PLUG POWER INC
Form 10-K
March 10, 2017
Table of Contents

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, 2016

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, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer,” “non-accelerated filer,“ and “smaller reporting company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer   Accelerated filer   Non-accelerated filer   Smaller reporting company

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 voting and non-voting common equity of the registrant held by non-affiliates of the registrant on June 30, 2016 was $332,655,420.

As of March 10, 2017, 191,185,084 shares of the registrant’s common stock were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

Table of Contents

INDEX TO FORM 10 K

1

Table of Contents

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,” “project of such words or other similar words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward looking statements. Investors are cautioned not to unduly rely on forward looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to: the risk that we continue to incur losses and might never achieve or maintain profitability; the risk that we will need to raise additional capital to fund our operations and such capital may not be available to us; the risk that our lack of extensive experience in manufacturing and marketing products may impact our ability to manufacture and market products on a profitable and large scale commercial basis; the risk that unit orders will not ship, be installed and/or converted to revenue, in whole or in part; the risk that a loss of one or more of our major customers could result in a material adverse effect on our financial condition; the risk that a sale of a significant number of shares of stock could depress the market price of our common stock; the risk of potential losses related to any product liability claims or contract disputes; the risk of loss related to an inability to maintain an effective system of internal controls; our ability to attract and maintain key personnel; the risks related to the use of flammable fuels in our products; the risk that pending orders may not convert to purchase orders, in whole or in part; the cost and timing of developing, marketing and selling our products and our ability to raise the necessary capital to fund such costs; 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 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; market acceptance of our products and services, including GenDrive units; our ability to establish and maintain relationships with third parties with respect to product development, manufacturing, distribution and servicing and the supply of key product components; the cost and availability of components and parts for our products; our ability to develop commercially viable products; our ability to reduce product and manufacturing costs; our ability to successfully market, distribute and service our products and services internationally; our ability to improve system reliability for our products; competitive factors, such as price competition and competition from other traditional and alternative energy companies; our ability to protect our intellectual property; the cost of complying with current and future federal, state and international governmental regulations; the risks associated with potential future acquisitions; the volatility of our stock price; 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 fuel cell systems used primarily for the material handling and stationary power market.

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 delivery, storage and refueling solutions for customer locations. Hydrogen can also be obtained from the electrolysis of water, or produced on-

Table of Contents

site at consumer locations through a process known as reformation. Currently, the Company predominantly obtains hydrogen by purchasing it from fuel suppliers for resale to customers.

We provide and continue to develop commercially viable hydrogen and fuel cell product solutions to replace lead acid batteries in 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 (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 a robust, reliable and sustainable power solution. Our current products and services include:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system providing power to material handling vehicles;

GenFuel: GenFuel is our hydrogen fueling delivery system;

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

GenSure: GenSure (formerly ReliOn) 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 with GenFuel and GenCare, offering complete simplicity to customers transitioning to fuel cell power;

ProGen: ProGen is our fuel cell engine technology, under development for use in mobility and stationary fuel cell systems;

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.

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 14,000 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

Table of Contents

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

We provide and continue to develop commercially viable hydrogen and fuel cell product solutions to replace lead acid batteries in 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 (forklifts and electric industrial vehicles) at multi shift high volume manufacturing and high throughput distribution sites, as well as on-road vehicles, such as delivery vans, 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 a robust, reliable and sustainable power solution. Our current products and services include:

GenKey: GenKey is our turn key solution offering complete simplicity to customers transitioning their material handling vehicles to fuel cell power. GenKey provides a “one stop shopping” option for our customers, combining GenDrive next generation fuel cells with our GenFuel and GenCare products, described more fully below. Our GenKey offering allows us to handle power, fueling, and service for our customers, which in turn allows the customers to focus on their business and productivity. Financing options are available to GenKey customers via our GenFund platform.

GenDrive: GenDrive is a hydrogen fueled PEM fuel cell system providing power to material handling vehicles. Income is generated from both the sale of GenDrive systems and the providing of power generating equipment via a Power Purchase Agreement (PPA).

GenFuel: GenFuel is our hydrogen fueling delivery system, designed to allow customers to easily refuel our GenDrive units. We also sell fuel delivered to customers sourced from industrial gas suppliers.

GenCare: GenCare is our ongoing maintenance program for GenDrive fuel cells, GenSure products and GenFuel products. GenCare includes advanced system monitoring, preventive maintenance, periodic system enhancements, parts inventory logs, and rapid response onsite service by trained GenCare technicians.

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.

ProGen: ProGen is our fuel cell engine technology, under development for use in mobility and stationary fuel cell systems. ProGen units will be used in mobility applications such as logistics vehicles, delivery vans, ground support equipment, range extenders and electric passenger vehicles.

Table of Contents

GenFund: GenFund represents a collaboration between Plug Power and recognized asset leasing organizations to provide cost efficient and seamless financing solutions to customers.

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 2% 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 market, 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 2016 approximated $280.0 million compared to total orders in 2015 of $205.3 million. The Company's backlog for products and services as of December 31, 2016 was approximately $382.5 million, compared to the Company's backlog as of December 31, 2015 of approximately $235.6 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, 2016, the only customer exceeding 10% of total consolidated revenues was Walmart, which accounted for 34.1% of our total consolidated revenues. A loss or decline in business with this 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 aggressive 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. Over the past several years, there has been price competition in these markets. In addition to overall pricing, 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

Table of Contents

competitors attempt to imitate our approach with their own offerings. These competitors may have greater resources than we currently have.

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 146 issued patents currently active with the USPTO. At the close of 2016, we had five U.S. patent applications pending. Additionally, we have 21 trademarks registered with the USPTO and one trademark application 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.

Table of Contents

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 $21.2 million, $14.9 million, and $6.5 million during the years ended December 31, 2016, 2015 and 2014, respectively. We also had cost of research and development contract revenue of $0.9 million, $0.5 million and $3.2 million during the years ended December 31, 2016, 2015 and 2014, 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, 2016, we had 486 employees, including 44 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."

Our products and services face intense competition and we may be unable to compete successfully.

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, Canada and abroad, including, among others, major electric, oil, chemical, natural

Table of Contents

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.

We depend on a concentration of anchor customers for the majority of our revenues and the loss of any one or more of these customers, or a significant loss, reduction or rescheduling of orders from any of these customers, would have a material adverse effect on 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 years ended December 31, 2016 and 2015, 34.1% and 56.7%, respectively, of total consolidated revenues were associated primarily with Walmart. For the year ended December 31, 2014, 37.2% of total consolidated revenues were associated primarily with Walmart and Volkswagen, representing 24.1% and 13.1% of total consolidated revenues, respectively. 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. Any fluctuations in demand from such customers or other customers may negatively impact our business, financial condition and results of operations. If we are unable to broaden our customer base and expand relationships with potential customers, our business will continue to be impacted by unanticipated demand fluctuations due to our dependence on a small number of customers. Unanticipated demand fluctuations can have a negative impact on our revenues, business, financial condition, results of operations and cash flows. In addition, our dependence on a small number of major customers exposes us to numerous other risks, including: a slowdown or delay in a customer’s deployment of our products could significantly reduce demand for our products; reductions in a single customer’s forecasts and demand could result in excess inventories; the current or future economic conditions could negatively affect one or more of our major customers and cause them to significantly reduce operations, or file for bankruptcy; consolidation of customers can reduce demand as well as increase pricing pressure on our products due to increased purchasing leverage; each of our customers has significant purchasing leverage over us to require changes in sales terms including pricing, payment terms and product delivery schedules; and concentration of accounts receivable credit risk, which could have a material adverse effect on our business, financial condition, results of operations and cash flows if one of our major customers declared bankruptcy or delayed payment of their receivables.

The reduction or elimination of government subsidies and economic incentives for alternative energy technologies, or the failure to renew such subsidies and incentives could reduce demand for our products, lead to a reduction in our revenues, and adversely impact our operating results.

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. For example, while renewal discussions are ongoing, the investment tax credit under the U.S. tax code expired on December 31, 2016. 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.

The loss of one or more of our key supply partners or any material change in their product costs, product performance, or product availability 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.

Table of Contents

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 have incurred losses, anticipate continuing to incur losses and might never achieve or maintain profitability.

We have not achieved operating profitability in any quarter since our formation and we will continue to incur net losses until we can produce sufficient revenue to cover our costs. Our net losses attributable to the Company were approximately $57.5 million in 2016, $55.7 million in 2015, $88.5 million in 2014, $62.7 million in 2013 and $31.9 million in 2012. As of December 31, 2016, we had an accumulated deficit of $1.1 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, management 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.

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

We have experienced recurring operating losses and as of December 31, 2016, we had an accumulated deficit of approximately $1.1 billion. On December 31, 2016, we had cash and cash equivalents of $46.0 million, restricted cash of $54.6 million and net working capital of $44.4 million. This compares to $64.0 million, $47.8 million and $88.5 million, respectively, on December 31, 2015. 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

Table of Contents

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.

Our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers may 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 $53.6 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.

Unless we lower our product costs and improve reliability, our product sales could be adversely affected.

The actual cost of our product solutions is often higher than many established competing technologies. 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.

Delays in our product development could have a material impact on the profitable commercialization of our products.

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.

Our product sales and performance depends on the availability of hydrogen and our lack of control over or limited availability of such fuel may adversely impact our sales and product deployment.

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.

Table of Contents

Our purchase orders may not ship, be commissioned or installed, or convert to revenue, and our pending orders may not convert to purchase orders, which may have a material adverse effect on our revenue and cash flow.

Some of the orders we accept from customers require certain conditions or contingencies to be satisfied, or may be cancelled, prior to shipment or prior to commissioning or installation, some of which are outside of our control. 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 2016 approximated $280.0 million compared to total orders in 2015 of $205.3 million. The Company's backlog for products and services as of December 31, 2016 was approximately $382.5 million, compared to the Company's backlog as of December 31, 2015 of approximately $235.6 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 also have publicly discussed 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 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 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. In addition, any arrangement with a strategic partner may require us to issue a significant amount of equity securities to the partner, provide the partner with representation on our board of directors and/or commit significant financial resources to fund our product development efforts in exchange for their assistance or the contribution to us of intellectual property. Any such issuance of equity securities would reduce the percentage ownership of our then current stockholders. While we have entered into relationships with suppliers of some key components for our products, we do not know when or whether we will secure supply relationships for all required components and subsystems for our products, or whether such relationships will be on terms that will allow us to achieve our objectives. Our business prospects, results of operations and financial condition could be harmed if we fail to secure relationships with entities that can develop or supply the required components for our products and provide the required distribution and servicing support. Additionally, the agreements governing our current relationships allow for termination by our partners under certain circumstances, some of which are beyond our control. If any of our current strategic partners were to terminate any of its agreements with us, there could be a material adverse impact on the continued development and profitable commercialization of our products and the operation of our business, financial condition, results of operations and prospects.

We may never complete the research and development of certain commercially viable products, which may adversely affect our revenue, profitability and result in possible warranty claims.

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

Table of Contents

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.

Certain component quality issues have resulted in adjustments to our warranty reserves and the accrual for loss contracts, which negatively impacted our results, and unanticipated future product reliability and quality issues could impair our ability to service long term warranty and maintenance contracts profitably.

Quality issues have arisen with respect to certain components in certain products that are currently being used at customer sites. The product and service revenue contracts we entered into generally represent either extended maintenance contracts or include a one to two year product warranty to customers from date of installation. Currently 78% of our fuel cells deployed are under extended maintenance or under PPAs and only 2% of our fuel cells deployed are still under standard warranty. 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 the fourth quarter of 2015 for $10.1 million. If any unanticipated additional quality issues or warranty claims arise, additional material charges may be incurred in the future. We continue to work with our vendors on these component issues to recover charges taken and improve quality and reliability of components to prevent a reoccurrence of the isolated quality issues we have experienced. Quality issues also could cause profitable maintenance contracts to become unprofitable. When applicable, we are required to recognize such losses once identified. We will continue to evaluate our contracts for potential adjustments to our accruals in the future.

In addition, from time to time the Company experiences other unexpected design or product performance issues. The Company makes 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 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.

Our stock price and stock trading volume has been and could remain volatile, which could further adversely affect the market price of our stock, our ability to raise additional capital and/or cause us to be subject to securities class action litigation.

The market price of our common stock has historically experienced and may continue to experience significant volatility. In 2016, the sales price of our common stock fluctuated from a high of $2.28 per share to a low of $1.18 per share. Our progress in developing and commercializing our products, our quarterly operating results, announcements of

Table of Contents

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 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.

We currently are, and may from time to time become, a named party in contract disputes for which an adverse outcome could result in us incurring significant expenses, being liable for damages and subject to indemnification claims.

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 be forced to incur costs and expenses in connection with defending ourselves or in connection with the payment of any settlement or judgment or compliance with any injunctions 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.

Table of Contents

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, which could harm our brand and operating results.

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.

Provisions in our charter documents and Delaware law may discourage or delay an acquisition that stockholders may consider favorable, which could decrease the value of our common stock.

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.

Our business may become subject to future government regulation, which may impact our ability to market our products and costs and price of our products.

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.

We are increasingly dependent on technology in our operations and, if our technology fails, our business could be adversely affected.

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.

Table of Contents

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, 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 and prospects.

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.

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 that we believe could improve our ability to compete in our core markets or allow us to enter new markets. 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.

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, 2016.

Item 2. Properties

Our principal offices are located in Latham, New York. We lease a 140,000 square foot facility that includes our general 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, and in 2016, we began leasing 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.

Table of Contents

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, 2017, there were approximately 613 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 91,188. 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
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
2015		
1st Quarter	$ 3.38	$ 2.42
2nd Quarter	$ 2.85	$ 2.32
3rd Quarter	$ 2.85	$ 1.56
4th Quarter	$ 2.98	$ 1.76

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, 2011 and ending December 31, 2016. 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, 2011 and the reinvestment of all dividends, if any.

18

Table of Contents

Index	2011	2012	2013	2014	2015	2016
Plug Power Inc.	$ 100.00	$ 24.51	$ 75.98	$ 147.06	$ 103.43	$ 58.82
NASDAQ Clean Edge Green Energy Index	$ 100.00	$ 98.23	$ 185.37	$ 178.62	$ 165.57	$ 159.58
Russell 2000 Index	$ 100.00	$ 114.63	$ 157.05	$ 162.60	$ 153.31	$ 183.17

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.

Table of Contents

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 2016, 2015, 2014, 2013, and 2012, 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,				
	2016	2015	2014	2013	2012
	(in thousands, except share and per share data)				
Statements Of Operations:					
Revenue:					
Sales of fuel cell systems and related infrastructure	$ 39,985	$ 78,002	$ 48,306	$ 18,446	$ 20,792
Services performed on fuel cell systems and related infrastructure	20,456	14,012	9,909	6,659	3,615
Power Purchase Agreements	13,687	5,718	2,137	—	—
Fuel delivered to customers	10,916	5,075	1,959	—	—
Other	884	481	1,919	1,496	1,701
Total revenue	$ 85,928	$ 103,288	$ 64,230	$ 26,601	$ 26,108
Cost of revenue:					
Sales of fuel cell systems and related infrastructure	$ 29,543	$ 67,703	$ 43,378	$ 20,414	$ 25,354
Services performed on fuel cell systems and related infrastructure	22,649	22,937	19,256	14,929	12,304
Provision for loss contracts related to service	(1,071)	10,050	—	—	—
Power Purchase Agreements	16,132	5,253	1,052	—	—
Fuel delivered to customers	13,864	6,695	2,204	—	—
Other	865	540	3,202	2,506	2,805
Total cost of revenue	$ 81,982	$ 113,178	$ 69,092	$ 37,849	$ 40,463
Gross profit (loss)	$ 3,946	$ (9,890)	$ (4,862)	$ (11,248)	$ (14,355)
Research and development expense	21,177	14,948	6,469	3,121	5,434

Selling, general and administrative expenses	34,288	34,164	26,601	14,596	16,883
Other (expense) income, net	(6,360)	3,312	(50,881)	(34,115)	4,810
Loss before income taxes	$ (57,879)	$ (55,690)	$ (88,813)	$ (63,080)	$ (31,862)
Income tax benefit	392	—	325	410	—
Net loss attributable to the Company	$ (57,487)	$ (55,690)	$ (88,488)	$ (62,670)	$ (31,862)
Preferred stock dividends declared	(104)	(105)	(156)	(121)	—
Net loss attributable to common shareholders	$ (57,591)	$ (55,795)	$ (88,644)	$ (62,791)	$ (31,862)
Loss per share, basic and diluted	$ (0.32)	$ (0.32)	$ (0.56)	$ (0.82)	$ (0.93)
Weighted average number of common shares outstanding	180,619,860	176,067,231	159,228,815	76,436,408	34,376,427
Balance Sheet Data: (at end of the period)					
Unrestricted cash and cash equivalents	$ 46,014	$ 63,961	$ 146,205	$ 5,027	$ 9,380
Total assets	240,832	209,456	204,151	35,356	39,460
Noncurrent liabilities	79,637	40,861	19,008	39,983	7,390
Stockholders' equity (deficit)	85,088	124,736	158,283	(17,872)	15,030
Working capital	44,448	88,524	167,039	11,110	6,901

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.

Table of Contents

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 fuel cell systems used primarily for the material handling and stationary power market.

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 delivery, storage and refueling solutions for customer locations. Hydrogen can also be obtained from the electrolysis of water, or produced on-site at consumer locations through a process known as reformation. Currently, the Company predominantly obtains hydrogen by purchasing it from fuel suppliers for resale to customers.

We provide and continue to develop commercially viable hydrogen and fuel cell product solutions to replace lead acid batteries in 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 (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 a robust, reliable and sustainable power solution. Our current products and services include:

GenDrive: GenDrive is our hydrogen fueled PEM fuel cell system providing power to material handling vehicles;

GenFuel: GenFuel is our hydrogen fueling delivery system;

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

GenSure: GenSure (formerly ReliOn) 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 with GenFuel and GenCare, offering complete simplicity to customers transitioning to fuel cell power;

ProGen: ProGen is our fuel cell engine technology, under development for use in mobility and stationary fuel cell systems;

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.

Table of Contents

Results of Operations

Revenue, cost of revenue, gross profit/(loss) and gross margin for the years ended December 31, 2016, 2015, and 2014, was as follows (in thousands):

	Revenue	Cost of Revenue	Gross Profit/(Loss)	Gross Margin
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) %
For the year ended December 31, 2014:				
Sales of fuel cell systems and related infrastructure	$ 48,306	$ 43,378	$ 4,928	10.2 %
Services performed on fuel cell systems and related infrastructure	9,909	19,256	(9,347)	(94.3) %
Power Purchase Agreements	2,137	1,052	1,085	50.8 %
Fuel delivered to customers	1,959	2,204	(245)	(12.5) %
Other	1,919	3,202	(1,283)	(66.9) %
Total	$ 64,230	$ 69,092	$ (4,862)	(7.6) %

Our primary sources of revenue are from sales of fuel cell systems and related infrastructure, services performed on fuel cell systems and related infrastructure, 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, 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. Sales were associated with 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 from sales of fuel cell systems and related infrastructure for the year ended December 31, 2015 increased $29.7 million or 61.5%, to $78.0 million from $48.3 million for the year ended December 31, 2014. The most significant factor driving the increase was the Company's continued refinement of its full turn key solution (GenKey). By investing in its sales team, the Company has been able to better penetrate anchor customers and reach new customers in subsectors where it already has a presence (automobile manufacturers, retail distribution, and grocery distribution). There were 3,634 GenDrive units recognized as revenue for the year ended December 31, 2015 as compared to 2,406 during the year ended December 31, 2014. GenDrive units shipped in 2015 were predominantly associated with the GenKey solution. Sales were associated with hydrogen installations at 18 sites in 2015, compared to 11 in 2014. Excluded from revenue is approximately $3.6 million of profit associated with sale/leaseback transactions which has been included within deferred revenue on the consolidated balance sheet at December 31, 2015.

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, 2016, there were 8,950 fuel cell units and 30 hydrogen installations under extended maintenance contracts, an increase from 8,655 and 5,163 fuel cell units and 23 and eight hydrogen installations at December 31, 2015 and 2014, respectively.

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 from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2015 increased $4.1 million or 41.4%, to $14.0 million from $9.9 million for the year ended December 31, 2014. 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 2015 was 6,986, compared to 3,779 in 2014. This 84.9% increase in average units serviced throughout the year is corresponding with the increase in revenue, as compared to the prior years. Revenue did not increase as much as installed base due to the large concentration of units at customer locations. This leverage impacts pricing strategy.

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 and provide it to customers under PPAs as leased property. At December 31, 2016, there were 25 GenKey sites associated with PPAs, as compared to 14 at December 31, 2015 and four at December 31, 2014.

Revenue from PPAs 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.

Revenue from PPAs for the year ended December 31, 2015 increased $3.6 million or 167.6%, to $5.7 million from $2.1 million for the year ended December 31, 2014. The increase is due to the increased numbers of sites the Company has deployed with these types of arrangements. The PPA sales model was primarily launched in the second half of 2014.

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

Table of Contents

31, 2016, there were 40 sites associated with fuel contracts, as compared to 22 at December 31, 2015 and seven at December 31, 2014. The sites generally are the same as those that had purchased hydrogen installations within the GenKey solution.

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.

Revenue associated with fuel delivered to customers for the year ended December 31, 2015 increased $3.1 million or 159.1%, to $5.1 million from $2.0 million for the year ended December 31, 2014. The increase in revenue is due to an increase of 15 additional sites taking fuel deliveries in 2015, compared to 2014. The Company began selling hydrogen to customers during the second half of 2014.

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, 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 as compared to $0.1 million in technology access fees from a customer related to stacks being developed internally. 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.

Other revenue for the year ended December 31, 2015 decreased $1.4 million, or 74.9%, to $0.5 million from $1.9 million for the year ended December 31, 2014. The Company had been working on a U.S. government related research and development contract primarily in 2014, which had lower costs (and therefore associated revenues) carry over into 2015. During 2015, the Company also recorded $0.1 million in technology access fees from a customer related to stacks being developed internally.

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, 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. Gross margin on GenDrive sales in 2016 was 34.5%, an improvement from 21.3% in 2015. Costs per unit have increased due to product mix, however revenue and gross margin have benefited from the more favorable pricing mix. Gross margin on hydrogen infrastructure sales in 2016 was 7.5%, an improvement from (4.4%) in 2015 due to project cost downs and more favorable pricing. Gross margin on GenSure revenues improved to 23.8% in 2016, from 5.7% in 2015, due to better leverage of fixed costs incurred at the Spokane facility.

Cost of revenue from sales of fuel cell systems and related infrastructure for the year ended December 31, 2015 increased $24.3 million, or 56.1%, to $67.7 million from $43.4 million for the year ended December 31, 2014. Gross margin generated from sales of fuel cell systems and related infrastructure was 13.2% in 2015 and 10.2% in 2014. Gross margin on GenDrive sales in 2015 was 21.3%, an improvement from 13.7% in 2014. Total costs have increased due to higher volume, however gross margin has improved from better leverage on the fixed cost base, supply chain and product design cost down programs, as well as manufacturing process improvements. Gross margin on hydrogen infrastructure sales in 2015 was (4.4%), an improvement from (7.3%) in 2014. Approximately $2.5 million of the overall increase in costs is also due to the inclusion of ReliOn for a full year as compared to nine months in 2014, which was the year the Company completed the acquisition. Gross margin on ReliOn revenues were consistent at 5.7% in 2015, compared to 8.3% in 2014.

Table of Contents

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, 2016, there were 8,950 fuel cell units and 30 hydrogen installations under extended maintenance contracts, compared to 8,655 and 23 at December 31, 2015 and 5,163 and eight at December 2014, respectively.

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 from services performed on fuel cell systems and related infrastructure for the year ended December 31, 2015 increased \$3.7 million, or 19.1%, to \$22.9 million from \$19.3 million for the year ended December 31, 2014. The increase in the cost is attributed to increasing costs of replacement parts, as well as labor and overhead for service personnel necessary to support these service and hydrogen site maintenance contracts. These increases are a direct result of a growing installed base of GenDrive units, and the number of associated customers that have GenCare and GenFuel service contracts. At December 31, 2015 there were 8,655 GenDrive units under GenCare contracts and 22 customer sites under GenFuel contracts, as compared to 5,163 GenDrive units under GenCare contracts and 7 customer sites under GenFuel contracts at December 31, 2014. Gross margin improved to (63.7%) in 2015 from (94.3%) in 2014 due to better leverage with the growing installed base and improved model design.

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 represents extended maintenance contracts that have projected costs over the remaining life of the contracts that exceed 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, 2016, there were 25 GenKey sites associated with PPAs, as compared to 14 at December 31, 2015 and four at December 31, 2014.

Cost of revenue from PPAs 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 from PPAs for the year ended December 31, 2015 increased $4.2 million, or 399.3%, to $5.3 million from $1.1 million for the year ended December 31, 2014. The increase was a result of the increase in the number of customer sites in which the Company completed sale/leaseback transactions. Gross margin declined to 8.1% in 2015 from 50.8% in 2014, due to changes in financing pricing, as well as decreases in the timing difference between when systems were deployed at customer sites (beginning of the revenue stream) and when agreements with financial institutions were reached (beginning expense recognition of lease payments). We began entering into PPAs in the second half of 2014.

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, 2016, there were 40 sites associated with fuel contracts, as compared to 22 at December 31, 2015 and seven at

Table of Contents

December 31, 2014. 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, 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 from fuel delivered to customers for the year ended December 31, 2015 increased $4.5 million, or 203.8%, to $6.7 million from $2.2 million for the year ended December 31, 2014. The increase is due 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. The Company began selling hydrogen fuel to customers during the second half of 2014. Gross margin declined to (31.9%) in 2015 from (12.5%) in 2014, due to inefficiencies related to new product design causing differences between the volume of fuel delivered (purchased) and dispensed (sold).

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, 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.

Cost of other revenue for the year ended December 31, 2015 decreased $2.7 million, or 83.1%, to $0.5 million from $3.2 million for the year ended December 31, 2014. The Company had been working on a U.S. government related research and development contract primarily in 2014, which was close to completion and had less activity in 2015.

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, fuel, 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, 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.

Research and development expense for the year ended December 31, 2015 increased $8.5 million, or 131.1%, to $14.9 million from $6.5 million for the year ended December 31, 2014. This increase was primarily related to an increase in personnel related expenses, materials and fuel consumed on refinement of hydrogen infrastructure design, and $0.4 million of incremental costs due to the impact of research and development associated with ReliOn for an entire year. The increases in personnel and materials were a result of increased efforts on multiple product cost down programs and prototyping for stack performance enhancement.

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, 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

Table of Contents

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.

Selling, general and administrative expenses for the year ended December 31, 2015 increased $7.6 million, or 28.4%, to $34.2 million from $26.6 million for the year ended December 31, 2014. Approximately $7.8 million of this increase was primarily related to an increase in personnel related expenses (for example salary, benefits, travel and stock based compensation) resulting from continued investment in professional staff to support the additional growth in the business. The stock based compensation expense component of the increase is also impacted by increases in the fair value of stock options granted in recent years. The overall increase also can be attributed to $1.2 million of HyPulsion acquisition and European startup costs (compared to zero in 2014). Offsetting these increases is a decrease in amortization of intangible assets of $1.4 million in 2015 compared to 2014 due primarily to certain intangible assets becoming fully amortized.

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. The short-term borrowing originated on March 2, 2016, when the Company entered into a loan agreement with Generate Lending LLC., which was converted to project financing in June 2016. The long-term debt originated on June 27, 2016, when the Company entered into a loan and security agreement with Hercules Capital, Inc. On December 22, 2016, the Company, prepaid (in full) its obligations under this agreement. On December 23, 2016, the Company entered into a loan and security agreement with NY Green Bank.

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.

Net interest and other expense (income), net for the year ended December 31, 2015, changed $1.7 million as compared to the year ended December 31, 2014. The change is attributed to interest on the various financing structures described above, offset by interest and other income which decreased to $157 thousand for the year ended December 31, 2015 from $752 thousand for the year ended December 31, 2014. This decrease is primarily related to the settlement of a license arrangement at ReliOn in 2014, which did not repeat in 2015, as well as a decrease in the overall interest bearing cash balances at the Company in 2015, as compared to 2014.

Change in fair value of common stock warrant liability. The Company accounts for common stock warrants as 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, 2016 resulted in a decrease (gain) in the associated warrant liability of $4.3 million, as compared to a decrease (gain) of $3.7 million for the year ended December 31, 2015, and an increase (loss) of $52.3 million for the year ended December 31, 2014. These variances from year to year are primarily due to changes in 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. Also, as a result of additional public offerings, the exercise price of previously issued warrants was reduced due to anti-dilution provisions that had been in place, resulting in a $1.6 million increase in the common stock warrant liability.

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 has expired. No other tax expense or benefit was recognized in the years ended December 31, 2016 or 2015. Income tax benefit for the year ended December 31, 2014 was $325 thousand,

Table of Contents

due to reductions in accrued interest and penalties on uncertain tax positions as a result of expirations of the associated statute of limitations.

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 timing and costs of building a sales base; the ability of our customers to obtain financing to support commercial transactions; our ability to obtain financing arrangements to support the sale or leasing of our products and services to customers and 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 have experienced and continue to experience negative cash flows from operations and net losses. The Company incurred net losses attributable to common shareholders of $57.6 million, $55.8 million and $88.6 million for the years ended December 31, 2016, 2015, and 2014, respectively, and has an accumulated deficit of $1.1 billion at December 31, 2016.

During the year ended December 31, 2016, cash used in operating activities was $29.6 million, consisting primarily of a net loss attributable to the Company of $57.5 million, offset by the impact of noncash charges/gains of $10.9 million and net inflows from fluctuations in working capital and other assets and liabilities of $16.9 million. The changes in working capital primarily were related to collections of accounts receivable and managing of accounts payable, offset by consumption against the accrual for loss contracts related to service. As of December 31, 2016, we had cash and cash equivalents of $46.0 million and net working capital of $44.4 million. By comparison, at December 31, 2015, we had cash and cash equivalents of $64.0 million and net working capital of $88.5 million.

Net cash used in investing activities for the year ended December 31, 2016, totaled $58.1 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.

During the year ended December 31, 2016, we generated $69.9 million in cash flows from financing activities, primarily comprised of increases in finance obligations, borrowings against short and long-term loan agreements and proceeds from the issuance of common and preferred stock and warrants, offset by an increase in restricted cash and payments on short-term borrowing and long-term debt.

Prior to 2016, the Company signed sale/leaseback agreements with various financial institutions to facilitate the Company's commercial transactions with key customers. The Company had 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 $53.6 million which has been fully secured with restricted cash and pledged service escrows.

Table of Contents

The master lease agreement with one of the financial institutions required the Company to maintain a minimum balance of unrestricted cash. This requirement was removed in October 2016, when the Company elected to pledge additional cash collateral of $12.0 million. The Company's remaining contractual lease payments to this financial institution are fully secured through a combination of restricted cash and pledges on funds escrowed for future service by the Company.

During the year ended December 31, 2016, cash flows from financing activities included short-term borrowings and long-term debt, which are described more fully below. On March 2, 2016, the Company entered into a loan agreement with Generate Lending, LLC., pursuant to which $25.0 million was borrowed upon closing and issuance costs of $1.3 million were incurred. On June 27, 2016, this borrowing was converted to long-term project financing from the same lender. On June 27, 2016, the Company borrowed $25.0 million under a loan agreement with Hercules Capital Inc., and incurred related issuance costs of $1.4 million. On December 22, 2016 the Company repaid the loan in full. On December 23, 2016, the Company, entered into a loan and security agreement with NY Green Bank, borrowing $25.0 million under a loan agreement on the date of closing and issuance costs of $1.2 million were incurred.

During 2016, we received gross proceeds of $30.0 million from underwritten public offerings of our common stock and preferred stock as well as warrants to purchase additional shares of common stock. Net proceeds after underwriting discounts and commissions and other fees and expenses were $27.5 million. During 2014, we received gross proceeds of $176.7 million from three underwritten public offerings. Net proceeds after underwriting discounts and commissions and other fees and expenses were $165.7 million. In addition, during 2014, we received $18.3 million from the exercise of previously issued common stock warrants.

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.

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

	2016	2015	2014
Cash and cash equivalents at end of period	$ 46,014	$ 63,961	$ 146,205
Restricted cash at end of period	54,622	47,835	500
Working capital at end of period	44,448	88,524	167,039

Net loss attributable to common shareholders	57,591	55,795	88,644
Net cash used in operating activities	29,636	47,274	40,780
Purchases of property, plant and equipment and leased property	58,075	3,520	1,413
Net cash provided by (used in) financing activities	69,885	(32,923)	182,923

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. At December 31, 2016, the outstanding principal balance under the Term Loan Facility was $25.0 million.

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 (ii) the credit default swap index coupon for the applicable interest period, plus (iii) 6.00% per annum. The interest rate at December 31, 2016 was approximately 11.3%. The term of the loan is three years, with a maturity date of December 23, 2019. Estimated principal payments will approximately be $3.0 million, $8.4 million, $13.6 million during the years ended December 31, 2017, 2018, and 2019, respectively. These payments will be funded by restricted cash released.

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 $1.0 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.

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 has been included within interest and other (expense) income, net on the consolidated statements of operations.

Issuance of Redeemable Preferred Stock, Common Stock, and Warrants

In December 2016, the Company completed an offering of an aggregate of 10,400,000 shares of common stock, and warrants to purchase 3,120,000 shares of common stock. The net proceeds to the Company were approximately $11.9 million, after deducting underwriting discounts and commissions and expenses payable by the Company. Each full warrant entitles the holder thereof to purchase one share of common stock at an exercise price equal to $1.50 per share. The warrants will be exercisable during the period commencing on the six-month anniversary of the date of original issuance and ending on June 21, 2022.

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 and warrants to purchase 7,381,500 shares of common stock. The net proceeds to the Company were approximately $15.6 million, after deducting underwriting discounts and commissions and estimated expenses payable by the Company. The terms and conditions of the warrants issued pursuant to the preferred share offering are identical to the warrants issued pursuant to the common share offering. The Company is required to redeem the Series D Redeemable Preferred Stock in ten monthly installments in the amount of $1.9 million each from January 2017 through October 2017.

Table of Contents

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 IRC Section 382 ownership changes have occurred which significantly reduces that amount of pre change net operating losses that can be used in future years to $13.5 million. In addition, net operating losses of $92.8 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 $106.3 million of net operating loss carryforwards. The net operating loss carryforwards available at December 31, 2016, if unused will expire at various dates from 2017 through 2036.

The ownership changes 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 2017 to 2018 U.S. corporate income tax returns of approximately $7.6 million that resulted in a gross deferred tax liability of $2.9 million at December 31, 2016. 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.

Contractual Obligations

Contractual obligations as of December 31, 2016, 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)	$ 51,507	$ 12,350	$ 23,061	$ 15,337	$ 759
Purchase obligations(B)	10,884	7,852	3,016	16	—
Finance obligations(C)	44,554	14,787	15,920	10,620	3,227
Long-term debt(D)	23,793	2,964	20,829	—	—
	$ 130,738	$ 37,953	$ 62,826	$ 25,973	$ 3,986

(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 17, 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.

(D) During the year ended December 31, 2016, 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.

Table of Contents

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 cost to produce the deliverable, a reasonable gross margin on that deliverable, the selling price and profit margin for similar products and services, the Company’s ongoing pricing strategy and policies, 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 PPA, revenues associated with these agreements are treated as rental income and recognized on a straight-line basis over the life of the agreements.

Table of Contents

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.

Stock based Compensation: We recognize stock based compensation expense associated with the vesting of share based instruments in the consolidated statements of operations. Determining the amount of stock based compensation to be recorded requires us to develop estimates to be used in calculating the grant date fair value of stock options. We calculate the grant date fair values using the Black Scholes valuation model. The Black Scholes model requires us to make estimates of the following assumptions:

Expected volatility—The estimated stock price volatility was derived based upon the Company’s actual stock prices over an historical period equal to the expected life of the options, which represents the Company’s best estimate of expected volatility.

Expected option life—The Company's estimate of an expected option life was calculated in accordance with the simplified method for calculating the expected term assumption. The simplified method is a calculation based on the contractual life and vesting terms of the associated options.

Risk free interest rate—We use the yield on zero coupon U.S. Treasury securities having a maturity date that is commensurate with the expected life assumption as the risk free interest rate. The amount of stock based compensation recognized during a period is based on the value of the portion of the awards that are ultimately expected to vest. Forfeitures are required to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The term "forfeitures" is distinct from "cancellations" or "expirations" and represents only the unvested portion of the surrendered option. We review historical forfeiture data and determine the appropriate forfeiture rate based on that data. We re evaluate this analysis periodically and adjust the forfeiture rate as necessary. Ultimately, we will recognize the actual expense over the vesting period only for the shares that vest.

Warrant Accounting: The Company accounts for common stock warrants in accordance with applicable accounting guidance provided in ASC Subtopic 815-40, Derivatives and Hedging – Contracts in Entity's Own Equity, as either derivative liabilities or as equity instruments depending on the specific terms of the warrant agreement. In compliance with applicable securities law, 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. The Black-Scholes 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.

The Company used the following assumptions for its common stock warrants issued on December 22, 2016. The risk free interest rate for both December 22, 2016 (issuance date) and December 31, 2016 was 1.96%. The volatility of the market price of the Company's common stock for December 22, 2016 and December 31, 2016 was 103.4%. The expected average term of the warrants used for both December 22, 2016 and December 31, 2016 was 5.5 years.

The Company used the following assumptions for its common stock warrants issued on January 20, 2014. The risk free interest rate for January 20, 2014 (issuance date), December 31, 2014, December 31, 2015 and December 31, 2016 was 1.65%, 1.35%, 1.28%, and 1.20% respectively. The volatility of the market price of the Company's common stock for January 20, 2014, December 31, 2014, December 31, 2015, and December 31, 2016 was 107.6%, 119.2%, 128.4% and 56.36% respectively. The expected average term of the warrants used for January 20, 2014, December 31, 2014, December 31, 2015, and December 31, 2016 was 5.0 years, 4.0 years, 3.0 years, and 2.0 years respectively.

The Company used the following assumptions for its common stock warrants issued on February 20, 2013. The risk free interest rate for December 31, 2014, December 31, 2015, and December 31, 2016 was 1.06%, 0.98% and

0.87%, respectively. The volatility of the market price of the Company's common stock for December 31, 2014, December 31, 2015, and December 31, 2016 was 126.2%, 111.9% and 49.0%, respectively. The expected average term of the warrants used for December 31, 2014, December 31, 2015, and December 31, 2016 was 3.1 years, 2.1 years and 1.1 years, respectively.

The Company used the following assumptions for its common stock warrants issued on May 31, 2011. The risk free interest rate at December 31, 2014 and December 31, 2015 was 0.21% and .50%, respectively. The volatility of the market price of the Company's common stock at December 31, 2014 and December 31, 2015 was 136.6% and 79.8%, respectively. The expected average term of the warrants used at December 31, 2014 and December 31, 2015 was 1.4 years and 0.4 years, respectively.

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.

Table of Contents

Recent Accounting Pronouncements

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. 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 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 is evaluating the impact this update will have 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 does not expect the adoption of this update to have a significant effect on the consolidated financial statements.

In March 2016, an accounting update was issued to simplify various aspects related to how share-based payments are accounted for and presented. This accounting update is effective for annual periods beginning after December 15, 2016 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 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. The Company is evaluating the impact this update will have on the consolidated financial statements.

In July 2015, an accounting update was issued that changes inventory measurement from lower of cost or market to lower of cost and net realizable value. The new standard applies to inventory measured at first-in, first-out (FIFO). This accounting update is effective for the reporting periods beginning after December 15, 2016, 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 2014, an accounting update was issued relating to how management assesses conditions and events that could raise substantial doubt about an entity's ability to continue as a going concern. This accounting update was adopted as of December 31, 2016 and did not have a significant effect on the consolidated financial statements.

In June 2014, an accounting update was issued that replaces the existing revenue recognition framework regarding contracts with customers. In July 2015, the FASB announced a one year delay in the required adoption date from January

Table of Contents

1, 2017 to January 1, 2018. The Company has established an internal implementation team to oversee the adoption of the new standard. To date the Company has identified relevant arrangements and performance obligations and is assessing the impact of the new guidance. Evaluation is ongoing and it is too early to provide an assessment of the impact. The Company anticipates providing information about the impacts of adoption in the coming quarters. The Company is also evaluating whether to adopt the guidance using the full or modified retrospective basis, and will likely make that determination during the first half of 2017.

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"), as of the end of the period covered by this Annual Report on Form 10 K, the Company's management conducted an evaluation under the supervision and with the participation of the Company's Chief Executive Officer and Chief Financial Officer regarding the effectiveness of the design and operation of the Company's disclosure controls and procedures (as defined in Rules 13a 15(e) and 15d 15(e) under the Exchange Act). Based upon that evaluation the Company's management has concluded that the Company's disclosure controls and procedures were effective as of December 31, 2016.

(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

Table of Contents

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 the Chief Executive Officer and Chief Financial Officer, assessed as of December 31, 2016 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 the results of this evaluation, management has concluded that the Company's internal control over financial reporting as of December 31, 2016 was effective.

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, 2016, 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

There were no changes in the Company's internal control over financial reporting identified in connection with the evaluation of such internal control that occurred during the Company's last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information

Not applicable.

Table of Contents

PART III

Item 10. Directors, Executive Officers and Corporate Governance

(a)Directors

Incorporated herein by reference is the information appearing under the captions “Information about our Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance” in the Company’s definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

(b)Executive Officers

Incorporated herein by reference is the information appearing under the captions “Information about our Executive Officers” and “Section 16(a) Beneficial Ownership Reporting Compliance” in the Company’s definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

(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

Incorporated herein by reference is the information appearing under the caption “Executive Compensation” in the Company’s definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

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

Incorporated herein by reference is the information appearing under the caption "Principal Stockholders" in the Company's definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table gives information as of December 31, 2016, 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).

Table of Contents

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	13,213,387	(1)	$ 2.94	997,841	(2)
Equity compensation plans not approved by security holders	1,560,000	(3)	$ 2.60	—	
Total	14,773,387			997,841	

(1) Represents 470,614 outstanding options issued under the 1999 Stock Option Plan, 12,729,440 outstanding options issued under the 2011 Stock option Plan and 13,333 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

Incorporated herein by reference is the information appearing under the caption “Principal Stockholders” in the Company’s definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

Item 14. Principal Accounting Fees and Services

Incorporated herein by reference is the information appearing under the caption “Independent Auditors Fees” in the Company’s definitive Proxy Statement for its 2017 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission.

Table of Contents

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

Exhibits are as set forth in the “List of Exhibits” which immediately precedes the Index to Consolidated Financial Statements on page F 1 of this Report.

Item 16. Form 10-K Summary

Not Applicable.

Table of Contents

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 10, 2017

Table of Contents

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 10, 2017

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 10, 2017
/s/ PAUL B. MIDDLETON Paul B. Middleton	Chief Financial Officer (Principal Financial Officer)	March 10, 2017
/s/ MARTIN D. HULL Martin D. Hull	Controller & Chief Accounting Officer (Principal Accounting Officer)	March 10, 2017
/s/ LARRY G. GARBERDING Larry G. Garberding	Director	March 10, 2017
/s/ MAUREEN O. HELMER Maureen O. Helmer	Director	March 10, 2017
/s/ DOUGLAS T. HICKEY Douglas T. Hickey	Director	March 10, 2017

/s/ GREGORY L. KENAUSIS Gregory L. Kenausis	Director	March 10, 2017
/s/ GEORGE C. MCNAMEE George C. McNamee	Director	March 10, 2017
/s/ XAVIER PONTONE Xavier Pontone	Director	March 10, 2017
/s/ JOHANNES MINHO ROTH Johannes Minho Roth	Director	March 10, 2017
/s/ GARY K. WILLIS Gary K. Willis	Director	March 10, 2017

Table of Contents

Certain exhibits indicated below are incorporated by reference to documents of Plug Power on file with the Commission. Exhibits nos. 10.1, 10.5 through 10.9 and 10.13 through 10.19 represent the management contracts and compensation plans and arrangements required to be filed as exhibits to this Annual Report on Form 10 K.

Exhibit No.
and Description

3.1 Amended and Restated Certificate of Incorporation of Plug Power Inc.(1)

3.2 Certificate of Amendment to Amended and Restated Certificate of Incorporation of Plug Power Inc.(1)

3.3 Second Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc.(2)

3.4 Third Certificate of Amendment to Amended and Restated Certificate of Incorporation of Plug Power Inc.(3)

3.5 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.(4)

3.6 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.(5)

3.7 Third Amended and Restated By-laws of Plug Power Inc.(6)

3.8 Certificate of Designations, Preferences and Rights of a Series of Preferred Stock of Plug Power Inc. classifying and designating the Series D Redeemable Convertible Preferred Stock.(7)

3.9 Certificate of Correction to Third Certificate of Amendment of Amended and Restated Certificate of Incorporation of Plug Power Inc., dated as of December 21, 2016.(27)

4.1 Specimen certificate for shares of common stock, $.01 par value, of Plug Power.(8)

4.2 Shareholder Rights Agreement, dated as of June 23, 2009, between Plug Power Inc. and Registrar and American Stock Transfer & Trust Company, LLC, as Rights Agent.(4)

4.3 Amendment No. 1 To Shareholder Rights Agreement.(9)

4.4 Amendment No. 2 To Shareholder Rights Agreement.(10)

4.5 Amendment No. 3 To Shareholder Rights Agreement.(11)

4.6 Amendment No. 4 To Shareholder Rights Agreement.(12)

4.7 Amendment No. 5 To Shareholder Rights Agreement.(13)

4.8 Amendment No. 6 To Shareholder Rights Agreement.(7)

4.9	Form of Warrant.(14)
4.10	Form of Warrant.(15)
4.11	Form of Warrant.(5)
4.12	Form of Warrant.(11)
10.1	Employee Stock Purchase Plan.(8)

10.2	Master Equipment Lease, dated as of June 30, 2014, between the Registrant and Manufacturers and Traders Trust Company.(30)
10.3	Form of Director Indemnification Agreement.(16)
10.4	Form of Director Indemnification Agreement.(17)
10.5	Plug Power Executive Incentive Plan.(18)
10.6	Employment Agreement, dated as of April 7, 2008, by and between Andrew Marsh and Plug Power Inc.(19)
10.7	Executive Employment Agreement, dated as of May 5, 2008, by and between Gerard L. Conway, Jr. and Plug Power Inc.(20)
10.8	Executive Employment Agreement, dated as of October 23. 2013, by and between Keith C. Schmid and Plug Power Inc.(17)
10.9	Executive Employment Agreement, dated as of November 6, 2014, by and between Paul B. Middleton and Plug Power Inc.(21)
10.10	First Amendment to Master Equipment Lease, dated as of December 19, 2014, between the Registrant and Manufacturers and Traders Trust Company.(30)
10.11	License Agreement dated as of February 29, 2012, by and between HyPulsion, S.A.S. and Plug Power Inc.(23)
10.12	2011 Stock Option and Incentive Plan.(22)
10.13	Amendment No. 1 to the Plug Power Inc. 2011 Stock Option and Incentive Plan.(24)
10.14	Amended and Restated 2011 Stock Option and Incentive Plan.(3)
10.15	Form of Incentive Stock Option Agreement.(25)
10.16	Form of Non Qualified Stock Option Agreement for Employees.(25)
10.17	Form of Non Qualified Stock Option Agreement for Independent Directors.(25)
10.18	Form of Restricted Stock Award Agreement.(26)
10.19	Purchase and Sale Agreement dated as of January 24, 2013, by Plug Power Inc. and 968 Albany Shaker Road Associates, LLC.(26)
10.20	Amendment to Purchase and Sale Agreement dated as of March 13, 2013 by Plug Power Inc. and 968 Albany Shaker Road Associates, LLC.(26)
10.21	

	Securities Purchase Agreement, dated as of May 8, 2013, by and between Plug Power Inc. and Air Liquide Investissements d'Avenir et de Demonstration.(13)
10.22	Registration Rights Agreement, dated as of May 16, 2013, by and between Plug Power Inc. and Air Liquide Investissements d'Avenir et de Demonstration.(5)

10.23	Second Amendment to Master Equipment Lease, dated as of December 30, 2015, between the Registrant and Manufacturers and Traders Trust Company.(30)
10.24	Loan and Security Agreement dated as of June 27, 2016 by and among Plug Power Inc., Emerging Power Inc., Emergent Power Inc. and Hercules Capital, Inc.(28)
10.25	Loan and Security Agreement dated as of December 23, 2016 by and among Plug Power Inc., Emerging Power Inc., Emergent Power Inc. and NY Green Bank, a Division of the New York State Energy Research & Development Authority.(29)
10.26	Waiver and Third Amendment to Master Equipment Lease, dated as of June 7, 2016, between the Registrant and Manufacturers and Traders Trust Company.(30)
10.27	Master Lease Agreement, dated as of June 3, 2016, between the Registrant and Generate Capital, Inc.(30)
23.1	Consent of KPMG LLP.(27)
31.1 and 31.2	Certifications pursuant to Section 302 of the Sarbanes Oxley Act of 2002.(27)
32.1 and 32.2	Certifications pursuant to 18 U.S.C. Section 1350, adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002.(27)
101.INS	XBRL Instance Document.(27)
101.SCH	XBRL Taxonomy Extension Schema Document.(27)
101.CAL	XBRL Taxonomy Extension Calculation Linkbase.(27)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.(27)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.(27)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.(27)

(1) Incorporated by reference to the Company's Form 10 K for the period ended December 31, 2008, filed with the SEC on March 16, 2009.

(2) Incorporated by reference to the Company's current Report on Form 8 K dated May 19, 2011.

(3) Incorporated by reference to the Company's current Report on Form 8 K dated July 25, 2014.

(4) Incorporated by reference to the Company's Registration Statement on Form 8 A dated June 24, 2009.

(5) Incorporated by reference to the Company's current Report on Form 8 K dated May 20, 2013.

(6) Incorporated by reference to the Company's current Report on Form 8 K dated October 28, 2009.

(7) Incorporated by reference to the Company's current Report on Form 8-K dated December 21, 2016.

(8) Incorporated by reference to the Company's Registration Statement on Form S 1/A (File Number 333 86089).

(9) Incorporated by reference to the Company's current Report on Form 8 K dated May 6, 2011.

(10) Incorporated by reference to the Company's current Report on Form 8 K dated March 19, 2012.

Table of Contents

(11) Incorporated by reference to the Company's current Report on Form 8 K dated March 26, 2012.

(12) Incorporated by reference to the Company's current Report on Form 8 K dated February 13, 2013.

(13) Incorporated by reference to the Company's current Report on Form 8 K dated May 8, 2013.

(14) Incorporated by reference to the Company's current Report on Form 8 K dated May 24, 2011.

(15) Incorporated by reference to the Company's current Report on Form 8 K dated February 14, 2013.

(16) Incorporated by reference to the Company's current Report on Form 8 K dated June 29, 2006.

(17) Incorporated by reference to the Company's current Report on Form 8 K dated October 29, 2013.

(18) Incorporated by reference to the Company's current Report on Form 8 K dated February 15, 2007.

(19) Incorporated by reference to the Company's current Report on Form 8 K dated April 2, 2008.

(20) Incorporated by reference to the Company's Form 10 Q for the period ended June 30, 2008, filed with the SEC on August 7, 2008.

(21) Incorporated by reference to the Company's current Report on Form 8 K dated November 11, 2014.

(22) Incorporated by reference to the Company's current Report on Form 8 K dated May 12, 2011.

(23) Incorporated by reference to the Company's current Report on Form 8 K dated March 21, 2012.

(24) Incorporated by reference to the Company's current Report on Form 8 K dated May 18, 2012.

(25) Incorporated by reference to the Company's Form 10 Q for the period ended June 30, 2011, filed with the SEC on August 11, 2011.

(26) Incorporated by reference to the Company’s current Report on Form 8 K dated April 1, 2013.

(27) Filed herewith.

(28) Incorporated by reference to the Company’s current Report on Form 8 K dated June 30, 2016.

(29) Incorporated by reference to the Company’s current Report on Form 8-K dated December 23, 2016.

(30) Incorporated by reference to the Company’s Registration Statement on Form S-3 (File Number 333-214737).

Table of Contents

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Table of Contents

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders

Plug Power Inc.:

We have audited the accompanying consolidated balance sheets of Plug Power Inc. and subsidiaries as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive loss, stockholders' equity (deficit), and cash flows for each of the years in the three-year period ended December 31, 2016. We also have audited the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). 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 (Item 9A). Our responsibility is to express an opinion on these consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. 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.

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.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Plug Power Inc. and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the years in the three-year period ended December 31, 2016, 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, 2016, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

/s/ KPMG LLP

Albany, New York
March 10, 2017

Table of Contents

PLUG POWER INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

As of December 31, 2016 and 2015

(In thousands, except share and per share amounts)

	2016	2015
Assets		
Current assets:		
Cash and cash equivalents	$ 46,014	$ 63,961
Restricted cash	11,219	4,012
Accounts receivable	11,923	22,650
Inventory	29,940	32,752
Prepaid expenses and other current assets	11,837	7,855
Total current assets	110,933	131,230
Restricted cash	43,403	43,823
Property, plant, and equipment, net	8,246	7,255
Leased property, net	54,060	1,667
Goodwill	8,291	8,478
Intangible assets, net	3,933	4,644
Other assets	11,966	12,359
Total assets	$ 240,832	$ 209,456
Liabilities, Redeemable Preferred Stock, and Stockholders’ Equity		
Current liabilities:		
Accounts payable	$ 32,112	$ 20,455
Accrued expenses	8,519	9,852
Accrual for loss contracts related to service	752	4,100
Deferred revenue	5,736	4,468
Finance obligations	14,787	2,671
Current portion of long-term debt	2,964	—
Other current liabilities	1,615	1,160
Total current liabilities	66,485	42,706
Accrual for loss contracts related to service	—	5,950
Deferred revenue	17,413	13,997
Common stock warrant liability	11,387	5,735

Finance obligations	29,767	14,809
Long-term debt	20,829	—
Other liabilities	241	370
Total liabilities	146,122	83,567
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: 5,231 at December 31, 2016 and December 31, 2015	1,153	1,153
Series D redeemable convertible preferred stock, $0.01 par value per share (aggregate involuntary liquidation preference $18,500); 5,000,000 shares authorized; Issued and outstanding: 18,500 at December 31, 2016 and none at December 31, 2015	8,469	—
Stockholders' equity:		
Common stock, $0.01 par value per share; 450,000,000 shares authorized; Issued (including shares in treasury): 191,723,974 at December 31, 2016 and 180,567,444 at December 31, 2015	1,917	1,806
Additional paid-in capital	1,137,482	1,118,917
Accumulated other comprehensive income	247	798
Accumulated deficit	(1,051,467)	(993,876)
Less common stock in treasury: 582,328 at December 31, 2016 and 479,953 at December 31, 2015	(3,091)	(2,909)
Total stockholders' equity	85,088	124,736