruments will be received subject to collection.

The transfer to the Optionee on the records of the Company or of the transfer agent of the Option Shares will be contingent upon (i) the Company's receipt from the Optionee of the full purchase price for the Option Shares, as set forth above, (ii) the fulfillment of any other requirements contained herein or in the Plan or in any other agreement or provision of laws, and (iii) the receipt by the Company of any agreement, statement or other evidence that the Company may require to satisfy itself that the issuance of Stock to be purchased pursuant to the exercise of Stock Options under the Plan and any subsequent resale of the shares of Stock will be in compliance with applicable laws and regulations. In the event the Optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number of shares of Stock transferred to the Optionee upon the exercise of the Stock Option shall be net of the shares of Stock attested to.

(b) The shares of Stock purchased upon exercise of this Stock Option shall be transferred to the Optionee on the records of the Company or of the transfer agent upon compliance to the satisfaction of the Administrator with all requirements under applicable laws or regulations in connection with such transfer and with the requirements hereof and of the Plan. The

determination of the Administrator as to such compliance shall be final and binding on the Optionee. The Optionee shall not be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Stock subject to this Stock Option unless and until this Stock Option shall have been exercised pursuant to the terms hereof, the Company or the transfer agent shall have transferred the shares to the Optionee, and the Optionee's name shall have been entered as the stockholder of record on the books of the Company. Thereupon, the Optionee shall have full voting, dividend and other ownership rights with respect to such shares of Stock.

(c) The minimum number of shares with respect to which this Stock Option may be exercised at any one time shall be 100 shares, unless the number of shares with respect to which this Stock Option is being exercised is the total number of shares subject to exercise under this Stock Option at the time.

(d) Notwithstanding any other provision hereof or of the Plan, no portion of this Stock Option shall be exercisable after the Expiration Date hereof.

3. Termination of Service Relationship. If the Optionee's Service Relationship terminates, the period within which to exercise the Stock Option may be subject to earlier termination as set forth below.

(a) Termination Due to Death. If the Optionee's Service Relationship terminates by reason of the Optionee's death, any portion of this Stock Option outstanding on such date, to the extent exercisable on the date of death, may thereafter be exercised by the Optionee's legal representative or legatee for a period of 12 months from the date of death or until the Expiration Date, if earlier. Any portion of this Stock Option that is not exercisable on the date of death shall terminate immediately and be of no further force or effect.

(b) Other Termination. If the Optionee's Service Relationship terminates for any reason other than the Optionee's death, any portion of this Stock Option outstanding on such date may be exercised, to the extent exercisable on the date the Optionee's Service Relationship terminates, for a period of six months from the date the Optionee's Service Relationship terminates or until the Expiration Date, if earlier. Any portion of this Stock Option that is not exercisable on the date the Optionee's Service Relationship terminates shall terminate immediately and be of no further force or effect.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this Stock Option shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Optionee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution. This Stock Option is exercisable, during the Optionee's lifetime, only by the Optionee, and thereafter, only by the Optionee's legal representative or legatee.

6. No Obligation to Continue Service Relationship. Neither the Plan nor this Stock Option confers upon the Optionee any rights with respect to a continued Service Relationship.

7. Integration. This Agreement constitutes the entire agreement between the parties with respect to this Stock Option and supersedes all prior agreements and discussions between the parties concerning such subject matter.

8. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Optionee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Optionee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Optionee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

9. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Optionee at the address on file with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company's instructions to the Optionee (including through an online acceptance process) is acceptable.

Dated: _____
Optionee's Signature

Optionee's name and address:

**RESTRICTED STOCK AWARD AGREEMENT
FOR COMPANY EMPLOYEES
UNDER THE PLUG POWER INC.
2021 STOCK OPTION AND INCENTIVE PLAN**

Name of Grantee: _____

No. of Shares: _____

Grant Date: _____

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants a Restricted Stock Award (an "Award") to the Grantee named above. Upon acceptance of this Award, the Grantee shall receive the number of shares of Common Stock, par value \$0.01 per share (the "Stock"), of the Company specified above, subject to the restrictions and conditions set forth herein and in the Plan. The Company acknowledges the receipt from the Grantee of consideration with respect to the par value of the Stock in the form of cash, past or future services rendered to the Company by the Grantee or such other form of consideration as is acceptable to the Administrator.

1. Award. The shares of Restricted Stock awarded hereunder shall be issued and held by the Company's transfer agent in book entry form, and the Grantee's name shall be entered as the stockholder of record on the books of the Company. Thereupon, the Grantee shall have all the rights of a stockholder with respect to such shares, including voting and dividend rights, subject, however, to the restrictions and conditions specified in Paragraph 2 below. The Grantee shall (i) sign and deliver to the Company a copy of this Award Agreement and (ii) deliver to the Company a stock power endorsed in blank.

2. Restrictions and Conditions.

(a) Any book entries for the shares of Restricted Stock granted herein shall bear an appropriate legend, as determined by the Administrator in its sole discretion, to the effect that such shares are subject to restrictions as set forth herein and in the Plan.

(b) Shares of Restricted Stock granted herein may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of by the Grantee prior to vesting.

(c) Except as otherwise provided in Paragraph 3 below, if the Grantee's Service Relationship is voluntarily or involuntarily terminated for any reason prior to vesting of shares of Restricted Stock granted herein, all shares of Restricted Stock shall immediately and automatically be forfeited and returned to the Company.

3. Vesting of Restricted Stock. The restrictions and conditions in Paragraph 2 of this Agreement shall lapse on the Vesting Date or Dates specified in the following schedule so long

as the Grantee remains in a Service Relationship (as defined in the Plan) on such Dates. If a series of Vesting Dates is specified, then the restrictions and conditions in Paragraph 2 shall lapse only with respect to the number of shares of Restricted Stock specified as vested on such date.

<u>Incremental Number of Shares Vested</u>	<u>Vesting Date</u>
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____

Subsequent to such Vesting Date or Dates, the shares of Stock on which all restrictions and conditions have lapsed shall no longer be deemed Restricted Stock. Notwithstanding anything to the contrary herein or in the Plan, all outstanding shares of Restricted Stock shall become fully vested upon the termination of the Grantee’s Service Relationship by reason of the Grantee’s death or disability (as determined by the Administrator). In addition, if the Grantee’s Service Relationship is terminated by the Company without Cause (as defined below)[**or by the Grantee for Good Reason (as defined in the employment or other service agreement between the Grantee and the Company), in either case**]¹ upon or within 12 months following a Sale Event (as defined in the Plan), all outstanding shares of Restricted Stock shall become fully vested as of the date of such termination. For purposes hereof, “Cause” shall have the meaning set forth in the employment or other service agreement between the Company and the Optionee. In the event that the Grantee is not party to an employment or other service agreement or the applicable agreement does not contain a definition of “Cause,” it shall mean a determination by the Administrator that the Grantee shall be dismissed as a result of (i) any material breach by the Grantee of any agreement between the Grantee and the Company; (ii) the conviction of, indictment for or plea of nolo contendere by the Grantee to a felony or a crime involving moral turpitude; or (iii) any material misconduct or willful and deliberate non-performance (other than by reason of disability) by the Grantee of the Grantee’s duties to the Company or any Subsidiary. The Administrator may at any time accelerate the vesting schedule specified in this Paragraph 3.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this Award shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Grantee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution.

¹ **Note to Draft:** To be included only for grants made to executive officers.

6. Tax Withholding. The Grantee shall, not later than the date as of which the receipt of this Award becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Company shall have the authority to cause the required tax withholding obligation to be satisfied, in whole or in part, by (i) withholding from shares of Stock to be issued or released by the transfer agent a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due; or (ii) causing its transfer agent to sell from the number of shares of Stock to be issued or released by the transfer agent, the number of shares of Stock necessary to satisfy the Federal, state and local taxes required by law to be withheld from the Grantee on account of such transfer.

7. Election Under Section 83(b). The Grantee and the Company hereby agree that the Grantee may, within 30 days following the Grant Date of this Award, file with the Internal Revenue Service and the Company an election under Section 83(b) of the Code. In the event the Grantee makes such an election, he or she agrees to provide a copy of the election to the Company. The Grantee acknowledges that he or she is responsible for obtaining the advice of his or her tax advisors with regard to the Section 83(b) election and that he or she is relying solely on such advisors and not on any statements or representations of the Company or any of its agents with regard to such election.

8. No Obligation to Continue Service Relationship. Neither the Company nor any Subsidiary is obligated by or as a result of the Plan or this Agreement to continue the Grantee in a Service Relationship and neither the Plan nor this Agreement shall interfere in any way with the right of the Company or any Subsidiary to terminate the Grantee's Service Relationship at any time.

9. Integration. This Agreement constitutes the entire agreement between the parties with respect to this Award and supersedes all prior agreements and discussions between the parties concerning such subject matter.

10. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Grantee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Grantee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Grantee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

11. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Grantee at the address on file with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company’s instructions to the Grantee (including through an online acceptance process) is acceptable.

Dated: _____

Grantee’s Signature

Grantee’s name and address:

**RESTRICTED STOCK AWARD AGREEMENT
FOR NON-EMPLOYEE DIRECTORS
UNDER THE PLUG POWER INC.
2021 STOCK OPTION AND INCENTIVE PLAN**

Name of Grantee: _____

No. of Shares: _____

Grant Date: _____

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants a Restricted Stock Award (an "Award") to the Grantee named above, who is a Non-Employee Director of the Company but is not an employee of the Company. Upon acceptance of this Award, the Grantee shall receive the number of shares of Common Stock, par value \$0.01 per share (the "Stock"), of the Company specified above, subject to the restrictions and conditions set forth herein and in the Plan. The Company acknowledges the receipt from the Grantee of consideration with respect to the par value of the Stock in the form of cash, past or future services rendered to the Company by the Grantee or such other form of consideration as is acceptable to the Administrator.

1. Award. The shares of Restricted Stock awarded hereunder shall be issued and held by the Company's transfer agent in book entry form, and the Grantee's name shall be entered as the stockholder of record on the books of the Company. Thereupon, the Grantee shall have all the rights of a stockholder with respect to such shares, including voting and dividend rights, subject, however, to the restrictions and conditions specified in Paragraph 2 below. The Grantee shall (i) sign and deliver to the Company a copy of this Award Agreement and (ii) deliver to the Company a stock power endorsed in blank.

2. Restrictions and Conditions.

(a) Any book entries for the shares of Restricted Stock granted herein shall bear an appropriate legend, as determined by the Administrator in its sole discretion, to the effect that such shares are subject to restrictions as set forth herein and in the Plan.

(b) Shares of Restricted Stock granted herein may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of by the Grantee prior to vesting.

(c) Except as otherwise provided in Paragraph 3 below, if the Grantee's Service Relationship is voluntarily or involuntarily terminated for any reason prior to vesting of shares of Restricted Stock granted herein, all shares of Restricted Stock shall immediately and automatically be forfeited and returned to the Company.

3. Vesting of Restricted Stock. The restrictions and conditions in Paragraph 2 of this Agreement shall lapse on the Vesting Date or Dates specified in the following schedule so long as the Grantee remains in a Service Relationship (as defined in the Plan) on such Dates. If a series of Vesting Dates is specified, then the restrictions and conditions in Paragraph 2 shall lapse only with respect to the number of shares of Restricted Stock specified as vested on such date.

<u>Incremental Number of Shares Vested</u>	<u>Vesting Date</u>
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____
_____ (___ %)	_____

Subsequent to such Vesting Date or Dates, the shares of Stock on which all restrictions and conditions have lapsed shall no longer be deemed Restricted Stock. Notwithstanding anything to the contrary herein or in the Plan, all outstanding shares of Restricted Stock shall become fully vested (i) upon the termination of the Grantee’s Service Relationship by reason of the Grantee’s death or disability (as determined by the Administrator) or (ii) subject to the Grantee’s continued Service Relationship through the consummation of a Sale Event (as defined in the Plan), immediately prior to the consummation of such Sale Event. The Administrator may at any time accelerate the vesting schedule specified in this Paragraph 3.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this Award shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Grantee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution.

6. Tax Withholding. The Grantee shall, not later than the date as of which the receipt of this Award becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Company shall have the authority to cause the required tax withholding obligation to be satisfied, in whole or in part, by (i) withholding from shares of Stock to be issued or released by the transfer agent a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due; or (ii) causing its transfer agent to sell from the number of shares of Stock to be issued or released by the transfer agent, the number of shares of Stock necessary to satisfy the Federal, state and local taxes required by law to be withheld from the Grantee on account of such transfer.

7. Election Under Section 83(b). The Grantee and the Company hereby agree that the Grantee may, within 30 days following the Grant Date of this Award, file with the Internal Revenue Service and the Company an election under Section 83(b) of the Code. In the event the Grantee makes such an election, he or she agrees to provide a copy of the election to the Company. The Grantee acknowledges that he or she is responsible for obtaining the advice of his or her tax advisors with regard to the Section 83(b) election and that he or she is relying solely on such advisors and not on any statements or representations of the Company or any of its agents with regard to such election.

8. No Obligation to Continue Service Relationship. Neither the Company nor any Subsidiary is obligated by or as a result of the Plan or this Agreement to continue the Grantee in a Service Relationship and neither the Plan nor this Agreement shall interfere in any way with the right of the Company or any Subsidiary to terminate the Grantee's Service Relationship at any time.

9. Integration. This Agreement constitutes the entire agreement between the parties with respect to this Award and supersedes all prior agreements and discussions between the parties concerning such subject matter.

10. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Grantee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Grantee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Grantee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

11. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Grantee at the address on file

with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company’s instructions to the Grantee (including through an online acceptance process) is acceptable.

Dated: _____
Grantee’s Signature

Grantee’s name and address:



**PERFORMANCE-BASED
NON-QUALIFIED STOCK OPTION AGREEMENT
UNDER THE PLUG POWER INC. 2021 STOCK OPTION AND
INCENTIVE PLAN**

Name of Optionee: _____

Target No. of Performance Option Shares: _____ (the "Target Option Shares")

Maximum No. of Performance Option Shares: _____ (200% of Target Option Shares)

Option Exercise Price per Share: \$26.92

Grant Date: September 22, 2021

Performance Period: 3-year period beginning on the Grant Date (9/22/21 - 9/22/24)

Expiration Date: September 22, 2028

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants to the Optionee named above a performance-based stock option (the "PSO") to purchase on or prior to the Expiration Date specified above the target number of shares of Common Stock, par value \$0.01 per share (the "Stock" and the shares of Stock subject to this PSO, the "Option Shares"), of the Company specified above at the Option Exercise Price per Share specified above, subject to the terms and conditions set forth herein and in the Plan. This PSO is not intended to be an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended.

1. Exercisability Schedule. No portion of this PSO may be exercised until such portion shall have become exercisable. This PSO is subject to both performance-based vesting (the "Performance Vesting") and a time-based condition (the "Time Condition"), as described in Section 1(a) and Section 1(b) below, both of which must be satisfied during the Performance Period in order for the PSO to be exercisable.

(a) Performance Vesting. Subject to Section 1(d) below, the percentage of the Target Option Shares set forth below shall satisfy the Performance Vesting upon the date that the Administrator determines that the Company has achieved the stock price appreciation hurdle(s) set forth below, with the Company's stock price determined based on the trailing 30-trading day volume weighted average price of the Stock during the Performance Period. To the extent any Target Option Shares have not satisfied the Performance Vesting on or prior to the last day of the Performance Period, such Target Option Shares shall expire and be of no further force or effect on the day following the end of the Performance Period. In no event may more than 200% of the Target Option Shares be deemed to have satisfied the Performance Vesting. Notwithstanding the foregoing or anything to the contrary set forth herein or in the Plan, in the event that the Optionee exercises any portion of the PSO and sells any portion of the Option Shares before the date that

the Administrator determines that a higher stock price hurdle or the Maximum Stock Price Hurdle (as defined below) has been achieved, the number of Target Option Shares shall be reduced proportionally and only the remaining Target Option Shares as so reduced will remain eligible to satisfy the Performance Vesting based on achievement of additional stock price hurdles pursuant to this Section 1(a).

Executive Schedule

<i>3-Year Stock Price Hurdle</i>	<i>Performance Vesting Percentage of Target Option Shares</i>
\$35.00	50%
\$50.00	100%
\$100.00 (the "Maximum Stock Price Hurdle")	200%

Straight line linear interpolation in whole dollar increments shall be applied to determine the percentage of the Target Option Shares that are deemed to satisfy the Performance Vesting where the trailing 30-trading day volume weighted average price of the Stock is between the stock price hurdles set forth in the table above.

(b) Time Condition. Subject to Section 1(c) and Section 1(d) below, for Option Shares that have satisfied the Performance Vesting, one-third of such Option Shares shall satisfy the Time Condition upon each of the first three anniversaries of the Grant Date, provided, in each case, that the Optionee continues to have a Service Relationship with the Company at such time. For the avoidance of doubt, in the event that the Performance Vesting for any Option Shares has been satisfied after the Time Condition applicable to such Option Shares has been satisfied, such Option Shares shall be immediately exercisable upon the date that the Performance Vesting for such Option Shares is satisfied.

(c) Termination due to Death or Disability. Notwithstanding the foregoing, if the Optionee's Service Relationship terminates by reason of the Optionee's death or disability (as determined by the Administrator), any Option Shares that remain subject to only the Time Condition (e.g., those Option Shares for which the Performance Vesting has been satisfied) as of the date of termination shall immediately vest and become exercisable upon the date of such termination.

(d) Sale Event. In the case of a Sale Event during the Performance Period, any then unvested portion of this PSO shall be treated as provided in Section 3(d) of the Plan; provided, however, that (i) satisfaction of the Performance Vesting shall be determined as of immediately prior to the Sale Event based on the Sale Price (i.e., the stock price hurdle shall be determined based on the Sale Price rather than on the trailing 30-trading day volume weighted average price of the Stock) and (ii) unless otherwise determined by the Administrator, any Target Option Shares that have not satisfied the Performance Vesting as of the Sale Event (as determined after giving effect to clause (i) above) shall expire and be of no further force or effect. [Straight line linear

interpolation in whole dollar increments shall be applied to determine the percentage of the Target Option Shares that are deemed to satisfy the Performance Vesting where the Sale Price is between the stock price hurdles set forth in Section 1(a).] In no event may more than 200% of the Target Option Shares be deemed to satisfy the Performance Vesting upon a Sale Event.

If this PSO is not equitably assumed, substituted or continued by the Company or its successor entity in such Sale Event, the Time Condition shall be deemed to be fully achieved immediately prior to the effective time of the Sale Event, provided that the Optionee continues to have a Service Relationship with the Company through the date of the Sale Event.

If this PSO is equitably assumed, substituted or continued by the Company or its successor entity in a Sale Event, the Time Condition shall be deemed to be satisfied upon the earliest of (i) the dates determined in accordance with Section 1(b) above and (ii) the termination of the Optionee's Service Relationship by the Company or its successor without Cause or by the Optionee for Good Reason (each as defined below). Notwithstanding Section 3(d) below, in the event that the Optionee's Service Relationship is terminated by the Company or its successor without Cause or by the Optionee for Good Reason, in either case upon or following a Sale Event, any portion of this PSO outstanding on such date, to the extent exercisable on the date of such termination, may thereafter be exercised by the Optionee for a period of 12 months from the date of termination or until the Expiration Date, if earlier. For purposes hereof, "Cause" shall mean, unless otherwise provided in an employment or other service agreement between the Company and the Optionee, a determination by the Administrator that the Optionee shall be dismissed as a result of (i) any material breach by the Optionee of any agreement between the Optionee and the Company; (ii) the conviction of, indictment for or plea of nolo contendere by the Optionee to a felony or a crime involving moral turpitude; or (iii) any material misconduct or willful and deliberate non-performance (other than by reason of disability) by the Optionee of the Optionee's duties to the Company or any Subsidiary. [In addition, for purposes hereof, "Good Reason" shall mean, unless otherwise provided in an employment or other service agreement between the Company and the Optionee, that the Optionee has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) a material diminution in the Optionee's responsibilities, authority or duties; (ii) a material diminution in the Optionee's base salary; (iii) a material change in the geographic location at which the Optionee provides services to the Company; or (iv) the material breach by the Company of any employment or other service agreement between the Company and the Optionee. "Good Reason Process" shall mean that (i) the Optionee reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Optionee notifies the Company in writing of the occurrence of the Good Reason condition within 60 days of the occurrence of such condition; (iii) the Optionee cooperates in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "Cure Period"), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Optionee terminates his or her employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.]

For purposes of this Section 1(d), for the PSO to be considered equitably assumed, substituted or continued by the Company or its successor entity, the Administrator must determine prior to the Sale Event that the assumed, continuing or substituted award satisfies the following requirements: (i) is based on stock of the successor entity that is traded on an established U.S.

securities market or an established securities market outside the United States upon which the Optionee can readily trade the Stock without administrative burdens or complexities; (ii) provides the Optionee with rights and entitlements substantially equivalent to or better than the rights, terms and conditions applicable under the original PSO; and (iii) has substantially equivalent value (determined at the time of the Sale Event).

(e) Vesting Date. Each date as of which both the Performance Vesting and the Time Condition described in Section 1(a) and Section 1(b) have been satisfied with respect to this PSO shall be referred to as a "Vesting Date." To the extent the Target Option Shares have not satisfied both the Performance Vesting and the Time Condition during the Performance Period, such Option Shares shall expire and be of no further force or effect on the last day of the Performance Period.

Once exercisable, this PSO shall continue to be exercisable at any time or times prior to the close of business on the Expiration Date, subject to the provisions hereof and of the Plan.

2. Manner of Exercise.

(a) The Optionee may exercise this PSO only in the following manner: from time to time on or prior to the Expiration Date of this PSO, the Optionee may give written notice to the Administrator of his or her election to purchase some or all of the Option Shares purchasable at the time of such notice. This notice shall specify the number of Option Shares to be purchased.

Payment of the purchase price for the Option Shares may be made by one or more of the following methods: (i) in cash, by certified or bank check or other instrument acceptable to the Administrator; (ii) through the delivery (or attestation to the ownership) of shares of Stock that have been purchased by the Optionee on the open market or that are beneficially owned by the Optionee and are not then subject to any restrictions under any Company plan and that otherwise satisfy any holding periods as may be required by the Administrator; (iii) by the Optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company to pay the option purchase price, provided that in the event the Optionee chooses to pay the option purchase price as so provided, the Optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Administrator shall prescribe as a condition of such payment procedure; (iv) by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; or (v) a combination of (i), (ii), (iii) and (iv) above. Payment instruments will be received subject to collection.

The transfer to the Optionee on the records of the Company or of the transfer agent of the Option Shares will be contingent upon (i) the Company's receipt from the Optionee of the full purchase price for the Option Shares, as set forth above, (ii) the fulfillment of any other requirements contained herein or in the Plan or in any other agreement or provision of laws, and (iii) the receipt by the Company of any agreement, statement or other evidence that the Company may require to satisfy itself that the issuance of Stock to be purchased pursuant to the exercise of PSOs under the Plan and any subsequent resale of the shares of Stock will be in compliance with

applicable laws and regulations. In the event the Optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number of shares of Stock transferred to the Optionee upon the exercise of the PSO shall be net of the shares of Stock attested to.

(b) The shares of Stock purchased upon exercise of this PSO shall be transferred to the Optionee on the records of the Company or of the transfer agent upon compliance to the satisfaction of the Administrator with all requirements under applicable laws or regulations in connection with such transfer and with the requirements hereof and of the Plan. The determination of the Administrator as to such compliance shall be final and binding on the Optionee. The Optionee shall not be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Stock subject to this PSO unless and until this PSO shall have been exercised pursuant to the terms hereof, the Company or the transfer agent shall have transferred the shares to the Optionee, and the Optionee's name shall have been entered as the stockholder of record on the books of the Company. Thereupon, the Optionee shall have full voting, dividend and other ownership rights with respect to such shares of Stock.

(c) The minimum number of shares with respect to which this PSO may be exercised at any one time shall be 100 shares, unless the number of shares with respect to which this PSO is being exercised is the total number of shares subject to exercise under this PSO at the time.

(d) Notwithstanding any other provision hereof or of the Plan, no portion of this PSO shall be exercisable after the Expiration Date hereof.

3. Termination of Service Relationship. If the Optionee's Service Relationship terminates, the period within which to exercise the PSO may be subject to earlier termination as set forth below.

(a) Termination Due to Death. If the Optionee's Service Relationship terminates by reason of the Optionee's death, any portion of this PSO outstanding on such date, to the extent exercisable on the date of death, may thereafter be exercised by the Optionee's legal representative or legatee for a period of 12 months from the date of death or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of death shall terminate immediately and be of no further force or effect.

(b) Termination Due to Disability. If the Optionee's Service Relationship terminates by reason of the Optionee's disability (as determined by the Administrator), any portion of this PSO outstanding on such date, to the extent exercisable on the date of such termination, may thereafter be exercised by the Optionee for a period of 12 months from the date of termination or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

(c) Termination for Cause. If the Optionee's Service Relationship terminates for Cause, any portion of this PSO outstanding on such date shall terminate immediately and be of no further force and effect.

(d) Other Termination. Except as set forth in Section 1(d) (Sale Event) above, if the Optionee's Service Relationship terminates for any reason other than the Optionee's death, the Optionee's disability or Cause, and unless otherwise determined by the Administrator, any portion of this PSO outstanding on such date may be exercised, to the extent exercisable on the date of termination, for a period of three months from the date of termination or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

The Administrator's determination of the reason for termination of the Optionee's Service Relationship shall be conclusive and binding on the Optionee and his or her representatives or legatees.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this PSO shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Optionee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution. This PSO is exercisable, during the Optionee's lifetime, only by the Optionee, and thereafter, only by the Optionee's legal representative or legatee.

6. Tax Withholding. The Optionee shall, not later than the date as of which the exercise of this PSO becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Company shall have the authority to cause the required tax withholding obligation to be satisfied, in whole or in part, by (i) withholding from shares of Stock to be issued to the Optionee a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due; or (ii) causing its transfer agent to sell from the number of shares of Stock to be issued to the Optionee, the number of shares of Stock necessary to satisfy the Federal, state and local taxes required by law to be withheld from the Optionee on account of such transfer.

7. No Obligation to Continue Service Relationship. Neither the Company nor any Subsidiary is obligated by or as a result of the Plan or this Agreement to continue the Optionee's Service Relationship and neither the Plan nor this Agreement shall interfere in any way with the right of the Company or any Subsidiary to terminate the Optionee's Service Relationship at any time.

8. Restrictive Covenants. If the Optionee has executed an Employee Patent, Confidentiality, Non-Compete, and Non-Solicitation Agreement between the Optionee and the Company (the "Restrictive Covenants Agreement"), the Optionee reaffirms the Optionee's obligations pursuant to the Restrictive Covenants Agreement; *provided* that in consideration for this PSO and for purposes of this Agreement, the Optionee agrees that the post-employment non-competition and non-solicitation restricted periods as set forth in Paragraphs 4(c), 5(b) and 5(c) of the Restrictive Covenants Agreement shall be extended to a total of two (2) years from the date when the Optionee's employment ends. In the event that the Optionee has not executed an

Employee Patent, Confidentiality, Non-Compete, and Non-Solicitation Agreement between the Optionee and the Company but is a party to any other form of agreement with the Company or any subsidiary or any affiliate that includes post-employment non-competition and/or non-solicitation obligations, such agreement shall be considered to be the Restrictive Covenants Agreement for purposes of this Agreement; *provided* that in consideration for this PSO and for purposes of this Agreement, the Optionee agrees that any post-employment non-competition and/or non-solicitation restricted period(s) thereunder shall be extended to a total of two (2) years from the date when the Optionee's employment ends.

In addition to the remedies set forth in the Restrictive Covenants Agreement, the Optionee agrees the event that the Optionee breaches the terms of the Restrictive Covenants Agreement (as amended herein), the Optionee shall (i) forfeit the unvested portion of any Option Shares held by the Optionee that remain outstanding and unvested on the date of breach and (ii) repay the Fair Market Value of any Option Shares sold prior to the date of the breach.

9. Clawback Policy. This PSO shall be subject to reduction, cancellation, forfeiture or recoupment to the extent necessary to comply with (i) any clawback, forfeiture or other similar policy adopted by the Board or Administrator and as in effect from time to time; and (ii) applicable law. Further, to the extent that the Optionee receives any amount in excess of the amount that the Optionee should otherwise have received under the terms of this PSO for any reason (including, without limitation, by reason of a financial restatement, mistake in calculations or other administrative error), the Optionee shall be required to repay any such excess amount to the Company.

10. Integration. This Agreement constitutes the entire agreement between the parties with respect to this PSO and supersedes all prior agreements and discussions between the parties concerning such subject matter.

11. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Optionee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Optionee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Optionee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

12. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Optionee at the address on file

with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title:

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company’s instructions to the Optionee (including through an online acceptance process) is acceptable.

Dated: _____

Optionee’s Signature

Optionee’s name and address:

**PERFORMANCE-BASED
NON-QUALIFIED STOCK OPTION AGREEMENT
UNDER THE PLUG POWER INC. 2021 STOCK OPTION AND
INCENTIVE PLAN**

Name of Optionee: _____

Target No. of Performance Option Shares: _____ (the "Target Option Shares")

Maximum No. of Performance Option Shares: _____ (200% of Target Option Shares)

Option Exercise Price per Share: \$26.92

Grant Date: September 22, 2021

Performance Period: 3-year period beginning on the Grant Date (9/22/21 - 9/22/24)

Expiration Date: September 22, 2028

Pursuant to the Plug Power Inc. 2021 Stock Option and Incentive Plan, as amended through the date hereof (the "Plan"), Plug Power Inc. (the "Company") hereby grants to the Optionee named above a performance-based stock option (the "PSO") to purchase on or prior to the Expiration Date specified above the target number of shares of Common Stock, par value \$0.01 per share (the "Stock" and the shares of Stock subject to this PSO, the "Option Shares"), of the Company specified above at the Option Exercise Price per Share specified above, subject to the terms and conditions set forth herein and in the Plan. This PSO is not intended to be an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended.

1. Exercisability Schedule. No portion of this PSO may be exercised until such portion shall have become exercisable. This PSO is subject to both performance-based vesting (the "Performance Vesting") and a time-based condition (the "Time Condition"), as described in Section 1(a) and Section 1(b) below, both of which must be satisfied during the Performance Period in order for the PSO to be exercisable.

(a) Performance Vesting. Subject to Section 1(d) below, the percentage of the Target Option Shares set forth below shall satisfy the Performance Vesting upon the date that the Administrator determines that the Company has achieved the stock price appreciation hurdle(s) set forth below, with the Company's stock price determined based on the trailing 30-trading day volume weighted average price of the Stock during the Performance Period. To the extent any Target Option Shares have not satisfied the Performance Vesting on or prior to the last day of the Performance Period, such Target Option Shares shall expire and be of no further force or effect on the day following the end of the Performance Period. In no event may more than 200% of the Target Option Shares be deemed to have satisfied the Performance Vesting. Notwithstanding the foregoing or anything to the contrary set forth herein or in the Plan, in the event that the Optionee exercises any portion of the PSO and sells any portion of the Option Shares before the

date that the Administrator determines that a higher stock price hurdle or the Maximum Stock Price Hurdle (as defined below) has been achieved, the number of Target Option Shares shall be reduced proportionally and only the remaining Target Option Shares as so reduced will remain eligible to satisfy the Performance Vesting based on achievement of additional stock price hurdles pursuant to this Section 1(a).

CEO’s Schedule

<i>3-Year Stock Price Hurdle</i>	<i>Performance Vesting Percentage of Target Option Shares</i>
\$35.00	50%
\$50.00	100%
\$65.00	133.35%
\$80.00	166.65%
\$100.00 (the “Maximum Stock Price Hurdle”)	200%

There shall be no interpolation where the trailing 30-trading day volume weighted average price of the Stock is between the stock price hurdles set forth in the table above.

(b) Time Condition. Subject to Section 1(c) and Section 1(d) below, for Option Shares that have satisfied the Performance Vesting, one-third of such Option Shares shall satisfy the Time Condition upon each of the first three anniversaries of the Grant Date, provided, in each case, that the Optionee continues to have a Service Relationship with the Company at such time. For the avoidance of doubt, in the event that the Performance Vesting for any Option Shares has been satisfied after the Time Condition applicable to such Option Shares has been satisfied, such Option Shares shall be immediately exercisable upon the date that the Performance Vesting for such Option Shares is satisfied.

(c) Termination due to Death or Disability. Notwithstanding the foregoing, if the Optionee’s Service Relationship terminates by reason of the Optionee’s death or disability (as determined by the Administrator), any Option Shares that remain subject to only the Time Condition (e.g., those Option Shares for which the Performance Vesting has been satisfied) as of the date of termination shall immediately vest and become exercisable upon the date of such termination.

(d) Sale Event. In the case of a Sale Event during the Performance Period, any then unvested portion of this PSO shall be treated as provided in Section 3(d) of the Plan; provided, however, that (i) satisfaction of the Performance Vesting shall be determined as of immediately prior to the Sale Event based on the Sale Price (i.e., the stock price hurdle shall be determined based on the Sale Price rather than on the trailing 30-trading day volume weighted average price of the Stock) and (ii) unless otherwise determined by the Administrator, any Target Option Shares that have not satisfied the Performance Vesting as of the Sale Event (as determined after giving

effect to clause (i) above) shall expire and be of no further force or effect. [Straight line linear interpolation in whole dollar increments shall be applied to determine the percentage of the Target Option Shares that are deemed to satisfy the Performance Vesting where the Sale Price is between the stock price hurdles set forth in Section 1(a).] In no event may more than 200% of the Target Option Shares be deemed to satisfy the Performance Vesting upon a Sale Event.

If this PSO is not equitably assumed, substituted or continued by the Company or its successor entity in such Sale Event, the Time Condition shall be deemed to be fully achieved immediately prior to the effective time of the Sale Event, provided that the Optionee continues to have a Service Relationship with the Company through the date of the Sale Event.

If this PSO is equitably assumed, substituted or continued by the Company or its successor entity in a Sale Event, the Time Condition shall be deemed to be satisfied upon the earliest of (i) the dates determined in accordance with Section 1(b) above and (ii) the termination of the Optionee's Service Relationship by the Company or its successor without Cause or by the Optionee for Good Reason (each as defined below). Notwithstanding Section 3(d) below, in the event that the Optionee's Service Relationship is terminated by the Company or its successor without Cause or by the Optionee for Good Reason, in either case upon or following a Sale Event, any portion of this PSO outstanding on such date, to the extent exercisable on the date of such termination, may thereafter be exercised by the Optionee for a period of 12 months from the date of termination or until the Expiration Date, if earlier. For purposes hereof, "Cause" shall mean, unless otherwise provided in an employment or other service agreement between the Company and the Optionee, a determination by the Administrator that the Optionee shall be dismissed as a result of (i) any material breach by the Optionee of any agreement between the Optionee and the Company; (ii) the conviction of, indictment for or plea of nolo contendere by the Optionee to a felony or a crime involving moral turpitude; or (iii) any material misconduct or willful and deliberate non-performance (other than by reason of disability) by the Optionee of the Optionee's duties to the Company or any Subsidiary. [In addition, for purposes hereof, "Good Reason" shall mean, unless otherwise provided in an employment or other service agreement between the Company and the Optionee, that the Optionee has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) a material diminution in the Optionee's responsibilities, authority or duties; (ii) a material diminution in the Optionee's base salary; (iii) a material change in the geographic location at which the Optionee provides services to the Company; or (iv) the material breach by the Company of any employment or other service agreement between the Company and the Optionee. "Good Reason Process" shall mean that (i) the Optionee reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Optionee notifies the Company in writing of the occurrence of the Good Reason condition within 60 days of the occurrence of such condition; (iii) the Optionee cooperates in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "Cure Period"), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Optionee terminates his or her employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.]

For purposes of this Section 1(d), for the PSO to be considered equitably assumed, substituted or continued by the Company or its successor entity, the Administrator must determine prior to the Sale Event that the assumed, continuing or substituted award satisfies the following

requirements: (i) is based on stock of the successor entity that is traded on an established U.S. securities market or an established securities market outside the United States upon which the Optionee can readily trade the Stock without administrative burdens or complexities; (ii) provides the Optionee with rights and entitlements substantially equivalent to or better than the rights, terms and conditions applicable under the original PSO; and (iii) has substantially equivalent value (determined at the time of the Sale Event).

(e) Vesting Date. Each date as of which both the Performance Vesting and the Time Condition described in Section 1(a) and Section 1(b) have been satisfied with respect to this PSO shall be referred to as a "Vesting Date." To the extent the Target Option Shares have not satisfied both the Performance Vesting and the Time Condition during the Performance Period, such Option Shares shall expire and be of no further force or effect on the last day of the Performance Period.

Once exercisable, this PSO shall continue to be exercisable at any time or times prior to the close of business on the Expiration Date, subject to the provisions hereof and of the Plan.

2. Manner of Exercise.

(a) The Optionee may exercise this PSO only in the following manner: from time to time on or prior to the Expiration Date of this PSO, the Optionee may give written notice to the Administrator of his or her election to purchase some or all of the Option Shares purchasable at the time of such notice. This notice shall specify the number of Option Shares to be purchased.

Payment of the purchase price for the Option Shares may be made by one or more of the following methods: (i) in cash, by certified or bank check or other instrument acceptable to the Administrator; (ii) through the delivery (or attestation to the ownership) of shares of Stock that have been purchased by the Optionee on the open market or that are beneficially owned by the Optionee and are not then subject to any restrictions under any Company plan and that otherwise satisfy any holding periods as may be required by the Administrator; (iii) by the Optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company to pay the option purchase price, provided that in the event the Optionee chooses to pay the option purchase price as so provided, the Optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Administrator shall prescribe as a condition of such payment procedure; (iv) by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; or (v) a combination of (i), (ii), (iii) and (iv) above. Payment instruments will be received subject to collection.

The transfer to the Optionee on the records of the Company or of the transfer agent of the Option Shares will be contingent upon (i) the Company's receipt from the Optionee of the full purchase price for the Option Shares, as set forth above, (ii) the fulfillment of any other requirements contained herein or in the Plan or in any other agreement or provision of laws, and (iii) the receipt by the Company of any agreement, statement or other evidence that the Company may require to satisfy itself that the issuance of Stock to be purchased pursuant to the exercise of

PSOs under the Plan and any subsequent resale of the shares of Stock will be in compliance with applicable laws and regulations. In the event the Optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number of shares of Stock transferred to the Optionee upon the exercise of the PSO shall be net of the shares of Stock attested to.

(b) The shares of Stock purchased upon exercise of this PSO shall be transferred to the Optionee on the records of the Company or of the transfer agent upon compliance to the satisfaction of the Administrator with all requirements under applicable laws or regulations in connection with such transfer and with the requirements hereof and of the Plan. The determination of the Administrator as to such compliance shall be final and binding on the Optionee. The Optionee shall not be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Stock subject to this PSO unless and until this PSO shall have been exercised pursuant to the terms hereof, the Company or the transfer agent shall have transferred the shares to the Optionee, and the Optionee's name shall have been entered as the stockholder of record on the books of the Company. Thereupon, the Optionee shall have full voting, dividend and other ownership rights with respect to such shares of Stock.

(c) The minimum number of shares with respect to which this PSO may be exercised at any one time shall be 100 shares, unless the number of shares with respect to which this PSO is being exercised is the total number of shares subject to exercise under this PSO at the time.

(d) Notwithstanding any other provision hereof or of the Plan, no portion of this PSO shall be exercisable after the Expiration Date hereof.

3. Termination of Service Relationship. If the Optionee's Service Relationship terminates, the period within which to exercise the PSO may be subject to earlier termination as set forth below.

(a) Termination Due to Death. If the Optionee's Service Relationship terminates by reason of the Optionee's death, any portion of this PSO outstanding on such date, to the extent exercisable on the date of death, may thereafter be exercised by the Optionee's legal representative or legatee for a period of 12 months from the date of death or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of death shall terminate immediately and be of no further force or effect.

(b) Termination Due to Disability. If the Optionee's Service Relationship terminates by reason of the Optionee's disability (as determined by the Administrator), any portion of this PSO outstanding on such date, to the extent exercisable on the date of such termination, may thereafter be exercised by the Optionee for a period of 12 months from the date of termination or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

(c) Termination for Cause. If the Optionee's Service Relationship terminates for Cause, any portion of this PSO outstanding on such date shall terminate immediately and be of no further force and effect.

(d) Other Termination. Except as set forth in Section 1(d) (Sale Event) above, if the Optionee's Service Relationship terminates for any reason other than the Optionee's death, the Optionee's disability or Cause, and unless otherwise determined by the Administrator, any portion of this PSO outstanding on such date may be exercised, to the extent exercisable on the date of termination, for a period of three months from the date of termination or until the Expiration Date, if earlier. Any portion of this PSO that is not exercisable on the date of termination shall terminate immediately and be of no further force or effect.

The Administrator's determination of the reason for termination of the Optionee's Service Relationship shall be conclusive and binding on the Optionee and his or her representatives or legatees.

4. Incorporation of Plan. Notwithstanding anything herein to the contrary, this PSO shall be subject to and governed by all the terms and conditions of the Plan, including the powers of the Administrator set forth in Section 2(b) of the Plan. Capitalized terms in this Agreement shall have the meaning specified in the Plan, unless a different meaning is specified herein.

5. Transferability. This Agreement is personal to the Optionee, is non-assignable and is not transferable in any manner, by operation of law or otherwise, other than by will or the laws of descent and distribution. This PSO is exercisable, during the Optionee's lifetime, only by the Optionee, and thereafter, only by the Optionee's legal representative or legatee.

6. Tax Withholding. The Optionee shall, not later than the date as of which the exercise of this PSO becomes a taxable event for Federal income tax purposes, pay to the Company or make arrangements satisfactory to the Administrator for payment of any Federal, state, and local taxes required by law to be withheld on account of such taxable event. The Company shall have the authority to cause the required tax withholding obligation to be satisfied, in whole or in part, by (i) withholding from shares of Stock to be issued to the Optionee a number of shares of Stock with an aggregate Fair Market Value that would satisfy the withholding amount due; or (ii) causing its transfer agent to sell from the number of shares of Stock to be issued to the Optionee, the number of shares of Stock necessary to satisfy the Federal, state and local taxes required by law to be withheld from the Optionee on account of such transfer.

7. No Obligation to Continue Service Relationship. Neither the Company nor any Subsidiary is obligated by or as a result of the Plan or this Agreement to continue the Optionee's Service Relationship and neither the Plan nor this Agreement shall interfere in any way with the right of the Company or any Subsidiary to terminate the Optionee's Service Relationship at any time.

8. Restrictive Covenants. If the Optionee has executed an Employee Patent, Confidentiality, Non-Compete, and Non-Solicitation Agreement between the Optionee and the Company (the "Restrictive Covenants Agreement"), the Optionee reaffirms the Optionee's obligations pursuant to the Restrictive Covenants Agreement; *provided* that in consideration for this PSO and for purposes of this Agreement, the Optionee agrees that the post-employment non-competition and non-solicitation restricted periods as set forth in Paragraphs 4(c), 5(b) and 5(c) of the Restrictive Covenants Agreement shall be extended to a total of two (2) years from the date when the Optionee's employment ends. In the event that the Optionee has not executed an

Employee Patent, Confidentiality, Non-Compete, and Non-Solicitation Agreement between the Optionee and the Company but is a party to any other form of agreement with the Company or any subsidiary or any affiliate that includes post-employment non-competition and/or non-solicitation obligations, such agreement shall be considered to be the Restrictive Covenants Agreement for purposes of this Agreement; *provided* that in consideration for this PSO and for purposes of this Agreement, the Optionee agrees that any post-employment non-competition and/or non-solicitation restricted period(s) thereunder shall be extended to a total of two (2) years from the date when the Optionee's employment ends.

In addition to the remedies set forth in the Restrictive Covenants Agreement, the Optionee agrees the event that the Optionee breaches the terms of the Restrictive Covenants Agreement (as amended herein), the Optionee shall (i) forfeit the unvested portion of any Option Shares held by the Optionee that remain outstanding and unvested on the date of breach and (ii) repay the Fair Market Value of any Option Shares sold prior to the date of the breach.

9. Clawback Policy. This PSO shall be subject to reduction, cancellation, forfeiture or recoupment to the extent necessary to comply with (i) any clawback, forfeiture or other similar policy adopted by the Board or Administrator and as in effect from time to time; and (ii) applicable law. Further, to the extent that the Optionee receives any amount in excess of the amount that the Optionee should otherwise have received under the terms of this PSO for any reason (including, without limitation, by reason of a financial restatement, mistake in calculations or other administrative error), the Optionee shall be required to repay any such excess amount to the Company.

10. Integration. This Agreement constitutes the entire agreement between the parties with respect to this PSO and supersedes all prior agreements and discussions between the parties concerning such subject matter.

11. Data Privacy Consent. In order to administer the Plan and this Agreement and to implement or structure future equity grants, the Company, its subsidiaries and affiliates and certain agents thereof (together, the "Relevant Companies") may process any and all personal or professional data, including but not limited to Social Security or other identification number, home address and telephone number, date of birth and other information that is necessary or desirable for the administration of the Plan and/or this Agreement (the "Relevant Information"). By entering into this Agreement, the Optionee (i) authorizes the Company to collect, process, register and transfer to the Relevant Companies all Relevant Information; (ii) waives any privacy rights the Optionee may have with respect to the Relevant Information; (iii) authorizes the Relevant Companies to store and transmit such information in electronic form; and (iv) authorizes the transfer of the Relevant Information to any jurisdiction in which the Relevant Companies consider appropriate. The Optionee shall have access to, and the right to change, the Relevant Information. Relevant Information will only be used in accordance with applicable law.

12. Notices. Notices hereunder shall be mailed or delivered to the Company at its principal place of business and shall be mailed or delivered to the Optionee at the address on file

with the Company or, in either case, at such other address as one party may subsequently furnish to the other party in writing.

PLUG POWER INC.

By: _____
Title: Chief Executive Officer

The foregoing Agreement is hereby accepted and the terms and conditions thereof hereby agreed to by the undersigned. Electronic acceptance of this Agreement pursuant to the Company’s instructions to the Optionee (including through an online acceptance process) is acceptable.

Dated: _____

Optionee’s Signature

Optionee’s name and address:

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements (Nos. 333-2355328 and 333-189056) on Form S-3 and (Nos. 333-258797, 333-234784, 333-222260, 333-200912, 333-175907, 333-90277, 333-90275, and 333-72734) on Form S-8 of our reports dated March 1, 2022, with respect to the consolidated financial statements of Plug Power Inc. and the effectiveness of internal control over financial reporting.

(signed) KPMG LLP

Albany, New York

March 1, 2022

**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, 2021 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
March 1, 2022

**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, 2021 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
March 1, 2022
