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, 2017

☐ **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	**22-3672377**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Identification Number)

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(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $.01 per share	The NASDAQ Capital Market
Series A Junior Participating Cumulative Preferred Stock, par value $.01 per share	The NASDAQ Capital Market

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an 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 ☐ (Do not check if a smaller reporting company) 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the registrant's common stock held by non-affiliates of the registrant was approximately $454,353,992 based on the last reported sale of the common stock on The Nasdaq Capital Market on June 30, 2017, the last business day of the registrant's most recently completed second fiscal quarter.

As of March 9, 2018, 228,594,426 shares of the registrant's common stock were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Certain information contained in Plug Power Inc.'s Proxy Statement relating to its 2018 Annual Meeting of Stockholders is incorporated by reference in Items 10, 11, 12, 13 and 14 of Part III. Plug Power Inc. intends to file such Proxy Statement with the Securities and Exchange Commission not later than 120 days after the end of its fiscal year ended December 31, 2017.

INDEX TO FORM 10-K

PART I

Forward-Looking Statements

The following discussion should be read in conjunction with our accompanying 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 and Section 21E of 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 anticipate continuing to incur losses; the risk that we will need to raise additional capital to fund our operations and such capital may not be available to us; our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers; the ability to achieve the forecasted gross margin on the sale of our products; the volatility of our stock price; 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 a loss of one or more of our major customers could result in a material adverse effect on our financial condition; the cost and availability of fuel and fueling infrastructures for our products; the risk of elimination of government subsidies and economic incentives for alternative energy products; the risk of potential losses related to any product liability claims or contract disputes; competitive factors, such as price competition and competition from other traditional and alternative energy companies; the cost and availability of components and parts for our products; our ability to establish and maintain relationships with third parties with respect to product development, manufacturing, distribution and servicing and the supply of key product components; the risk that pending orders may not convert to purchase orders, in whole or in part; the risk that unit orders will not ship, be installed and/or converted to revenue, in whole or in part; the risks related to the use of flammable fuels in our products; our ability to protect our intellectual property; 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 cost and timing of developing, marketing and selling our products and our ability to raise the necessary capital to fund such costs; market acceptance of our products and services, including GenDrive units; 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; 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 associated with potential future acquisitions; the cost of complying with current and future federal, state and international governmental regulations; and other risks and uncertainties discussed under Item IA—Risk Factors. Readers should not place undue reliance on our forward-looking statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. 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.

Item 1. Business

Background

Plug Power Inc., or the Company, is a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of hydrogen and fuel cell systems used primarily for the material handling and stationary power markets. As part of the global drive to electrification, Plug Power has recently entered new electric vehicle markets, specifically ground support equipment and electric delivery vans. These applications promote the advancement of hydrogen fueling and accelerate commercialization of hydrogen-fueled products.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies, fuel cell/battery hybrid technologies, and associated hydrogen storage and dispensing infrastructure from which multiple products are available. A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity and heat without combustion. Hydrogen is derived from hydrocarbon fuels such as liquid petroleum gas, or LPG, natural gas, propane, methanol, ethanol, gasoline or biofuels. Plug Power develops complete hydrogen generation, delivery, storage and refueling solutions for customer locations. Currently the Company obtains the majority of its hydrogen by purchasing it from fuel suppliers for resale to customers.

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 distribution and manufacturing businesses. We are focusing our efforts on industrial mobility applications (electric forklifts and electric industrial vehicles) at multi-shift high volume manufacturing and high throughput distribution sites where 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 prove 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 Power," "we," "our" or "us" as used herein refers to Plug Power Inc. and its subsidiaries.

Business Strategy

We are committed to developing effective, economical and reliable fuel cell related products, systems and services for businesses and government agencies. Building on our substantial fuel cell application and product integration experience, we are focused on generating strong relationships with customers who value increased reliability, productivity and energy security.

Our business strategy leverages our unique fuel cell application and integration knowledge to identify early adopter markets for which we can design and develop innovative systems and customer solutions that provide superior value, ease-of-use and environmental design.

Our primary marketing strategy is to focus our resources on the material handling market. Through established customer relationships, Plug Power has proven itself as a trusted partner with a reliable fuel cell solution. We have made significant progress in penetrating the material handling market, supported through the deployment of over 20,000 GenDrive units into commercial applications. We believe we have developed reliable products which allow the end customers to eliminate incumbent power sources from their operations, and realize their sustainability objectives through clean energy alternatives. In addition, we have deployed our GenKey hydrogen and fuel cell solution to multiple customer sites.

Our operating strategy also includes the following objectives: decrease product and service costs, expand system reliability, improve service and post-sales support experience.

Our longer-term objectives are to deliver economic, social, and environmental benefits in terms of reliable, clean, cost-effective fuel cell solutions and, ultimately, productivity.

We believe continued investment in research and development is critical to the development and enhancement of innovative products, technologies and services. In addition to evolving our direct hydrogen fueled systems, we continue to capitalize on our investment and expertise in power electronics, controls, and software design.

We continue to develop and monitor future fuel cell solutions that align with our evolving product roadmap. By leveraging our current GenDrive architecture, Plug Power is evaluating adjacent markets such as ProGen electric vehicles, ground support equipment (GSE) and fuel cell vehicles.

Business Organization

We manage our business as a single operating segment, emphasizing shared learning across end-user applications and common supplier/vendor relationships.

Products and Services

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 distribution and manufacturing businesses. We are focusing our efforts on industrial mobility applications (electric forklifts and electric industrial vehicles) at multi-shift high volume manufacturing and high throughput distribution sites where 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 prove valuable with telecommunications, transportation and utility customers as robust, reliable and sustainable power solutions.

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 and ground support equipment;

GenFuel: GenFuel is our hydrogen fueling delivery, generation, storage and dispensing systems;

GenCare: GenCare is our ongoing maintenance program for GenDrive fuel cells, GenSure products, GenFuel products and ProGen engines;

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors;

GenKey: GenKey is our turn-key solution combining either GenDrive or GenSure 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; and

GenFund: GenFund is a collaboration with leasing organizations to provide cost efficient and seamless financing solutions to customers.

Plug Power provides our products worldwide through our direct product sales force, and by leveraging relationships with original equipment manufacturers, or OEMs, and their dealer networks.

To promote fuel cell adoption and maintain post-sale customer satisfaction, we offer a range of service and support options through extended maintenance contracts. Additionally, customers may waive our service option, and choose to service their systems independently. A high percentage of fuel cells sold in recent years were bundled with maintenance contracts. As a result, only 1% of fuel cells deployed are still under standard warranty that is not a part of an extended maintenance contract.

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; however, these market factors will continue to evolve and the Company's insight to these trends will improve with continued commercial success and time.

Orders for the Company's products and services in 2017 approximated $285.0 million compared to total orders in 2016 of $280.0 million. The Company's backlog for products and services as of December 31, 2017 was in excess of $500.0 million, compared to the Company's backlog as of December 31, 2016 of approximately $380.0 million. The Company's backlog at any given time is comprised of products, hydrogen installations, maintenance services, and hydrogen fuel deliveries. The specific elements of the backlog will vary in terms of timing of delivery and can vary between 90 days to 10 years, with products 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 these product orders generally occur between ninety days and twenty-four months from the date of acceptance of the order.

For the year ended December 31, 2017, 71.8% of total consolidated revenues were associated primarily with Amazon and Walmart, representing 42.4% and 29.4%, respectively. A loss or decline in business with either customer 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 and Spokane, Washington, and provide our services and installations at customer locations. Currently, the supply and manufacture of varied critical components used in our products and services are performed by sole-sourced third-party vendors in the U.S., Canada and China.

Distribution, Marketing and Strategic Relationships

We have developed strategic relationships with well-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, through our direct product sales force, original equipment manufacturers, or OEMs, and their dealer networks. Additionally, we operate in Europe under the name HyPulsion, to develop and sell hydrogen fuel cell systems for the European material handling market.

Competition

We are confronted by competition in all areas of our business. The markets we address for motive power are characterized by the presence of well-established battery and combustion generator products. The principal competitive factors in the markets in which we operate include product features, including size and weight, relative price and performance, product quality and reliability, design innovation, marketing and distribution capability, service and support and corporate reputation.

In the material handling market, we believe our GenDrive products have an advantage over lead-acid batteries for customers who run high-throughput distribution centers and manufacturing locations with multi-shift operations by offering increased productivity with lower operational costs. However, we expect competition in this space to intensify as competitors attempt to imitate our approach with their own offerings.

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 134 issued patents currently active with the USPTO. At the close of 2017, we had four U.S. patent applications pending. Additionally, we have 20 trademarks registered with the USPTO and three trademark applications pending.

Government Regulation

Our products and their installations are subject to oversight and regulation at the state and local level in accordance with state and local 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.

In addition, product safety standards have been established by the American National Standards Institute, or 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 standards in 2017. 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”.

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 federal, state, local or foreign government entities may seek to impose regulations or competitors may seek to influence regulations through lobbying efforts.

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.

Research and Development

Because the fuel cell industry is characterized by its 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 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 $28.7 million, $21.2 million, and $14.9 million during the years ended December 31, 2017, 2016 and 2015, respectively. We also had cost of research and development contract revenue of $0.3, $0.9 million, $0.5 and million during the years ended December 31, 2017, 2016 and 2015, respectively. 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.

Employees

As of December 31, 2017, we had 644 employees, including 108 temporary employees. We consider our relationship with our employees to be positive.

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 Form 10-K.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K 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 with an internet address of www.plugpower.com as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to the Securities and Exchange Commission (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 public may read and copy any materials the Company files with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, DC 20549. The public may also obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. 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. Except as mentioned under "Quantitative and Qualitative Disclosure About Market Risk" and except for the historical information contained herein, 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."

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 were approximately $127.1 million in 2017, $57.5 million in 2016, $55.7 million in 2015, $88.5 million in 2014, and $62.7 million in 2013. As of December 31, 2017, we had an accumulated deficit of $1.2 billion. We anticipate that we will continue to incur losses until we can produce and sell our products 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 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.

In addition, the primary current value proposition for our 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. The profitability of our products depends largely on material and manufacturing costs and the market price of hydrogen. We cannot guarantee that we will be able to lower these costs to the levels to assure market acceptance in conjunction with other critical customer criteria in performance and reliability.

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

On December 31, 2017, we had cash and cash equivalents of $24.8 million, restricted cash of $43.2 million and net working capital of $3.9 million. This compares to $46.0 million, $54.6 million and $44.4 million, respectively, on December 31, 2016. Restricted cash becomes available to us as we perform in accordance with the related leasing agreements.

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 to 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 China, continued development and expansion of our products, such as Pro Gen, payment of lease obligations under sale/leaseback financings, and the repayment or refinancing of our long-term debt. Our ability to achieve profitability and 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 raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. 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.

If we cannot obtain financing to support the sale or leasing of our products and services to customers, such failure may adversely affect our sales, profitability and liquidity.

Customers representing most of our revenue lease, rather than purchase, our products. These lease arrangements require us to finance the purchase of such products, either ourselves or through third-party financing sources. For example, approximately $42.2 million of our cash is currently restricted to support such leasing arrangements, which prevents us from using such cash for other purposes. 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 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.

Our stock price and stock trading volume has been and could remain volatile.

The market price of our common stock has historically experienced and may continue to experience significant volatility. In 2017, the sales price of our common stock fluctuated from a high of $3.21 per share to a low of $0.83 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, 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. In addition, we may be subject to additional securities class action litigation as a result of volatility in the price of our common stock, 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 a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the market perception that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock.

Additionally, market conditions may result in volatility in the level of, and fluctuations in, the market prices of stocks generally and, in turn, our common stock and sales of substantial amounts of our common stock in the market, in each case being unrelated or disproportionate to changes in our operating performance.

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. For example, for the year ended December 31, 2017, 71.8% of total consolidated revenues were associated primarily with Amazon and Walmart, representing 42.4% and 29.4%, respectively. For the years ended December 31, 2016 and 2015, 34.1% and 56.7%, respectively, of total consolidated revenues were associated primarily with Walmart. 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. 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.

Our product sales and performance depends on the availability of hydrogen.

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. Although we will continue to work with hydrogen suppliers to mutually agree on terms for our customers, including, but not limited to, the competitiveness of the price of the hydrogen fuel, liquid hydrogen, hydrogen infrastructure and service costs, to the benefit of our product value proposition, ultimately we have no control over such third parties. 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.

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 adversely affect 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 are conducting 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.

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.

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 and is scheduled to expire December 31, 2022. The renewal allows for a 30% investment tax credit which begins to phase out from 2020 to 2022. 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.

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 that will improve the reliability of our products for our customers. We recorded a provision for loss contracts related to service in 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 or product performance issues. We make significant investment in the continued improvement of our products and maintains appropriate warranty reserves for known and unexpected issues; however, unknown malfunctions or design defects could result in unexpected material liabilities and could adversely affect our business, financial condition, results of operation, cash flows and prospects. In addition, a well-publicized 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 and services face intense competition.

The markets for energy products are intensely competitive. Some of our competitors in the motive power sector (predominantly incumbent technologies) 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. Technological advances in alternative energy products, battery systems or other fuel cell technologies may make our products less attractive or render them obsolete.

A material change in cost, performance, availability, or development of key suppliers' products could have a material adverse effect on our business.

We have certain key suppliers who we rely on for critical components in our products, and there are numerous other components for our products that are sole sourced. A supplier's failure to develop and supply components in a timely manner or at all, or to develop or supply components that meet our quality, quantity or cost requirements, or our inability to obtain substitute sources of these components on a timely basis or on terms acceptable to us, could harm our ability to manufacture our products. 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.

In addition, commodity prices and supply levels affect our costs. For example, platinum is a key material in our PEM fuel cells. Platinum is a scarce natural resource and we are dependent upon a sufficient supply of this commodity. Any shortages could adversely affect our ability to produce commercially viable fuel cell systems and significantly raise our cost of producing our fuel cell systems. While we do not anticipate significant near- or long-term shortages in the supply of platinum, a shortage could adversely affect our ability to produce commercially viable PEM fuel cells or raise our cost of producing such products.

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 may also need to maintain and may need to enter into additional strategic relationships in order to complete our current product development and commercialization plans. 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.

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 ninety days and twenty-four months from the date of acceptance of the order. Orders for the Company's products and services in 2017 approximated $285.0 million compared to total orders in 2016 of $280.0 million. The Company's backlog for products and services as of December 31, 2017 was in excess of $500.0 million, compared to the Company's backlog as of December 31, 2016 of approximately $380.0 million. 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. We publicly disclose anticipated, pending orders with prospective customers; however, those prospective customers may require certain conditions or contingencies to be satisfied prior to issuing a purchase order to us, some of which are outside of our control. Such conditions or contingencies that may be required to be satisfied before we receive a purchase order may include, but are not limited to, successful product demonstrations or field trials. Converting orders into revenue is also dependent upon our customers' ability to obtain financing. Some conditions or contingencies that are out of our control may include, but are not limited to, government tax policy, government funding programs, and government incentive programs. Additionally, some conditions and contingencies may extend for several years. We may have to compensate customers, by either reimbursement, forfeiting portions of associated revenue, or other methods depending on the terms of the customer contract, based on the failure on any of these conditions or contingencies. While not probable, this could have an adverse impact on our revenue and cash flow.

We are dependent on information technology in our operations and the failure of such technology may adversely affect our business.

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. Despite the implementation of network security measures, our information technology could be penetrated by outside parties (such as computer hackers or cyber terrorists) intent on extracting information, corrupting information or disrupting business processes. Such unauthorized access could disrupt our business and could result in a loss of assets or reputational damage. Additionally, any systems failures could impede our ability to timely collect and report financial results in accordance with applicable laws.

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, while we are not aware of any significant accidents involving our products, 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.

The risk of product liability claims and associated adverse publicity is inherent in the development, manufacturing, marketing and sale of fuel cell products, including 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 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.

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

From time to time, we may be subject to contract disputes or 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 if there is an unfavorable outcome. 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.

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, 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 U.S. Patent & Trademark Office 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.

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 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. 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 fluctuations in currency exchange rates. Also, to the extent our operations and assets are located in foreign countries, they are potentially subject to nationalization actions over which we will have no control.

For example, we operate in France under the name HyPulsion to develop and sell hydrogen fuel cell systems for the European material handling market. However, for the reasons discussed above, HyPulsion may not be able to accomplish its goals or become profitable.

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, we may face numerous challenges, including unexpected changes in regulatory requirements, potential conflicts or disputes that countries may have to deal with, fluctuations in currency exchange rates, longer accounts receivable requirements and collections, difficulties in managing international operations, potentially adverse tax consequences, 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 differing legal, regulatory, economic, social and political environments.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud.

Effective internal controls over financial reporting are necessary for us to provide reliable and accurate financial reports and effectively prevent fraud. We have devoted significant resources and time to comply with the internal control over financial reporting requirements of the Sarbanes-Oxley Act of 2002. In addition, Section 404 under the Sarbanes-Oxley Act of 2002 requires that we assess the design and operating effectiveness of our controls over financial reporting. We are currently required to have our auditors attest to the effectiveness of our internal control over financial reporting. Our compliance with the annual internal control report requirement will depend on the effectiveness of our financial reporting and data systems and controls. Inferior internal controls increase the possibility of errors and could cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock and our access to capital.

In addition, our internal control systems rely on people trained in the execution of the controls. Loss of these people or our inability to replace them with similarly skilled and trained individuals or new processes in a timely manner could adversely impact our internal control mechanisms.

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. 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.

Potential future acquisitions could be difficult to integrate, 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. Acquisitions, involve numerous risks, any of which could harm our business, including, difficulty in integrating the technologies, products, operations and existing contracts of a target company and realizing the anticipated benefits of the combined businesses; 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; potential disruption of our ongoing business and distraction of management; 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 we fail to properly evaluate acquisitions or investments, we may not achieve the anticipated benefits of any such acquisitions, and we may incur costs in excess of what we anticipate.

Our business may become subject to increased government regulation.

Our products are subject to certain federal, local, and non-U.S. laws and regulations, including, for example, state and local ordinances relating to building codes, public safety, electrical and gas pipeline connections, hydrogen transportation and siting and related matters. See “Business—Government Regulations” for additional information. 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.

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 make it harder for a third party to acquire us without the consent of our board of directors. These provisions include those that: authorize the issuance of up to 5,000,000 shares of preferred stock in one or more series without a stockholder vote; limit stockholders' ability to call special meetings; establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings; and provide for staggered terms for our directors. We have a shareholders rights plan that may be triggered if a person or group of affiliated or associated persons acquires beneficial ownership of 15% or more of the outstanding shares of our common stock. In addition, in certain circumstances, Delaware law also imposes restrictions on mergers and other business combinations between us and any holder of 15% or more of our outstanding common stock.

Item 1B. Unresolved Staff Comments

There are no unresolved comments regarding our periodic or current reports from the staff of the SEC that were issued 180 days or more preceding the end of our year ended December 31, 2017.

Item 2. Properties

Our principal offices are located in Latham, New York, where we lease a 140,000 square foot facility that includes our headquarter office building, our manufacturing facility, and our research and development center. In addition, we lease a 29,200 square foot facility in Spokane, Washington that includes an office building and a manufacturing facility. We also lease service centers in Dayton, Ohio and Romeoville, Illinois. See Note 17, Commitments and Contingencies of the Consolidated Financial Statements, Part II, Item 8 of this 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

An action has been brought in New York State Supreme Court by General Electric Co. (GE) and an affiliate against the Company seeking $1 million that GE claims is due under an indemnification agreement between GE and the Company. GE seeks indemnification for funds it paid to settle a claim with Soroof Trading Development Co., an entity that had paid funds to GE to become a distributor of the Company's products. The Company is vigorously defending the action.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

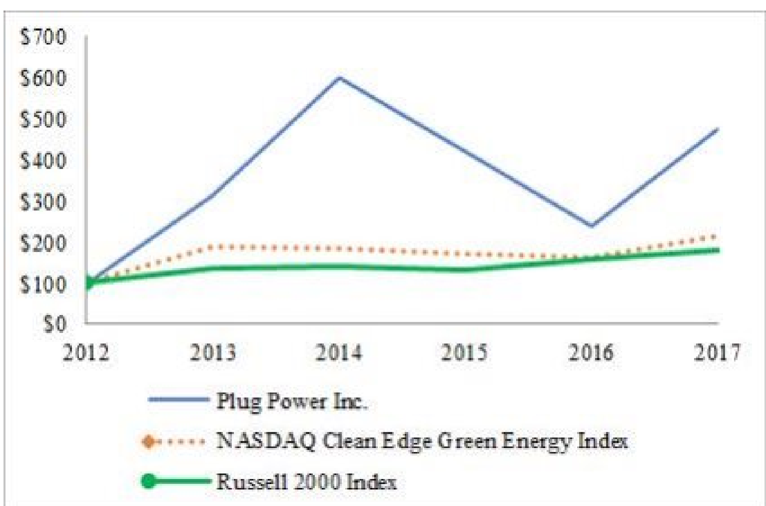
Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information. Our common stock is traded on the NASDAQ Capital Market under the symbol "PLUG." As of March 6, 2018, there were approximately 621 record holders of our common stock. However, management believes that a significant number of shares are held by brokers under a "nominee name" and that the number of beneficial shareholders of our common stock exceeds 110,180. The following table sets forth the high and low sale price per share of our common stock as reported by the NASDAQ Capital Market for the periods indicated:

	Sales prices	
	High	**Low**
2017		
1st Quarter	$ 1.52	$ 0.83
2nd Quarter	$ 2.70	$ 1.25
3rd Quarter	$ 2.82	$ 1.98
4th Quarter	$ 3.21	$ 2.17
2016		
1st Quarter	$ 2.25	$ 1.30
2nd Quarter	$ 2.28	$ 1.60
3rd Quarter	$ 1.95	$ 1.34
4th Quarter	$ 1.76	$ 1.18

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 of directors 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) and the companies included within the Russell 2000 Index (RUT) for the period commencing December 31, 2012 and ending December 31, 2017. The calculation of the cumulative total return assumes a $100 investment in the Company's common stock, the NASDAQ Clean Edge Green Energy Index (CELS) and the Russell 2000 Index (RUT) Index on December 31, 2012 and the reinvestment of all dividends, if any.



Index	2012	2013	2014	2015	2016	2017
Plug Power Inc.	$ 100.00	$ 310.00	$ 600.00	$ 422.00	$ 240.00	$ 472.00
NASDAQ Clean Edge Green Energy Index	$ 100.00	$ 188.72	$ 181.85	$ 168.56	$ 162.46	$ 212.47
Russell 2000 Index	$ 100.00	$ 137.00	$ 141.84	$ 133.74	$ 159.78	$ 180.79

See also Part III Item 12 in this Annual Report on Form 10-K for additional detail related to security ownership and related stockholder matters, and for additional detail on equity compensation plan matters.

Item 6. Selected Financial Data

The following tables set forth selected financial data and other operating information of the Company. The selected statement of operations and balance sheet data for 2017, 2016, 2015, 2014, and 2013, as set forth below are derived from the audited Consolidated Financial Statements of the Company. The information is only a summary and you should read it in conjunction with the Company's audited Consolidated Financial Statements and related notes and other financial information included herein and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Year ended December 31,				
	2017	2016	2015	2014	2013
	(in thousands, except share and per share data)				
Statements Of Operations:					
Revenue:					
Sales of fuel cell systems and related infrastructure	$ 71,288	$ 39,985	$ 78,002	$ 48,306	$ 18,446
Services performed on fuel cell systems and related infrastructure	22,774	20,456	14,012	9,909	6,659
Power Purchase Agreements	20,281	13,687	5,718	2,137	—
Fuel delivered to customers	18,302	10,916	5,075	1,959	—
Other	284	884	481	1,919	1,496
Gross revenue	132,929	85,928	103,288	64,230	26,601
Provision for common stock warrants	(29,667)	—	—	—	—
Net revenue	$ 103,262	$ 85,928	$ 103,288	$ 64,230	$ 26,601
Cost of revenue:					
Sales of fuel cell systems and related infrastructure	$ 54,815	$ 29,543	$ 67,703	$ 43,378	$ 20,414
Services performed on fuel cell systems and related infrastructure	23,574	22,649	22,937	19,256	14,929
Provision for loss contracts related to service	—	(1,071)	10,050	—	—
Power Purchase Agreements	30,641	16,132	5,253	1,052	—
Fuel delivered to customers	22,013	13,864	6,695	2,204	—
Other	308	865	540	3,202	2,506
Total cost of revenue	$ 131,351	$ 81,982	$ 113,178	$ 69,092	$ 37,849
Gross (loss) profit	$ (28,089)	$ 3,946	$ (9,890)	$ (4,862)	$ (11,248)
Research and development expense	28,693	21,177	14,948	6,469	3,121
Selling, general and administrative expenses	45,010	34,288	34,164	26,601	14,596
Other (expense) income, net	(25,288)	(6,360)	3,312	(50,881)	(34,115)
Loss before income taxes	$ (127,080)	$ (57,879)	$ (55,690)	$ (88,813)	$ (63,080)
Income tax benefit	—	392	—	325	410
Net loss attributable to the Company	$ (127,080)	$ (57,487)	$ (55,690)	$ (88,488)	$ (62,670)
Preferred stock dividends declared	(3,098)	(104)	(105)	(156)	(121)
Net loss attributable to common shareholders	$ (130,178)	$ (57,591)	$ (55,795)	$ (88,644)	$ (62,791)
Loss per share, basic and diluted	$ (0.60)	$ (0.32)	$ (0.32)	$ (0.56)	$ (0.82)
Weighted average number of common shares outstanding	216,343,985	180,619,860	176,067,231	159,228,815	76,436,408
Balance Sheet Data:					
(at end of the period)					
Unrestricted cash and cash equivalents	$ 24,828	$ 46,014	$ 63,961	$ 146,205	$ 5,027
Total assets	270,810	240,832	209,456	204,151	35,356
Noncurrent liabilities	80,734	79,637	40,861	19,008	39,983
Stockholders' equity	73,646	85,088	124,736	158,283	(17,872)
Working capital	3,886	44,448	88,524	167,039	11,110

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 Form 10-K. In evaluating these statements, you should review

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 Form 10-K.

Overview

Plug Power Inc., or the Company, is a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of hydrogen and fuel cell systems used primarily for the material handling and stationary power markets. As part of the global drive to electrification, Plug Power has recently entered new electric vehicle markets, specifically ground support equipment and electric delivery vans. These applications promote the advancement of hydrogen fueling and accelerate commercialization of hydrogen-fueled products.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies, fuel cell/battery hybrid technologies, and associated hydrogen storage and dispensing infrastructure from which multiple products are available. A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity and heat without combustion. Hydrogen is derived from hydrocarbon fuels such as liquid petroleum gas, or LPG, natural gas, propane, methanol, ethanol, gasoline or biofuels. Plug Power develops complete hydrogen generation, delivery, storage and refueling solutions for customer locations. Currently the Company obtains the majority of its hydrogen by purchasing it from fuel suppliers for resale to customers.

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 distribution and manufacturing businesses. We are focusing our efforts on industrial mobility applications (electric forklifts and electric industrial vehicles) at multi-shift high volume manufacturing and high throughput distribution sites where 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 prove valuable with telecommunications, transportation and utility customers as robust, reliable and sustainable power solutions. Plug Power provides our products worldwide through our direct product sales force, and by leveraging relationships with original equipment manufacturers, or OEMs, and their dealer networks.

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 and ground support equipment;

GenFuel: GenFuel is our hydrogen fueling delivery, generation, storage and dispensing systems;

GenCare: GenCare is our ongoing maintenance program for GenDrive fuel cells, GenSure products, GenFuel products and ProGen engines;

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors;

GenKey: GenKey is our turn-key solution combining either GenDrive or GenSure 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; and

GenFund: GenFund is a collaboration with leasing organizations to provide cost efficient and seamless financing solutions to customers.

We provide our products worldwide through our direct product sales force, and by leveraging relationships with original equipment manufacturers, or OEMs, and their dealer networks.

Results of Operations

Revenue, cost of revenue, gross (loss)/profit and gross margin for the years ended December 31, 2017, 2016, and 2015, was as follows (in thousands):

	Revenue	Cost of Revenue	Gross Profit/(Loss)	Gross Margin
For the year ended December 31, 2017:				
Sales of fuel cell systems and related infrastructure	$ 71,288	$ 54,815	$ 16,473	23.1 %
Services performed on fuel cell systems and related infrastructure	22,774	23,574	(800)	(3.5)%
Power Purchase Agreements	20,281	30,641	(10,360)	(51.1)%
Fuel delivered to customers	18,302	22,013	(3,711)	(20.3)%
Other	284	308	(24)	(8.5)%
Provision for common stock warrants	(29,667)	—	(29,667)	
Total	$ 103,262	$ 131,351	$ (28,089)	(27.2)%
For the year ended December 31, 2016:				
Sales of fuel cell systems and related infrastructure	$ 39,985	$ 29,543	$ 10,442	26.1 %
Services performed on fuel cell systems and related infrastructure	20,456	22,649	(2,193)	(10.7)%
Power Purchase Agreements	13,687	16,132	(2,445)	(17.9)%
Fuel delivered to customers	10,916	13,864	(2,948)	(27.0)%
Other	884	865	19	2.1 %
Provision for loss contracts related to service	—	(1,071)	1,071	
Total	$ 85,928	$ 81,982	$ 3,946	4.6 %
For the year ended December 31, 2015:				
Sales of fuel cell systems and related infrastructure	$ 78,002	$ 67,703	$ 10,299	13.2 %
Services performed on fuel cell systems and related infrastructure	14,012	22,937	(8,925)	(63.7)%
Power Purchase Agreements	5,718	5,253	465	8.1 %
Fuel delivered to customers	5,075	6,695	(1,620)	(31.9)%
Other	481	540	(59)	(12.3)%
Provision for loss contracts related to service	—	10,050	(10,050)	
Total	$ 103,288	$ 113,178	$ (9,890)	(9.6)%

Our primary sources of revenue are from sales of fuel cell systems and related infrastructure, services performed on fuel cell systems and related infrastructure, Power Purchase Agreements (PPAs), and fuel delivered to customers. Revenue from sales of fuel cell systems and related infrastructure represents sales of our GenDrive units, GenSure stationary backup power units, as well as 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.

Revenue – sales of fuel cell systems and related infrastructure . Revenue from sales of fuel cell systems and related infrastructure represents revenue from the sale of our fuel cells, such as GenDrive units and GenSure stationary backup power units, as well as hydrogen fueling infrastructure referred to at the site level as hydrogen installations.

Revenue from sales of fuel cell systems and related infrastructure for the year ended December 31, 2017 increased $31.3 million, or 78.3%, to $71.3 million from $40.0 million for the year ended December 31, 2016. The main driver for the increased revenue was an increase in GenDrive deployment volume and infrastructure site increases, as well as pricing mix. There were 3,293 units recognized as revenue during the year ended December 31, 2017, compared to 1,383 for the year ended December 31, 2016. An additional 1,785 units were shipped in 2017 and held as leased assets. As such, the Company will recognize revenue on these units over the life of the related PPA under "Power Purchase Agreements" in the Consolidated Statement of Operations. Ten hydrogen installations occurred during the year ended December 31, 2017, for which the Company recognized revenue. In addition, seven additional sites were constructed and held as leased assets. There were seven hydrogen installations for the year ended December 31, 2016, for which the Company recognized revenue. In addition, 11 additional sites were constructed and held as leased property during the year ended December 31, 2016.

Revenue from sales of fuel cell systems and related infrastructure for the year ended December 31, 2016 decreased $38.0 million, or 48.7%, to $40.0 million from $78.0 million for the year ended December 31, 2015. The Company recognized revenue on 1,383 GenDrive units during the year ended December 31, 2016, as compared to 3,634 during the year ended December 31, 2015. An additional 2,605 units were deployed in 2016 and held as leased property because they were associated with sale/leaseback transactions accounted for as capital leases. Due to the growing PPA installed base, the Company will generate higher levels of revenue under "Power Purchase Agreements" in future periods. GenDrive units shipped in 2016 were predominantly associated with the GenKey solution. Revenue was also recognized for hydrogen installations at seven sites in 2016, compared to 18 sites in 2015. An additional 11 sites were deployed in 2016 and held as leased property.

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. At December 31, 2017, there were 11,296 fuel cell units and 40 hydrogen installations under extended maintenance contracts, an increase from 8,950 and 8,655 fuel cell units and 30 and 23 hydrogen installations at December 31, 2016 and 2015, respectively.

Revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2017 increased $2.3 million, or 11.3%, to $22.8 million from $20.5 million for the year ended December 31, 2016. The increase in service revenues was due to the increase in units under service contracts. The revenue increase was not as significant as the increase in number of units under service contracts mainly due to deployments that occurred later in 2017 and, therefore, did not earn or only partially earned service revenue for 2017 as well as the occurrence of slightly less billable incidents and nonrecurring revenue. The average number of units under extended maintenance contracts in 2017 was 9,889, compared to 8,933 in 2016. This 10.7% increase in average units serviced throughout the year is corresponding with the increase in revenue, as compared to the prior years.

Revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2016 increased $6.4 million, or 46.0%, to $20.5 million from $14.0 million for the year ended December 31, 2015. The increase in this revenue category is primarily related to the Company's increase in sales of fuel cell systems and hydrogen installations in recent years, which has had a corresponding impact on the installed base. The average number of units under extended maintenance contracts in 2016 was 8,933, compared to 6,986 in 2015. This 27.8% increase in average units serviced throughout the year is corresponding with the increase in revenue, as compared to the prior years. The extent of the revenue increase, as compared to the unit increase, is due to improved customer pricing mix.

Revenue – Power Purchase Agreements. Revenue from PPAs represents payments received from customers for power generated through the provision of equipment and service. The equipment and service can be associated with sale/leaseback transactions in which the Company sells fuel cell systems and related infrastructure to a third-party, leases them back and operates them at customers' locations who are parties to PPAs with the Company. Alternatively, the Company can retain the equipment as leased property and provide it to customers under PPAs. At December 31, 2017, there were 33 GenKey sites associated with PPAs, as compared to 25 at December 31, 2016 and 14 at December 31, 2015.

Revenue from Power Purchase Agreements for the year ended December 31, 2017 increased $6.6 million, or 48.2%, to $20.3 million from $13.7 million for the year ended December 31, 2016. The increase is due to the increased number of sites the Company has deployed with these types of arrangements. The average number of sites under PPA arrangements was 30 in 2017, as compared to 21 in 2016.

Revenue from Power Purchase Agreements for the year ended December 31, 2016 increased $8.0 million or 139.4%, to $13.7 million from $5.7 million for the year ended December 31, 2015. The increase is due to the increased numbers of sites the Company has deployed with these types of arrangements. The average number of sites under PPA arrangements was 21 in 2016, as compared to 10 in 2015.

Revenue – 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. As part of the GenKey solution, the Company contracts with fuel suppliers to purchase liquid hydrogen, which is then sold to its customers. At December 31, 2017, there were 58 sites associated with fuel contracts, as compared to 40 at December 31, 2016 and 22 at December

31, 2015. The sites generally are the same as those which had purchased hydrogen installations within the GenKey solution.

Revenue associated with fuel delivered to customers for the year ended December 31, 2017 increased $7.4 million, or 67.7%, to $18.3 million from $10.9 million for the year ended December 31, 2016. The increase in revenue is due to an increase of sites taking fuel deliveries in 2017, compared to 2016. The average number of sites receiving fuel deliveries was 50 in 2017, as compared to 33 in 2016.

Revenue associated with fuel delivered to customers for the year ended December 31, 2016 increased $5.8 million, or 115.1%, to $10.9 million from $5.1 million for the year ended December 31, 2015. The increase in revenue is due to an increase of 18 additional sites taking fuel deliveries in 2016, compared to 2015. The average number of sites receiving fuel deliveries was 33 in 2016, as compared to 14 in 2015.

Revenue – other . Other revenue primarily represents cost reimbursement research and development contracts associated with the development of PEM fuel cell technology. We generally share in the cost of these programs with our cost-sharing percentages ranging from 30% to 50% of total project costs. Revenue from time and material contracts is recognized on the basis of hours expended plus other reimbursable contract costs incurred during the period. We expect to continue certain research and development contract work that is related to our current product development efforts. Other miscellaneous revenue is recognized from time to time.

Other revenue for the year ended December 31, 2017 decreased $0.6 million, or 67.9%, to $0.3 million from $0.9 million for the year ended December 31, 2016. During the year ended December 31, 2017, the Company's other revenue was associated with a research & development project with the European Union. The Company had no revenue associated with a customer stack development program, which resulted in $0.4 million of revenue for the year ended December 31, 2016.

Other revenue for the year ended December 31, 2016 increased $0.4 million, or 83.8%, to $0.9 million from $0.5 million for the year ended December 31, 2015. During 2016, the Company recorded $0.4 million in technology access fees from a customer related to stacks being developed internally as compared to $0.1 million for the year ended December 31, 2015. The Company has also been working on a U.S. government-related research and development project as it did in prior years, and had research & development activities related to a European Union related contract.

Revenue – provision for common stock warrants. In 2017, in separate transactions, the Company issued to each of Amazon.com, Inc. ("Amazon") and Wal-Mart Stores, Inc. ("Walmart") warrants to purchase shares of the Company's common stock. The Company records a portion of the estimated fair value of the warrants as a reduction of revenue based upon the projected number of shares of common stock expected to vest under the warrants, the proportion of purchases by Amazon, Walmart and their affiliates within the period relative to the aggregate purchase levels required for vesting of the respective warrants, and the then-current fair value of the warrants. The amount of provision for common stock warrants recorded as a reduction of revenue during the year ended December 31, 2017 was $17.3 million for Amazon and $12.4 million for Walmart.

Cost of revenue – sales of fuel cell systems and related infrastructure . Cost of revenue from sales of fuel cell systems and related infrastructure includes direct materials, labor costs, and allocated overhead costs related to the manufacture of our fuel cells such as GenDrive units and GenSure stationary backup power units, as well as hydrogen fueling infrastructure referred to at the site level as hydrogen installations.

Cost of revenue from sales of fuel cell systems and related infrastructure for the year ended December 31, 2017 increased 85.5%, or $25.3 million, compared to the year ended December 31, 2016, driven by the previously stated greater number of units recognized as revenue. Gross margin generated from sales of fuel cell systems and related infrastructure was 23.1% for the year ended December 31, 2017, down from 26.1% for the year ended December 31, 2016, due to product and site mix changes as well as expediting costs associated with a significant ramp up of production volume related to acquiring a large customer account that required higher deployments during the year ended December 31, 2017 compared to the same period in 2016.

Cost of revenue from sales of fuel cell systems and related infrastructure for the year ended December 31, 2016 decreased $38.2 million, or (56.4%), to $29.5 million from $67.7 million for the year ended December 31, 2015. Gross margin generated from sales of fuel cell systems and related infrastructure was 26.1% in 2016 and 13.2% in 2015. Costs per unit have increased due to product mix, however revenue and gross margin have benefited from the more favorable pricing mix.

Cost of revenue – services performed on fuel cell systems and related infrastructure . Cost of revenue from services performed on fuel cell systems and related infrastructure includes the labor, material costs and allocated overhead costs incurred for our product service and hydrogen site maintenance contracts and spare parts. At December 31, 2017, there were 11,296 fuel cell units and 40 hydrogen installations under extended maintenance contracts, compared to 8,950 and 30 at December 31, 2016 and 8,655 and 23 at December 2015, respectively.

Cost of revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2017 increased 4.1%, or $0.9 million, to $23.6 million, compared to the year ended December 31, 2016 of $22.6 million. Gross margin improved to (3.5%) for the year ended December 31, 2017 from (10.7%) for the year ended December 31, 2016. The change versus the prior year is due to a reduction in costs resulting from changes in product configuration rolled out to new key accounts and leverage of the existing fixed costs in the field.

Cost of revenue from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2016 decreased $0.3 million, or (1.3%), to $22.6 million from $22.9 million for the year ended December 31, 2015. The decrease in the cost is attributed to increasing reliability of new units and replacement parts in the field offset by a growing installed base of GenDrive units and serviceable infrastructure sites. Gross margin improved to (10.7%) in 2016 from (63.7%) in 2015 to also due better reliability of new units and replacement parts. Not impacting gross margin is approximately $8.2 million of parts, labor and overhead costs that was absorbed by the accrual for loss contracts related to service.

Cost of revenue—provision for loss contracts related to service . During 2015, the Company recognized a $10.1 million provision for loss contracts related to service. This provision represented extended maintenance contracts that had projected costs over the remaining life of the contracts that exceeded contractual revenues. During the year ended December 31, 2016, the Company renegotiated one of its service contracts and replaced 96 of the older fuel cell systems in service at that particular customer. As a result, the projected costs over the remaining life of the amended contract were estimated to be reduced as compared to the previous estimate, resulting in a lower necessary accrual. The change in estimate was recorded as a gain within cost of revenue where the original charge was recorded.

Cost of revenue – Power Purchase Agreements . Cost of revenue from PPAs includes payments made to financial institutions for leased equipment and service used to fulfill the PPAs, and depreciation of leased property. Leased units are primarily associated with sale/leaseback transactions in which the Company sells fuel cell systems and related infrastructure to a third-party, leases them back, and operates them at customers' locations who are parties to PPAs with the Company. Alternatively, the Company can hold the equipment for investment and recognize the depreciation and service cost of the assets as cost of revenue from PPAs. At December 31, 2017, there were 33 GenKey sites associated with PPAs, as compared to 25 at December 31, 2016 and 14 at December 31, 2015.

Cost of revenue from Power Purchase Agreements for the year ended December 31, 2017 increased $14.5 million, or 90.0%, to $30.6 million from $16.1 million for the year ended December 31, 2016. The increase was a result of the increase in the number of customer sites party to these agreements. Gross margin declined to (51.1%) for the year ended December 31, 2017 from (17.9%) for the year ended December 31, 2016, due primarily to an increase in the number of sites accounted for as capital leases (which include depreciation of capitalized leased asset costs and maintenance costs), compared to operating leases.

Cost of revenue from Power Purchase Agreements for the year ended December 31, 2016 increased $10.9 million, or 207.1%, to $16.1 million from $5.3 million for the year ended December 31, 2015. The increase was a result of the increase in the number of customer sites covered by these agreements. Gross margin declined to (17.9) % in 2016 from 8.1% in 2015, due primarily to changes in financing pricing, depreciation of capitalized leased asset costs related to sites constructed in 2016 associated with capital leases, as well as costs to maintain them.

Cost of revenue – fuel delivered to customers . Cost of revenue from fuel delivered to customers represents the purchase of hydrogen from suppliers that ultimately is sold to customers. As part of the GenKey solution, the Company contracts with fuel suppliers to purchase liquid hydrogen and separately sells to its customers upon delivery. At December 31, 2017, there were 58 sites associated with fuel contracts, as compared to 40 at December 31, 2016 and 22 at December 31, 2015. The sites generally are the same as those which had purchased hydrogen installations within the GenKey solution.

Cost of revenue from fuel delivered to customers for the year ended December 31, 2017 increased $8.1 million, or 58.8%, to $22.0 million from $13.9 million for the year ended December 31, 2016. The increase is 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. Gross margin percent improved to (20.3%) during the year ended December 31, 2017 compared to (27.0%) during the year ended December 31, 2016 due to improvements in efficiencies from changes in system design.

Cost of revenue from fuel delivered to customers for the year ended December 31, 2016 increased $7.2 million, or 107.1%, to $13.9 million from $6.7 million for the year ended December 31, 2015. The increase is due to higher cost of fuel per kilogram in 2016, as compared to 2015, and a greater volume delivered to customer sites, as a result of an increase in the number of hydrogen installations completed under GenKey agreements. Gross margin improved to (27.0%) in 2016 from (31.9%) in 2015, due primarily to a settlement of a claim with a gas supplier, and improved efficiencies in fuel usage.

Cost of revenue – other . Other cost of revenue primarily represents costs associated with research and development contracts including: cash and non-cash compensation and benefits for engineering and related support staff, fees paid to outside suppliers for subcontracted components and services, fees paid to consultants for services provided, materials and supplies used and other directly allocable general overhead costs allocated to specific research and development contracts.

Cost of other revenue for the year ended December 31, 2017 decreased $0.6 million, or 64.4%, to $0.3 million from $0.9 million for the year ended December 31, 2016. The Company had no costs associated with a customer stack development program as it did in the year ended December 31, 2016. The entire cost of other revenue in the period is related to the research & development project with the European Union.

Cost of other revenue for the year ended December 31, 2016 increased $0.3 million, or 60.2%, to $0.9 million from $0.5 million for the year ended December 31, 2015. The Company has been working on a U.S. government-related research and development project, as it did in prior years, and had research & development activities in a European Union related contract.

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, 2017 increased $7.5 million, or 35.5% to $28.7 million, from $21.2 million for the year ended December 31, 2016. This increase was primarily related to an increase in development of ProGen, and personnel related expenses from higher headcount, focused on refinement of hydrogen infrastructure design, multiple product cost-down programs and prototyping for stack performance enhancement.

Research and development expense for the year ended December 31, 2016 increased $6.2 million, or 41.7%, to $21.2 million from $14.9 million for the year ended December 31, 2015. This increase was primarily related to an increase in personnel related expenses from higher headcount, focused on refinement of hydrogen infrastructure design, multiple product cost-down programs and prototyping for stack performance enhancement. Additional increases are due to higher levels of fuel and materials consumed on hydrogen infrastructure development.

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, 2017, increased $10.7 million, or 31.3%, to $45.0 million from $34.3 million for the year ended December 31, 2016. This increase primarily is due to the aforementioned provision for the common stock warrants issued to Amazon.com NV Investment Holdings LLC, costs associated with increased headcount and increased insurance costs.

On April 4, 2017, the Company issued to Amazon.com NV Investment Holdings LLC a warrant to acquire up to 55,286,696 shares of common stock, subject to certain vesting events. The first tranche of 5,819,652 warrant shares vested upon the issuance of the warrant and was not contingent on future sales, and as a result, $7.1 million, the fair value of the first tranche warrant shares, including legal and other fees associated with the negotiation and completion of the agreement, was recognized as selling, general and administrative expense on the accompanying consolidated statement of operations for the year ended December 31, 2017.

Selling, general and administrative expenses for the year ended December 31, 2016, was $34.3 million, consistent with $34.2 million for the year ended December 31, 2015. There was a $1.4 million increase in stock-based compensation expense, impacted by the increases in the fair value of stock options granted in recent years and rising headcount, offset by approximately a $2.4 million decrease in performance-based bonuses.

Interest and other expense (income), net . Interest and other expense, net consists of interest and other expenses related to interest on our short-term borrowing, long-term debt, obligations under capital lease and our finance obligations, as well as foreign currency exchange gain (loss), offset by interest and other income consisting primarily of interest earned on our cash and cash equivalents, note receivable, and other income. During 2016 and 2017, the Company entered into a series of capital leases with Generate Lending LLC and Wells Fargo. In December 2016, the Company entered into a loan and security agreement with NY Green Bank, which was amended in 2017.

Net interest and other expense for the year ended December 31, 2017, decreased $0.6 million as compared to the year ended December 31, 2016. The decrease is attributed to a reduction of one-time fees incurred in 2016, offset by increases in the outstanding finance obligation balance.

Net interest and other expense, net for the year ended December 31, 2016, increased $10.4 million as compared to the year ended December 31, 2015. The increase is primarily attributed to $5.0 million in accelerated interest, early termination fees, and accelerated amortization of debt issuance costs related to the Hercules Capital, Inc. loan and security agreement, $3.6 million of interest on the Hercules Capital, Inc. loan and security agreement, and $2.1 million of interest expense related to the Generate Lending LLC loan agreement, offset by interest and other income which remained relatively insignificant for the year ended December 31, 2016, as compared to December 31, 2015.

Change in fair value of common stock warrant liability . The Company accounts for liability classified common stock warrants within the common stock warrant liability with changes in the fair value reflected in the consolidated statement of operations as change in the fair value of common stock warrant liability.

The change in fair value of common stock warrant liability for the year ended December 31, 2017 resulted in an increase (loss) in the associated warrant liability of $15.2 million, as compared to a decrease (gain) in the associated warrant liability of $4.3 million for year ended December 31, 2016, and a decrease (gain) of $3.7 million for the year ended December 31, 2015. These variances from year to year are primarily due to changes in the number of warrants outstanding, the average term, the Company's common stock share price, and changes in volatility of our common stock, which are significant inputs to the Black-Scholes valuation model.

Income taxes . The deferred tax asset generated from our net operating loss has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the net operating loss carry forward will not be realized. The Company also recognizes accrued interest and penalties related to unrecognized tax benefits as a component of income tax expense.

During the year ended December 31, 2016, the Company released its liability for unrecognized tax benefits of $392 thousand, as the related statute of limitations expired. No other tax expense or benefit was recognized in the years ended December 31, 2017, 2016 or 2015.

Liquidity and Capital Resources

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 to 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 development and expansion of our products, payment of lease obligations under sale/leaseback financings, and the repayment or refinancing of our long-term debt. Our ability to achieve profitability and 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 ability of our customers to obtain financing to support commercial transactions; our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers and 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 production 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 have experienced and continue to experience negative cash flows from operations and net losses. The Company incurred net losses attributable to common shareholders of $130.2 million, $57.6 million and $55.8 million for the years ended December 31, 2017, 2016, and 2015, respectively, and has an accumulated deficit of $1.2 billion at December 31, 2017.

During the year ended December 31, 2017, cash used in operating activities was $60.2 million, consisting primarily of a net loss attributable to the Company of $127.1 million, offset by the impact of noncash charges of $71.3 million and net outflows from fluctuations in working capital and other assets and liabilities of $4.4 million. The changes in working capital primarily were related to building of inventory and an increase in accounts receivable and prepaid expenses offset by an increase of accounts payable and deferred revenue. As of December 31, 2017, we had cash and cash equivalents of $24.8 million and net working capital of $3.9 million. By comparison, at December 31, 2016, we had cash and cash equivalents of $46.0 million and net working capital of $44.4 million.

Net cash used in investing activities for the year ended December 31, 2017, totaled $44.4 million and included purchases of property, plant and equipment and outflows associated with materials, labor, and overhead necessary to construct new leased property. Cash outflows related to equipment that we sell and equipment we lease directly to customers are included in net cash used in operating activities and net cash used in investing activities, respectively. Net cash provided by financing activities for the year ended December 31, 2017 totaled $83.0 million and primarily resulted from net proceeds of $23.0 million pursuant to public offerings of common stock, net proceeds from borrowing of long-term debt of $20.1 million, net proceeds of $17.6 million pursuant to exercise of warrants, an increase in finance obligations of $26.7 million and a decrease in restricted cash of $11.4 million, offset by redemption of Series D preferred stock of $3.7 million and principal payments of long-term debt of $12.3 million.

In previous years, the Company entered into sale/leaseback agreements with various financial institutions to facilitate the Company's commercial transactions with key customers. The Company sold certain fuel cell systems and hydrogen infrastructure to the financial institutions, and leased the equipment back to support certain customer locations and to fulfill its varied PPAs. In connection with these operating leases, the financial institutions require the Company to maintain cash balances in restricted accounts securing the Company's lease obligations. Cash received from customers under the PPAs is used to make lease payments. As the Company performs under these agreements, the required restricted cash balances are released, according to a set schedule. The total remaining lease payments to financial institutions under these agreements was $33.4 million, which has been fully secured with restricted cash and pledged service escrows.

In connection with the consummation of the Walmart Transaction Agreement described below, the Company entered into a master lease agreement with Wells Fargo (Wells Fargo MLA) to finance the Company's commercial transactions with Walmart Stores Inc. (Walmart). Pursuant to the Wells Fargo MLA, the Company sells fuel cell systems and hydrogen infrastructure to Wells Fargo and then leases them back and operates them at Walmart sites under lease arrangements with Walmart. The total remaining lease payments to Wells Fargo was $26.3 million at December 31, 2017. During 2017, the Company also entered into an amended and restated master lease agreement with Generate Capital (Generate Capital MLA) to finance the Company's commercial transactions with Walmart. The total remaining lease payments to Generate Capital was $45.5 million at December 31, 2017. The Wells Fargo MLA and the Generate Capital MLA do not require the Company to maintain any restricted cash.

We have historically funded our operations primarily through public and private offerings of common and preferred stock, as well as short-term borrowings and long-term debt and project financing, as described below. The Company believes that its current working capital and cash anticipated to be generated from future operations, as well as borrowings from lending and project financing sources and proceeds from equity offerings, will provide sufficient liquidity to fund operations for at least one year after the date that the financial statements are issued. There is no guarantee that future funding will be available if and when required or at terms acceptable to the Company. This projection is based on our current expectations regarding new project financing and product sales and service, cost structure, cash burn rate and other operating assumptions. Additionally, the Company has other capital sources available, including the At Market Issuance Sales Agreement.

Several key indicators of liquidity are summarized in the following table (in thousands):

	2017	2016	2015
Cash and cash equivalents at end of period	$ 24,828	$ 46,014	$ 63,961
Restricted cash at end of period	43,227	54,622	47,835
Working capital at end of period	3,886	44,448	88,524
Net loss attributable to common shareholders	130,178	57,591	55,795
Net cash used in operating activities	60,182	29,636	47,274
Purchases of property, plant and equipment and leased property	44,363	58,075	3,520
Net cash provided by (used in) financing activities	83,011	69,885	(32,923)

Amazon.com, Inc., Transaction Agreement

On April 4, 2017, the Company and Amazon.com, Inc. (Amazon) entered a Transaction Agreement (Amazon Transaction Agreement), pursuant to which the Company issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (Amazon Warrant) to acquire up to 55,286,696 shares of the Company's common stock (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 is linked to payments made by Amazon or its affiliates (directly or indirectly through third parties) pursuant to the existing commercial agreements.

The majority of the Amazon Warrant Shares will 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 first tranche of 5,819,652 Amazon Warrant Shares vested upon the execution of the Amazon Transaction Agreement. Accordingly, $6.7 million (the fair value of the first tranche of Amazon Warrant Shares) was recognized as selling, general and administrative expense on the accompanying consolidated statement of operations for the year ended December 31, 2017. The second tranche of 29,098,260 Amazon Warrant Shares will vest in four installments of 7,274,565 Amazon Warrant Shares each time Amazon 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. During the year ended December 31, 2017, the first installment of the second tranche vested. The exercise price for the first and second tranches of Amazon Warrant Shares is $1.1893 per share. After Amazon has made payments to the Company totaling $200.0 million, the third tranche of 20,368,784 Amazon Warrant Shares will vest in eight installments of 2,546,098 Amazon Warrant Shares each time Amazon 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 Amazon 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 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 holders, 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 Amazon Warrant Shares issuable upon exercise due to customary anti-dilution provisions based on future events. The Amazon Warrant is classified as an equity instrument.

Because the Amazon Warrant contains performance criteria (i.e. aggregate purchase levels), which Amazon must achieve for the Amazon Warrant Shares to vest, as detailed above, the final measurement date for the Amazon Warrant

Shares is the date on which the Amazon Warrant Shares have vested. Prior to the final measurement, when achievement of the performance criteria has been deemed probable, the estimated fair value of the Amazon Warrant Shares is being recorded as a reduction to revenue and an addition to additional paid-in capital based on the projected number of Amazon Warrant Shares expected to vest, the proportion of purchases by Amazon and its affiliates within the period relative to the aggregate purchase levels required for the Amazon Warrant Shares to vest and the then-current fair value of the related Amazon Warrant Shares. To the extent that projections change in the future as to the number of Amazon Warrant Shares that will vest, as well as changes in the fair value of the Amazon Warrant Shares, a cumulative catch-up adjustment will be recorded in the period in which the estimates change.

At December 31, 2017, 13,094,217 of the Amazon Warrant Shares had vested. The amount of selling, general and administrative expense attributed to this first tranche recorded in April 2017, was $7.1 million, including legal and other fees associated with the negotiation and completion of the agreement. The amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the year ended December 31, 2017 was $17.3 million.

Wal-Mart Stores Inc., Transaction Agreement

On July 20, 2017, the Company and Walmart entered into a Transaction Agreement (Walmart Transaction Agreement), pursuant to which the Company issued to Walmart a warrant (Walmart Warrant) to acquire up to 55,286,696 shares of the Company’s common stock (Walmart Warrant Shares), subject to certain vesting events. 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, is linked to 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 Transaction Agreement. 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 accompanying consolidated statement of operations for the year ended December 31, 2017. The second tranche of 29,098,260 Walmart Warrant Shares will vest 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.

Because the Walmart Warrant contains performance criteria (i.e. aggregate purchase levels), which Walmart must achieve for the Walmart Warrant Shares to vest, as detailed above, the final measurement date for the Walmart Warrant is the date on which the Walmart Warrant Shares have vested. Prior to the final measurement, when achievement of the performance criteria has been deemed probable, the estimated fair value of the Walmart Warrant is being recorded as a reduction to revenue and an addition to additional paid-in capital based on the projected number of Walmart Warrant Shares expected to vest, the proportion of purchases by Walmart and its affiliates within the period relative to the aggregate purchase levels required for the Walmart Warrant Shares to vest and the then-current fair value of the related Walmart

Warrant Shares. To the extent that projections change in the future as to the number of Walmart Warrant Shares that will vest, as well as changes in the fair value of the Walmart Warrant Shares, a cumulative catch-up adjustment will be recorded in the period in which the estimates change.

At December 31, 2017, 5,819,652 of the Walmart Warrant Shares had vested. The amount of provision for common stock warrants recorded as a reduction to revenue for the Walmart Warrant during the year ended December 31, 2017 was $12.4 million.

NY Green Bank Loan

On December 23, 2016, the Company, and its subsidiaries Emerging Power Inc. and Emergent Power Inc. entered into a loan and security agreement with NY Green Bank, a Division of the New York State Energy Research & Development Authority (NY Green Bank), pursuant to which NY Green Bank made available to the Company a secured term loan facility in the amount of $25.0 million, subject to certain terms and conditions. The Company borrowed $25.0 million upon closing and incurred costs of $1.2 million. On July 21, 2017, the Company and NY Green Bank entered into an amendment to the loan and security agreement (as amended, Term Loan Facility), which among other things, provided for an additional $20.0 million term loan, increasing the size of the total commitment to $45.0 million, amended the interest rate, prepayment penalty (for any prepayment in the calendar year 2017 or 2018, a prepayment charge equal to 7.5% of the advance amount being prepaid will apply) and product deployment and employment targets. As with the prior facility, the new facility will be repaid primarily as the Company's various restricted cash reserves are released over the term of the facility. During the year ended December 31, 2017, the Company borrowed the additional $20.0 million under the facility and incurred closing costs of $0.5 million. At December 31, 2017, the outstanding principal balance under the Term Loan Facility was $32.8 million. The fair value of the Term Loan Facility approximates the carrying value as of December 31, 2017, due to the variable interest rate of the Term Loan Facility.

Advances under the Term Loan Facility bear interest at a rate equal to the sum of (i) the LIBOR rate for the applicable interest period, plus applicable margin of 9.5%. The interest rate at December 31, 2017 was approximately 10.8%. The Term Loan Facility has a maturity date of December 23, 2019. As of December 31, 2017, estimated remaining principal payments will be approximately $19.1 million and $13.7 million during the years ending December 31, 2018, and 2019, respectively. These payments will be funded by restricted cash released, as described in Note 19, Commitments and Contingencies.

Interest and a varying portion of the principal amount is payable on a quarterly basis and the entire then outstanding principal balance of the Term Loan Facility, together with all accrued and unpaid interest, is due and payable on the maturity date. On the maturity date, the Company may also be required to pay additional fees of up to $1.8 million if the Company is unable to meet certain goals related to the deployment of fuel cell systems in the State of New York and increasing the Company's number of full-time employees in the State of New York.

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 Term Loan Facility contains covenants, including, among others, (i) the provision of annual and quarterly financial statements, management rights and insurance policies and (ii) restrictions on incurring debt, granting liens, making acquisitions, making loans, paying dividends, dissolving, and entering into leases and asset sales. The Term Loan Facility also provides for events of default, including, among others, payment, bankruptcy, covenant, representation and warranty, change of control, judgment and material adverse effect defaults at the discretion of the lender.

The Term Loan Facility 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 the NY Green Bank has the right to cause a wholly owned subsidiary of the Company to replace the Company in performing the maintenance services under such customer agreement.

Redeemable Convertible Preferred Stock

In December 2016, the Company completed an offering of an aggregate of 18,500 shares of the Company's Series D Redeemable Preferred Stock, par value $0.01 per share (the "Series D Preferred Stock") and warrants to purchase 7,381,500 shares of the Company's common stock, par value $0.01 per share (the "Common Stock"), resulting in aggregate proceeds of approximately $15.6 million. During the year ended December 31, 2017, the Company redeemed 3,700 shares of the Series D Preferred Stock, at an aggregate redemption price of approximately $3.7 million. On April 5, 2017, all of the remaining outstanding shares of the Series D Preferred Stock were converted into an aggregate of 9,548,393 shares of the Company's common stock at a conversion price of $1.55. The conversion was done at the election of the holder in accordance with the terms of the Series D Preferred Stock. After the conversion, no shares of Series D Preferred Stock remain outstanding. In December 2017, the Series D Preferred Stock was deauthorized by the Board of Directors.

During 2017, 2,611 shares of the Company's Series C Redeemable Preferred Stock, par value $0.01 per share (the "Series C Preferred Stock") were converted to common stock. At December 31, 2017, there were outstanding 2,620 shares of Series C Preferred Stock.

Income Taxes

Under Internal Revenue Code (IRC) Section 382, 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 shareholders a change of ownership has occurred under the provisions of IRC Section 382, the Company's federal and state net operating loss carryforwards could be subject to significant IRC Section 382 limitations.

Based on studies of the changes in ownership of the Company, it has been determined that an IRC Section 382 ownership change occurred in 2013 that limited the amount of pre-change net operating losses that can be used in future years to $13.5 million. Net operating losses of $152.4 million incurred after the most recent ownership change are not subject to IRC Section 382 and are available for use in future years. Accordingly, the Company's deferred tax assets include $165.9 million of U.S. net operating loss carryforwards. The net operating loss carryforwards available at December 31, 2017, if unused will expire at various dates from 2032 through 2037.

Approximately $1.4 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, 2017. The remaining credit carryforwards will expire during the periods 2033 through 2037.

The Tax Cuts and Jobs Act (the "Act") was enacted on December 22, 2017. The Act makes broad and complex changes to the U.S. tax code including a reduction of the U.S. federal corporate tax rate from 35 percent to 21 percent effective for the 2018 tax year. Accordingly, federal deferred tax assets were adjusted by $42.5 million to reflect the reduction in tax rates and the valuation allowance was also reduced by $42.5 million resulting in no change to the net deferred tax asset. The deferred tax asset adjustments reduced the tax benefit of the current year losses by 33.5% as shown in the effective tax rate schedule. The valuation allowance rate impact includes an offsetting 33.5% for the tax rate reduction resulting in no change to the provision for income taxes.

The Act also requires companies to pay a one-time transition tax on certain unrepatriated foreign earnings and profits from foreign subsidiaries. No transition tax applies as the Company's foreign subsidiaries have no earnings and profits.

Contractual Obligations

Contractual obligations as of December 31, 2017, under agreements with non-cancelable terms are as follows (in thousands):

	Total	<1 year	1 - 3 Years	3 - 5 Years	> 5 Years
Operating lease obligations(A)	$ 44,391	$ 13,082	$ 22,746	$ 7,600	$ 963
Purchase obligations(B)	3,036	3,012	16	8	—
Finance obligations(C)	71,575	34,506	13,950	10,788	12,331
Long-term debt(D)	32,133	18,762	13,371	—	—
	$ 151,135	$ 69,362	$ 50,083	$ 18,396	$ 13,294

(A) The Company has several non-cancelable operating leases that generally expire over the next six years, primarily associated with sale/leaseback transactions and are secured with restricted cash. In addition, under a limited number of arrangements, the Company provides its products and services to customers in the form of a PPA that generally have six year terms. The Company accounts for these non-cancelable sale/leaseback transactions as operating leases in accordance with Accounting Standards Codification (ASC) Subtopic 840-40, *Leases—Sale/Leaseback Transactions.* See Note 19, Commitments and Contingencies, of the Consolidated Financial Statements for more detail.

(B) The Company has purchase obligations related to inventory build to meet its sales plan, stack and stack components for new units and servicing existing ones, and the maintenance of its building and storage of documents.

(C) During the year ended December 31, 2015, the Company received cash for future services to be performed associated with certain sale/leaseback transactions, which was treated as a finance obligation. In addition, the Company has a finance obligation related to a sale/leaseback transaction involving its building. These obligations are secured with restricted cash. During the years ended December 31, 2017 and 2016, the Company entered into a series of project financings, which are accounted for as capital leases and reported as part of the finance obligations on the Company's consolidated balance sheet.

(D) During the year ended December 31, 2016 (and amended during the year ended December 31, 2017), the Company entered into a long-term debt agreement with NY Green Bank. Principal and interest payments will be made using the proceeds from the release of restricted cash.

Critical Accounting Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles and related disclosures requires management to make estimates and assumptions.

We believe that the following are our most critical accounting estimates and assumptions the Company must make in the preparation of its Consolidated Financial Statements and related disclosures:

Revenue Recognition : The Company recognizes revenue under arrangements for products and services, which may include the sale of products and related services, including revenue from installation, service and maintenance, spare parts, hydrogen fueling services (which may include hydrogen supply as well as hydrogen fueling infrastructure) and leased units. The Company also recognizes revenue under research and development contracts, which are primarily cost reimbursement contracts associated with the development of PEM fuel cell technology.

The Company enters into revenue arrangements that may contain a combination of fuel cell systems and infrastructure, installation, service, maintenance, spare parts, and other support services. Revenue arrangements containing fuel cell systems and related infrastructure may be sold, or provided to customers under a PPA.

When sold to customers, the Company accounts for each separate deliverable of these multiple deliverable arrangements as a separate unit of accounting if the delivered item or items have value to the customer on a standalone basis. The Company considers a deliverable to have standalone value if the item is sold separately by us or another entity or if the item could be resold by the customer. The Company allocates revenue to each separate deliverable based on its relative selling price. For a majority of our deliverables, the Company determines relative selling prices using its best estimate of the selling price since vendor-specific objective evidence and third-party evidence is generally not available for the deliverables involved in its revenue arrangements due to a lack of a competitive environment in selling fuel cell technology. When determining estimated selling prices, the Company considers the Company's ongoing pricing strategy and policies, the cost to produce the deliverable, a reasonable gross margin on that deliverable, the selling price and profit margin for similar products and services, the value of any enhancements that have been built into the deliverable and the characteristics of the varying markets in which the deliverable is sold, as applicable. The Company determines estimated selling prices for deliverables in its arrangements based on the specific facts and circumstances of each arrangement and analyzes the estimated selling prices used for its allocation of consideration of each arrangement.

Once relative selling prices are determined, the Company proportionately allocates the sale consideration to each element of the arrangement. The allocated sales consideration related to fuel cell systems and infrastructure, spare parts, and hydrogen infrastructure is recognized as revenue at shipment if title and risk of loss have passed to the customer, there is persuasive evidence of an arrangement, the sales price is fixed or determinable, collection of the related receivable is reasonably assured, and customer acceptance criteria, if any, have been successfully demonstrated. The allocated sales consideration related to service and maintenance is generally recognized as revenue on a straight-line basis over the term of the contract, as appropriate.

For those customers who do not purchase an extended maintenance contract, 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. Only a limited number of fuel cell units are under standard warranty.

In a vast majority of its commercial transactions, the Company sells extended maintenance contracts that generally provide for a five to ten year warranty from the date of product installation. These types of contracts are accounted for as a separate deliverable, and accordingly, revenue generated from these transactions is deferred and recognized in income over the warranty period, 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 in income 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 on the life of the contract, an accrual for loss contracts is recorded. Costs are estimated based upon historical experience, contractual agreements and the estimated impact of the Company's cost reduction initiatives. The actual results may differ from these estimates.

When fuel cell systems and related infrastructure are provided to customers through a Power Purchase Agreement, or PPA, revenues associated with these agreements are treated as rental income and recognized on a straight-line basis over the life of the agreements. In conjunction with entering into a PPA with a customer, the Company may enter into sale/leaseback transactions with third-party financial institutions, whereby the fuel cells, related infrastructure, and service are sold to the third-party financial institution and leased back to the Company through either an operating or capital lease.

The Company purchases hydrogen fuel from suppliers and sells to its customers upon delivery. Revenue and cost of revenue related to this fuel is recorded as dispensed, and included in the respective "Fuel delivered to customers" lines on the accompanying consolidated statements of operations.

One of the critical estimates that management makes is the projection of service costs related to GenDrive units under extended maintenance contracts. This estimate is important in management's determination of whether a loss contract exists, as well as the amount of any loss. When projected costs to be incurred over the remaining life of the extended maintenance contracts is estimated to exceed contractual revenues, a provision for loss contracts related to service is recorded. An analysis of projected expenses and revenues is performed on each extended maintenance contract. Cost of expected maintenance contracts consist of replacement parts, labor and overhead. A variety of assumptions are included in the estimates of future service costs, including the life of parts, failure rates of parts, and future costs of parts.

Contract accounting is used for research and development contract revenue. The Company generally shares in the cost of these programs with cost sharing percentages ranging from 30% to 50% of total project costs. Revenue from time and material contracts is recognized on the basis of hours expended plus other reimbursable contract costs incurred during the period and is included within the "other" revenue line on the consolidated statement of operations. All allowable work performed through the end of each calendar quarter is billed, subject to limitations in the respective contracts. We expect to continue research and development contract work that is directly related to our current product development efforts.

Valuation of long-lived assets : We assess the potential impairment of long-lived assets, including identifiable intangible assets, whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors we consider important that could trigger an impairment review include, but are not limited to, the following:

- significant underperformance relative to expected historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- significant negative industry or economic trends;
- significant decline in our stock price for a sustained period; and
- our market capitalization relative to net book value.

When we determine that the carrying value of long-lived assets, including identifiable intangible assets, may not be recoverable based upon the existence of one or more of the above indicators of impairment, we would measure any impairment based upon the provisions of Financial Accounting Standards Board (FASB) ASC No. 350-35-30-14, Intangibles—Goodwill and Other, and FASB ASC No. 360-10-35-15, *Impairment or Disposal of Long-Lived Assets* , as appropriate. Any resulting impairment loss could have a material adverse impact on our financial condition and results of operations.

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, as follows:

Derivative Liabilities

Registered common stock warrants that require the issuance of registered shares upon exercise and do not sufficiently preclude an implied right to cash settlement are accounted for as derivative liabilities. We currently classify these derivative warrant liabilities on the accompanying consolidated balance sheets as a long-term liability, which is revalued at each balance sheet date subsequent to the initial issuance, using the Black-Scholes pricing model. This pricing model, which is based, in part, upon unobservable inputs for which there is little or no market data, requires the Company to develop its own assumptions. Changes in the fair value of the warrants are reflected in the accompanying consolidated statements of operations as change in fair value of common stock warrant liability.

There was no expected dividend yield for the warrants granted. If factors change and different assumptions are used, the warrant liability and the change in estimated fair value could be materially different. Generally, as the market price of our common stock increases, the fair value of the warrant increases, and conversely, as the market price of our common stock decreases, the fair value of the warrant decreases. Also, a significant increase in the volatility of the market price of the Company's common stock, in isolation, would result in a significantly higher fair value measurement; and a significant decrease in volatility would result in a significantly lower fair value measurement. Changes in the fair value of the warrants are reflected in the consolidated statements of operations as change in fair value of common stock warrant liability.

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 holder to require cash settlement, are accounted for as equity instruments. The Company classifies these equity instruments within additional paid-in capital on the accompanying consolidated balance sheets. Common stock warrants accounted for as equity instruments represent the warrants issued to Amazon.com, Inc. and Wal-Mart Stores, Inc. These warrants are remeasured at each financial reporting date prior to vesting, using the Monte Carlo pricing model. Once these warrants vest, they are no longer remeasured. This pricing model, which is based, in part, upon unobservable inputs for which there is little or no market data, requires the Company to develop its own assumptions. Changes in fair value resulting from remeasurement of common stock warrants issued in connection with the Amazon Transaction Agreement and the Walmart Transaction Agreement are recorded as cumulative catch up adjustments as a reduction of revenue.

There was no expected dividend yield for the warrants granted.

Recent Accounting Pronouncements

In July 2017, an accounting update was issued to address narrow issues identified as a result of the complexity associated with applying generally accepted accounting principles (GAAP) for certain financial instruments with characteristics of liabilities and equity. This update addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. The Company early adopted this accounting update during the three months ended June 30, 2017. The adoption of this accounting update was considered in determining that warrants issued during the second quarter of 2017 were equity classified.

In January 2017, an accounting update was issued to simplify how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. This accounting update is effective for years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company is evaluating the impact this update will have on the consolidated financial statements.

In November 2016, an accounting update was issued to reduce the existing diversity in the classification and presentation of changes in restricted cash on the statement of cash flows. This accounting update is effective for years beginning after December 15, 2017, and interim periods within those fiscal years and is required to be adopted retrospectively. The Company expects adoption of this update to impact cash flows from financing activities due to the change in the presentation of its restricted cash balance on the consolidated financial statements. Net cash provided by (used in) financing activities and decrease in cash and cash equivalents for the years ended December 31, 2017, 2016, and 2015, are expected to (decrease) increase by ($11.4 million), $6.8 million, and $47.3 million, respectively.

In October 2016, an accounting update was issued to simplify how an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Consequently, the amendments in this update eliminate the exception for an intra-entity transfer of an asset other than inventory. Two common examples of assets included in the scope of this update are intellectual property and property, plant, and equipment. This accounting update is effective for the annual periods beginning after December 15, 2017 and interim periods within those years. The Company does not expect the adoption of this update to have a significant effect on the consolidated financial statements.

In August 2016, an accounting update was issued to reduce the existing diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. This accounting update is effective for fiscal years beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. Early adoption is permitted, including adoption in an interim period. The Company is evaluating the impact this update will have on the consolidated financial statements.

In March 2016, an accounting update was issued to simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This accounting update is effective for annual periods beginning after December 15, 2016, and interim periods within those periods. The Company adopted this update and it did not have a significant effect on the consolidated financial statements.

In February 2016, an accounting update was issued which requires balance sheet recognition for operating leases, among other changes to previous lease guidance. This accounting update is effective for fiscal years beginning after December 15, 2018. While the Company is evaluating the impact this update will have on the consolidated financial statements, it is expected that the future minimum lease payments under non-cancelable leases, as lessee, will be recorded on the Company's consolidated balance sheets, offset by a right-of-use asset.

In June 2014, an accounting update was issued that replaces the existing revenue recognition framework regarding contracts with customers. The Company adopted this accounting update as of January 1, 2018. The standard outlines a five-step model whereby revenue is recognized as performance obligations within a contract are satisfied. The standard also requires new, expanded disclosures regarding revenue recognition. The Company will use the modified retrospective basis method to account for the transition. The Company did not experience a significant effect on the timing and amount of revenue recognized or the amount of revenue allocated to the identified performance obligations. There is an insignificant amount of historical contract acquisition costs that were expensed under current guidance and will not be capitalized upon adoption of ASC Subtopic 606. However, in subsequent periods, contract acquisition costs will be capitalized in accordance with ASC Subtopic 606.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

From time to time, we may invest our cash in government, government backed and interest-bearing investment-grade securities that we generally hold for the duration of the term of the respective instrument. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk sensitive instruments, positions or transactions in any material fashion. We are not subject to any material risks arising from changes in interest rates, foreign currency exchange rates, commodity prices, equity prices or other market changes that affect market risk sensitive instruments.

Our exposure to changes in foreign currency rates is primarily related to sourcing inventory from foreign locations and operations of HyPulsion. This practice can give rise to foreign exchange risk resulting from the varying cost of inventory to the receiving location. 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 is mitigated by the present low level of operation. Its sourcing is primarily intercompany in nature and denominated in U.S. dollar.

Item 8. Financial Statements and Supplementary Data

The Company's Consolidated Financial Statements included in this report beginning at page F-1 are incorporated in this Item 8 by reference.

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*

As required by Rule 13a 15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), we have carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness, as of the end of the period covered by this report, of the design and operation of our "disclosure controls and procedures" as defined in Rule 13a-15(e) promulgated by the SEC under the Exchange Act. Based upon that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures, as of the end of such period, were adequate and effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information was accumulated and communicated to management, as appropriate, to allow timely decisions regarding required disclosure.

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

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act. The 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 U.S. generally accepted accounting principles, and includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company;

- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles and, that receipts and expenditures of the Company are being made only in accordance with authorization of management and directors of the Company; and

- 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.

The Company's management, including our Chief Executive Officer and our Chief Financial Officer, assessed as of December 31, 2017 the effectiveness of the Company's internal control over financial reporting. In making this assessment, management used the criteria set forth in the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has concluded that the Company maintained effective internal control over financial reporting as of December 31, 2017 based on the specified criteria.

The Company's independent registered public accounting firm has issued a report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2017, which is included in Item 8 of this Annual Report on Form 10-K and incorporated herein by reference.

(c) *Changes in Internal Control Over Financial Reporting*

During the quarter ended December 31, 2017, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting, except for the matter described below.

During the quarter ended December 31, 2017, our management identified a deficiency in the design and operation of a control over the classification of restricted cash between current assets and noncurrent assets. Management has concluded the control deficiency constituted a material weakness in internal control over financial reporting, however it was remediated as of December 31, 2017. We designed a control to check the accuracy of the classification of restricted cash as of December 31, 2017. The control deficiency resulted in immaterial errors in the prior period consolidated financial statements.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

(a) Directors

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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

(b) Executive Officers

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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

(c) Code of Business Conduct and Ethics

We have adopted a Code of Business Conduct and Ethics that applies to all officers, directors, employees and consultants of the Company. The Code of Business Conduct and Ethics is intended to comply with Item 406 of Regulation S-K of the Securities Exchange Act of 1934 and with applicable rules of The NASDAQ Stock Market, Inc. Our Code of Business Conduct and Ethics is posted on our Internet website under the "Investor" page. Our Internet website address is *www.plugpower.com*. To the extent required or permitted by the rules of the SEC and NASDAQ, we will disclose amendments and waivers relating to our Code of Business Conduct and Ethics in the same place as our website.

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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

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

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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table gives information as of December 31, 2017, about the shares of Common Stock that may be issued upon the exercise of options and restricted stock under the Company's 1999 Stock Option and Incentive Plan, as amended (1999 Stock Option Plan), and the Company's 2011 Stock Option and Incentive Plan (2011 Stock Option Plan).

Equity Compensation Plan Information

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)	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	18,375,654 (1)	$ 2.64	8,313,875 (2)
Equity compensation plans not approved by security holders	1,731,119 (3)	$ 2.51	—
Total	20,106,773		8,313,875

(1) Represents 447,709 outstanding options issued under the 1999 Stock Option Plan, 17,693,201 outstanding options issued under the 2011 Stock option Plan and 234,744 shares of restricted stock issued under the 2011 Stock Option Plan.

(2) Includes shares available for future issuance under the 2011 Stock Option Plan.

(3) Included in Equity compensation plans not approved by shareholders 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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

Item 14. Principal Accounting Fees and Services

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 the Securities and Exchange Commission not later than 120 days after the close of the Company's fiscal year ended December 31, 2017.

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 Report.

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 Report.

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 exhibits filed as part of and incorporated by reference into this Annual Report are as set forth in the “Exhibit Index” which immediately precedes the signatures to this Report.

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 9, 2018

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.

/s/ ANDREW MARSH Andrew Marsh	President, Chief Executive Officer and Director (Principal Executive Officer)	March 9, 2018
/s/ PAUL B. MIDDLETON Paul B. Middleton	Chief Financial Officer (Principal Financial Officer)	March 9, 2018
/s/ MARTIN D. HULL Martin D. Hull	Controller & Chief Accounting Officer (Principal Accounting Officer)	March 9, 2018
/s/ LUCAS P. SCHNEIDER Lucas P. Schneider	Director	March 9, 2018
/s/ MAUREEN O. HELMER Maureen O. Helmer	Director	March 9, 2018
/s/ DOUGLAS T. HICKEY Douglas T. Hickey	Director	March 9, 2018
/s/ GREGORY L. KENAUSIS Gregory L. Kenausis	Director	March 9, 2018
/s/ GEORGE C. MCNAMEE George C. McNamee	Director	March 9, 2018
/s/ GREGORY B. GRAVES Gregory B. Graves	Director	March 9, 2018
/s/ JOHANNES MINHO ROTH Johannes Minho Roth	Director	March 9, 2018
/s/ GARY K. WILLIS Gary K. Willis	Director	March 9, 2018

EXHIBIT INDEX

Exhibit No.	Description
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	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)
3.8	Certificate of Designations, Preferences and Rights of a Series of Preferred Stock of Plug Power Inc. classifying and designating the Series C Redeemable Convertible Preferred Stock. (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 20, 2013 and incorporated by reference herein)
3.9	Third Amended and Restated By-laws of Plug Power Inc. (filed as Exhibit 3.1 to Plug Power Inc.'s Current Report on Form 8-K filed on November 2, 2009 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	Shareholder Rights Agreement, dated as of June 23, 2009, between Plug Power Inc. and American Stock Transfer & Trust Company, LLC, as Rights Agent. (filed as Exhibit 4.1 to Plug Power Inc.'s Registration Statement on Form 8-A filed on June 24, 2009 and incorporated by reference herein)
4.3	Amendment No. 1, effective as of May 6, 2011, to Shareholder Rights Agreement between Plug Power Inc. and American Stock Transfer & Trust Company, LLC, as Rights Agent (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 6, 2011 and incorporated by reference herein)

4.4	Amendment No. 2, effective as of March 16, 2012, to Shareholder Rights Agreement between Plug Power Inc. and American Stock Transfer & Trust Company, LLC, as Rights Agent (filed as Exhibit 1.1 to Plug Power Inc.'s Current Report on Form 8-K filed on March 19, 2012 and incorporated by reference herein)
4.5	Amendment No. 3, effective as of March 23, 2012, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on March 26, 2012 and incorporated by reference herein)
4.6	Amendment No. 4, effective as of February 12, 2013, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on February 13, 2013 and incorporated by reference herein)
4.7	Amendment No. 5, effective as of May 8, 2013, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 8, 2013 and incorporated by reference herein)
4.8	Amendment No. 6, effective as of December 16, 2016, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.7 to Plug Power Inc.'s Registration Statement on Form 8-A/A filed on December 21, 2016 and incorporated by reference herein)
4.9	Amendment No. 7, effective as of April 4, 2017, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.2 to Plug Power Inc.'s Current Report on Form 8-K filed on April 5, 2017 and incorporated by reference herein)
4.10	Amendment No. 8, effective as of July 20, 2017, to Shareholder Rights Agreement between Plug Power Inc. and Broadridge Corporate Issuer Solutions, Inc., as Rights Agent (filed as Exhibit 4.2 to Plug Power Inc.'s Current Report on Form 8-K filed on July 21, 2017 and incorporated by reference herein)
4.11	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)
4.12	Warrant to Purchase Common Stock, issued April 12, 2017, between Plug Power Inc. and Tech Opportunities LLC (filed as Exhibit 4.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 12, 2017 and incorporated by reference herein)
4.13	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)
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 99.3 to Plug Power Inc.'s Current Report on Form 8-K filed on June 29, 2006 and incorporated by reference herein)
10.3#	Form of Director Indemnification Agreement (filed as Exhibit 99.4 to Plug Power Inc.'s Current Report on Form 8-K filed on October 29, 2013 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#	2011 Stock Option and Incentive Plan (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 13, 2011 and incorporated by reference herein)
10.9#	Amendment No. 1 to the Plug Power Inc. 2011 Stock Option and Incentive Plan (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 18, 2012 and incorporated by reference herein)
10.10#	Amended and Restated 2011 Stock Option and Incentive Plan (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on July 25, 2014 and incorporated by reference herein)
10.11#	Second Amended and Restated 2011 Stock Option and Incentive Plan. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on June 30, 2017 and incorporated by reference herein)
10.12#	Form of Incentive Stock Option Agreement (filed as Exhibit 10.2 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 11, 2011 and incorporated by reference herein)
10.13#	Form of Non Qualified Stock Option Agreement for Employees (filed as Exhibit 10.3 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 11, 2011 and incorporated by reference herein)
10.14#	Form of Non Qualified Stock Option Agreement for Independent Directors (filed as Exhibit 10.4 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 11, 2011 and incorporated by reference herein)
10.15#	Form of Restricted Stock Award Agreement (filed as Exhibit 10.5 to Plug Power Inc.'s Quarterly Report on Form 10-Q filed on August 11, 2011 and incorporated by reference herein)
10.16	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)
10.17	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)
10.18	Securities Purchase Agreement, dated as of May 8, 2013, between Plug Power Inc. and Air Liquide Investissements d'Avenir et de Demonstration (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 8, 2013 and incorporated by reference herein)
10.19	Registration Rights Agreement, dated as of May 16, 2013, between Plug Power Inc. and Air Liquide Investissements d'Avenir et de Demonstration. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on May 20, 2013 and incorporated by reference herein)

10.20	License Agreement dated as of February 29, 2012, between HyPulsion, S.A.S. and Plug Power Inc. (filed as Exhibit 10.2 to Plug Power Inc.'s Current Report on Form 8-K filed on March 21, 2012 and incorporated by reference here
10.21	Master Equipment Lease, dated as of June 30, 2014, between Plug Power Inc. and Manufacturers and Traders Trust Company (filed as Exhibit 10.1 to Plug Power Inc.'s Registration Statement on Form S-3 (File Number 333-214737) and incorporated by reference herein)
10.22	First Amendment to Master Equipment Lease, dated as of December 19, 2014, between Plug Power Inc. and Manufacturers and Traders Trust Company (filed as Exhibit 10.2 to Plug Power Inc.'s Registration Statement on Form S-3 (File Number 333-214737) and incorporated by reference herein)
10.23	Second Amendment to Master Equipment Lease, dated as of December 30, 2015, between Plug Power Inc. and Manufacturers and Traders Trust Company (filed as Exhibit 10.3 to Plug Power Inc.'s Registration Statement on Form S-3 (File Number 333-214737) and incorporated by reference herein)
10.24	Waiver and Third Amendment to Master Equipment Lease, dated as of June 7, 2016, between Plug Power Inc. and Manufacturers and Traders Trust Company (filed as Exhibit 10.4 to Plug Power Inc.'s Registration Statement on Form S-3 (File Number 333-214737) and incorporated by reference herein)
10.25	At Market Issuance Sales Agreement, dated April 3, 2017, between Plug Power Inc. and FBR Capital Markets & Co. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 3, 2017 and incorporated by reference herein)
10.26	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)
10.27	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)
10.28	Warrant Exercise Agreement, dated as of April 12, 2017, between Plug Power Inc. and Tech Opportunities LLC (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on April 12, 2017 and incorporated by reference herein)
10.29	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)
10.30	Amended and Restated Master Lease Agreement, dated as of June 30, 2017, between Proton GCI SPV I LLC and Generate Plug Power SLB 1, LLC. (filed as Exhibit 10.3 to Plug Power Inc.'s Current Report on Form 8-K filed on July 21, 2017 and incorporated by reference herein)
10.31	Amended and Restated Loan and Security Agreement, dated as of July 21, 2017, among Plug Power Inc., Emerging Power Inc., Emergent Power Inc. and NY Green Bank. (filed as Exhibit 10.1 to Plug Power Inc.'s Current Report on Form 8-K filed on July 27, 2017 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
32.2**	Section 1350 Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes Oxley Act of 2002
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.

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

* Filed herewith

** Furnished herewith

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

PLUG POWER INC.

By: /s/ ANDREW MARSH

Andrew Marsh
President, Chief Executive Officer and Director

Date: March 9, 2018

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

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

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Plug Power Inc. and subsidiaries (the Company) as of December 31, 2017 and 2016, the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2017, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control – Integrated* Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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.

/s/ KPMG LLP

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

Albany, New York
March 9, 2018

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

As of December 31, 2017 and 2016

(In thousands, except share and per share amounts)

	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	$ 24,828	$ 46,014
Restricted cash	13,898	11,219
Accounts receivable	15,331	11,923
Inventory	48,776	29,940
Prepaid expenses and other current assets	16,774	11,837
Total current assets	119,607	110,933
Restricted cash	29,329	43,403
Property, plant, and equipment, net	10,414	8,246
Leased property, net	87,065	54,060
Goodwill	9,445	8,291
Intangible assets, net	3,785	3,933
Other assets	11,165	11,966
Total assets	$ 270,810	$ 240,832
Liabilities, Redeemable Preferred Stock, and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 42,362	$ 32,112
Accrued expenses	10,595	8,519
Accrual for loss contracts related to service	—	752
Deferred revenue	8,630	5,736
Finance obligations	34,506	14,787
Current portion of long-term debt	18,762	2,964
Other current liabilities	866	1,615
Total current liabilities	115,721	66,485
Deferred revenue	25,809	17,413
Common stock warrant liability	4,391	11,387
Finance obligations	37,069	29,767
Long-term debt	13,371	20,829
Other liabilities	94	241
Total liabilities	196,455	146,122
Redeemable preferred stock:		
Series C redeemable convertible preferred stock, $0.01 par value per share (aggregate involuntary liquidation preference $16,664); 10,431 shares authorized; Issued and outstanding: 2,620 at December 31, 2017 and 5,231 at December 31, 2016	709	1,153
Series D redeemable convertible preferred stock, $0.01 par value per share (aggregate involuntary liquidation preference $0 at December 31, 2017 and $18,500 at December 31, 2016); Shares authorized: none at December 31, 2017 and 5,000,000 at December 31, 2016; Issued and outstanding: none at December 31, 2017 and 18,500 at December 31, 2016	—	8,469
Stockholders' equity:		
Common stock, $0.01 par value per share; 750,000,000 and 450,000,000 shares authorized at December 31, 2017 and 2016, respectively; Issued (including shares in treasury): 229,073,517 at December 31, 2017 and 191,723,974 at December 31, 2016	2,291	1,917
Additional paid-in capital	1,250,899	1,137,482
Accumulated other comprehensive income	2,194	247
Accumulated deficit	(1,178,636)	(1,051,467)
Less common stock in treasury: 587,151 at December 31, 2017 and 582,328 at December 31, 2016	(3,102)	(3,091)
Total stockholders' equity	73,646	85,088
Total liabilities, redeemable preferred stock, and stockholders' equity	$ 270,810	$ 240,832

See accompanying notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF OPERATIONS

For the years ended December 31, 2017, 2016 and 2015

(In thousands, except share and per share amounts)

	2017	2016	2015
Revenue:			
Sales of fuel cell systems and related infrastructure	$ 71,288	$ 39,985	$ 78,002
Services performed on fuel cell systems and related infrastructure	22,774	20,456	14,012
Power Purchase Agreements	20,281	13,687	5,718
Fuel delivered to customers	18,302	10,916	5,075
Other	284	884	481
Gross revenue	132,929	85,928	103,288
Provision for common stock warrants	(29,667)	—	—
Net revenue	103,262	85,928	103,288
Cost of revenue:			
Sales of fuel cell systems and related infrastructure	54,815	29,543	67,703
Services performed on fuel cell systems and related infrastructure	23,574	22,649	22,937
Provision for loss contracts related to service	—	(1,071)	10,050
Power Purchase Agreements	30,641	16,132	5,253
Fuel delivered to customers	22,013	13,864	6,695
Other	308	865	540
Total cost of revenue	131,351	81,982	113,178
Gross (loss) profit	(28,089)	3,946	(9,890)
Operating expenses:			
Research and development	28,693	21,177	14,948
Selling, general and administrative	45,010	34,288	34,164
Total operating expenses	73,703	55,465	49,112
Operating loss	(101,792)	(51,519)	(59,002)
Interest and other expense, net	(10,100)	(10,704)	(349)
Change in fair value of common stock warrant liability	(15,188)	4,344	3,661
Loss before income taxes	$ (127,080)	$ (57,879)	$ (55,690)
Income tax benefit	—	392	—
Net loss attributable to the Company	$ (127,080)	$ (57,487)	$ (55,690)
Preferred stock dividends declared and accretion of discount	(3,098)	(104)	(105)
Net loss attributable to common shareholders	$ (130,178)	$ (57,591)	$ (55,795)
Net loss per share:			
Basic and diluted	$ (0.60)	$ (0.32)	$ (0.32)
Weighted average number of common shares outstanding	216,343,985	180,619,860	176,067,231

See accompanying notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

For the years ended December 31, 2017, 2016 and 2015

(In thousands)

	2017	2016	2015
Net loss attributable to the Company	$ (127,080)	$ (57,487)	$ (55,690)
Other comprehensive income (loss) - foreign currency translation adjustment	1,947	(551)	(100)
Comprehensive loss	$ (125,133)	$ (58,038)	$ (55,790)

See accompanying notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

For the years ended December 31, 2017, 2016 and 2015

(In thousands, except share amounts)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Treasury Stock		Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			Shares	Amount		
December 31, 2014	173,644,532	1,736	1,096,392	898	378,116	(2,662)	(938,081)	158,283
Net loss attributable to the Company	—	—	—	—	—	—	(55,690)	(55,690)
Other comprehensive loss	—	—	—	(100)	—	—	—	(100)
Stock-based compensation	89,490	1	7,816	—	—	—	—	7,817
Stock dividend	47,553	1	104	—	—	—	(105)	—
Stock option exercises	364,448	4	163	—	101,837	(247)		(80)
Exercise of warrants	26,882	—	47	—	—	—	—	47
Shares issued for acquisition	6,394,539	64	14,395	—	—	—	—	14,459
December 31, 2015	180,567,444	1,806	1,118,917	798	479,953	(2,909)	(993,876)	124,736
Net loss attributable to the Company	—	—	—	—	—	—	(57,487)	(57,487)
Other comprehensive loss	—	—	—	(551)	—	—	—	(551)
Stock-based compensation	105,479	1	9,289	—	—	—	—	9,290
Stock dividend	66,061	1	103	—	—	—	(104)	—
Public offerings, common stock, net	10,400,000	104	8,824	—	—	—	—	8,928
Stock option exercises	465,111	4	98	—	102,375	(182)	—	(80)
Exercise of warrants	119,879	1	251	—	—	—	—	252
December 31, 2016	191,723,974	$ 1,917	$ 1,137,482	$ 247	582,328	$ (3,091)	$ (1,051,467)	$ 85,088
Net loss attributable to the Company	—	—	—	—	—	—	(127,080)	(127,080)
Other comprehensive income	—	—	—	1,947	—	—	—	1,947
Stock-based compensation	148,077	1	9,208	—	—	—	—	9,209
Stock dividend	54,130	1	88	—	—	—	(89)	—
Public offerings, common stock, net	10,170,759	102	22,890	—	—	—	—	22,992
Conversion of preferred stock, Series D	9,548,393	95	7,683	—	—	—	—	7,778
Conversion of preferred stock, Series C	2,772,518	28	416	—	—	—	—	444
Stock option exercises	154,166	2	106	—	4,823	(11)	—	97
Exercise of warrants, net of warrants issued	14,501,500	145	39,713	—	—	—	—	39,858
Provision for common stock warrants	—	—	36,322	—	—	—	—	36,322
Accretion of discount	—	—	(3,009)	—	—	—	—	(3,009)
December 31, 2017	229,073,517	$ 2,291	$ 1,250,899	$ 2,194	587,151	$ (3,102)	$ (1,178,636)	$ 73,646

See accompanying notes to consolidated financial statements.

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

For the years ended December 31, 2017, 2016 and 2015

(In thousands)

	2017	2016	2015
Cash Flows From Operating Activities:			
Net loss attributable to the Company	$ (127,080)	$ (57,487)	$ (55,690)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation of property, plant and equipment, and leased property	9,190	4,650	2,006
Amortization of intangible assets	593	590	981
Stock-based compensation	9,209	9,290	7,817
Loss on acquisition activity, net	—	—	116
Amortization and accelerated recognition of debt issuance costs	770	1,760	—
Provision for common stock warrants	36,360	—	—
Loss on disposal of leased property	—	41	—
Provision for loss contracts related to service	—	(1,071)	10,050
Change in fair value of common stock warrant liability	15,188	(4,344)	(3,661)
Changes in operating assets and liabilities that provide (use) cash:			
Accounts receivable	(3,408)	10,727	(5,638)
Inventory	(18,836)	2,812	(7,251)
Prepaid expenses and other assets	(4,136)	(3,833)	(11,592)
Accounts payable, accrued expenses, and other liabilities	11,430	10,772	7,214
Accrual for loss contracts related to service	(752)	(8,227)	—
Deferred revenue	11,290	4,684	8,374
Net cash used in operating activities	(60,182)	(29,636)	(47,274)
Cash Flows From Investing Activities:			
Purchases of property, plant and equipment	(4,090)	(2,743)	(3,520)
Purchases for construction of leased property	(40,273)	(55,332)	—
Net cash acquired in purchase acquisitions	—	—	1,496
Net cash used in investing activities	(44,363)	(58,075)	(2,024)
Cash Flows From Financing Activities:			
Change in restricted cash	11,395	(6,787)	(47,335)
Proceeds from exercise of warrants, net of transaction costs	17,636	111	25
Proceeds from issuance of preferred stock and warrants, net of transaction costs	—	15,594	—
Purchase of treasury stock	—	(182)	(247)
Proceeds from issuance of common stock and warrants, net of transaction costs	—	11,940	—
Proceeds from exercise of stock options	97	102	167
Payments for redemption of preferred stock	(3,700)	—	—
Proceeds from public offerings, net of transaction costs	22,992	—	—
Proceeds from short-term borrowing, net of transaction costs	—	23,673	—
Principal payments on short-term borrowing	—	(25,000)	—
Proceeds from borrowing of long-term debt, net of transaction costs	20,147	47,400	—
Principal payments on long-term debt	(12,292)	(25,000)	—
Increase in finance obligations	26,736	28,034	14,467
Net cash provided by (used in) financing activities	83,011	69,885	(32,923)
Effect of exchange rate changes on cash	348	(121)	(23)
Decrease in cash and cash equivalents	(21,186)	(17,947)	(82,244)
Cash and cash equivalents, beginning of year	46,014	63,961	146,205
Cash and cash equivalents, end of year	$ 24,828	$ 46,014	$ 63,961
Other Supplemental Cash Flow Information:			
Cash paid for interest	$ 8,791	$ 8,263	$ 553
Summary of noncash investing and financing activities:			
Issuance of common stock for acquisitions	$ —	$ —	$ 14,459
Conversions of preferred stock to common stock	8,222	—	—

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

1. Nature of Operations

Description of Business

Plug Power Inc., or the Company, is a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of hydrogen and fuel cell systems used primarily for the material handling and stationary power markets. As part of the global drive to electrification, Plug Power has recently entered new electric vehicle markets, specifically ground support equipment and electric delivery vans.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies, fuel cell/battery hybrid technologies, and associated hydrogen storage and dispensing infrastructure from which multiple products are available. A fuel cell is an electrochemical device that combines hydrogen and oxygen to produce electricity and heat without combustion. Hydrogen is derived from hydrocarbon fuels such as liquid petroleum gas, or LPG, natural gas, propane, methanol, ethanol, gasoline or biofuels. Plug Power develops complete hydrogen generation, delivery, storage and refueling solutions for customer locations. Currently the Company obtains the majority of its hydrogen by purchasing it from fuel suppliers for resale to customers.

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 distribution and manufacturing businesses. We are focusing our efforts on industrial mobility applications (electric forklifts and electric industrial vehicles) at multi-shift high volume manufacturing and high throughput distribution sites where 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 prove valuable with telecommunications, transportation and utility customers as robust, reliable and sustainable power solutions.

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 and ground support equipment;

GenFuel: GenFuel is our hydrogen fueling delivery, generation, storage and dispensing systems;

GenCare: GenCare is our ongoing maintenance program for GenDrive fuel cells, GenSure products, GenFuel products and ProGen engines;

GenSure: GenSure is our stationary fuel cell solution providing scalable, modular PEM fuel cell power to support the backup and grid-support power requirements of the telecommunications, transportation, and utility sectors;

GenKey: GenKey is our turn-key solution combining either GenDrive or GenSure 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; and

GenFund: GenFund is a collaboration with leasing organizations to provide cost efficient and seamless financing solutions to customers.

Plug Power provides our products worldwide through our direct product sales force, and by leveraging relationships with original equipment manufacturers, or OEMs, and their dealer networks.

We provide our products worldwide through our direct product sales force, and by leveraging relationships with original equipment manufacturers, or OEMs, and their dealer networks.

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

Notes to Consolidated Financial Statements (Continued)

Liquidity

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 to 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 development and expansion of our products, payment of lease obligations under sale/leaseback financings, and the repayment or refinancing of our long-term debt. Our ability to achieve profitability and 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 ability of our customers to obtain financing to support commercial transactions; our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers and 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 production 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 have experienced and continue to experience negative cash flows from operations and net losses. The Company incurred net losses attributable to common shareholders of $130.2 million, $57.6 million and $55.8 million for the years ended December 31, 2017, 2016, and 2015, respectively, and has an accumulated deficit of $1.2 billion at December 31, 2017.

During the year ended December 31, 2017, cash used in operating activities was $60.2 million, consisting primarily of a net loss attributable to the Company of $127.1 million, offset by the impact of noncash charges of $71.3 million and net outflows from fluctuations in working capital and other assets and liabilities of $4.4 million. The changes in working capital primarily were related to building of inventory and an increase in accounts receivable and prepaid expenses offset by an increase of accounts payable and deferred revenue. As of December 31, 2017, we had cash and cash equivalents of $24.8 million and net working capital of $3.9 million. By comparison, at December 31, 2016, we had cash and cash equivalents of $46.0 million and net working capital of $44.4 million.

Net cash used in investing activities for the year ended December 31, 2017, totaled $44.4 million and included purchases of property, plant and equipment and outflows associated with materials, labor, and overhead necessary to construct new leased property. Cash outflows related to equipment that we sell and equipment we lease directly to customers are included in net cash used in operating activities and net cash used in investing activities, respectively. Net cash provided by financing activities for the year ended December 31, 2017 totaled $83.0 million and primarily resulted from net proceeds of $23.0 million pursuant to public offerings of common stock, net proceeds from borrowing of long-term debt of $20.1 million, net proceeds of $17.6 million pursuant to exercise of warrants, an increase in finance obligations of $26.7 million and a decrease in restricted cash of $11.4 million, offset by redemption of Series D preferred stock of $3.7 million and principal payments of long-term debt of $12.3 million.

In previous years, the Company entered into sale/leaseback agreements with various financial institutions to facilitate the Company’s commercial transactions with key customers. The Company sold certain fuel cell systems and hydrogen infrastructure to the financial institutions, and leased the equipment back to support certain customer locations and to fulfill its varied PPAs. In connection with these operating leases, the financial institutions require the Company to maintain cash balances in restricted accounts securing the Company’s lease obligations. Cash received from customers under the PPAs is used to make lease payments. As the Company performs under these agreements, the required restricted cash balances are released, according to a set schedule. The total remaining lease payments to financial institutions under these agreements was $33.4 million, which has been fully secured with restricted cash and pledged service escrows.

In connection with the consummation of the Walmart Transaction Agreement described below, the Company entered into a master lease agreement with Wells Fargo (Wells Fargo MLA) to finance the Company’s commercial

Notes to Consolidated Financial Statements (Continued)

transactions with Wal-mart Stores Inc. (Walmart). Pursuant to the Wells Fargo MLA, the Company sells fuel cell systems and hydrogen infrastructure to Wells Fargo and then leases them back and operates them at Walmart sites under lease arrangements with Walmart. The total remaining lease payments to Wells Fargo was $26.3 million at December 31, 2017. During 2017, the Company also entered into an amended and restated master lease agreement with Generate Capital (Generate Capital MLA) to finance the Company's commercial transactions with Walmart. The total remaining lease payments to Generate Capital was $45.5 million at December 31, 2017. The Wells Fargo MLA and the Generate Capital MLA do not require the Company to maintain any restricted cash.

We have historically funded our operations primarily through public and private offerings of common and preferred stock, as well as short-term borrowings and long-term debt and project financing, as described below. The Company believes that its current working capital and cash anticipated to be generated from future operations, as well as borrowings from lending and project financing sources and proceeds from equity offerings, will provide sufficient liquidity to fund operations for at least one year after the date that the financial statements are issued. There is no guarantee that future funding will be available if and when required or at terms acceptable to the Company. This projection is based on our current expectations regarding new project financing and product sales and service, cost structure, cash burn rate and other operating assumptions. Additionally, the Company has other capital sources available, including the At Market Issuance Sales Agreement (see Note 14).

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. All significant intercompany balances and transactions have been eliminated in consolidation.

Revenue Recognition

The Company recognizes revenue under arrangements for products and services, which may include the sale of products and related services, including revenue from installation, service and maintenance, spare parts, hydrogen fueling services (which may include hydrogen supply as well as hydrogen fueling infrastructure) and leased units. The Company also recognizes revenue under research and development contracts, which are primarily cost reimbursement contracts associated with the development of PEM fuel cell technology.

The Company enters into revenue arrangements that may contain a combination of fuel cell systems and infrastructure, installation, service, maintenance, spare parts, and other support services. Revenue arrangements containing fuel cell systems and related infrastructure may be sold, or provided to customers under a PPA.

Sales of and Services Performed on Fuel Cell Systems and Related Infrastructure

When sold to customers, the Company accounts for each separate deliverable of these multiple deliverable arrangements as a separate unit of accounting if the delivered item or items have value to the customer on a standalone basis. The Company considers a deliverable to have standalone value if the item is sold separately by us or another entity or if the item could be resold by the customer. The Company allocates revenue to each separate deliverable based on its relative selling price. For a majority of our deliverables, the Company determines relative selling prices using its best estimate of the selling price since vendor-specific objective evidence and third-party evidence is generally not available for the deliverables involved in its revenue arrangements due to a lack of a competitive environment in selling fuel cell technology. When determining estimated selling prices, the Company considers the Company's ongoing pricing strategy and policies, the cost to produce the deliverable, a reasonable gross margin on that deliverable, the selling price and profit margin for similar products and services, the value of any enhancements that have been built into the deliverable and the characteristics of the varying markets in which the deliverable is sold, as applicable. The Company determines estimated selling prices for deliverables in its arrangements based on the specific facts and circumstances of each arrangement and analyzes the estimated selling prices used for its allocation of consideration of each arrangement.

Notes to Consolidated Financial Statements (Continued)

Once relative selling prices are determined, the Company proportionately allocates the sale consideration to each element of the arrangement. The allocated sales consideration related to fuel cell systems and infrastructure, spare parts, and hydrogen infrastructure is recognized as revenue at shipment if title and risk of loss have passed to the customer, there is persuasive evidence of an arrangement, the sales price is fixed or determinable, collection of the related receivable is reasonably assured, and customer acceptance criteria, if any, have been successfully demonstrated. The allocated sales consideration related to service and maintenance is generally recognized as revenue on a straight-line basis over the term of the contract, as appropriate.

For those customers who do not purchase an extended maintenance contract, 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. Only a limited number of fuel cell units are under standard warranty.

In a vast majority of its commercial transactions, the Company sells extended maintenance contracts that generally provide for a five to ten year warranty from the date of product installation. These types of contracts are accounted for as a separate deliverable, and accordingly, revenue generated from these transactions is deferred and recognized in income over the warranty period, 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 in income 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 on the life of the contract, an accrual for loss contracts is recorded. Costs are estimated based upon historical experience, contractual agreements and the estimated impact of the Company's cost reduction initiatives. The actual results may differ from these estimates.

Power Purchase Agreements

When fuel cell systems and related infrastructure are provided to customers through a Power Purchase Agreement, or PPA, revenues associated with these agreements are treated as rental income and recognized on a straight-line basis over the life of the agreements. In conjunction with entering into a PPA with a customer, the Company may enter into sale/leaseback transactions with third-party financial institutions, whereby the fuel cells, related infrastructure, and service are sold to the third-party financial institution and leased back to the Company through either an operating or capital lease.

During 2017 and 2016, the Company's sale/leaseback transactions with third-party financial institutions were required to be accounted for as capital leases under Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Subtopic 840-40, *Leases – Sale/Leaseback Transactions* (ASC Subtopic 840-40). As a result, no upfront revenue was recognized at the closing of these transactions and a finance obligation for each lease was established. The fuel cell systems and related infrastructure that are provided to customers through these PPAs are considered leased property on the accompanying consolidated balance sheet. Costs to service the leased property and the depreciation of the associated fuel cell systems and related infrastructure are considered cost of PPA revenue on the accompanying consolidated statement of operations.

All PPAs entered into through December 31, 2015 had a corresponding sale-leaseback transaction with a third-party financial institution, which was required to be accounted for as an operating lease. The Company accounts for these sale/leaseback transactions as operating leases in accordance with ASC Subtopic 840-40. The Company has rental expense associated with sale/leaseback agreements with financial institutions that were entered into commensurate with the PPAs. Rental expense is recognized on a straight-line basis over the life of the agreements and is characterized as cost of PPA revenue on the accompanying consolidated statement of operations.

Fuel Delivered to Customers

The Company purchases hydrogen fuel from suppliers and sells to its customers upon delivery. Revenue and cost of revenue related to this fuel is recorded as dispensed, and included in the respective "Fuel delivered to customers" lines on the consolidated statements of operations.

Notes to Consolidated Financial Statements (Continued)

Research and Development Contracts

Contract accounting is used for research and development contract revenue. The Company generally shares in the cost of these programs with cost sharing percentages ranging from 30% to 50% of total project costs. Revenue from time and material contracts is recognized on the basis of hours expended plus other reimbursable contract costs incurred during the period and is included within the "other" revenue line on the consolidated statement of operations. All allowable work performed through the end of each calendar quarter is billed, subject to limitations in the respective contracts.

Cash Equivalents

Cash equivalents consist of money market accounts with an initial term of less than three months. 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. The Company's cash and cash equivalents are deposited with financial institutions located in the U.S. and may at times exceed insured limits.

Accounts Receivable

Accounts receivable are stated at the amount billed 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 doubtful accounts and related receivable are reduced when the amount is deemed uncollectible. As of December 31, 2017 and 2016, the allowance for doubtful accounts was $249 thousand and zero, respectively.

Inventory

Inventories are valued at the lower of cost, determined on a first-in, first-out basis, or market. All inventory, including spare parts inventory held at service locations, is not relieved until the customer has received the product, at which time the risks and rewards of ownership have transferred.

Property, Plant and Equipment

Property, plant and equipment are originally recorded at cost or, if acquired as part of 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. The Company records depreciation and amortization over the following estimated useful lives:

Buildings	20 years
Building improvements	5 - 20 years
Software, machinery and equipment	1 - 15 years

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

Leased Property

Leased property primarily consists of the cost of assets deployed related to capital leases. Depreciation expense is recorded on a straight-line basis over the shorter of the lease term or the estimated useful life of the asset, generally six to seven years, and is included in cost of revenue for PPAs in the accompanying consolidated statements of operations.

Impairment of Long-Lived Assets

Long-lived assets, such as property, plant, and equipment, leased property and purchased intangibles subject to amortization, are reviewed for potential impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset or asset group to estimated undiscounted future cash flows expected to be

Notes to Consolidated Financial Statements (Continued)

generated by the asset or asset group. If the carrying amount of an asset or asset group exceeds its estimated undiscounted future cash flows, an impairment charge is recognized by the amount by which the carrying amount of the asset or asset group exceeds the fair value of the asset or asset group. Fair value is determined through various valuation techniques, including discounted cash flow models, quoted market values and third party independent appraisals, as considered necessary. Assets to be disposed of and considered held for sale would be separately presented in the consolidated balance sheet and reported at the lower of the carrying amount or fair value less costs to sell, and are no longer depreciated. The assets and liabilities of a disposal group classified as held for sale would be presented separately in the appropriate asset and liability sections of the consolidated balance sheet.

Goodwill

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

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 prior to performing the two-step goodwill impairment test. If this is the case, the two-step 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 two-step goodwill impairment test is not required.

The Company performs an impairment review of goodwill 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, 2017, 2016, and 2015, 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.

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 - 10 years. Additionally, the intangible assets are reviewed for impairment when certain triggering events occur.

Product Warranty Reserve

Aside from when included in the sale of an extended maintenance contract, the Company provides a one to two year standard product warranty to customers from date of installation of GenDrive units, and the GenSure sales generally include a two year standard product warranty. We currently estimate the costs of satisfying warranty claims based on an analysis of past experience and provide for future claims in the period the revenue is recognized. Factors that affect our warranty liability include the number of installed units, estimated material costs, estimated travel, and labor costs. The warranty reserve is included within the other current liabilities on the accompanying consolidated balance sheet.

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.

Derivative Liabilities

Registered common stock warrants that require the issuance of registered shares upon exercise and do not sufficiently preclude an implied right to cash settlement are accounted for as derivative liabilities. We currently classify these derivative warrant liabilities on the accompanying consolidated balance sheets as a long-term liability, which is revalued at each balance sheet date subsequent to the initial issuance, using the Black-Scholes pricing model. This pricing model, which is based, in part, upon unobservable inputs for which there is little or no market data, requires the Company to develop its own assumptions. Changes in the fair value of the warrants are reflected in the accompanying consolidated statements of operations as change in fair value of common stock warrant liability.

Notes to Consolidated Financial Statements (Continued)

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 accompanying consolidated balance sheets. Common stock warrants accounted for as equity instruments represent the warrants issued to Amazon.com, Inc. and Wal-Mart Stores, Inc. as discussed in Notes 4 and 5. These warrants are remeasured at each financial reporting date prior to vesting, using the Monte Carlo pricing model. Once these warrants vest, they are no longer remeasured. This pricing model, which is based, in part, upon unobservable inputs for which there is little or no market data, requires the Company to develop its own assumptions. Changes in fair value resulting from remeasurement of common stock warrants issued in connection with the Amazon Transaction Agreement and the Walmart Transaction Agreement, as described in Note 4, Amazon.com, Inc. Transaction Agreement, and Note 5, Wal-Mart Stores, Inc. Transaction Agreement, respectively, and are recorded as cumulative catch up adjustments as a reduction of revenue.

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 shareholders.

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. We did not report a benefit for federal and state income taxes in the consolidated financial statements as the deferred tax asset generated from our net operating loss has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the net operating loss carryforward 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.

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 accompanying 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 accompanying consolidated statements of operations.

Research and Development

Costs related to research and development activities by the Company are expensed as incurred.

Notes to Consolidated Financial Statements (Continued)

Stock-Based Compensation

The Company maintains employee stock-based compensation plans, which are described more fully in Note 16, 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.

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 and related infrastructure, 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 accompanying consolidated statements of operations based on the employees' respective function.

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, 2017, 2016 and 2015 since the Company remains in a net operating loss (NOL) position.

Per Share Amounts

Basic earnings per common share are computed by dividing net loss attributable to common shareholders by the weighted average number of common shares outstanding during the reporting period. Diluted earnings per share reflects the potential dilution that could occur if securities or other contracts to issue common stock (such as stock options, unvested restricted stock, common stock warrants, and preferred stock) were exercised or converted into common stock or resulted in the issuance of common stock (net of any assumed repurchases) that then shared in the earnings of the Company, if any. This is computed by dividing net earnings by the combination of dilutive common share equivalents, which is comprised of shares issuable under outstanding warrants, the conversion of preferred stock, and the Company's share-based compensation plans, and the weighted average number of common shares outstanding during the reporting period. Since the Company is in a net loss position, all common stock equivalents would be considered to be anti-dilutive and are, therefore, not included in the determination of diluted earnings per share. Accordingly, basic and diluted loss per share are the same.

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

	Year ended December 31,		
	2017	2016	2015
Numerator:			
Net loss attributable to common shareholders	$ (130,178)	$ (57,591)	$ (55,795)
Denominator:			
Weighted average number of common shares outstanding	216,343,985	180,619,860	176,067,231

The dilutive potential common shares are summarized as follows:

	At December 31,		
	2017	2016	2015
Stock options outstanding (1)	19,872,029	14,760,054	11,700,786
Restricted stock outstanding	234,744	13,333	204,444
Common stock warrants (2)	115,824,242	14,501,600	4,192,567
Preferred stock (3)	2,782,075	17,490,078	5,554,594
Number of dilutive potential common shares	138,713,090	46,765,065	21,652,391

Notes to Consolidated Financial Statements (Continued)

(1) During the years ended December 31, 2017, 2016, and 2015, the Company granted 5,485,863, 3,702,500, and 3,960,000 and stock options, respectively.

(2) In May 2011, the Company issued 7,128,563 warrants as part of an underwritten public offering with an exercise price of $0.93 per warrant. As a result of additional public offerings, and pursuant to the effect of the anti-dilution provisions of these warrants, the number of warrants increased to 22,995,365. Of these warrants issued in May 2011, all were exercised as of December 31, 2017 and 2016, and 192,467 were unexercised as of December 31, 2015.

In February 2013, the Company issued 23,637,500 warrants as part of an underwritten public offering with an exercise price of $0.15 per warrant. Of these warrants issued in February 2013, 100 were unexercised as of December 31, 2017, 2016 and 2015.

In January 2014, the Company issued 4,000,000 warrants as part of an underwritten public offering with an exercise price of $4.00 per warrant. In December 2016, as a result of additional public offerings, and pursuant to the effect of the anti-dilution provisions of these warrants, the exercise price of the $4.00 warrants was reduced to $0.65. Of these warrants issued in January 2014, all 4,000,000 warrants were exercised during the year ended December 31, 2017, as described in Note 14, Stockholders' Equity.

In December 2016, the Company issued 10,501,500 warrants as part of two concurrent underwritten public offerings with an exercise price of $1.50 per warrant. Of these warrants issued in December 2016, all 10,501,500 warrants were exercised during the year ended December 31, 2017, respectively, as described in Note 14, Stockholders' Equity.

In April 2017, the Company issued 5,250,750 warrants with an exercise price of $2.69 per warrant, as described in Note 14, Stockholders' Equity. Of these warrants issued in April 2017, none have been exercised as of December 31, 2017.

In April 2017, the Company issued warrants to acquire up to 55,286,696 of the Company's common stock as part of a transaction agreement, subject to certain vesting events, as described in Note 4, Amazon.com, Inc. Transaction Agreement. Of these warrants issued, none have been exercised as of December 31, 2017.

In July 2017, the Company issued warrants to acquire up to 55,286,696 of the Company's common stock as part of a transaction agreement, subject to certain vesting events, as described in Note 5, Wal-Mart Stores, Inc. Transaction Agreement. Of these warrants issued, none have been exercised as of December 31, 2017.

(3) The preferred stock amount represents the dilutive potential common shares of the Series C and D redeemable convertible preferred stock, based on the conversion price of the preferred stock as of December 31, 2017, 2016 and 2015, respectively. Of the 10,431 Series C redeemable preferred stock issued on May 16, 2013, 7,811 had been converted to common stock through December 31, 2017, respectively, with the remainder still outstanding. Of the 18,500 Series D redeemable convertible preferred stock issued on December 22, 2016, 3,700 shares have been redeemed and the remaining 14,800 have been converted to common stock during the year ended December 31, 2017. As of December 31, 2016, 18,500 Series D redeemable convertible preferred stock were outstanding.

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.

The determination of whether loss contracts exist is a significant estimate. During 2015, the Company recorded a provision for loss contracts related to service, as discussed in Note 13, Accrual for Loss Contracts Related to Service.

Notes to Consolidated Financial Statements (Continued)

Reclassifications

Reclassifications are made, whenever necessary, to prior period financial statements to conform to the current period presentation. These reclassifications did not impact the results of operations or net cash flows in the periods presented.

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.

Recent Accounting Pronouncements

In July 2017, an accounting update was issued to address narrow issues identified as a result of the complexity associated with applying generally accepted accounting principles (GAAP) for certain financial instruments with characteristics of liabilities and equity. This update addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. The Company early adopted this accounting update during the three months ended June 30, 2017. The adoption of this accounting update was considered in determining that warrants issued during the second quarter of 2017 (see Note 4) were equity classified.

In January 2017, an accounting update was issued to simplify how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. This accounting update is effective for years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company is evaluating the impact this update will have on the consolidated financial statements.

In November 2016, an accounting update was issued to reduce the existing diversity in the classification and presentation of changes in restricted cash on the statement of cash flows. This accounting update is effective for years beginning after December 15, 2017, and interim periods within those fiscal years. The Company expects adoption of this update to impact cash flows from financing activity due to the change in the presentation of its restricted cash balance on the consolidated financial statements. Net cash provided by (used in) financing activities and decrease in cash and cash equivalents for the years ended December 31, 2017, 2016, and 2015, are expected to (decrease) increase by ($11.4 million), $6.8 million, and $47.3 million, respectively.

In October 2016, an accounting update was issued to simplify how an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. Consequently, the amendments in this update eliminate the exception for an intra-entity transfer of an asset other than inventory. Two common examples of assets included in the scope of this update are intellectual property and property, plant, and equipment. This accounting update is effective for the annual periods beginning after December 15, 2017 and interim periods within those years. The Company does not expect the adoption of this update to have a significant effect on the consolidated financial statements.

In August 2016, an accounting update was issued to reduce the existing diversity in practice in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. This accounting update is effective for fiscal years beginning after December 15, 2018, and interim periods within fiscal years beginning after December 15, 2019. Early adoption is permitted, including adoption in an interim period. The Company is evaluating the impact this update will have on the consolidated financial statements.

Notes to Consolidated Financial Statements (Continued)

In March 2016, an accounting update was issued to simplify several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. This accounting update is effective for annual periods beginning after December 15, 2016, and interim periods within those periods. The Company adopted this update and it did not have a significant effect on the consolidated financial statements.

In February 2016, an accounting update was issued which requires balance sheet recognition for operating leases, among other changes to previous lease guidance. This accounting update is effective for fiscal years beginning after December 15, 2018. While the Company is evaluating the impact this update will have on the consolidated financial statements, it is expected that the future minimum lease payments under non-cancelable leases, as lessee, will be recorded on the Company's consolidated balance sheets, offset by a right-of-use asset (see Note 19 for a summary of the Company's non-cancellable operating leases).

In June 2014, an accounting update was issued that replaces the existing revenue recognition framework regarding contracts with customers. The Company adopted this accounting update as of January 1, 2018. The standard outlines a five-step model whereby revenue is recognized as performance obligations within a contract are satisfied. The standard also requires new, expanded disclosures regarding revenue recognition. The Company will use the modified retrospective basis method to account for the transition. The Company did not experience a significant effect on the timing and amount of revenue recognized or the amount of revenue allocated to the identified performance obligations. There is an insignificant amount of historical contract acquisition costs that were expensed under current guidance and will not be capitalized upon adoption of ASC Subtopic 606. However, in subsequent periods, contract acquisition costs will be capitalized in accordance with ASC Subtopic 606.

3. Acquisition of HyPulsion

On July 24, 2015, the Company entered into a Share Purchase Agreement with Axane, pursuant to which on July 31, 2015, the Company (through a wholly-owned subsidiary) acquired Axane's 80% equity interest in HyPulsion for $11.5 million, payable in shares of its common stock. In connection with the aforementioned agreement, the Company initially issued 4,781,250 shares of its common stock at closing. On August 26, 2015, the Company subsequently issued an additional 1,613,289 shares of common stock pursuant to a post-closing true-up provision, which was liability classified contingent consideration.

The Company acquired all of the net assets of HyPulsion, with the excess of the purchase price over net assets attributed to goodwill. Goodwill associated with the acquisition represents expanded access to the European markets related to the sale of fuel cell technology for material handling equipment. During the year ended December 31, 2017, changes in goodwill are attributed to foreign currency translation. During the year ended December 31, 2016, changes in goodwill are attributed to foreign currency translation and, to a lesser extent, changes to estimated fair values of acquired assets and liabilities upon completion of purchase accounting.

4. Amazon.com, Inc. Transaction Agreement

On April 4, 2017, the Company and Amazon.com, Inc. (Amazon) entered a Transaction Agreement (Amazon Transaction Agreement), pursuant to which the Company issued to Amazon.com NV Investment Holdings LLC, a wholly owned subsidiary of Amazon, a warrant (Amazon Warrant) to acquire up to 55,286,696 shares of the Company's common stock (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 is linked to payments made by Amazon or its affiliates (directly or indirectly through third parties) pursuant to the existing commercial agreements.

Notes to Consolidated Financial Statements (Continued)

The majority of the Amazon Warrant Shares will 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 first tranche of 5,819,652 Amazon Warrant Shares vested upon the execution of the Amazon Transaction Agreement. Accordingly, $6.7 million (the fair value of the first tranche of Amazon Warrant Shares) was recognized as selling, general and administrative expense on the accompanying consolidated statement of operations for the year ended December 31, 2017. The second tranche of 29,098,260 Amazon Warrant Shares will vest in four installments of 7,274,565 Amazon Warrant Shares each time Amazon 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. During the year ended December 31, 2017, the first installment of the second tranche vested. The exercise price for the first and second tranches of Amazon Warrant Shares is $1.1893 per share. After Amazon has made payments to the Company totaling $200.0 million, the third tranche of 20,368,784 Amazon Warrant Shares will vest in eight installments of 2,546,098 Amazon Warrant Shares each time Amazon 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 Amazon 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 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 holders, 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 Amazon Warrant Shares issuable upon exercise due to customary anti-dilution provisions based on future events. The Amazon Warrant is classified as an equity instrument.

Because the Amazon Warrant contains performance criteria (i.e. aggregate purchase levels), which Amazon must achieve for the Amazon Warrant Shares to vest, as detailed above, the final measurement date for the Amazon Warrant Shares is the date on which the Amazon Warrant Shares have vested. Prior to the final measurement, when achievement of the performance criteria has been deemed probable, the estimated fair value of the Amazon Warrant Shares is being recorded as a reduction to revenue and an addition to additional paid-in capital based on the projected number of Amazon Warrant Shares expected to vest, the proportion of purchases by Amazon and its affiliates within the period relative to the aggregate purchase levels required for the Amazon Warrant Shares to vest and the then-current fair value of the related Amazon Warrant Shares. To the extent that projections change in the future as to the number of Amazon Warrant Shares that will vest, as well as changes in the fair value of the Amazon Warrant Shares, a cumulative catch-up adjustment will be recorded in the period in which the estimates change.

At December 31, 2017, 13,094,217 of the Amazon Warrant Shares had vested. The amount of selling, general and administrative expense attributed to this first tranche recorded in April 2017, was $7.1 million, including legal and other fees associated with the negotiation and completion of the agreement. The amount of provision for common stock warrants recorded as a reduction of revenue for the Amazon Warrant during the year ended December 31, 2017 was $17.3 million.

5. Wal-Mart Stores, Inc. Transaction Agreement

On July 20, 2017, the Company and Walmart entered into a Transaction Agreement (Walmart Transaction Agreement), pursuant to which the Company issued to Walmart a warrant (Walmart Warrant) to acquire up to 55,286,696 shares of the Company's common stock (Walmart Warrant Shares), subject to certain vesting events. 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, is linked to 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.

Notes to Consolidated Financial Statements (Continued)

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 Transaction Agreement. 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 accompanying consolidated statement of operations for the year ended December 31, 2017. The second tranche of 29,098,260 Walmart Warrant Shares will vest 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.

Because the Walmart Warrant contains performance criteria (i.e. aggregate purchase levels), which Walmart must achieve for the Walmart Warrant Shares to vest, as detailed above, the final measurement date for the Walmart Warrant is the date on which the Walmart Warrant Shares have vested. Prior to the final measurement, when achievement of the performance criteria has been deemed probable, the estimated fair value of the Walmart Warrant is being recorded as a reduction to revenue and an addition to additional paid-in capital based on the projected number of Walmart Warrant Shares expected to vest, the proportion of purchases by Walmart and its affiliates within the period relative to the aggregate purchase levels required for the Walmart Warrant Shares to vest and the then-current fair value of the related Walmart Warrant Shares. To the extent that projections change in the future as to the number of Walmart Warrant Shares that will vest, as well as changes in the fair value of the Walmart Warrant Shares, a cumulative catch-up adjustment will be recorded in the period in which the estimates change.

At December 31, 2017, 5,819,652 of the Walmart Warrant Shares had vested. The amount of provision for common stock warrants recorded as a reduction to revenue for the Walmart Warrant during the year ended December 31, 2017 was $12.4 million.

6. Inventory

Inventory as of December 31, 2017 and December 31, 2016 consists of the following (in thousands):

	December 31, 2017	December 31, 2016
Raw materials and supplies	$ 42,851	$ 26,298
Work-in-process	3,492	1,865
Finished goods	2,433	1,777
	$ 48,776	$ 29,940

Raw materials and supplies includes spare parts inventory held at service locations valued at approximately $5.5 million and $3.3 million as of December 31, 2017 and 2016, respectively.

Notes to Consolidated Financial Statements (Continued)

7. Property, Plant and Equipment

Property, plant and equipment at December 31, 2017 and 2016 consists of the following (in thousands):

	December 31, 2017	December 31, 2016
Land	$ 90	$ 90
Buildings	15,332	15,332
Building improvements	5,230	5,221
Software, machinery and equipment	21,350	17,269
	42,002	37,912
Less: accumulated depreciation	(31,588)	(29,666)
Property, plant, and equipment, net	$ 10,414	$ 8,246

Depreciation expense related to property, plant and equipment was $1.9 million, $1.8 million, and $1.5 million for the years ended December 31, 2017, 2016 and 2015, respectively.

8. Leased Property

Leased property at December 31, 2017 and 2016 consists of the following (in thousands):

	December 31, 2017	December 31, 2016
Leased property	$ 98,877	$ 58,604
Less: accumulated depreciation	(11,812)	(4,544)
Leased property, net	$ 87,065	$ 54,060

Depreciation expense related to leased property was $7.3 million, $2.9 million, and $0.5 million the years ended December 31, 2017, 2016 and 2015, respectively.

9. Intangible Assets

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2017 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	9 years	$ 5,200	(1,593)	3,607
Customer relationships	10 years	260	(97)	163
Trademark	5 years	60	(45)	15
		$ 5,520	$ (1,735)	$ 3,785

The gross carrying amount and accumulated amortization of the Company's acquired identifiable intangible assets as of December 31, 2016 are as follows (in thousands):

	Weighted Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Total
Acquired technology	9 years	$ 4,645	$ (928)	$ 3,717
Customer relationships	10 years	260	(71)	189
Trademark	5 years	60	(33)	27
		$ 4,965	$ (1,032)	$ 3,933

The change in the gross carrying amount and accumulated amortization of the acquired technology from December 31, 2016 to December 31, 2017 is due to changes attributed to foreign currency translation.

Notes to Consolidated Financial Statements (Continued)

Amortization expense for acquired identifiable intangible assets for the years ended December 31, 2017, 2016, and 2015 was $0.6 million, $0.6 million, and $1.0 million, respectively. Estimated amortization expense for subsequent years is as follows (in thousands):

2018	$ 624
2019	516
2020	480
2021	480
2022	480
Thereafter	1,205
Total	$ 3,785

10. Accrued Expenses

Accrued expenses at December 31, 2017 and 2016 consist of (in thousands):

	2017	2016
Accrued payroll and compensation related costs	$ 1,473	$ 1,924
Accrued accounts payable	5,821	2,044
Accrued sales and other taxes	1,278	2,508
Accrued litigation	1,076	1,008
Accrued other	947	1,035
Total	$ 10,595	$ 8,519

11. Short-Term Borrowing

On March 2, 2016, the Company entered into a loan agreement with Generate Lending, LLC (the Generate Lending Loan Agreement). The Generate Lending Loan Agreement, among other things, provided for a $30 million secured term loan facility (the Short-Term Loan Facility). Advances under the Short-Term Loan Facility bore interest at the rate of 12.0% per annum. The term of the Generate Lending Loan Agreement was one year, ending March 2, 2017. Pursuant to the Generate Lending Loan Agreement, $25.0 million of the Short-Term Loan Facility was drawn upon at closing. On June 27, 2016, the Short-Term Loan Facility was converted to long-term project financing from the same lender. That financing was accounted for as a series of capital leases, the obligation of which is now presented as part of finance obligations on the accompanying consolidated balance sheet, as discussed in Note 19, Commitments and Contingencies.

12. Long-Term Debt

NY Green Bank Loan

On December 23, 2016, the Company, and its subsidiaries Emerging Power Inc. and Emergent Power Inc. entered into a loan and security agreement with NY Green Bank, a Division of the New York State Energy Research & Development Authority (NY Green Bank), pursuant to which NY Green Bank made available to the Company a secured term loan facility in the amount of $25.0 million (Term Loan Facility), subject to certain terms and conditions. The Company borrowed $25.0 million upon closing and incurred costs of $1.2 million. On July 21, 2017, the Company and NY Green Bank entered into an amendment to the Term Loan Facility, which among other things, provided for an additional $20.0 million term loan, increasing the size of the total commitment to $45.0 million, amended the interest rate, prepayment penalty (for any prepayment in the calendar year 2017 or 2018, a prepayment charge equal to 7.5% of the advance amount being prepaid will apply) and product deployment and employment targets. As with the existing facility, the up-sized facility will be repaid primarily as the Company's various restricted cash reserves are released over the term of the facility. During the year ended December 31, 2017, the Company borrowed the additional $20.0 million of working capital financing and incurred closing costs of $0.5 million. At December 31, 2017, the outstanding principal balance under the Term Loan Facility was $32.8 million. The fair value of the Term Loan Facility approximates the carrying value as of December 31, 2017, due to the variable interest rate of the Term Loan Facility.

Notes to Consolidated Financial Statements (Continued)

Advances under the Term Loan Facility bear interest at a rate equal to the sum of the LIBOR rate for the applicable interest period, plus applicable margin of 9.5%. The interest rate at December 31, 2017 was approximately 10.8%. The term of the loan is three years, with a maturity date of December 23, 2019. As of December 31, 2017, estimated remaining principal payments will be approximately $19.1 million and $13.7 million during the years ending December 31, 2018, and 2019, respectively. These payments will be funded in part by restricted cash released, as described in Note 19, Commitments and Contingencies.

Interest and a varying portion of the principal amount is payable on a quarterly basis and the entire then outstanding principal balance of the Term Loan Facility, together with all accrued and unpaid interest, is due and payable on the maturity date. On the maturity date, the Company may also be required to pay additional fees of up to $1.8 million if the Company is unable to meet certain goals related to the deployment of fuel cell systems in the State of New York and increasing the Company's number of full-time employees in the State of New York. The Company is currently on track to meet those goals.

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 Term Loan Facility contains covenants, including, among others, (i) the provision of annual and quarterly financial statements, management rights and insurance policies and (ii) restrictions on incurring debt, granting liens, making acquisitions, making loans, paying dividends, dissolving, and entering into leases and asset sales. The Term Loan Facility also provides for events of default, including, among others, payment, bankruptcy, covenant, representation and warranty, change of control, judgment and material adverse effect defaults at the discretion of the lender.

The Term Loan Facility 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 the NY Green Bank has the right to cause a wholly owned subsidiary of the Company to replace the Company in performing the maintenance services under such customer agreement.

Hercules Capital, Inc. Loan

On June 27, 2016, Plug Power Inc. and its subsidiaries Emerging Power Inc. and Emergent Power Inc. entered into a loan and security agreement with Hercules Capital, Inc. (Hercules) pursuant to which Hercules agreed to make available to the Company a secured term loan facility in the amount of up to $40.0 million (the Hercules Term Loan Facility), subject to certain terms and conditions. The Company borrowed $25.0 million on the date of closing and incurred transaction costs of $1.4 million.

On December 22, 2016, the Company prepaid in full its obligations under the Hercules Loan and Security Agreement and the Hercules Term Loan Facility was terminated. The Company used the net proceeds of preferred and common stock public offerings, together with existing cash, to repay the principal amount outstanding under the Hercules Term Loan Facility of $25.0 million and pay the interest, fees and expenses related to such repayment of $4.0 million. In addition, the Company recorded accelerated amortization of debt issuance costs of $1.1 million. The interest, fees, expenses and amortization have been included within interest and other (expense) income, net on the consolidated statements of operations.

13. Accrual for Loss Contracts Related to Service

Management reviews projected estimated service costs related to GenCare extended maintenance contracts to determine if loss contracts exist. A variety of assumptions are included in the estimates of future service costs, including the life of parts, failure rates of parts, and future costs of parts and labor. The Company had an accrual for loss contracts related to service of zero and $0.8 million, as of December 31, 2017 and 2016, respectively. During the year ended

Notes to Consolidated Financial Statements (Continued)

December 31, 2016, the Company renegotiated one of these service contracts. As a result, the projected costs over the remaining life of the amended contract were estimated to be reduced and the Company recognized a gain within cost of revenue where the original charge of $10.1 million was recorded in 2015.

The following table summarizes activity related to the accrual for loss contracts related to service during the years ended December 31, 2017 and 2016 (in thousands):

	Year ended	
	December 31, 2017	December 31, 2016
Beginning balance	$ 752	$ 10,050
Provision	—	(1,071)
Reductions for losses realized	(752)	(8,227)
Ending balance	$ —	$ 752

14. 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. 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 $.01 per share. As of December 31, 2017 and 2016, there were no shares of Series A Junior Participating Cumulative Preferred Stock issued and outstanding. See Note 15, Redeemable Preferred Stock, for a description of the Company's issued and outstanding Series C and D redeemable preferred stock.

Common Stock and Warrants

The Company has one class of common stock, par value $0.01 per share. Each share of the Company's common stock is entitled to one vote on all matters submitted to stockholders. There were 228,486,366 and 191,141,646 shares of common stock outstanding as of December 31, 2017 and 2016, respectively.

On December 22, 2016, the Company issued warrants to purchase 10,501,500 shares of common stock in connection with offerings of common stock and Series D Redeemable Preferred Stock at an exercise price of $1.50 per share. On April 12, 2017, the Company and Tech Opportunities LLC ("Tech Opps") entered into an agreement, pursuant to which Tech Opps exercised in full its warrants to purchase an aggregate of 10,501,500 shares of common stock. The net proceeds received by the Company pursuant to the exercise of the existing warrants was $15.1 million and the Company issued to Tech Opps warrants to acquire up to 5,250,750 shares of common stock at an exercise price of $2.69 per share. The warrants were exercisable as of October 12, 2017 and will expire on October 12, 2019. The warrants are subject to anti-dilution provisions in the event of issuance of additional shares of common stock and certain other conditions, as further described in the warrant agreement.

During April 2017, warrants issued in January 2014 as part of an underwritten public offering with Heights Capital Management Inc., were exercised in full to purchase an aggregate of 4,000,000 shares of the Company's common stock, at an exercise price of $0.65 per share. The aggregate cash exercise price paid to the Company pursuant to the exercise of the warrants was $2.6 million.

During 2013, the Company completed a series of underwritten public offerings. One of the underwritten public offerings included accompanying warrants to purchase common stock. As of December 31, 2017 and 2016, 100 warrants with an exercise price of $0.15 per share, remain outstanding. During February 2018, the remaining 100 warrants were exercised.

Notes to Consolidated Financial Statements (Continued)

During the years ended December 31, 2017, 2016 and 2015, warrants were exercised, resulting in the issuance of shares of common stock of 14,501,500, 119,879, and 26,882, respectively, and gross proceeds of $18.4 million, $111 thousand, and $25 thousand, respectively, and increase of additional paid-in capital and reduction of the warrant liability by $27.1 million, $141 thousand, and $22 thousand, respectively. At December 31, 2017 and 2016, the Company has 5,250,850 and 14,501,600 warrants outstanding and exercisable that are measured at fair value and classified as a liability on the consolidated balance sheets.

During 2017, additional 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 Notes 4 and 5, respectively. In connection with these agreements, warrants to acquire 18,913,869 shares of common stock have vested and are therefore exercisable. These warrants are measured at fair value that are classified as equity instruments on the consolidated balance sheets.

At Market Issuance Sales Agreement

On April 3, 2017, the Company entered into an At Market Issuance Sales Agreement (the "Sales Agreement") with FBR Capital Markets & Co., as sales agent ("FBR"), pursuant to which the Company may offer and sell, from time to time through FBR, shares of common stock par value $0.01 per share having an aggregate offering price of up to $75.0 million. Under the Sales Agreement, in no event shall the Company issue or sell through FBR such a number of shares that exceeds the number of shares or dollar amount of common stock registered. During 2017, the Company issued 10,170,759 shares of common stock and raised net proceeds, after accruals, underwriting discounts and commissions and other fees and expenses, of $23.0 million, pursuant to the Sales Agreement.

15. Redeemable Preferred Stock

In December 2016, the Company completed an offering of an aggregate of 18,500 shares of the Company's Series D Redeemable Preferred Stock, par value $0.01 per share (Series D Preferred Stock) and warrants to purchase 7,381,500 shares of the Company's common stock, par value $0.01 per share (Common Stock), resulting in aggregate proceeds of approximately $15.6 million. During the year ended December 31, 2017, the Company redeemed 3,700 shares of the Series D Preferred Stock, at an aggregate redemption price of approximately $3.7 million. On April 5, 2017, all of the remaining outstanding shares of the Series D Preferred Stock were converted into an aggregate of 9,548,393 shares of the Company's common stock at a conversion price of $1.55. The conversion was done at the election of the holder in accordance with the terms of the offering. After the conversion, no shares of Series D Preferred Stock remain outstanding. In December 2017, the series was deauthorized by the Board of Directors.

During 2017, 2,611 shares of the Company's Series C Redeemable Preferred Stock, par value $0.01 per share (Series C Preferred Stock) were converted to common stock. At December 31, 2017, there were outstanding 2,620 shares of Series C Preferred Stock.

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company, or other deemed liquidation event, as defined in the Securities Purchase Agreement, the holder of the Series C Redeemable Preferred Stock will be entitled to be paid an amount per share equal to the greater of (i) the original issue price, plus any accrued but unpaid dividends or (ii) the amount per share that would have been payable had all shares of the Series C Redeemable Preferred Stock been converted to shares of common stock immediately prior to such liquidation event. The Series C Redeemable Preferred Stock is redeemable at the election of the holder of the Series C Redeemable Preferred Stock or the Company.

The holder of the Series C Redeemable Preferred Stock is entitled to receive dividends at a rate of 8% per annum, based on the original issue price per share of $248.794, payable in equal quarterly installments in cash or in shares of Common Stock, at the Company's option. During the years ended December 31, 2017, 2016 and 2015 dividends have been paid in the form of shares of Common Stock. Each share of Series C Redeemable Preferred Stock is convertible into shares of Common Stock with the number of shares of Common Stock issuable upon conversion determined by dividing the original issue price per share of $248.794 by the conversion price in effect at the time the shares are converted. The

Notes to Consolidated Financial Statements (Continued)

conversion price of the Series C Redeemable Preferred Stock as of December 31, 2017 and 2016 was $0.2343. The Series C Redeemable Preferred Stock votes together with the Common Stock on an as-converted basis on all matters.

16. Employee Benefit Plans

2011 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 may be 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 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 has been increased to 30.0 million. For the years ended December 31, 2017, 2016, and 2015, the Company recorded expense of approximately $9.0 million, $9.0 million, and $7.5 million, respectively, in connection with the 2011 Stock Option and Incentive Plan.

At December 31, 2017, there were outstanding options to purchase approximately 19.9 million shares of Common Stock and 8.3 million shares available for future awards under the 2011 Plan, including adjustments for other types of share-based awards. Options for employees issued under this plan generally vest in equal annual installments over three years and expire ten years after issuance. Options granted to members of the Board generally vest one year after issuance. To date, options granted under the 2011 Plan have vesting provisions ranging from one to three years in duration and expire ten years after issuance.

Compensation cost associated with employee stock options represented approximately $8.6 million, $9.0 million, and $7.5 million of the total share-based payment expense recorded for the years ended December 31, 2017, 2016, and 2015, respectively. The Company estimates the fair value of 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 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 5,485,863, 3,702,500, and 3,960,000 options granted during the years ended December 31, 2017, 2016 and 2015, respectively, were as follows:

	2017	2016	2015
Expected term of options (years)	6	6	6
Risk free interest rate	1.89% - 2.16%	1.27% - 1.69%	1.52% - 1.87%
Volatility	99.24%-102.16%	103.87% - 104.88%	104.03% - 105.29%

There was no expected dividend yield for the employee stock options granted.

The Company's estimate of an expected option term was calculated in accordance with the simplified method for calculating the expected term assumption. The estimated stock price volatility was derived from the Company's actual historic stock prices over the past six years, which represents the Company's best estimate of expected volatility.

Notes to Consolidated Financial Statements (Continued)

A summary of stock option activity for the year December 31, 2017 is as follows (in thousands except share amounts):

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms	Aggregate Intrinsic Value
Options outstanding at December 31, 2016	14,760,054	$ 2.90	7.9	
Granted	5,485,863	2.12		
Exercised	(140,833)	0.77		
Forfeited	(213,475)	3.56		
Expired	(19,580)	32.84		
Options outstanding at December 31, 2017	19,872,029	$ 2.66	7.7	$ 7,779
Options exercisable at December 31, 2017	10,892,822	3.15	6.5	4,990
Options unvested at December 31, 2017	8,979,207	$ 2.06	9.1	2,789

The weighted average grant date fair value of options granted during the years ended December 31, 2017, 2016 and 2015 was $1.67, $1.39, and $1.99, respectively. As of December 31, 2017, there was approximately $11.2 million of unrecognized compensation cost related to stock option awards to be recognized over the next three years with all of this expected to vest. The total fair value of stock options that vested during the years ended December 31, 2017 and 2016 was approximately $9.6 million and $8.6 million, respectively.

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 restricted stock awards of approximately $335 thousand, $88 thousand, and $118 thousand, for the years ended December 31, 2017, 2016 and 2015, respectively. Additionally, for the years ended December 31, 2017, 2016 and 2015, there was $208 thousand, $43 thousand, and $132 thousand, respectively, of unrecognized compensation cost related to restricted stock awards to be recognized over the next three years.

A summary of restricted stock activity for the year ended December 31, 2017 is as follows (in thousands except share amounts):

	Shares	Aggregate Intrinsic Value
Unvested restricted stock at December 31, 2016	13,333	
Granted	234,744	
Vested	(13,333)	
Unvested restricted stock at December 31, 2017	234,744	$ 554

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.

The Company's expense for this plan was approximately $1.6 million, $1.4 million, and $0.8 million for years ended December 31, 2017, 2016 and 2015, respectively.

Non-Employee Director Compensation

Each non-employee director is paid an annual retainer for their services, in the form of either cash or stock compensation. The Company granted 148,077, 105,479, and 89,490 shares of stock to non-employee directors as compensation for the years ended December 31, 2017, 2016, and 2015, 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 for this plan was approximately $276 thousand, $267 thousand, and $267 thousand for the years ended December 31, 2017, 2016, and 2015 respectively.

17. Fair Value Measurements

The following table summarizes the financial instruments measured at fair value on a recurring basis in the consolidated balance sheets (in thousands):

	Total	Quoted Prices in Active Markets for Identical Items (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Balance at December 31, 2017				
Common stock warrant liability	$ 4,391	$ —	$ —	$ 4,391
Balance at December 31, 2016				
Common stock warrant liability	$ 11,387	$ —	$ —	$ 11,387

Derivative Liabilities

The Company's common stock warrant liability represents the only asset or liability classified financial instrument measured at fair value on a recurring basis in the consolidated balance sheets. The fair value measurement is determined by using Level 3 inputs due to the lack of active and observable markets that can be used to price identical assets. Level 3 inputs are unobservable inputs and should be used to determine fair value only when observable inputs are not available. Unobservable inputs should be developed based on the best information available in the circumstances, which might include internally generated data and assumptions being used to price the asset or liability.

Fair value of the common stock warrant liability is based on the Black-Scholes pricing model which is based, in part, upon unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions.

The Company used the following assumptions for its liability-classified common stock warrants:

	Year ended	
	December 31, 2017	December 31, 2016
Risk-free interest rate	1.01% - 2.01%	0.87% - 1.96%
Volatility	43.60% - 108.77%	49.0% - 103.41%
Expected average term	0.14 - 5.23	1.14 - 5.47

There was no expected dividend yield for the warrants granted.

If factors change and different assumptions are used, the warrant liability and the change in estimated fair value could be materially different. Generally, as the market price of our common stock increases, the fair value of the warrants increase, and conversely, as the market price of our common stock decreases, the fair value of the warrants decrease. Also, a significant increase in the volatility of the market price of the Company's common stock, in isolation, would result in significantly higher fair value measurements; and a significant decrease in volatility would result in significantly lower fair value measurements.

Notes to Consolidated Financial Statements (Continued)

The following table shows the activity in the common stock warrant liability (in thousands):

Common stock warrant liability	2017	2016
Beginning of period	$ 11,387	$ 5,735
Change in fair value of common stock warrants	15,188	(4,344)
Issuance of common stock warrants	4,905	10,137
Exercise of common stock warrants	(27,089)	(141)
End of period	$ 4,391	$ 11,387

Equity Instruments

The fair value measurement of the Company's equity-classified common stock warrants further described in Note 4, Amazon.com Inc. Transaction Agreement, and Note 5, Wal-Mart Stores Inc. Transaction Agreement, is determined by using Level 3 inputs due to the lack of active and observable markets that can be used to price identical instruments.

Fair value of the equity-classified common stock warrants is based on the Monte Carlo pricing model which is based, in part, upon unobservable inputs for which there is little or no market data, requiring the Company to develop its own assumptions.

The Company used the following assumptions for its equity-classified common stock warrants for the year ended December 31, 2017:

Risk-free interest rate	2.30% - 2.47%
Volatility	85.00% - 90.00%
Expected average term	9.26 - 10.00

The Monte Carlo pricing models used in the determination of the fair value of the equity-classified warrants also incorporate assumptions involving future revenues associated with Amazon and Walmart, and related timing.

The following table represents the fair value per warrant on the execution date of the transaction agreements and as of December 31, 2017:

	Amazon Warrant Shares	Walmart Warrant Shares
Issuance date - first tranche	$ 1.15	$ 1.88
As of vesting date - second tranche	2.16	—
As of period end - second tranche	2.13	1.92

18. Income Taxes

The components of loss before income taxes and the income tax benefit for the years ended December 31, 2017, 2016 and 2015, by jurisdiction, are as follows (in thousands):

	2017			2016			2015		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Loss before income taxes	$ (125,871)	$ (1,209)	$ (127,080)	$ (56,317)	$ (1,562)	$ (57,879)	$ (54,921)	$ (769)	$ (55,690)
Income tax benefit	—	—	—	—	392	392	—	—	—
Net loss attributable to the Company	$ (125,871)	$ (1,209)	$ (127,080)	$ (56,317)	$ (1,170)	$ (57,487)	$ (54,921)	$ (769)	$ (55,690)

Notes to Consolidated Financial Statements (Continued)

The significant components of deferred income tax expense (benefit) for the years ended December 31, 2017, 2016 and 2015, by jurisdiction, are as follows (in thousands):

	2017			2016			2015		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Deferred tax expense (benefit)	$ 7,675	$ (531)	$ 7,144	$ (6,420)	$ (1,299)	$ (7,719)	$ (14,237)	$ 893	$ (13,344)
Net operating loss carryforward generated	(19,117)	(17)	(19,134)	(16,727)	(2,827)	(19,554)	(8,345)	895	(7,450)
Rate change impact on net operating loss carryforwards	23,609	—	23,609	—	—	—	—	—	—
Valuation allowance increase (decrease)	(12,167)	548	(11,619)	23,147	4,126	27,273	22,582	(1,788)	20,794
Provision for income taxes	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —

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

	2017	2016	2015
U.S. Federal statutory tax rate	(35.0)%	(35.0)%	(35.0)%
Deferred state taxes	(1.4)%	(3.1)%	(3.1)%
Common stock warrant liability	4.2 %	(2.6)%	(2.3)%
Provision to return and deferred tax asset adjustments	5.9 %	(2.9)%	— %
Change in unrecognized tax benefits	— %	(0.7)%	— %
Change in U.S. Federal statutory tax rate	33.5 %	—	— %
Other, net	2.0 %	(1.6)%	0.3 %
Change in valuation allowance	(9.2)%	45.2 %	40.1 %
	0.0 %	(0.7)%	0.0 %

Notes to Consolidated Financial Statements (Continued)

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, 2017 and 2016 are as follows (in thousands):

	U.S.		Foreign		Total	
	2017	2016	2017	2016	2017	2016
Intangible assets	$ —	$ —	$ 1,698	$ 1,614	$ 1,698	$ 1,614
Deferred revenue	8,083	8,713	—	—	8,083	8,713
Other reserves and accruals	850	1,703	—	—	850	1,703
Tax credit carryforwards	1,378	1,218	1,304	1,216	2,682	2,434
Property, plant and equipment	—	754	—	—	—	754
Amortization of stock-based compensation	6,904	15,539	—	—	6,904	15,539
Non-compensatory warrants	4,555	—	—	—	4,555	—
Capitalized research & development expenditures	14,496	16,935	4,666	4,352	19,162	21,287
Net operating loss carryforwards	39,437	43,929	8,641	8,624	48,078	52,553
Total deferred tax asset	75,703	88,791	16,309	15,806	92,012	104,597
Valuation allowance	(73,564)	(85,731)	(16,194)	(15,646)	(89,758)	(101,377)
Net deferred tax assets	$ 2,139	$ 3,060	$ 115	$ 160	$ 2,254	$ 3,220
Intangible assets	(76)	(177)	—	—	(76)	(177)
Property, plant and equipment	(1,854)	—	(115)	(160)	(1,969)	(160)
Section 382 recognized built in loss	(209)	(2,883)	—	—	(209)	(2,883)
Net deferred tax liability	$ (2,139)	$ (3,060)	$ (115)	$ (160)	$ (2,254)	$ (3,220)
Net	$ —	$ —	$ —	$ —	$ —	$ —

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, 2017 and 2016 of approximately $89.8 million and $101.4 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	$ 19,117	$ 261	$ 19,378
Increase (decrease) in valuation allowance for current year net increase (decrease) in deferred tax assets other than net operating losses	11,930	(254)	11,676
Increase in valuation allowance as a result of foreign currency fluctuation	—	541	541
Decrease in valuation allowance due to change in tax rates	(43,214)	—	(43,214)
Net decrease (increase) in valuation allowance	$ (12,167)	$ 548	$ (11,619)

The deferred tax assets have been 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 may not be realized due to cumulative losses.

Under Internal Revenue Code (IRC) Section 382, 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 shareholders a change of ownership has occurred under the provisions of IRC Section 382, the Company's federal and state net operating loss carryforwards could be subject to significant IRC Section 382 limitations.

Based on studies of the changes in ownership of the Company, it has been determined that a IRC Section 382 ownership change occurred in 2013 that limited the amount of pre-change net operating losses that can be used in future years to $13.5 million. Net operating losses of $152.4 million incurred after the most recent ownership change are not subject to IRC Section 382 and are available for use in future years. Accordingly, the Company's deferred tax assets

Notes to Consolidated Financial Statements (Continued)

include $165.9 million of U.S. net operating loss carryforwards. The net operating loss carryforwards available at December 31, 2017, if unused will expire at various dates from 2032 through 2037.

The ownership change in 2013 also resulted in net unrealized built-in losses per IRS Notice 2003-65 which should result in recognized built in losses during the five year recognition period. These recognized built in losses will translate into unfavorable book to tax add backs in the Company's 2018 U.S corporate income tax return of approximately $0.9 million that resulted in a gross deferred tax liability of $0.2 million at December 31, 2017. This gross deferred tax liability offsets existing gross deferred tax assets effectively reducing the valuation allowance. This has no impact on the Company's current financial position, results of operations, or cash flows because of the full valuation allowance.

Approximately $1.4 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, 2017. The remaining credit carryforwards will expire during the periods 2033 through 2037.

At December 31, 2017, the Company has unused Canadian net operating loss carryforwards of approximately $14.6 million. The net operating loss carryforwards if unused will expire at various dates from 2026 through 2034. At December 31, 2017, the Company has Scientific Research and Experimental Development (SR&ED) expenditures of $18 million available to offset future taxable income. These (SR&ED) expenditures have no expiry date. At December 31, 2017, 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, 2017, the Company has unused French net operating loss carryforwards of approximately $14.6 million. The net operating loss may carryforward indefinitely or until the Company changes its activity.

As of December 31, 2017, the Company has no un-repatriated foreign earnings.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	2017	2016	2015
Unrecognized tax benefits balance at beginning of year	$ —	$ 437	$ 522
Reductions for tax positions of prior years	—	(469)	—
Currency translation	—	32	(85)
Unrecognized tax benefits balance at end of year	$ —	$ —	$ 437

The Company recognizes accrued interest and penalties related to unrecognized tax benefits as a component of income tax expense. The Company had $0.4 million of interest and penalties accrued at December 31, 2015, which was released in 2016 upon the expiration of the statute of limitations.

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 US range from 2014 to 2017. Open tax years in the foreign jurisdictions range from 2009 to 2017. 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, 2017, the Company was not under audit in the U.S. or non-U.S. taxing jurisdictions.

The Tax Cuts and Jobs Act (the "Act") was enacted on December 22, 2017. The Act makes broad and complex changes to the U.S. tax code including a reduction of the U.S. federal corporate tax rate from 35 percent to 21 percent effective for the 2018 tax year. Accordingly, federal deferred tax assets were written down by $42.5 million to reflect the reduction in tax rates and the valuation allowance was also reduced by $42.5 million resulting in no change to the net deferred tax asset. The deferred tax asset adjustments reduced the tax benefit of the current year losses by 33.5% as shown in the effective tax rate schedule. The valuation allowance rate impact includes an offsetting 33.5% for the tax rate reduction resulting in no change to the provision for income taxes.

Notes to Consolidated Financial Statements (Continued)

The Act also requires companies to pay a one-time transition tax on certain unrepatriated foreign earnings and profits from foreign subsidiaries. No transition tax applies as the Company's foreign subsidiaries have no earnings and profits.

19. **Commitments and Contingencies**

Operating Leases

As of December 31, 2017 and 2016, the Company has several non-cancelable operating leases (as lessor and as lessee), primarily associated with sale/leaseback transactions that are partially secured by restricted cash (see also Note 1, Nature of Operations) as summarized below that expire over the next six years. Minimum rent payments under operating leases are recognized on a straight-line basis over the term of the lease. Leases where the Company is the lessor contain termination clauses with associated penalties, the amount of which cause the likelihood of cancellation to be remote.

Future minimum lease payments under non-cancelable operating leases (with initial or remaining lease terms in excess of one year) as of December 31, 2017 are (in thousands):

	As Lessor	As Lessee
2018	$ 23,211	$ 13,082
2019	23,079	11,951
2020	21,388	10,795
2021	16,796	6,463
2022	8,545	1,137
2023 and thereafter	7,316	963
Total future minimum lease payments	$ 100,335	$ 44,391

Rental expense for all operating leases were $13.4 million, $13.2 million, and $6.2 million for years ended December 31, 2017, 2016, and 2015, respectively.

At December 31, 2017 and 2016, prepaid rent and security deposits associated with sale/leaseback transactions were $11.3 million and $11.8 million, respectively. At December 31, 2017, $1.8 million of the amount is included in prepaid expenses and other current assets and $9.5 million was included in other assets on the consolidated balance sheet. At December 31, 2016, $1.9 million of this amount was included in prepaid expenses and other current assets and $9.9 million was included in other assets on the consolidated balance sheet.

Finance Obligation

During the years ended December 31, 2017 and 2016, the Company entered into sale/leaseback transactions, which were accounted for as capital leases and reported as part of finance obligations on the Company's consolidated balance sheet. The outstanding balance of these finance obligations at December 31, 2017 and 2016 was $61.0 million and $29.4 million, respectively. The fair value of the finance obligation approximates the carrying value as of December 31, 2017.

Notes to Consolidated Financial Statements (Continued)

Future minimum lease payments under non-cancelable capital leases (with initial or remaining lease terms in excess of one year) as of December 31, 2017 are (in thousands):

	Total Payments	Imputed Interest	Net Present Value
2018	$ 36,018	$ 4,226	$ 31,792
2019	6,042	2,230	3,812
2020	6,042	1,806	4,236
2021	6,042	1,321	4,721
2022	4,296	707	3,589
2023 and thereafter	11,591	985	10,606
Total future minimum lease payments	$ 70,031	$ 11,275	$ 58,756

In prior years, the Company received cash for 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, 2017 is $10.4 million, $2.5 million and $7.9 million of which is classified as short term and long term, respectively, on the accompany consolidated balance sheet. The outstanding balance of this obligation at December 31, 2016 was $12.8 million, $2.6 million and $10.2 million of which is classified as short term and long term, respectively, on the accompany consolidated balance sheet. The amount is amortized using the effective interest method. The fair value of this finance obligation approximates the carrying value as of December 31, 2017.

The Company has a capital lease associated with its property in Latham, New York. Liabilities relating to this agreement of $2.3 million and $2.4 million have been recorded as a finance obligation, in the accompanying consolidated balance sheets as of December 31, 2017 and December 31, 2016, respectively. The fair value of this finance obligation approximates the carrying value as of December 31, 2017.

Restricted Cash

The Company has entered into sale/leaseback agreements associated with its products and services. In connection with these agreements, cash of $42.2 million is required to be restricted as security and will be released over the lease term. The Company has additional letters of credit backed by security deposits as disclosed in the Operating Leases section above.

The Company also has letters of credit in the aggregate amount of $1.0 million associated with an agreement to provide hydrogen infrastructure and hydrogen to a customer at its distribution center and with a finance obligation from the sale/leaseback of its building. Cash collateralizing these letters of credit is considered restricted cash.

Litigation

Legal matters are defended and handled in the ordinary course of business. The Company has established accruals for matters for which management considers a loss to be probable and reasonably estimable. It is the opinion of management that facts known at the present time do not indicate that such litigation, after taking into account insurance coverage and the aforementioned accruals, will have a material adverse impact on our results of operations, financial position, or cash flows.

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, 2017, three customers comprise approximately 59.0% of the total accounts receivable balance. At December 31, 2016, two customers comprised approximately 59.9% of the total accounts receivable balance.

Notes to Consolidated Financial Statements (Continued)

For the year ended December 31, 2017, 71.8% of total consolidated revenues were associated primarily with two customers. For the year ended December 31, 2016 and 2015, 34.1% and 56.7% of total consolidated revenues were associated primarily with one customer.

20. Unaudited Quarterly Financial Data (in thousands, except per share data)

	Quarters ended			
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017
Revenue:				
Sales of fuel cell systems and related infrastructure	$ 2,197	$ 8,560	$ 45,179	$ 15,352
Services performed on fuel cell systems and related infrastructure	5,149	5,049	5,842	6,734
Power Purchase Agreements	4,311	4,945	5,428	5,597
Fuel delivered to customers	3,491	3,986	4,850	5,975
Other	87	64	128	5
Gross revenue	15,235	22,604	61,427	33,663
Provision for common stock warrants	—	(1,820)	(26,057)	(1,790)
Net revenue	15,235	20,784	35,370	31,873
Gross loss	(4,479)	(3,543)	(19,410)	(657)
Operating expenses (1)	15,143	24,529	16,971	17,060
Operating loss	(19,622)	(28,072)	(36,381)	(17,717)
Net loss attributable to common shareholders	(27,074)	(42,645)	(41,008)	(19,451)
Loss per share:				
Basic and Diluted	$ (0.14)	$ (0.19)	$ (0.18)	$ (0.09)

	Quarters ended			
	March 31, 2016	June 30, 2016	September 30, 2016	December 31, 2016
Revenue:				
Sales of fuel cell systems and related infrastructure	$ 5,218	$ 9,121	$ 5,653	$ 19,993
Services performed on fuel cell systems and related infrastructure	5,273	5,360	4,763	5,060
Power Purchase Agreements	2,706	3,062	3,858	4,061
Fuel delivered to customers	2,010	2,638	2,909	3,359
Other	125	278	376	105
Gross revenue	15,332	20,459	17,559	32,578
Gross profit (2)	170	384	381	3,011
Operating expenses	13,120	13,760	13,637	14,948
Operating loss	(12,950)	(13,376)	(13,256)	(11,937)
Net loss attributable to common shareholders	(11,780)	(13,154)	(13,420)	(19,237)
Loss per share:				
Basic and Diluted	$ (0.07)	$ (0.07)	$ (0.07)	$ (0.11)

(1) Operating expenses in the second quarter of 2017 includes the impact of $7.1 million charge related to the fair value of Amazon Warrant Shares as discussed in Note 4, Amazon.com, Inc. Transaction Agreement.

(2) Gross profit in the second quarter of 2016 includes the impact of a ($1.1 million) provision for loss contracts related to service recorded by the Company, respectively, as discussed in Note 13, Accrual for Loss Contracts Related to Service.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Plug Power Inc.:

We consent to the incorporation by reference in the registration statements on Form S-3 (Nos. 333- 219079, 333-214737, and 333-189056) and Form S-8 (Nos. 333-222260, 333-200912, 333-175907, 333-90277, 333-90275, and 333-72734) of Plug Power Inc. of our report dated March 9, 2018, with respect to the consolidated balance sheets of Plug Power Inc. and subsidiaries as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for each of the years in the three-year period ended December 31, 2017, and the related notes (collectively, the "consolidated financial statements"), and the effectiveness of internal control over financial reporting as of December 31, 2017, which report appears in the December 31, 2017 annual report on Form 10-K of Plug Power Inc.

/s/ KPMG LLP

Albany, New York
March 9, 2018

Exhibit 31.1

I, Andrew Marsh, certify that:

1. I have reviewed this annual report on Form 10-K of Plug Power Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2018

by: /s/ Andrew Marsh
Andrew Marsh
Chief Executive Officer

Exhibit 31.2

I, Paul B. Middleton certify that:

1. I have reviewed this annual report on Form 10-K of Plug Power Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 9, 2018

by: /s/ Paul B. Middleton

Paul B. Middleton

Chief Financial Officer

Exhibit 32.1

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, 2017 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 9, 2018

Exhibit 32.2

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, 2017 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 9, 2018