

PLUG POWER INC
Form S-1/A
February 06, 2013
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As filed with the Securities and Exchange Commission on February 6, 2013

Registration No. 333-186041

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

Amendment No. 4
to
FORM S-1
REGISTRATION STATEMENT

UNDER
THE SECURITIES ACT OF 1933

PLUG POWER INC.

(Exact name of Registrant as specified in its charter)

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Delaware (State or other jurisdiction of incorporation or organization)	3629 (Primary Standard Industrial Classification Code Number)	22-3672377 (I.R.S. Employer Identification Number)
	968 Albany Shaker Road Latham, New York 12110 (518) 782-7700	

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Andrew Marsh

President and Chief Executive Officer

Plug Power Inc.

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Latham, New York, 12110

(518) 782-7700

(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

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If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

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 and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>
Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Proposed Maximum Aggregate Offering Price(1)(2)	Amount of Registration Fee(3)
Common Stock, \$0.01 par value per share(4)	\$32,068,463	\$4,374.14
Warrants		
Total	\$32,068,463	\$4,374.14

- (1) Includes offering price of any additional shares of Common Stock and warrants that the underwriters have an option to purchase to cover over-allotments, if any.
- (2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended.
- (3) The Registrant previously paid \$4,374.14 in registration fees in connection with the previous filings of the registration statement. Accordingly, no additional registration fee will be paid in connection with this filing.
- (4) This registration statement also relates to the rights to purchase Series A Junior Participating Cumulative Preferred Stock of the registrant which are attached to all shares of common stock issued pursuant to the terms of the registrant's Shareholders Rights Agreement dated June 23, 2009, as amended. Until the occurrence of certain prescribed events, the rights are not exercisable, are evidenced by the certificates for the common stock and will be transferred with and only with such common stock. Because no separate consideration is paid for the rights, the registration fee therefore is included in the fee for common stock.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell or accept an offer to buy these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting offers to buy these securities in any jurisdiction where such offer or sale is not permitted.

Subject to Completion, Dated February 6, 2013

PROSPECTUS

34,090,000 Shares of Common Stock

Warrants to Purchase 25,567,500 Shares of Common Stock

We are selling 34,090,000 shares of our common stock and warrants to purchase up to 25,567,500 shares of our common stock (and the shares of common stock issuable from time to time upon exercise of these warrants). Each share of common stock is being sold together with a warrant to purchase 0.75 of a share of common stock at an exercise price of \$0.504 per whole share of common stock and no warrant will be issued in the offering, including in connection with the over-allotment option described below, without an accompanying share of common stock. The shares of common stock and warrants will be issued separately.

Our common stock is traded on the NASDAQ Capital Market under the symbol PLUG. On February 1, 2013, the last reported sale price of our common stock on the NASDAQ Capital Market was \$0.44. There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any national securities exchange or other nationally recognized trading system.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES REFERENCED UNDER THE HEADING RISK FACTORS BEGINNING ON PAGE 11.

	Per Share	Per Warrant	Total
Public offering price	\$	\$	\$
Underwriting discounts and commissions(1)	\$	\$	\$
Proceeds, before expenses, to Plug Power Inc.	\$	\$	\$

(1) We have agreed to reimburse the underwriters for certain of their expenses. See Underwriting on page 87 of this prospectus for a description of the compensation to be received by the underwriters.

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We have granted the underwriters a 45-day option to purchase up to 5,113,500 additional shares of common stock and/or additional warrants to purchase up to 3,835,125 shares of common stock from us at the public offering price for each security, less underwriting discounts and commissions, to cover over-allotments, if any. See Underwriting on page 87 of this prospectus for a description of the over-allotment option.

The underwriters expect to deliver the shares and warrants on or about _____, 2013.

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

Roth Capital Partners

Northland Capital Markets

This prospectus is dated _____, 2013

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You should rely only on the information contained in this prospectus or in any free writing prospectus we file with the Securities and Exchange Commission. We and the underwriters have not authorized anyone to provide you with information different from that contained in this prospectus or any free writing prospectus. We and the underwriters are offering to sell, and seeking offers to buy, shares of our common stock and warrants to purchase common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front cover of this prospectus, or other earlier date stated in this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock and warrants to purchase common stock.

For investors outside of the United States: Neither we nor the underwriters have done anything that would permit this offering outside the United States or to permit the possession or distribution of this prospectus outside the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes included elsewhere in this prospectus. You should also consider, among other things, the matters described under Risk Factors and Management's Discussion and Analysis of Financial Condition and Results of Operations, in each case appearing elsewhere in this prospectus.

Unless otherwise mentioned or unless the context requires otherwise, all references to Plug Power, we, us, our, the company or similar designations refer to Plug Power Inc. and its subsidiaries.

This prospectus includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus or any related free writing prospectus are the property of their respective owners.

PLUG POWER INC.

Background

We are a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of fuel cell systems for the industrial off-road (forklift or material handling) market.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies and fuel cell/battery hybrid technologies, 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. Hydrogen can also be obtained from the electrolysis of water. Hydrogen can be purchased directly from industrial gas providers or can be produced on-site at consumer locations.

We concentrate our efforts on developing, manufacturing and selling our hydrogen-fueled PEM GenDrive products on commercial terms for industrial off-road (forklift or material handling) applications, with a focus on multi-shift high volume manufacturing and high throughput distribution sites.

We have previously invested in development and sales activities for low-temperature remote-prime power GenSys products and our GenCore product, which is a hydrogen fueled PEM fuel cell system to provide back-up power for critical infrastructure. While we will continue to service and support GenSys and/or GenCore products on a limited basis, our current main focus is our GenDrive product line.

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. We sell to businesses, government agencies and commercial consumers.

Business Strategy

We are committed to developing effective, economical and reliable fuel cell products and services for businesses, government agencies and commercial consumers. 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, energy security and a sustainable future.

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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.

We have made significant progress in our analysis of the material handling market. We believe we have developed reliable products which allow the end customers to eliminate incumbent power sources from their operations, and realize their sustainability objectives through clean energy alternatives.

Our strategy is to focus our resources on the material handling market with our GenDrive product line, which represents an alternative to lead-acid battery configurations. Our strategy also includes the following objectives: decrease product costs by leveraging the supply chain, lower manufacturing costs, improve system reliability, expand our sales network to effectively reach more of our targeted customers and provide customers with high-quality products, 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, sustainability.

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.

Products

We sell and continue to develop a range of fuel cell products to replace lead-acid batteries in material handling vehicles and industrial trucks for some of North America's largest distribution and manufacturing businesses. Our primary product line is GenDrive, a hydrogen fueled PEM fuel cell system to provide power to industrial vehicles. We are focusing our efforts on material handling applications (forklifts) 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. In October, 2011 we introduced our next generation GenDrive products. These next generation fuel cell units include a simplified architecture featuring 30% fewer components and a scalable design for low power applications, giving customers greater flexibility in managing their deployments. By the third quarter of 2012, the majority of units produced and shipped were based on the simplified architecture. During the fiscal year ended December 31, 2012, we received new orders from Stihl, Mercedes Benz, Lowe's, Carter's and Ace Hardware. We also experienced add-on orders from Walmart, P&G, Coca-Cola, Sysco, Wegmans, Kroger and BMW.

We continue to develop and monitor future iterations of our products aligned with our evolving product roadmap. According to Fuel Cells Bulletin, an industry publication, we had 85% world-wide market share in the fuel cell powered material handling industry as of September 2010.

Markets/Geography & Order Status

Our commercial sales for GenDrive products are in the material handling market, which primarily consist of large fleet, multi-shift operations in high-volume manufacturing and high-throughput distribution centers. We sell our GenDrive units at prices that range from \$12,000 to \$35,000 per unit. In 2012, all of our GenDrive product installations were in North America.

We shipped 873 units and received 353 orders for our GenDrive product during the nine months ended September 30, 2012, representing \$9.7 million in orders from material handling customers. We shipped 1,024 units and received 2,503 orders for our GenDrive product during the year ended December 31, 2011, representing \$46.1 million in orders from material handling customers; \$18.1 million of which were received during the fourth

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quarter. We estimate that we shipped approximately 1375-1390 units during the 12 months ended December 31, 2012, and based on our backlog of booked orders plus potential new orders from our sales funnel, we believe we will be able to ship approximately 2,000 units in 2013. Backlog on December 31, 2012 is estimated to have been 1,319 units, representing approximately \$26.2 million in value. Backlog on December 31, 2011 was 1,969 units representing approximately \$36.0 million in value. Backlog on December 31, 2010 was 527 units representing approximately \$12.8 million in value including approximately \$700,000 related to 20 units that were awarded under a government project. Based on our backlog and sales funnel prospects as of December 31, 2012, we believe that product shipments will increase by 30% to 40% in 2013.

The following table sets forth certain shipment, order and backlog information (in units):

	Years Ended December 31,		Nine Months ended September 30
	2010	2011	2012
Product Shipments	552	1,024	873
Lease Shipments	98		
Cancellations/Adjustments	(20)	(37)	
Orders	543	2,503	353
Backlog	527	1,969	1,449

We have accepted orders that require certain conditions or contingencies to be satisfied prior to shipment, some of which are outside of our control. Historically, shipments made against these orders generally occur between ninety days and twenty-four months from the date of acceptance of the order.

The assembly of GenDrive products that we sell is performed at our manufacturing facility in Latham, New York. Currently, the supply and manufacture of several critical components used in our products are performed by sole-sourced third-party vendors in the U.S., Canada and China.

We intend to focus our efforts on developing, manufacturing and selling our GenDrive products and do not expect to develop or manufacture GenSys or GenCore products in the near term. We took no GenCore or GenSys orders in 2012 and did not ship any of these products in 2012.

Financial Condition

In November 2012, we provided guidance that our projected loss for fiscal 2012 would increase by approximately \$10.0 million as a result of decreased revenue and higher than expected cost of product and service revenue. Our net loss for the nine months ended September 30, 2012 was \$23.4 million, with total revenue for the nine months ended September 30, 2012 of \$20.2 million. The primary factor driving the increase in our projected net loss for fiscal 2012 was component quality issues which negatively impacted our cost of product and service revenue, primarily in our third quarter, and had the effect of slowing down new orders and sales traction which impacted our projected shipment volumes for the year. We have experienced recurring operating losses and as of September 30, 2012, we had an accumulated deficit of approximately \$778.2 million. Substantially all of our accumulated deficit has resulted from costs incurred in connection with our operating expenses, research and development expenses and from general and administrative costs associated with our operations. We expect that for the fiscal year 2013, operating cash burn will be approximately \$10-\$15 million, which exceeds our cash at December 31, 2012. Assuming we receive the estimated net proceeds of approximately \$13.4 million in this offering, after deducting underwriting discounts and commissions and estimated offering expenses, we expect that we will have sufficient cash to continue our operations into the first quarter of 2014.

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Net cash used in operating activities for the nine months ended September 30, 2012 was \$15.5 million. On September 30, 2012, we had cash and cash equivalents \$9.5 million and net working capital of \$15.6 million. This compares to \$22.8 million and \$24.5 million, respectively, at September 30, 2011. As of December 31, 2012, we had cash and cash equivalents of approximately \$9.4 million and accounts payable of approximately \$3.5 million. We also estimate that as of December 31, 2012, of our total accounts payable, approximately \$1.6 million were more than 30 days past due and approximately \$0.3 million were more than 120 days past due.

We are party to a Loan and Security Agreement with Silicon Valley Bank, or SVB, dated as of August 9, 2011 and modified most recently on November 29, 2012, which provides us with access of up to \$15 million financing, subject to borrowing base limitations, to support working capital needs. Based on the borrowing base calculation and our current outstanding loan balance, we currently do not have any availability under this facility.

We believe that our current cash, cash equivalents and cash generated from future sales, as well as the cash proceeds from this offering, will provide sufficient liquidity to fund operations through the end of 2013. This projection is based on our current expectations regarding product sales, cost structure, cash burn rate and operating assumptions. In the event that our operating expenses are higher than anticipated or the gross margins and shipments of our GenDrive products do not increase as we expect, we may be required to implement contingency plans within our control to conserve and/or enhance our liquidity to meet operating needs. Such plans include: our ability to further reduce discretionary expenses, monetize our real estate assets through a sale-leaseback arrangement and obtain additional funding from licensing the use of our technologies. 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, and continued development and expansion of our products. 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, 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 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 any new research and development programs; and changes in our strategy or our planned activities. As a result, we can provide no assurance that we will be able to fund our operations without additional external financing.

Selected Risk Factors

Our business is subject to many risks and uncertainties of which you should be aware before you decide to invest in our common stock and/or warrants to purchase common stock. These risks are discussed more fully under **Risk Factors** in this prospectus. Some of these risks are:

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

We do not have enough cash to fund our operations to profitability and if we are unable to secure additional capital, we may need to reduce and/or cease our operations.

Despite this offering, we will still require significant additional capital funding and such capital may not be available to us.

The recent restructuring plan we adopted may adversely impact management's ability to meet financial reporting requirements.

We do not have extensive experience in manufacturing and marketing our products and, as a result, may be unable to sustain a profitable commercial market for our new and existing products.

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Certain GenDrive component quality issues have resulted in adjustments to our warranty reserves, which negatively impacted our results and delayed our new order momentum, and unanticipated future product reliability and quality issues could impair our ability to service long term warranty and maintenance contracts profitably.

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.

If our stock price continues to remain below \$1.00, our common stock may be subject to delisting from The NASDAQ Stock Market.

Our stock price 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.

Two of our stockholders, JSC INTER RAO Capital, or INTER RAO Capital, and affiliates and associates of AWM Investment Company, including, but not limited to Special Situations Technology Fund, L.P., Special Situations Technology Fund II, L.P. and Special Situations Private Equity Fund, L.P., or, collectively, SSF, have substantial control over us and could limit our other stockholders' ability to influence the outcome of key transactions, including a change of control.

The sale by INTER RAO Capital or SSF of a substantial number of shares of our common stock could cause the market price of our common stock to decline and adversely affect our ability to remain listed on an exchange and/or raise capital through equity offerings.

Investors in this offering will experience immediate and substantial dilution.

There is no public market for the warrants to purchase common stock being offered in this offering.

Holders of our warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

The warrants in this offering may not have any value.

Recent Developments

NASDAQ Notice

On October 12, 2012, we received a deficiency notice from The NASDAQ Stock Market, or the NASDAQ, stating that we no longer comply with NASDAQ Marketplace Rule 5550(a)(2) because the bid price of our common stock closed below the required minimum \$1.00 per share for the previous 30 consecutive business days. The notice also indicated that, in accordance with Marketplace Rule 5810(c)(3)(A), we have a period of 180 calendar days, until April 10, 2013, to regain compliance with Rule 5550(a)(2). If at any time before April 10, 2013 the bid price of our common stock closes at \$1.00 per share or more for a minimum of 10 consecutive business days, NASDAQ will notify us that we have regained compliance with Rule 5550(a)(2). In the event we do not regain compliance with Rule 5550(a)(2) prior to the expiration of the 180-day period, NASDAQ will notify us that our common stock is subject to delisting. We may appeal the delisting determination to a NASDAQ hearing panel and the delisting will be stayed pending until the panel's determination. At such hearing, we would present a plan to regain compliance and NASDAQ would then subsequently render a decision. We are currently evaluating our alternatives to resolve the listing deficiency.

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Restructuring

On December 11, 2012, we adopted a restructuring plan to improve organizational efficiency and conserve working capital needed to support the growth of our GenDrive business. In doing so, 22 full-time positions were eliminated at our U.S. facilities. This workforce reduction was substantially completed on December 13, 2012. As a result of the restructuring, we expect to reduce annual expenses by \$3.0 to \$4.0 million.

We currently estimate that we will incur pre-tax restructuring charges in the fourth quarter resulting from the restructuring of approximately \$600,000 related to severance pay and other related costs. We expect to pay the majority of these restructuring charges within the next few months. The estimates of total charges and cash expenditures that we expect to incur in connection with the restructuring, and the timing thereof, is subject to a number of assumptions, and actual results may materially differ from those stated above.

Company and Other Information

We were organized in the State of Delaware on June 17, 1997. We were originally a joint venture between Edison Development Corporation and Mechanical Technology Incorporated. In 2007, we acquired all the issued and outstanding equity of Cellex Power Products, Inc., or Cellex, and General Hydrogen Corporation, or General Hydrogen. Through these acquisitions, and our continued GenDrive product development efforts, we became the first fuel cell company to offer a complete suite of Class 1 sit-down counterbalance trucks, Class 2 stand-up reach trucks and Class 3 rider pallet trucks products.

Effective April 1, 2010, we were no longer considered a development stage enterprise since our principal operations began to provide more than insignificant revenues as we received orders from repeat customers, increased our customer base and had a significant backlog. Prior to April 1, 2010, we were considered a development stage enterprise because substantially all of our resources and efforts were aimed at the discovery of new knowledge that could lead to significant improvement in fuel cell reliability and durability, and the establishment, expansion and stability of markets for our products.

Our principal executive offices are located at 968 Albany-Shaker Road, Latham, New York, 12110, and our telephone number is (518) 782-7700. Our corporate website address is www.plugpower.com. The information contained on, or accessible through, our website is not part of this prospectus.

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THE OFFERING

Common stock offered by us 34,090,000 shares

Common stock to be outstanding after this offering 72,121,349 shares

Warrants we are offering Each share of common stock is being sold together with a warrant to purchase 0.75 of a share of common stock. As a result, we are offering warrants to purchase up to 25,567,500 shares of common stock, which will be exercisable during the period commencing on the date of original issuance and ending five years from such date at an exercise price of \$0.504 per whole share of common stock. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the warrants. There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any national securities exchange or other nationally recognized trading system.

Over-allotment option to purchase additional shares The underwriters have an option to purchase a maximum of 5,113,500 additional shares of common stock and/or warrants to purchase a maximum of 3,835,125 shares of common stock from us. The underwriters can exercise this option at any time within 45 days from the date of this prospectus. See Underwriting on page 87 of this prospectus for a description of the over-allotment option.

Use of Proceeds We estimate that we will receive net proceeds from the sale of shares of our common stock and warrants to purchase common stock in this offering of approximately \$13.4 million, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their over-allotment option in full, our net proceeds will be approximately \$15.5 million. We intend to use the proceeds to be used for working capital and other general corporate purposes including, among other things, capital expenditures. See Use of Proceeds in this prospectus.

NASDAQ Stock Market symbol PLUG

Risk Factors You should read carefully Risk Factors in this prospectus for a discussion of factors that you should consider before deciding to invest in shares of our common stock and warrants to purchase common stock.

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The number of shares of common stock to be outstanding after this offering is based on 38,031,349 shares outstanding as of September 30, 2012 and excludes:

1,999,521 shares of common stock issuable upon exercise of outstanding options as of September 30, 2012 at a weighted average exercise price of \$9.01 per share (of which options to acquire 665,305 shares of common stock are vested as of September 30, 2012);

275,262 shares of common stock issuable upon the exercise of unvested restricted stock awards outstanding as of September 30, 2012;

5,485,229 shares of our common stock reserved for future issuance under our equity incentive plans as of September 30, 2012;

9,421,008 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2012, which number of shares will increase as a result of the offering due to anti-dilution provisions contained in such warrants;

165,906 shares of common stock in treasury;

25,567,500 shares of common stock issuable upon the exercise of the warrants to be sold in this offering; and

shares of common stock issuable upon exercise of warrants to be issued to the underwriters.

Except as otherwise indicated, all information in this prospectus assumes no exercise by the underwriters of their over-allotment option.

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SUMMARY CONSOLIDATED FINANCIAL DATA

The following table presents our summary consolidated financial data for the periods indicated. The consolidated statement of operations and comprehensive income (loss) data for the years ended December 31, 2009, 2010 and 2011 and the balance sheet data as of December 31, 2010 and 2011 have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The balance sheet data as of December 31, 2009 and September 30, 2011 have been derived from our audited consolidated financial statements and unaudited interim consolidated financial statements, respectively, that are not included in this prospectus. The consolidated statement of operations and comprehensive income (loss) data for the nine months ended September 30, 2011 and 2012 and the consolidated balance sheet data as of September 30, 2012 have been derived from our unaudited interim consolidated financial statements that are included elsewhere in this prospectus. The unaudited consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements, and in the opinion of management, reflect all adjustments of a normal recurring nature considered necessary to present fairly our financial position for such periods. Our historical results are not necessarily indicative of future operating results, and the interim results set forth below are not necessarily indicative of expected results for the year ended December 31, 2012 or for any future period.

Effective January 1, 2012, the company adopted the Financial Accounting Standards Board's Accounting Standards Update (ASU) No. 2011-5, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, as amended by ASU 2011-12, Comprehensive Income (Topic 220): Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05. These updates revise the manner in which entities present comprehensive income in their financial statements. The statement of comprehensive income (loss) data presented below revises historical information to illustrate the new presentation required by this pronouncement for those periods prior to adoption.

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You should read this summary consolidated financial data in conjunction with the sections entitled Capitalization, Selected Consolidated Financial Data and Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes, all included elsewhere in this prospectus.

	Years Ended December 31,			Nine Months Ended	
	2009	2010	2011	September 30, 2011	September 30, 2012
(in thousands, except per share data)					
Consolidated Statements of Operations Data:					
Product and service revenue	\$ 4,833	\$ 15,739	\$ 23,223	\$ 11,927	\$ 18,712
Research and development contract revenue	7,460	3,598	3,886	3,342	1,475
Licensed technology revenue		136	517	489	
Total revenue	12,293	19,473	27,626	15,758	20,187
Cost of product and service revenue	7,246	23,111	30,670	19,188	28,552
Cost of research and development contract revenue	12,433	6,371	6,232	5,506	2,390
Research and development expense	16,324	12,901	5,656	3,648	4,090
Selling, general and administrative expenses	15,427	25,572	14,546	11,051	10,556
Gain on sale of assets		(3,217)	(673)	(673)	
Amortization of intangible assets	2,132	2,264	2,322	1,755	1,727
Other income (expense), net	560	570	3,673	4,429	3,740
Net loss	\$ (40,709)	\$ (46,959)	\$ (27,454)	\$ (20,286)	\$ (23,388)
Loss per share, basic and diluted	\$ (3.15)	\$ (3.58)	\$ (1.46)	\$ (1.16)	\$ (0.71)
Weighted average number of common shares outstanding	12,911	13,123	18,778	17,442	33,107
Statements of Comprehensive Income (Loss) Data:					
Net Loss	\$ (40,709)	\$ (46,959)	\$ (27,454)	\$ (20,286)	\$ (23,388)
Other comprehensive (loss) income:					
Foreign currency translation gain (loss)	1,294	277	(56)	(74)	107
Unrealized gain (loss) on available-for-sale securities	(131)	(114)	19	19	
Comprehensive Loss	\$ (39,546)	\$ (46,796)	\$ (27,491)	\$ (20,341)	\$ (23,281)
Balance Sheet Data:					
<i>(at end of the period)</i>					
Unrestricted cash, cash equivalents and available- for-sale securities	\$ 62,541	\$ 21,359	\$ 13,857	\$ 22,802	\$ 9,461
Trading securities auction rate debt securities	53,397				
Total assets	164,185	59,177	55,656	53,312	45,567
Borrowings under line of credit	59,375		5,405		1,000
Current portion of long-term obligations	533				
Long-term obligations	2,426	3,141	9,577	5,768	6,426
Stockholders' equity	88,269	42,913	29,036	35,728	23,045
Working capital	60,009	25,556	22,452	24,543	15,584

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RISK FACTORS

Investing in our common stock and warrants involves a high degree of risk. You should carefully consider the following risks and uncertainties, together with all other information in this prospectus, including our consolidated financial statements and related notes, before investing in our common stock. Any of the risk factors we describe below could adversely affect our business, financial condition or results of operations. The market price of our common stock could decline if one or more of these risks or uncertainties actually occurs, causing you to lose all or part of the money you paid to buy our common stock and warrants. Certain statements below are forward-looking statements. See "Forward-Looking Statements" in this prospectus.

Risks Related to our Business and our Industry

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

We have not achieved profitability in any quarter since our formation and we will continue to incur net losses until we can produce sufficient revenue to cover our costs. Our net losses were approximately \$60.6 million in 2007, \$121.7 million in 2008, \$40.7 million in 2009, \$47.0 million in 2010, \$27.5 million in 2011 and \$23.4 million for the nine months ended September 30, 2012. As of September 30, 2012, we had an accumulated deficit of \$778.2 million. 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. Substantially all of our losses resulted from costs incurred in connection with our manufacturing operations, research and development expenses and from general and administrative costs associated with our operations. We cannot guarantee when we will operate profitably, if ever. In order to achieve profitability, among other factors, 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: product reliability and performance that our customers expect and 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, and 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 do not have enough cash to fund our operations to profitability and if we are unable to secure additional capital, we may need to reduce and/or cease our operations.

We have experienced recurring operating losses and as of September 30, 2012, we had an accumulated deficit of approximately \$778.2 million. Substantially all of our accumulated deficit has resulted from costs incurred in connection with our operating expenses, research and development expenses and from general and administrative costs associated with our operations. On September 30, 2012, we had cash and cash equivalents of \$9.5 million and net working capital of \$15.6 million. This compares to \$22.8 million and \$24.5 million, respectively, at September 30, 2011. We currently estimate that we had, as of December 31, 2012, cash and cash equivalents of approximately \$9.4 million and accounts payable of approximately \$3.5 million. We also estimate that as of December 31, 2012, of our total accounts payable, approximately \$1.6 million were more than 30 days past due and approximately \$0.3 million were more than 120 days past due. In addition, based on the borrowing base calculation and our outstanding loan balance, we currently have no availability under our loan facility with Silicon Valley Bank. We expect that for the fiscal year 2013, operating cash burn will be approximately \$10-\$15 million, which exceeds our cash at December 31, 2012. Assuming we receive the estimated net proceeds of approximately \$13.4 million in this offering, after deducting underwriting discounts and commissions and estimated offering expenses, we expect that we will have sufficient cash to continue our operations into the first quarter of 2014. To date, we have funded our operations primarily through public and private offerings of our common and preferred stock, our line of credit and maturities and sales of our available for sale securities. We

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anticipate incurring substantial additional losses and may never achieve profitability. Additionally, even if we raise sufficient capital through equity or debt financing, strategic alliances or otherwise, there can be no assurances that the revenue or capital infusion will be sufficient to enable us to develop our business to a level where it will be profitable or generate positive cash flow.

Despite this offering, we will still require significant additional capital funding and such capital may not be available to us.

In the event that our operating expenses are higher than anticipated or the gross margins and shipments of our GenDrive products do not increase as we expect, we may be required to implement contingency plans within our control to conserve and/or enhance our liquidity to meet operating needs. Such plans include: our ability to further reduce discretionary expenses, monetize our real estate assets through a sale-leaseback arrangement and obtain additional funding from licensing the use of our technologies. 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, and continued development and expansion of our products. 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, 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 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 any new research and development programs; and changes in our strategy or our planned activities. If we are unable to fund our operations without additional external financing and therefore cannot sustain future operations, we may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection.

Alternatives we would consider for additional funding include additional equity or debt financings, a sale-leaseback of our real estate, or licensing of our technology. In addition to raising capital, we may also consider strategic alternatives including business combinations, strategic alliances or joint ventures. If we are unable to obtain additional capital in 2013, we may not be able to sustain our future operations and may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection. The additional capital from the proceeds we receive in this offering is expected to fund our operations through the remainder of our 2013 fiscal year. We cannot assure you that any necessary additional financing will be available on terms favorable to us, or at all. Given the difficult current economic environment, we believe that it could be difficult to raise additional funds and there can be no assurance as to the availability of additional financing or the terms upon which additional financing may be available. Additionally, even if we raise sufficient capital through additional equity or debt financings, strategic alternatives or otherwise, there can be no assurance that the revenue or capital infusion will be sufficient to enable us to develop our business to a level where it will be profitable or generate positive cash flow. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we incur additional debt, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for our business activities. The terms of any debt securities issued could also impose significant restrictions on our operations. Broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance, and may adversely impact our ability to raise additional funds. Similarly, if our common stock is delisted from the NASDAQ Capital Market, it may limit 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.

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The recent restructuring plan we adopted may adversely impact management's ability to meet financial reporting requirements.

On December 11, 2012, we adopted a restructuring plan to improve organizational efficiency and conserve working capital needed to support the growth of our GenDrive business. In doing so, 22 full-time positions were eliminated at our U.S. facilities, including positions in our finance department. This workforce reduction was substantially completed on December 13, 2012. As a result of the restructuring and associated reduced headcount, going forward we may lack the resources to adequately meet our financial reporting requirements.

We do not have extensive experience in manufacturing and marketing our products and, as a result, may be unable to sustain a profitable commercial market for our new and existing products.

From 1997 to 2008, we focused primarily on research and development of fuel cell systems. In the latter half of 2008, we shifted our focus to viable commercialization of our fuel cell products. While we have been manufacturing our products in small quantities for several years, we do not have extensive experience in mass-manufacturing and marketing our products. We do not know whether or when we will be able to develop efficient, low-cost manufacturing capabilities and processes that will enable us to manufacture our products in commercial quantities while meeting the quality, price, engineering, design, and production standards required to profitably market our products. Even if we are successful in developing our manufacturing capabilities and processes, we do not know whether we will do so in time to meet our product commercialization schedule or to satisfy the requirements of our distributors or customers. Before investing in our common stock, you should consider the challenges, expenses and difficulties that we will face as an emerging technology company seeking to sustain a viable commercial market for our new and existing products. If we are unable to sustain a viable commercial market for our products, that failure would have a material adverse effect on our business, prospects, financial condition and results of operations.

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 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 received in the nine months ended September 30, 2012 were 353 units for approximately \$10.0 million in value. Backlog on September 30, 2012 was \$25.5 million, with approximately \$4.3 million of this backlog older than 12 months. 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. 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. This could have an adverse impact on our revenue and cash flow.

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Certain GenDrive component quality issues have resulted in adjustments to our warranty reserves, which negatively impacted our results and delayed our new order momentum, and unanticipated future product reliability and quality issues could impair our ability to service long term warranty and maintenance contracts profitably.

Isolated quality issues have arisen with respect to certain components in our next-generation GenDrive units that are currently being used at customer sites. The product and service revenue contracts we entered into generally provide a one-to-two-year product warranty to customers from date of installation. We have had to retrofit the units subject to component quality issues with replacement components that will improve the reliability of our next-generation GenDrive products for those customers. We have estimated the costs of satisfying those warranty claims and have recorded a reserve adjustment of \$3.3 million in the third quarter of 2012, as reported in our Quarterly Report on Form 10-Q for the quarter ended September 30, 2012, and as a result, our product and warranty reserve as of September 30, 2012 is approximately \$3.0 million and is included in product warranty reserve in the consolidated balance sheets. However, 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. However, 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.

Our GenDrive product 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 depend largely on the availability of natural gas and hydrogen gas. We are dependent upon hydrogen suppliers for success with the profitable commercialization of our GenDrive product. Although we will continue to work with hydrogen suppliers to mutually agree on terms for our customers, including, but not limited to, price of the hydrogen molecules, liquid hydrogen, hydrogen infrastructure and service costs, to the benefit of our GenDrive 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 GenDrive product.

Unless we lower the cost of our GenDrive products and demonstrate their reliability, our product sales could be adversely affected.

The initial capital cost of our GenDrive products is currently higher than many established competing technologies. If we are unable to successfully complete the development of GenDrive or any future products we develop that are competitive with competing technologies in terms of price, reliability and longevity, customers will be unlikely to buy our products. The profitability of our products depends largely on material and manufacturing costs. We cannot guarantee that we will be able to lower these costs to the level where we will be able to produce a competitive product or that any product produced using lower cost materials and manufacturing processes will not suffer from a reduction in performance, reliability and longevity.

Our GenDrive products 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 fuel cell sector and in incumbent technologies are much larger than we are and may have the manufacturing, marketing and sales

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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 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 solar and wind power, reciprocating engines and micro turbines, advanced battery technologies, generator sets, fast charged technologies and other types of fuel cell technologies. Many of these entities have substantially greater financial, research and development, manufacturing and marketing resources than we do. 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 only a few 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 and results of operations.

We sell most of our products to a small number of customers, and while we are continually seeking to expand our customer base, we expect this will continue for the next several years. As of December 31, 2011, five of our customers comprised approximately 83.0% of the total accounts receivable balance, with each customer individually representing 27.0%, 17.3%, 16.4%, 12.1% and 10.2% of that amount. For the year ended December 31, 2011, contracts with three customers comprise approximately 39.0% of total consolidated revenues, with each customer individually representing 14.5%, 14.0% and 10.5%, of total consolidated revenues, respectively. For the nine months ended September 30, 2012, contracts with three customers comprise approximately 55.5% of total consolidated revenues, with each customer representing 25.8%, 19.4%, and 10.3%, respectively. Any decline in business with these small numbers of 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 and business, and an adverse effect on our business, financial condition and results of operations. 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 liquidity and financial condition if one of our major customers declared bankruptcy or delayed payment of their receivables.

The loss of one or more of our key supply partners could have a material adverse effect on our business.

We have certain key suppliers, such as Ballard and Air Squared, that 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. For example, in the fourth quarter of 2012, Ballard had temporarily stopped shipping fuel cell stacks for our GenDrive product line due to a dispute with us, but we have since resolved this dispute and we are once again in good standing with Ballard as our supplier. 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.

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A robust market for our GenDrive products may never develop or may take longer to develop than we anticipate.

We believe we have identified viable markets for our GenDrive products, however our products represent emerging technologies, and we do not know the extent to which our targeted customers will want to purchase them and whether end-users will want to use them. If a sizable market fails to develop or develops more slowly than we anticipate, we may be unable to recover the losses we will have incurred to develop our products and may be unable to achieve profitability. The development of a sizable market for our products may be impacted by many factors which are out of our control, including: the cost competitiveness of our products; the future costs of natural gas, hydrogen and other fuels expected to be used by our products; consumer reluctance to try a new product; consumer perceptions of our products' safety; regulatory requirements; barriers to entry created by existing energy providers; and the emergence of newer, more competitive technologies and products.

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

We will need to maintain and may need to enter into additional strategic relationships in order to complete our current product development and commercialization plans. We will also require partners to assist in the sale, servicing and supply of components for our anticipated products, which are in development. If we are unable to identify or enter into satisfactory agreements with potential partners, including those relating to the distribution, service and support of our 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 would 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 which 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 face risks associated with our plans to market, distribute and service our GenDrive products internationally.

We intend to market, distribute, sell and service our GenDrive products internationally. We have limited experience 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.

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For example, we have formed a joint venture company based in France with Axane, S.A. 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.

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 you that we will successfully meet our commercialization schedule in the future.

We may enter into contracts for products that have not yet been developed or produced, which may give such customers the right to terminate their agreements with us.

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

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.

Other than certain products within our GenCore, GenSys and GenDrive product families, 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. 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 out 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.

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, results of operations, financial condition 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.

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For example, in July 2008, Sorooof Trading Development Company Ltd., or Sorooof, filed a demand for arbitration against GE Fuel Cell Systems, LLC, or GEFCS, claiming breach of a distributor agreement and seeking damages of \$3 million. Prior to GEFCS' dissolution in 2006, we held a 40% membership interest and GE Microgen, Inc., or GEM, held a 60% membership interest in GEFCS. In January 2010, Sorooof requested, and GEM and we agreed, that the arbitration proceeding be administratively closed pending final resolution of the matter in United States District Court, Southern District of New York. On January 22, 2010, Sorooof filed a complaint in United States District Court, Southern District of New York naming, among others, Plug Power Inc., GEFCS, and GEM as defendants. On January 24, 2012, following a motion for judgment on the pleadings and motion for summary judgment, the Court dismissed with prejudice four of Sorooof's claims and dismissed without prejudice two of Sorooof's claims. The Court also dismissed with prejudice all claims against GEFCS. Sorooof filed an amended complaint on May 14, 2012 against us, GEM, and General Electric Company, re-pleading the two claims that were dismissed without prejudice. On December 12, 2012, the parties participated in a court settlement conference with the presiding judge at the United States District Court for the Southern District of New York. The case was not resolved at the settlement conference and discovery continues. Accordingly, we believe that it is too early to determine whether there is likely exposure to an adverse outcome and whether or not the probability of an adverse outcome is more than remote. We, GEFCS, GEM and General Electric Company, or GE, are party to an agreement under which we agreed to indemnify such parties for up to \$1 million of certain losses related to the Sorooof distributor agreement. GE has made a claim for indemnification against us under this agreement for all losses it may suffer as a result of the Sorooof dispute. To the extent that the dispute results in an adverse outcome for us or for any of the parties for which we have agreed to indemnify, we could suffer financially as a result of the damages it would have to pay on behalf of itself or its indemnitees.

Failure of our prospective customer demonstrations could negatively impact demand for our products.

We conduct demonstrations with a number of our prospective customers, and we plan to conduct additional demonstrations for prospective customers as required in the future. We may encounter problems and delays during these demonstrations for a number of reasons, including the failure of our technology or the technology of third parties, as well as our failure to maintain and service our products properly. Many of these potential problems and delays are beyond our control. Any problem or perceived problem with our demonstrations with these prospective customers could materially harm our reputation and impair market acceptance of, and demand for, our products.

Product liability or defects could negatively impact our results of operations.

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.

The raw materials on which our products rely may not be readily available or available on a cost-effective basis.

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.

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.

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Adverse changes in general economic conditions in the United States or any of the major countries in which we do business could adversely affect our operating results.

We are subject to the risks arising from adverse changes in global economic conditions. For example, adverse changes in general economic conditions, continuing economic uncertainties, and the direction and relative strength of the U.S. economy has become increasingly uncertain. If economic growth in the United States and other countries slows or recedes, our current or prospective customers may delay or reduce technology purchases. This could result in reductions in sales of our products, longer sales cycles, slower adoption of new technologies and increased price competition, which could materially and adversely affect our business, results of operations and financial condition.

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 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 installation and servicing of our products, may increase our costs and the price of our products.

Our products use flammable fuels that are inherently dangerous substances.

Our fuel cell systems use natural gas and hydrogen gas in catalytic reactions. While our products do not use this fuel in a combustion process, natural gas and hydrogen gas are flammable fuels that could leak in a home or business and combust if ignited by another source. Further, while we are not aware of any 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.

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 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.

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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.

Asserting, defending and maintaining our intellectual property rights could be difficult and costly and failure to do so may diminish our ability to compete effectively and may harm our operating results.

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 financial resources in either case.

We rely, in part, on contractual provisions to protect our trade secrets and proprietary knowledge, the adequacy of which may not be sufficient.

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

Our government contracts could restrict our ability to profitably commercialize our technology.

Some of our technology has been developed with state and federal government funding in the United States, Canada and other countries. The United States and Canadian governments have a non-exclusive, royalty-free, irrevocable world-wide license to practice or have practiced some of our technology developed under contracts funded by the respective government. In some cases, government agencies in the United States or Canada can require us to obtain or produce components for our systems from sources located in the United States or Canada, respectively, rather than foreign countries. Our contracts with government agencies are also subject to the risk of termination at the convenience of the contracting agency, potential disclosure of our confidential information to third parties and the exercise of march-in rights by the government. March-in rights refer to the right of the United States or Canadian governments or government agency to license to others any technology developed under contracts funded by the government if the contractor fails to continue to develop the technology. The implementation of restrictions on our sourcing of components or the exercise of march-in rights could harm our business, prospects, results of operations and financial condition. In addition, under the Freedom of Information Act, any documents that we have submitted to the government or to a contractor under a government funding arrangement are subject to public disclosure that could compromise our intellectual property rights unless such documents are exempted as trade secrets or as confidential information and treated accordingly by such government agencies.

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Risks Related to Our Securities and this Offering

If our stock price continues to remain below \$1.00, our common stock may be subject to delisting from The NASDAQ Stock Market.

On October 12, 2012, we received a deficiency notice from NASDAQ stating that we no longer comply with NASDAQ Marketplace Rule 5550(a)(2) because the bid price of our common stock closed below the required minimum \$1.00 per share for the previous 30 consecutive business days. The notice also indicated that, in accordance with Marketplace Rule 5810(c)(3)(A), we have a period of 180 calendar days, until April 10, 2013, to regain compliance with Rule 5550(a)(2). If at any time before April 10, 2013 the bid price of our common stock closes at \$1.00 per share or more for a minimum of 10 consecutive business days, NASDAQ will notify us that we have regained compliance with Rule 5550(a)(2). In the event we do not regain compliance with Rule 5550(a)(2) prior to the expiration of the 180-day period, NASDAQ will notify us that our common stock is subject to delisting. We may appeal the delisting determination to a NASDAQ hearing panel and the delisting will be stayed pending until the panel's determination. At such hearing, we would present a plan to regain compliance and NASDAQ would then subsequently render a decision. We are currently evaluating our alternatives to resolve the listing deficiency. To the extent that we are unable to resolve the listing deficiency, there is a risk that our common stock may be delisted from NASDAQ, which would adversely impact liquidity of our common stock and potentially result in even lower bid prices for our common stock.

Our stock price 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 2012, the sales price of our common stock fluctuated from a high of \$2.60 per share in the first quarter of 2012 to a low of \$0.47 per share in the fourth quarter of 2012 and in the first quarter of 2013, the sales price of our common stock traded at a low of \$0.38 per share. Our progress in developing and commercializing our products, our quarterly operating results, announcements of new products by us or our competitors, our perceived prospects, changes in securities analysts' recommendations or earnings estimates, changes in general conditions in the economy or the financial markets, adverse events related to our strategic relationships, significant sales of our common stock by existing stockholders, including one or more of our strategic partners, and other developments affecting us or our competitors could cause the market price of our common stock to fluctuate substantially. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has affected the market prices of securities issued by many companies for reasons unrelated to their operating performance and may adversely affect the price of our common stock. Such market price volatility could adversely affect our ability to raise additional capital. In addition, we may be subject to additional securities class action litigation as a result of volatility in the price of our common stock, which could result in substantial costs and diversion of management's attention and resources and could harm our stock price, business, prospects, results of operations and financial condition.

Two of our stockholders, JSC INTER RAO Capital, or INTER RAO Capital, and affiliates and associates of AWM Investment Company, including, but not limited to Special Situations Technology Fund, L.P., Special Situations Technology Fund II, L.P. and Special Situations Private Equity Fund, L.P., or, collectively, SSF, has substantial control over us and could limit our other stockholders' ability to influence the outcome of key transactions, including a change of control.

As of December 31, 2012, INTER RAO Capital and SSF owned approximately 11.75% and 23.8 %, respectively, of the outstanding shares of our common stock. As a result, each of INTER RAO Capital and SSF can significantly influence or control certain matters requiring approval by our stockholders, including the approval of mergers or other extraordinary transactions. The interests of INTER RAO Capital and SSF may differ from our interest and the interest of our other stockholders, and INTER RAO Capital and/or SSF may vote in a way which may be adverse to our interests and the interests of our other stockholders. This concentration of

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ownership may have the effect of delaying, preventing or deterring key transactions such as a change of control of our Company, could deprive our stockholders of an opportunity to receive a premium for their common stock as part of a sale of our Company and might ultimately affect the market price of our common stock. There may be other shareholders who beneficially own significant shares of our common stock such that they may influence or have control over certain Company matters. However, such shareholders have not yet filed reports to disclose their ownership of us and we cannot confirm the exact ownership of those shareholders at this time.

The sale by INTER RAO Capital or SSF of a substantial number of shares of our common stock could cause the market price of our common stock to decline and adversely affect our ability to remain listed on an exchange and/or raise capital through equity offerings.

INTER RAO Capital held 4,462,693 shares of common stock as of December 31, 2012, which represented in the aggregate approximately 11.75% of our outstanding common stock. SSF held 8,511,620 shares of common stock as of December 31, 2012, which represented in the aggregate approximately 23.8 % of our outstanding common stock. If INTER RAO Capital or its affiliates sell substantial amounts of our common stock in the public market, the market price of our common stock could decrease significantly.

Statements made by our Chief Executive Officer that appear in articles published by the Business Review on January 11, 2013 and January 16, 2013 may have impermissibly conditioned the public and constituted gun jumping in violation of the Securities Act of 1933. These articles should not be considered in isolation and you should make your investment decision only after reading this entire prospectus carefully.

Information about the Company and our business was included in two articles published by The Business Review on January 11, 2013 and January 16, 2013. In the articles, our Chief Executive Officer made certain statements about our costs, growth prospects and prospective customers that contained information not otherwise contained in the preliminary prospectus or in any other Company-authorized public statement. Such statements include the following:

Our stock value is positioned to take off as the business attracts new customers like Procter & Gamble, Mercedes and Lowe s.

Plug Power is in a good position heading into 2013. Two reasons: Material costs are going down, and large customers are making quicker decisions on purchase orders.

We dramatically reduced our material cost. Material cost is really the key lever for the long-term profitability of this business. A year ago, our material costs were about equal to our product price. Today, material costs are 65 percent of our product price. By year-end, we ll be about 60 percent of the product price. The path to profitability is much clearer now.

I would expect we ll grow shipments by 30 to 40 percent this year. If we do that again in 2014, we are a profitable company.

We re developing a product for airport ground support equipment with the government and FedEx; [and] we re looking to replace diesel generators in refrigerated trucks with fuel cells.

I believe this is the time to be buying Plug. I think the stock is more valuable than the cash they d be giving me.

Revised net loss guidance from \$17 M \$19 M range to \$27 M \$29 M for the year ending December 31, 2012.

Our Chief Executive Officer had a reasonable basis for making the reported statements, however they do not reflect the entirety of our views and prospective investors are cautioned to consider the risks and uncertainties disclosed in this Risk Factors section and elsewhere in this prospectus. The projections made by our Chief Executive Officer made in the articles, except for the revenue forecasts that were made, are contained elsewhere in this prospectus along with the assumptions upon which they were based. The articles, however, presented

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these statements in isolation, and did not include the many related risks and uncertainties that are described in this prospectus. Therefore, you should carefully consider the risks and uncertainties, together with all other information in this prospectus, including our consolidated financial statements and related notes, before investing in our securities.

We may have rescission liability in connection with the articles published in the Business Review on January 11, 2013 and January 16, 2013.

The statements made by our Chief Executive Officer in the articles appearing in the Business Review were published within close proximity to the time that our registration statement on Form S-1 was filed on January 15, 2013. It may be determined that such statements constituted an offer to purchase our securities in violation of Section 5 of the Securities Act of 1933, or the Securities Act. As a result, we may be subject to contingent rescission liabilities from those investors who purchase shares and subsequently make a claim under Section 12(a)(1) of the Securities Act alleging that we violated Section 5. If an investor was to successfully win such a claim, we may have an obligation to make a rescission offer to those investors. Although we believe the chances are remote, if rescission is required, we may continue to be liable for the original purchase price, plus interest, for a period of one year under Section 13 of the Securities Act. If all investors rescinded their securities, potential liability could amount to over \$33 million plus one year's interest. In addition, investors that successfully make such a claim under Section 12(a)(1) of the Securities Act after already having disposed of the securities may be entitled to damages and interest. We are not able to quantify or project what such damages would be, but acknowledge that in certain situations, the damages could potentially be greater than the value of the purchase price of the securities.

Our management will have broad discretion in the use of the net proceeds we receive in this offering and might not apply the proceeds in ways that increase the value of your investment.

Our management will have broad discretion over the use of our net proceeds from this offering, and you will be relying on the judgment of our management regarding the application of these proceeds. Our management might not apply our net proceeds in ways that ultimately increase the value of your investment and we might not be able to yield a significant return, if any, on any investment of these net proceeds. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our products and cause the price of our common stock to decline.

There may be future sales or other dilution of our equity, which may adversely affect the market price of our common stock.

Except as described under "Underwriting," we are not restricted from issuing additional shares of our common stock, including any securities that are convertible into or exchangeable for, or that represent the right to receive, our common stock. The market price of our common stock could decline as a result of sales of shares of our common stock or sales of such other securities made after this offering or the perception that such sales could occur.

The market price of our common stock may be adversely affected by market conditions affecting the stock markets in general, including price and trading fluctuations on the NASDAQ Capital Market.

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. The overall weakness in the economy has recently contributed to the extreme volatility of the markets which may have an effect on the market price of our common stock.

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

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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.

Investors in this offering will experience immediate and substantial dilution.

The public offering price of the securities offered pursuant to this prospectus is substantially higher than the net tangible book value per share of our common stock. Therefore, if you purchase shares of common stock and warrants in this offering, you will incur immediate and substantial dilution in the pro forma net tangible book value per share of common stock from the price per share that you pay for the common stock. If the holders of outstanding options or warrants exercise those options or warrants at prices below the public offering price, you will incur further dilution. Because the public offering price in this offering is less than \$2.27 per share, the exercise price of our existing 2011 five-year warrants to purchase shares of our common stock, which were reduced from \$3.00 per share to \$2.27 per share in March of 2012, will be further reduced from \$2.27 to \$1.41 per share in accordance with the anti-dilution provisions of such warrants, and the number of shares issuable upon exercise of such warrants would increase from 9,421,008 shares to 15,187,150 shares, both of which could result in further dilution to our stockholders. See the section entitled "Dilution" below for a more detailed discussion of the dilution associated with this offering.

If our common stock is not listed on a national securities exchange, U.S. holders of warrants may not be able to exercise their warrants without compliance with applicable state securities laws and the value of your warrants may be significantly reduced.

If our common stock is delisted from The NASDAQ Stock Market and is not eligible to be listed on another national securities exchange, the exercise of the warrants by U.S. holders may not be exempt from state securities laws. As a result, depending on the state of residence of a holder of the warrants, a U.S. holder may not be able to exercise its warrants unless we comply with any state securities law requirements necessary to permit such exercise or an exemption applies. Although we plan to use our reasonable efforts to assure that U.S. holders will be able to exercise their warrants under applicable state securities laws if no exemption exists, there is no assurance that we will be able to do so. As a result, in the event that our common stock is delisted from The NASDAQ Stock Market and is not eligible to be listed on another securities exchange, your ability to exercise your warrants may be limited. The value of the warrants may be significantly reduced if U.S. holders are not able to exercise their warrants under applicable state securities laws.

If our common stock is not listed on a national securities exchange, compliance with applicable state securities laws may be required for subsequent offers, transfers and sales of the shares of common stock and warrants offered hereby.

The shares of our common stock and the warrants are being offered pursuant to one or more exemptions from registration and qualification under applicable state securities laws. Because our common stock is listed on The NASDAQ Stock Market, we are not required to register or qualify in any state the subsequent offer, transfer or sale of the common stock or warrants. If our common stock is delisted from The NASDAQ Stock Market and is not eligible to be listed on another national securities exchange, subsequent transfers of the shares of our common stock and warrants offered hereby by U.S. holders may not be exempt from state securities laws. In such event, it will be the responsibility of the holder of shares or warrants to register or qualify the shares or the warrants for any subsequent offer, transfer or sale in the United States or to determine that any such offer, transfer or sale is exempt under applicable state securities laws.

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We have not paid cash dividends to our shareholders and currently have no plans to pay future cash dividends.

We plan to retain earnings to finance future growth and have no current plans to pay cash dividends to shareholders. Because we have not paid cash dividends, holders of our securities will experience a gain on their investment in our securities only in the case of an appreciation of value of our securities. You should neither expect to receive dividend income from investing in our securities nor an appreciation in value.

There is no public market for the warrants to purchase common stock being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any securities exchange. Without an active market, the liquidity of the warrants will be limited.

Holders of our warrants will have no rights as a common stockholder until such holders exercise their warrants and acquire our common stock.

Until holders of warrants acquire shares of our common stock upon exercise of the warrants, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders thereof will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

The warrants included in this offering may not have any value.

The warrants will expire on the fifth anniversary of the date they are issued. In the event our common stock price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value.

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FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled Prospectus Summary, Risk Factors, Management's Discussion and Analysis of Financial Condition and Results of Operations and Business, contains 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, projected or the negative of such words or other similar words or phrases. We believe that it is important to communicate our future expectations to our investors. However, there may be events in the future that we are not able to accurately predict or control and that may cause our actual results to differ materially from the expectations we describe in our forward-looking statements. Investors are cautioned not to unduly rely on forward-looking statements because they involve risks and uncertainties, and actual results may differ materially from those discussed as a result of various factors, including, but not limited to:

we continue to incur losses and might never achieve or maintain profitability;

we do not have enough cash to fund our operations to profitability and if we are unable to secure additional capital, we may need to reduce and/or cease our operations;

despite this offering, we will still require significant additional capital funding and such capital may not be available to us.

the recent restructuring plan we adopted may adversely impact management's ability to meet financial reporting requirements.

our lack of extensive experience in manufacturing and marketing our products may impact our ability to sustain a profitable commercial market for our new and existing products;

unit orders will not ship, be installed and/or converted to revenue, in whole or in part;

pending orders may not convert to purchase orders, in whole or in part;

if our stock price continues to remain below \$1.00, our common stock may be subject to delisting from The NASDAQ Stock Market;

the cost and timing of developing, marketing and selling our products and our ability to raise the necessary capital to fund such costs;

market acceptance of our GenDrive systems;

our ability to establish and maintain relationships with third parties with respect to product development, manufacturing, distribution and servicing and the supply of key product components;

the cost and availability of components and parts for our products;

our ability to develop commercially viable products;

our ability to reduce product and manufacturing costs;

our ability to successfully expand our product lines;

our ability to improve system reliability for our GenDrive systems;

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; and

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other risks and uncertainties referenced under **Risk Factors** and elsewhere in this prospectus. 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 prospectus or the respective dates of documents incorporated herein or therein that include forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

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We estimate that our net proceeds from the sale of shares of our common stock and warrants to purchase common stock by us in this offering will be approximately \$13.4 million based on an assumed public offering price of \$0.44 per share, which was the last reported sale price of our common stock on February 1, 2013, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. If the underwriters exercise their overallotment option in full, our net proceeds will be approximately \$15.5 million.

We currently intend to use all of the net proceeds of this offering received by for working capital and other general corporate purposes, including capital expenditures. The amount of what, and timing of when, we actually spend for these purposes may vary significantly and will depend on a number of factors, including our future revenue and cash generated by operations and the other factors described under **Risk Factors** in this prospectus. Accordingly, our management will have broad discretion in applying a portion of the net proceeds of this offering. Pending these uses, we intend to invest the net proceeds in high quality, investment grade, short-term fixed income instruments which include corporate, financial institution, federal agency or U.S. government obligations.

PRICE RANGE OF COMMON STOCK

Our common stock has traded on The NASDAQ Stock Market under the symbol **PLUG** since June 21, 2011 and under the symbol **PLUGD** prior to June 20, 2011. The following table sets forth, for the periods indicated, the high and low sales prices for our common stock as reported on The NASDAQ Stock Market.

	Sales prices	
	High	Low
2013		
1 st Quarter (through February 5, 2013)	\$ 0.76	\$ 0.38
2012		
1 st Quarter	\$ 2.60	\$ 1.26
2 nd Quarter	\$ 1.41	\$ 1.10
3 rd Quarter	\$ 1.30	\$ 0.76
4 th Quarter	\$ 0.92	\$ 0.47
2011		
1 st Quarter	\$ 10.70	\$ 3.60
2 nd Quarter	\$ 7.80	\$ 1.91
3 rd Quarter	\$ 2.63	\$ 1.35
4 th Quarter	\$ 2.71	\$ 1.50

On February 5, 2013, the last reported closing price of our common stock on The NASDAQ Stock Market was \$0.41. On February 5, 2013, we had approximately 631 holders of record of our common stock.

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. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. 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. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Table of Contents**CAPITALIZATION**

The following table sets forth our capitalization as of September 30, 2012:

on an actual basis;

on a pro forma basis to give further effect to our sale in this offering of 34,090,000 shares of our common stock at an assumed offering price of \$0.44 per share, which was the last reported sale price of our common stock on February 1, 2013, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

	As of September 30, 2012 (Unaudited) <i>(in thousands)</i>	
	Actual	Pro Forma
Cash and cash equivalents	\$ 9,461	\$ 22,826
Stockholders' equity (deficit):		
Common stock, \$0.01 par value per share; 245,000,000 shares authorized, actual and pro forma; 38,197,255 shares issued (including 165,906 shares in treasury), actual; 72,287,255 shares issued and outstanding, pro forma	\$ 382	723
Additional paid-in capital	801,352	814,376
Accumulated other comprehensive income	1,035	1,035
Accumulated deficit	(778,172)	(778,172)
Less common stock in treasury:		
165,906 shares	(1,552)	(1,552)
Total stockholders' equity	23,045	36,410
Total capitalization	\$ 32,506	\$ 59,236

The number of shares of our common stock set forth in the above table to be outstanding after the offering is based on 38,197,255 shares of common stock issued (including 165,906 shares in treasury) as of September 30, 2012 and excludes:

1,999,521 shares of common stock issuable upon exercise of outstanding options as of September 30, 2012 at a weighted average exercise price of \$9.01 per share (of which options to acquire 665,305 shares of common stock are vested as of September 30, 2012);

275,262 shares of common stock issuable upon the exercise of unvested restricted stock awards outstanding as of September 30, 2012;

5,485,229 shares of our common stock reserved for future issuance under our equity incentive plans as of September 30, 2012;

9,421,008 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2012, which number of shares will increase as a result of the offering due to anti-dilution provisions contained in such warrants;

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25,567,500 shares of common stock issuable upon the exercise of the warrants to be sold in this offering; and

shares of common stock issuable upon exercise of warrants to be issued to the underwriters.

Except as otherwise indicated, all information in this prospectus assumes no exercise by the underwriters of their over-allotment option.

You should read this table in conjunction with the sections of this prospectus entitled "Selected Consolidated Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes included elsewhere in this prospectus.

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If you invest in our common stock and warrants, your ownership interest will be diluted by the difference between the price per share you pay and the net tangible book value per share of our common stock immediately after this offering.

Our net tangible book value as of September 30, 2012 was approximately \$17.1 million, or \$0.45 per share of our common stock, based upon 38,031,349 shares of our common stock outstanding (which does not include 165,906 shares of common stock in treasury). Net tangible book value per share is determined by dividing our total tangible assets, less total liabilities, by the number of shares of our common stock outstanding as of September 30, 2012. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock and warrants in this offering and the net tangible book value per share of our common stock immediately after this offering.

After giving effect to the sale of 34,090,000 shares of our common stock and warrants to purchase up to 25,567,500 shares of our common stock in this offering at the public offering price of \$0.44 per combination and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of September 30, 2012 would have been approximately \$30.5 million, or \$0.42 per share. This represents an immediate decrease in net tangible book value of \$0.03 per share to existing stockholders and immediate dilution in net tangible book value of \$0.02 per share to new investors purchasing our common stock and warrants in this offering at the public offering price. The following table illustrates this dilution on a per share basis:

Public offering price per combination	\$ 0.44
Net tangible book value per share as of September 30, 2012	\$ 0.45
Decrease in net tangible book value per share attributable to this offering	\$ 0.03
Adjusted net tangible book value per share as of September 30, 2012 after giving effect to this offering	\$ 0.42
Dilution in net tangible book value per share to new investors	\$ 0.02

If the underwriters exercise in full their option to purchase 5,113,500 additional shares of common stock and warrants to purchase up to 3,835,125 shares of common stock at the public offering price, the as adjusted net tangible book value after this offering would have been \$0.42 per share, representing an decrease in net tangible book value of \$0.03 per share to existing stockholders and immediate dilution in net tangible book value of \$0.02 per share to new investors purchasing our common stock and warrants in this offering at the public offering price.

The foregoing table and discussion is based on 38,031,349 shares of common stock outstanding as of September 30, 2012 and excludes:

1,999,521 shares of common stock issuable upon exercise of outstanding options as of September 30, 2012 at a weighted average exercise price of \$9.01 per share (of which options to acquire 665,305 shares of common stock are vested as of September 30, 2012);

275,262 shares of common stock issuable upon the exercise of unvested restricted stock awards outstanding as of September 30, 2012;

5,485,229 shares of our common stock reserved for future issuance under our equity incentive plans as of September 30, 2012;

9,421,008 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2012, which number of shares will increase as a result of the offering due to anti-dilution provisions contained in such warrants;

165,906 shares of common stock in treasury;

25,567,500 shares of common stock issuable upon the exercise of the warrants to be sold in this offering; and

shares of common stock issuable upon exercise of warrants to be issued to the underwriters.

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The above share information assumes no exercise by the underwriters of their over-allotment option.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders. Also, as a result of this offering, the exercise price of our existing 2011 five-year warrants to purchase shares of our common stock, which was adjusted from \$3.00 to \$2.27 in March of 2012, will be adjusted downward further from \$2.27 to \$1.41 in accordance with the weighted-average anti-dilution provisions of such warrants, and the number of shares issuable upon exercise of such warrants would increase from 9.4 million shares to 15.2 million shares, both of which could result in further dilution to our stockholders. See Risk Factors Investors in this offering will experience immediate and substantial dilution .

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SELECTED CONSOLIDATED FINANCIAL DATA

The following tables present selected financial data and other operating information for the periods indicated. The consolidated statement of operations and comprehensive income (loss) data for the years ended December 31, 2009, 2010 and 2011 and the balance sheet data as of December 31, 2010 and 2011 have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The consolidated statement of operations and comprehensive income (loss) data for the years ended December 31, 2007 and 2008 and the balance sheet data as of December 31, 2007, 2008 and 2009 and September 30, 2011 have been derived from our audited consolidated financial statements and unaudited interim consolidated financial statements, respectively, that are not included in this prospectus. The consolidated statement of operations and comprehensive income (loss) data for the nine months ended September 30, 2011 and 2012 and the consolidated balance sheet data as of September 30, 2012 have been derived from our unaudited interim consolidated financial statements that are included elsewhere in this prospectus. The unaudited consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements, and in the opinion of management, reflect all adjustments of a normal recurring nature considered necessary to present fairly our financial position for such periods. Our historical results are not necessarily indicative of future operating results, and the interim results set forth below are not necessarily indicative of expected results for the year ended December 31, 2012 or for any future period.

Effective January 1, 2012, the company adopted the Financial Accounting Standards Board's Accounting Standards Update (ASU) No. 2011-5, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, as amended by ASU 2011-12, Comprehensive Income (Topic 220): Deferral of the Effective Date for Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in Accounting Standards Update No. 2011-05. These updates revise the manner in which entities present comprehensive income in their financial statements. The statement of comprehensive income (loss) data presented below revises historical information to illustrate the new presentation required by this pronouncement for those periods prior to adoption.

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You should read the information presented below in conjunction with our audited consolidated financial statements and related notes and other financial information included herein, and the sections entitled Capitalization , Prospectus Summary Summary Consolidated Financial Data and Management s Discussion and Analysis of Financial Condition and Results of Operations.

	2007	Years Ended December 31, (in thousands, except per share data)				Nine Months Ended September 30,	
	2008	2009	2010	2011	2011	2012	
Statements Of Operations:							
Product and service revenue	\$ 3,082	\$ 4,667	\$ 4,833	\$ 15,739	\$ 23,223	\$ 11,927	\$ 18,712
Research and development contract revenue	13,189	13,234	7,460	3,598	3,886	3,342	1,475
Licensed technology revenue				136	517	489	
Total revenue	16,271	17,901	12,293	19,473	27,626	15,758	20,187
Cost of product and service revenue	9,399	11,442	7,246	23,111	30,670	19,188	28,552
Cost of research and development contract revenue	19,045	21,505	12,433	6,371	6,232	5,506	2,390
Research and development expense	39,218	34,987	16,324	12,901	5,656	3,648	4,090
Selling, general and administrative expenses	19,323	28,333	15,427	25,572	14,546	11,051	10,556
Goodwill impairment charge		45,843					
Gain on sale of assets				(3,217)	(673)	(673)	
Amortization of intangible assets	1,614	2,225	2,132	2,264	2,322	1,755	1,727
Other income (expense), net	11,757	4,734	560	570	3,673	4,429	3,740
Net loss	(60,571)	(121,700)	(40,709)	(46,959)	(27,454)	(20,286)	(23,388)
Loss per share, basic and diluted	\$ (6.94)	\$ (13.62)	\$ (3.15)	\$ (3.58)	\$ (1.46)	\$ (1.16)	\$ (0.71)
Weighted average number of common shares outstanding	8,734	8,938	12,911	13,123	18,778	17,442	33,107
Statements of Comprehensive Income (Loss) Data:							
Net Loss	\$ (60,571)	\$ (121,700)	\$ (40,709)	\$ (46,959)	\$ (27,454)	\$ (20,286)	\$ (23,388)
Other comprehensive (loss) income:							
Foreign currency translation gain (loss)	7,739	(8,325)	1,294	277	(56)	(74)	107
Unrealized gain (loss) on available-for-sale securities	142	156	(131)	(114)	19	19	
Comprehensive Loss	\$ (52,690)	\$ (129,869)	\$ (39,546)	\$ (46,796)	\$ (27,491)	\$ (20,341)	\$ (23,281)
Balance Sheet Data:							
<i>(at end of the period)</i>							
Unrestricted cash, cash equivalents and available-for-sale securities	\$ 165,701	\$ 104,688	\$ 62,541	\$ 21,359	\$ 13,857	\$ 22,802	\$ 9,461
Trading securities auction rate debt securities		52,651	53,397				
Total assets	268,392	209,112	164,185	59,177	55,656	53,312	45,567
Borrowings under line of credit		62,875	59,375		5,405		1,000
Current portion of long-term obligations	1,384	401	533				
Long-term obligations	4,580	1,313	2,426	3,141	9,577	5,768	6,426
Stockholders equity	248,900	125,864	88,269	42,913	29,036	35,728	23,045
Working capital	163,906	86,171	60,009	25,556	22,452	24,543	15,584

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**MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL
CONDITION AND RESULTS OF OPERATIONS**

The following discussion and analysis of our financial condition and results of operations should be read together with our consolidated financial statements and the related notes and the other financial information included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed below and elsewhere in this prospectus, particularly those under Risk Factors. Dollars in tabular format are presented in thousands, except share and per share data, or otherwise indicated.

Overview

We are a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of fuel cell systems for the industrial off-road (forklift or material handling) market. We continue to leverage 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. We have made significant progress in our analysis of the material handling market. We believe we have developed reliable products which allow the end customers to eliminate incumbent power sources from their operations, and realize their sustainability objectives through clean energy alternatives.

In October, 2011 we introduced our next generation GenDrive products. These next generation fuel cell units include a simplified architecture featuring 30% fewer components, giving customers greater flexibility in managing their deployments. By the third quarter of 2012, the majority of units produced and shipped were based on the simplified architecture. During the fiscal year ended December 31, 2012, we received new orders from Stihl, Mercedes Benz, Lowes, Carter's and Ace Hardware. We also experienced add-on orders from Walmart, P&G, Coca-Cola, Sysco, Wegmans, Kroger and BMW.

We have experienced and continue to experience negative cash flows from operations and we expect to continue to incur net losses in the foreseeable future. Accordingly, in 2010, we restructured and consolidated our operations to focus on the GenDrive business. This restructuring significantly reduced our operating expenses in 2011. We have since further restructured by adopting a restructuring plan on December 11, 2012, aimed at improving organizational efficiency and conserve working capital needed to support the growth of our GenDrive business. As a result of the recent restructuring, we expect to reduce annual expenses by \$3.0 to \$4.0 million.

In November 2012, we provided guidance that our projected loss for fiscal 2012 would increase by approximately \$10.0 million as a result of decreased revenue and higher than expected cost of product and service revenue. Our net loss for the nine months ended September 30, 2012 was \$23.4 million, with total revenue for the nine months ended September 30, 2012 of \$20.2 million. The primary factor driving the increase in our projected net loss for fiscal 2012 was component quality issues which negatively impacted our cost of product and service revenue, primarily in our third quarter, and had the effect of slowing down new orders and sales traction which impacted our projected shipment volumes for the year. We have experienced recurring operating losses and as of September 30, 2012, we had an accumulated deficit of approximately \$778.2 million. Substantially all of our accumulated deficit has resulted from costs incurred in connection with our operating expenses, research and development expenses and from general and administrative costs associated with our operations. We expect that for the fiscal year 2013, operating cash burn will be approximately \$10-\$15 million, which exceeds our cash at December 31, 2012. Assuming we receive the estimated net proceeds of approximately \$13.4 million in this offering, after deducting underwriting discounts and commissions and estimated offering expenses, we expect that we will have sufficient cash to continue our operations into the first quarter of 2014.

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Net cash used in operating activities for the nine months ended September 30, 2012 was \$15.5 million. On September 30, 2012, we had cash and cash equivalents \$9.5 million and net working capital of \$15.6 million. This compares to \$22.8 million and \$24.5 million, respectively, at September 30, 2011. As of December 31, 2012, we had cash and cash equivalents of approximately \$9.4 million and accounts payable of approximately \$3.5 million. We also estimate that as of December 31, 2012, of our total accounts payable, approximately \$1.6 million were more than 30 days past due and approximately \$0.3 million were more than 120 days past due.

We are party to a Loan and Security Agreement with Silicon Valley Bank, or SVB, dated as of August 9, 2011 and modified most recently on November 29, 2012, which provides us with access of up to \$15 million financing, subject to borrowing base limitations, to support working capital needs. Based on the borrowing base calculation and our current outstanding loan balance, we currently do not have any availability under this facility.

We believe that our current cash, cash equivalents and cash generated from future sales, as well as the cash proceeds from this offering, will provide sufficient liquidity to fund operations through the end of 2013. This projection is based on our current expectations regarding product sales, cost structure, cash burn rate and operating assumptions. To date, we have funded our operations primarily through public and private offerings of our common and preferred stock, our line of credit and maturities and sales of our available-for-sale securities. We anticipate incurring substantial additional losses and may never achieve profitability.

In the event that our operating expenses are higher than anticipated or the gross margins and shipments of our GenDrive products do not increase as we expect, we may be required to implement contingency plans within our control to conserve and/or enhance our liquidity to meet operating needs. Such plans include: our ability to further reduce discretionary expenses, monetize our real estate assets through a sale-leaseback arrangement and obtain additional funding from licensing the use of our technologies. 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, and continued development and expansion of our products. 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, 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 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 any new research and development programs; and changes in our strategy or our planned activities. If we are unable to fund our operations without additional external financing and therefore cannot sustain future operations, we may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection. Alternatives we would consider for additional funding include equity or debt financing, a sale-leaseback of our real estate, or licensing of our technology. In addition to raising capital, we may also consider strategic alternatives including business combinations, strategic alliances or joint ventures. Under such conditions, if we are unable to obtain additional capital in 2013, we may not be able to sustain our future operations and may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection. After this offering, we cannot assure you that any necessary additional financing will be available on terms favorable to us, or at all. Given the difficult current economic environment, 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 financing, strategic alternatives or otherwise, there can be no assurances that the revenue or capital infusion will be sufficient to enable us to develop our business to a level where it will be profitable or generate positive cash flow. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we incur additional debt, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting

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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. Similarly, if our common stock is delisted from the NASDAQ Capital Market, it may limit 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.

Recent Developments

Loan and Security Agreement. On August 9, 2011, we entered into a revolving credit facility arrangement, or the Loan Agreement with SVB providing availability to an additional \$7.0 million to support working capital needs See Liquidity and Capital Resources for further disclosure on the credit facility with SVB. On September 28, 2011, we executed a First Loan Modification Agreement, or the Loan Modification, with SVB, amending the Loan Agreement. The Loan Modification removed the \$750,000 sublimit for outstanding letters of credit, foreign exchange contract financing and amounts utilized for cash management services, making the full \$7.0 million credit facility available for financing accounts receivable and eligible inventory. All remaining terms of the Loan and Security Agreement remain in full force and effect. On March 30, 2012, we executed a Second Loan Modification Agreement with SVB which increased our credit facility, providing us access of up to \$15.0 million financing, subject to borrowing base limitations, to support working capital needs. On November 29, 2012 we executed a Third Loan Modification Agreement with SVB, which, among other things, waived our failure to comply with the Adjusted Quick Ratio financial covenant as of the months ended September 30, 2012 and October 31, 2012, revised the future Adjusted Quick Ratio covenant level and removed our ability to request financing for Inventory Placeholder Invoices. Based on the borrowing base calculation and our outstanding loan balance, we currently have no availability under this facility.

NASDAQ Notice. On October 12, 2012, we received a deficiency notice from The NASDAQ Stock Market, or NASDAQ, stating that we no longer comply with NASDAQ Marketplace Rule 5550(a)(2) because the bid price of our common stock closed below the required minimum \$1.00 per share for the previous 30 consecutive business days. The notice also indicated that, in accordance with Marketplace Rule 5810(c)(3)(A), we have a period of 180 calendar days, until April 10, 2013, to regain compliance with Rule 5550(a)(2). If at any time before April 10, 2013 the bid price of our common stock closes at \$1.00 per share or more for a minimum of 10 consecutive business days, NASDAQ will notify us that we have regained compliance with Rule 5550(a)(2). In the event we do not regain compliance with Rule 5550(a)(2) prior to the expiration of the 180-day period, NASDAQ will notify us that our common stock is subject to delisting. We may appeal the delisting determination to a NASDAQ hearing panel and the delisting will be stayed pending until the panel's determination. At such hearing, we would present a plan to regain compliance and NASDAQ would then subsequently render a decision. We are currently evaluating our alternatives to resolve the listing deficiency.

Restructuring. On December 11, 2012, we adopted a restructuring plan to improve organizational efficiency and conserve working capital needed to support the growth of our GenDrive business. In doing so, 22 full-time positions were eliminated at our U.S. facilities. This workforce reduction was substantially completed on December 13, 2012. As a result of the restructuring, we expect to reduce annual expenses by \$3.0 to \$4.0 million. We currently estimate that we will incur pre-tax restructuring charges in the fourth quarter resulting from the restructuring of approximately \$600,000 related to severance pay and other related costs. We expect to pay the majority of these restructuring charges within the next few months. The estimates of total charges and cash expenditures that we expect to incur in connection with the restructuring, and the timing thereof, is subject to a number of assumptions, and actual results may materially differ from those stated above.

Financial Overview

Product and service revenue. Product and service revenue relates to revenue recognized from multiple deliverable revenue arrangements. Effective April 1, 2010, we adopted ASU No. 2009-13 on Topic 605, Revenue

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Recognition Multiple Deliverable Revenue Arrangements retroactive to January 1, 2010. ASU No. 2009-13 amends the FASB ASC to eliminate the residual method of allocation for multiple-deliverable revenue arrangements, and requires that arrangement consideration be allocated at the inception of an arrangement to all deliverables using the relative selling price method (see note 18 of our consolidated financial statements for further discussion of our multiple-deliverable revenue arrangements).

For all product and service revenue transactions entered into prior to the implementation of ASU No. 2009-13, we will continue to defer the recognition of product and service revenue and recognize revenue on a straight-line basis as the continued service, maintenance and other support obligations expire, which are generally for periods of twelve to thirty months, or which can extend over multiple years. While contract terms for those transactions generally required payment shortly after shipment or delivery and installation of the fuel cell system and were not contingent on the achievement of specific milestones or other substantive performance, the multiple-element revenue obligations within our contractual arrangements were generally not accounted for separately based on our limited experience and lack of evidence of fair value of the undelivered components.

Research and development contract revenue. Research and development contract revenue primarily relates to 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 generally 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.

Licensed technology revenue. Licensed technology revenue relates to the sale of licensing rights and engineering assistance. This revenue was being amortized over a twelve month period that ended in October 2011.

Cost of product and service revenue. Cost of product and service revenue includes the direct material and labor cost as well as an allocation of overhead costs that relate to the manufacturing of products we sell. In addition, cost of product and service revenue also includes the labor and material costs incurred for product maintenance, replacement parts and service under our contractual obligations. Material costs are a key driver of our product costs. We estimate that direct material costs consist of approximately 65% of our product cost, and we believe that by continuing to simplify the designs of our products, improve system reliability and grow the volume of our sales, we will have the ability to leverage our supply chain for better pricing on key components and parts. As a result, we believe that in 2013, we will be able to reduce direct material costs so that they account for approximately 60% of our product cost.

Cost of research and development contract revenue . Cost of research and development contract revenue includes 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.

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 outside suppliers for subcontracted components and services, fees paid to consultants for services provided, materials and supplies consumed, facility related costs such as computer and network services, and other general overhead costs associated with our research and development activities.

Selling, general and administrative expenses. Selling, general and administrative expenses includes cash and non-cash compensation, benefits 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.

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Gain on Sale of Assets. Gain on sale of assets represents the gain on sale of leased assets during the nine months ended September 30, 2012, the nine months ended September 30, 2011 and the year ended December 31, 2011, and the sale of inventory, equipment and certain other assets during the year ended December 31, 2010. In December 2010, we assigned all of our rights, title and interest in its leased property to Somerset Capital Group, Ltd., or Somerset. Due to contingent provisions in the agreement, the full amount of the sale could not be recognized at the time. During the quarter ended September 30, 2011 the contingent provisions of the agreement were met, and an additional \$673,000 was recorded as gain on sale of leased assets.

Effective October 26, 2010, we licensed the intellectual property relating to our stationary power products, GenCore and GenSys, to IdaTech plc on a non-exclusive basis. We maintain ownership of, and the right to use, the patents and other intellectual property licensed to IdaTech. As part of the transaction, we also sold inventory, equipment and certain other assets related to our stationary power business. Total consideration for the licensing and assets was \$5 million and was received during October 2010. This consideration was net against costs incurred to close the transaction. Accordingly, \$3.2 million was recorded to gain on sale of assets in 2010.

Amortization of intangible assets. Amortization of intangible assets represents the amortization associated with our acquired identifiable intangible assets from Plug Power Canada Inc., including acquired technology and customer relationships, which are being amortized over eight years.

Interest and other income and net realized gains from available-for-sale securities. Interest and other income and net realized gains from available-for-sale securities consists primarily of interest earned on our cash, cash equivalents, available-for-sale and trading securities, other income, and the net realized gain/loss from the sale of available-for-sale securities.

Change in fair value of common stock warrant liability. We account for common stock warrants in accordance with applicable accounting guidance provided in ASC 815, 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. Derivative warrant liabilities are valued using the Black-Scholes pricing model at the date of initial issuance and each subsequent balance sheet date. Changes in the fair value of the warrants are reflected in the consolidated statement of operations as change in the fair value of common stock warrant liability.

Gain on auction rate debt securities repurchase agreement. In December 2008, we entered into a Repurchase Agreement with the third-party lender which may require the third-party lender to repurchase the auction rate debt securities pledged as collateral for the Credit Line Agreement, at their par value, from June 30, 2010 through July 2, 2012. As a result of the Repurchase Agreement entered into with a third party lender in December 2008, we reclassified the auction rate debt securities from available-for-sale securities to trading securities. We elected to record this item at its fair value in accordance with FASB ASC No. 825-10-25, Fair Value Option. The third-party lender repurchased the securities on July 1, 2010 in accordance with the Repurchase Agreement. The corresponding Credit Line Agreement was paid in full on July 1, 2010 in conjunction with the repurchase of the auction rate debt securities. The change in fair value of approximately \$6.0 million and \$4.2 million during the years ended December 31, 2010 and 2009, respectively was recorded as a loss in the consolidated statements of operations which is offset by the change in fair value of the auction rate debt securities held as collateral of approximately \$6.0 million and \$4.2 million that is recorded as a gain in the consolidated statements of operations for the years ended December 31, 2010 and 2009, respectively.

Interest and other expense and foreign currency gain (loss). Interest and other expense and foreign currency gain (loss) consists of interest related to the Loan and Security Agreement, loan modification fees related to the Credit Line Agreement, and foreign currency exchange gain (loss).

Income taxes. We did not report a benefit for federal and state income taxes in the condensed consolidated financial statements for the nine months ended September 30, 2012, the nine months ended September 30, 2011, the year ended December 31, 2011 or the years ended December 31, 2010 and 2009 as the deferred tax asset generated from our net operating loss has been offset by a full valuation allowance because it is more likely than not that the tax benefits of the net operating loss carry forward will not be realized.

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Critical Accounting Estimates

The preparation of financial statements in conformity with 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 we must make in the preparation of our Consolidated Financial Statements and related disclosures:

Revenue recognition: Our fuel cell systems are designed to replace incumbent electric power technologies in material handling equipment. Our current product offerings are intended to offer complementary, quality power while demonstrating the market value of fuel cells as a preferred form of alternative distributed power generation. Subsequent enhancements to our initial product are expected to expand the market opportunity for fuel cells by lowering the installed cost, decreasing operating and maintenance costs, increasing efficiency and improving reliability.

Effective April 1, 2010, we adopted ASU No. 2009-13 on Topic 605, Revenue Recognition – Multiple Deliverable Revenue Arrangements retroactive to January 1, 2010. The objective of this ASU is to address the accounting for multiple-deliverable arrangements to enable vendors to account for products or services (deliverables) separately rather than as a combined unit. Vendors often provide multiple products or services to their customers. Those deliverables often are provided at different points in time or over different time periods. This ASU provides amendments to the criteria in Subtopic 605-25 for separating consideration in multiple-deliverable arrangements. The amendments in this ASU establish a selling price hierarchy for determining the selling price of a deliverable. The selling price used for each deliverable will be based on vendor-specific objective evidence, or VSOE if available, third-party evidence, or TPE if VSOE is not available, or estimated selling price, or ESP if neither VSOE nor TPE is available. The amendments in this ASU also replace the term fair value in the revenue allocation guidance with selling price to clarify that the allocation of revenue is based on entity-specific assumptions rather than assumptions of a marketplace participant and expands the disclosure requirements related to a vendor's multiple-deliverable revenue arrangements.

We enter into multiple-deliverable revenue arrangements that may contain a combination of fuel cell systems or equipment, installation, service, maintenance, fueling and other support services. We were previously prohibited from separating these multiple deliverables into individual units of accounting without VSOE of fair value or other TPE of fair value. This evidence was not available due to our limited experience and lack of evidence of fair value of the undelivered components of the sale. Without this level of evidence, we had to treat each sale as a single unit of accounting and defer the revenue recognition of each sale, recognizing revenue over a straight-line basis as the continued service, maintenance and other support obligations expired. Under ASU No. 2009-13, the requirement to have VSOE or TPE in order to recognize revenue has been modified, and it now allows the vendor to make its best estimate of the standalone selling price of deliverables when more objective evidence of selling price is not available.

For all product and service revenue transactions entered into prior to the implementation of ASU No. 2009-13, we will continue to defer the recognition of product and service revenue and recognize revenue on a straight-line basis as the continued service, maintenance and other support obligations expire, which are generally for periods of twelve to thirty months, or which extend over multiple years. While contract terms for those transactions generally required payment shortly after shipment or delivery and installation of the fuel cell system and were not contingent on the achievement of specific milestones or other substantive performance, the multiple-element revenue obligations within our contractual arrangements were generally not accounted for separately based on our limited experience and lack of evidence of fair value of the undelivered components. See Note 18 of our consolidated financial statements for further discussion of our multiple-deliverable revenue arrangements.

Product warranty reserve : The product and service revenue contracts entered into as of January 1, 2010 generally provide a one to two-year product warranty to customers from date of shipment. We currently estimate the costs of satisfying warranty claims based on an analysis of past experience and provide for future claims in

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the period the revenue is recognized. We carefully monitor the warranty work requested by our customers and management believe that our current warranty reserve appears adequate as of September 30, 2012. Our product and service warranty reserve as of September 30, 2012 was approximately \$3.0 million and is included in product warranty reserve in the consolidated balance sheets.

In addition to the standard product warranty, we have entered into certain contracts with customers that include extended warranty and maintenance terms of five to ten years from the date of installation. These contracts are accounted for as a deliverable in accordance with ASU 2009-13, and accordingly, revenue generated from these transactions is deferred and recognized in income over the warranty period. The fair value of the extended warranty and maintenance deliverable has been estimated using the projected cash outflows to meet the obligations in the related contract. Projected cash outflows have been determined using estimated product run hours, failure rates and other assumptions based on our historical experience. For more detailed information, see the Risk Factor **Certain GenDrive component quality issues have resulted in adjustments to our warranty reserves, which negatively impacted our results and delayed our new order momentum, and unanticipated future product reliability and quality issues could impair our ability to service long term warranty and maintenance contracts profitably.**

Valuation of long-lived assets: We assess the 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 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 our actual stock prices over an historical period equal to the expected life of the options, which represents our best estimate of expected volatility.

Expected option life Our 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.

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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. FASB ASC No. 718-10-55, Compensation Stock Compensation Overall Implementation and Guidance Illustrations, requires forfeitures 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.

Comparison of Nine Months Ended September 30, 2012 and Nine Months Ended September 30, 2011

Product and service revenue. Product and service revenue for the nine months ended September 30, 2012 increased \$6.8 million, or 57.1%, to \$18.7 million from \$11.9 million for the nine months ended September 30, 2011. During the nine months ended September 30, 2012, we shipped 873 fuel cell systems to end customers as compared to 412 fuel cell systems shipped during the nine months ended September 30, 2011. During the nine months ended September 30, 2012, and September 30, 2011, we deferred \$3.3 million and \$1.1 million in revenue, respectively, due to contingent provisions in our agreements, as well as certain deliverables where the criteria for recognition have not yet been met. Additionally, in the nine months ended September 30, 2012, we recognized approximately \$1.7 million of deferred revenue in connection with deliverables that met the criteria for recognition, whereas in the nine months ended September 30, 2011, we recognized approximately \$1.1 million of deferred revenue associated with deliverables that met the criteria for recognition.

Research and development contract revenue. Research and development contract revenue for the nine months ended September 30, 2012 decreased approximately \$1.8 million, or 54.5%, to \$1.5 million from \$3.3 million for the nine months ended September 30, 2011. The decrease was primarily related to fewer active projects in 2012. Additionally, in the nine months ended September 30, 2011, we shipped 40 fuel cell systems under two separate Department of Defense contracts.

Licensed technology revenue. Licensed technology revenue for the nine months ended September 30, 2011 was approximately \$489,000. There was no licensed technology revenue in 2012.

Cost of product and service revenue. Cost of product and service revenue for the nine months ended September 30, 2012 increased approximately \$9.4 million, or 49.0%, to \$28.6 million from \$19.2 million for the nine months ended September 30, 2011. The increase in the cost of product and service revenue primarily resulted from \$3.3 million in additional expenses for unanticipated warranty claims arising from GenDrive component quality issues that were identified during the quarter ended September 30, 2012. Additionally, during the nine months ended September 30, 2012, we shipped 873 fuel cell systems to end customers as compared to 412 fuel cell systems shipped during the nine months ended September 30, 2011.

Cost of research and development contract revenue. Cost of research and development contract revenue for the nine months ended September 30, 2012 decreased approximately \$3.1 million, or 56.4%, to \$2.4 million from \$5.5 million for the nine months ended September 30, 2011. The decrease was primarily a result of fewer active contracts in 2012, coupled with a lower percentage of cost sharing on active contracts in 2012. Additionally, in the nine months ended September 30, 2011, we shipped 40 fuel cell systems under two separate Department of Defense contracts.

Research and development expense. Research and development expense for the nine months ended September 30, 2012 increased approximately \$500,000, or 13.9%, to \$4.1 million from \$3.6 million for the nine months ended September 30, 2011. This increase in expense was a result of a decrease in engineering personnel charging time to government programs due to fewer government contracts during 2012.

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Selling, general and administrative expenses. Selling, general and administrative expenses for the nine months ended September 30, 2012 decreased approximately \$500,000, or 4.5%, to \$10.6 million from \$11.1 million for the nine months ended September 30, 2011. The decrease was primarily the result of restructuring charges of approximately \$474,000 recorded during 2011, coupled with a decrease in professional fees incurred during 2012. These expenses were partly offset by an increase in travel expenses, and a decline in selling, general and administrative expenses charged to government programs due to fewer government contracts during 2012.

Amortization of intangible assets. Amortization of intangible assets decreased to approximately \$1.7 million for the nine months ended September 30, 2012, compared to approximately \$1.8 million for the nine months ended September 30, 2011. The decrease was related to foreign currency fluctuations.

Interest and other income and net realized losses from available-for-sale securities. Interest and other income and net realized losses from available-for-sale securities for the nine months ended September 30, 2012 decreased approximately \$50,000, or 22.6%, to \$171,000 from \$221,000 for the nine months ended September 30, 2011. The decrease was primarily related to a decrease in rental income, partially offset by a realized loss from available-for-sale securities recorded in the first quarter of 2011.

Change in fair value of common stock warrant liability. The change in fair value of common stock warrant liability for the nine months ended September 30, 2012 decreased \$500,000 or 11.9%, to \$3.7 million from \$4.2 million for the nine months ended September 30, 2011. These variances were primarily due to changes in our common stock share price, and changes in volatility of our common stock, which are significant inputs to the Black-Scholes valuation model.

Interest and other expense and foreign currency gain (loss). Interest and other expense and foreign currency gain (loss) for the nine months ended September 30, 2012 and 2011 was approximately \$(158,000) and \$3,000, respectively. Interest and other expense related to the Credit Line Agreement was approximately \$153,000 and \$0, respectively, for the nine months ended September 30, 2012 and 2011.

Comparison of the Year Ended December 31, 2011 and Year Ended December 31, 2010

Product and service revenue. Product and service revenue for the year ended December 31, 2011 increased \$7.5 million, or 47.6%, to \$23.2 million from \$15.7 million for the year ended December 31, 2010. This increase was primarily related to increased shipments during the current year. In the product and service revenue category, there were 984 fuel cell shipments for the year ended December 31, 2011 as compared to 562 fuel cell systems shipped for the year ended December 31, 2010.

Research and development contract revenue. Research and development contract revenue for the year ended December 31, 2011 increased \$288,000, or 8.0%, to \$3.9 million from \$3.6 million for the year ended December 31, 2010. The increase was primarily related to two contracts that began in 2011, partially offset by the completion of contracts from prior years. In the research and development category, during the twelve months ended December 31, 2011 we shipped 40 GenDrive fuel cell systems under government programs.

Cost of product and service revenue. Cost of product and service revenue for the year ended December 31, 2011 increased \$7.6 million, or 32.7%, to \$30.7 million from \$23.1 million for the year ended December 31, 2010. The increase was directly related to increased fuel cell shipments to end customers. In the cost of product and service revenue category, there were 984 fuel cell shipments for the year ended December 31, 2011 and 562 fuel cell systems shipped for the year ended December 31, 2010. The increase also included an allocation of overhead costs charged to cost of product and service revenue as a result of increased sales and a focus on commercial production of our product. Accordingly, some of these costs were included in research and development expense until the second quarter of 2010, due to our focus on research and development at that time.

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Cost of research and development contract revenue. Cost of research and development contract revenue for the year ended December 31, 2011 decreased \$139,000, or 2.2%, to \$6.2 million from \$6.4 million for the year ended December 31, 2010. This decrease was primarily related to two new contracts that began in 2011, partially offset by the completion of contracts from prior years.

Research and development expense. Research and development expense for the year ended December 31, 2011 decreased \$7.2 million, or 56.2%, to \$5.7 million from \$12.9 million for the year ended December 31, 2010. This decline was primarily a result of our 2010 restructuring, which was focused on the commercialization of our GenDrive product. Prior to this restructuring our focus had been on research and development.

Selling, general and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2011 decreased \$11.0 million, or 43.1%, to \$14.6 million from \$25.6 million for the year ended December 31, 2010. This decrease was primarily a result of our May 2010 restructuring plan, including \$8.1 million in charges recorded in 2010 for this restructuring, and a \$2.1 million write-off of assets from Plug Power Canada.

Amortization of intangible assets. Amortization of intangible assets remained stable at \$2.3 million for the years ended December 31, 2011 and December 31, 2010.

Interest and other income and net realized gains from available-for-sale securities. Interest and other income and net realized gains from available-for-sale securities decreased to \$248,000 for the year ended December 31, 2011 from \$1.1 million for the year ended December 31, 2010. This decrease was primarily related to the sale of trading securities and available-for-sale securities during 2011 and 2010.

Interest and other expense. Interest and other expense for the year ended December 31, 2011 was approximately \$22,000, compared to approximately \$487,000 for the year ended December 31, 2010. The decline was primarily related to the extinguishment of the Credit Line Agreement effective July 1, 2010.

Comparison of the Year Ended December 31, 2010 and Year Ended December 31, 2009

Product and service revenue. Product and service revenue for the year ended December 31, 2010 increased \$10.9 million, or 225.7%, to \$15.7 million from \$4.8 million for the year ended December 31, 2009. Approximately \$10.5 million of the increase was related to the adoption of ASU No. 2009-13.

Research and development contract revenue. Research and development contract revenue for the year ended December 31, 2010 decreased \$3.9 million, or 51.8%, to \$3.6 million from \$7.5 million for the year ended December 31, 2009. The decrease was primarily related to having fewer active contracts in 2010.

Cost of product and service revenue. Cost of product and service revenue for the year ended December 31, 2010 increased \$15.9 million, or 218.9%, to \$23.1 million from \$7.2 million for the year ended December 31, 2009. The increase was primarily related to increased product and service fuel cell system shipments to end customers. In the cost of product and service revenue category, there were 562 fuel cell system shipments for the year ended December 31, 2010, as compared to 117 for the year ended December 31, 2009. This does not include additional shipments of 98 and 140 fuel cell shipments, respectively, that were being accounted for under a lease arrangement (until we subsequently sold the lease). Cost recognized on leased products were recorded on the consolidated balance sheets as investment in leased property and depreciated over the lease term. The increase in cost of product and service revenue was also due to an allocation of overhead costs charged to cost of product and service revenue as a result of increased sales and a focus on commercial production of our product. Accordingly, some of these costs were included in research and development expense until the second quarter of 2010, due to our focus on research and development at that time.

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Cost of research and development contract revenue. Cost of research and development contract revenue for the year ended December 31, 2010 decreased \$6.1 million, or 48.8%, to \$6.4 million from \$12.4 million for the year ended December 31, 2009. This decrease was primarily related to having fewer active contracts in 2010.

Research and development expense. Research and development expense for the year ended December 31, 2010 decreased \$3.4 million, or 21.0%, to \$12.9 million from \$16.3 million for the year ended December 31, 2009. This decrease was primarily a result of our 2010 restructuring, and corresponding wind-down of our operations in Plug Power Energy India Private Limited, Plug Power Canada and Plug Power Holland organizations. The decrease was also due to a higher allocation of overhead costs charged to cost of product and service revenue as a result of increased sales and a focus on commercial production of our product. Accordingly, some of these costs were previously included in research and development expense due to our focus on research and development at that time.

Selling, general and administrative expenses. Selling, general and administrative expenses for the year ended December 31, 2010 increased \$10.1 million, or 65.8%, to \$25.6 million from \$15.4 million for the year ended December 31, 2009. This increase was primarily a result of the corporate restructuring plan announced in May 2010, which totaled \$8.1 million and a \$2.1 million write-off of assets from Plug Power Canada.

Amortization of intangible assets. Amortization of intangible assets increased to \$2.3 million for the year ended December 31, 2010, compared to \$2.1 million for the year ended December 31, 2009. The increase was related to foreign currency fluctuations.

Interest and other income and net realized gains from available-for-sale securities. Interest and other income and net realized gains from available-for-sale securities decreased to \$1.1 million for the year ended December 31, 2010 from \$1.7 million for the year ended December 31, 2009. This decrease was primarily related to lower cash balances coupled with lower yields on our investments due to a declining interest rate environment offset by increased rental income received from our Latham facility. Interest income on trading securities and available-for-sale securities for the year ended December 31, 2010 was approximately \$352,000 and \$179,000, respectively. Interest income on trading securities and available-for-sale securities for the year ended December 31, 2009 was approximately \$906,000 and \$307,000, respectively.

Interest and other expense. Interest and other expense for the year ended December 31, 2010 was approximately \$487,000, compared to approximately \$1.1 million for the year ended December 31, 2009. Interest expense related to the Credit Line Agreement was approximately \$305,000 and \$915,000, respectively, for the years ended December 31, 2010 and 2009, respectively.

Liquidity and Capital Resources

We have experienced recurring operating losses and as of September 30, 2012, we had an accumulated deficit of approximately \$778.2 million. Substantially all of our accumulated deficit has resulted from costs incurred in connection with our operating expenses, research and development expenses and from general and administrative costs associated with our operations. To date, we have funded our operations primarily through public and private offerings of our common and preferred stock, our line of credit and maturities and sales of our available-for-sale securities. We anticipate incurring substantial additional losses and may never achieve profitability.

As of September 30, 2012, we had approximately \$15.6 million of working capital, which includes \$9.5 million of cash and cash equivalents to fund our future operations. Additionally, as of March 30, 2012, we executed a Second Loan Modification Agreement with SVB which increased our credit facility, providing us access of up to \$15 million in financing, subject to borrowing base limitations, to support working capital needs. On November 29, 2012 we executed a Third Loan Modification Agreement with SVB, which, among other things, waived our failure to comply with the Adjusted Quick Ratio financial covenant as of the months ended

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September 30, 2012 and October 31, 2012, revised the future Adjusted Quick Ratio covenant level and removed our ability to request financing for Inventory Placeholder Invoices. Based on the borrowing base calculation and our outstanding loan balance, we currently have no availability under this facility.

We believe that our current cash, cash equivalents and cash generated from future sales, as well as the cash proceeds from this offering, will provide sufficient liquidity to fund operations through the end of 2013. This projection is based on our current expectations regarding product sales, cost structure, cash burn rate and operating assumptions. In the event that our operating expenses are higher than anticipated or the gross margins and shipments of our GenDrive products do not increase as we expect, we may be required to implement contingency plans within our control to conserve and/or enhance our liquidity to meet operating needs. Such plans include: our ability to further reduce discretionary expenses, monetize our real estate assets through a sale-leaseback arrangement and obtain additional funding from licensing the use of our technologies. 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, and continued development and expansion of our products. 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, 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 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 any new research and development programs; and changes in our strategy or our planned activities. As a result, we can provide no assurance that we will be able to fund our operations without additional external financing.

Alternatives we would consider for additional funding include equity or debt financing, a sale-leaseback of our real estate, or licensing of our technology. In addition to raising capital, we may also consider strategic alternatives including business combinations, strategic alliances or joint ventures. Under such conditions, if we are unable to obtain additional capital in 2013, we may not be able to sustain our future operations and may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection. After this offering, we cannot assure you that any necessary additional financing will be available on terms favorable to us, or at all. Given the difficult current economic environment, 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 equity or debt financing, strategic alternatives or otherwise, there can be no assurances that the revenue or capital infusion will be sufficient to enable us to develop our business to a level where it will be profitable or generate positive cash flow. If we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. If we incur additional debt, a substantial portion of our operating cash flow may be dedicated to the payment of principal and interest on such indebtedness, thus limiting funds available for our business activities. The terms of any debt securities issued could also impose significant restrictions on our operations. Broad market and industry factors may seriously harm the market price of our common stock, regardless of our operating performance, and may adversely impact our ability to raise additional funds. Similarly, if our common stock is delisted from the NASDAQ Capital Market, it may limit 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.

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

<i>(in thousands)</i>	Years ended or at December 31,			Nine months ended or at September 30,	
	2009	2010	2011	2011	2012
Cash and cash equivalents at end of period	\$ 14,581	\$ 10,955	\$ 13,857	\$ 22,802	\$ 9,461
Trading securities auction rate debt securities at end of period	53,397				
Available-for-sale securities at end of period	47,960	10,403			
Borrowings under line of credit at end of period	59,375		5,405		1,000
Working capital at end of period	60,009	25,556	22,452	24,543	15,584
Net loss	40,709	46,959	27,454	20,286	23,388
Net cash used in operating activities	38,228	40,770	33,310	19,152	15,548
Purchase of property, plant, and equipment	533	1,100	1,326	1,156	292

Effective July 1, 2010, all auction rate debt securities were repurchased at par by the third-party lender holding the collateral under the Repurchase Agreement, which resulted in a corresponding reduction in amounts outstanding and the extinguishment of the Credit Line Agreement. See Management's Discussion and Analysis of Financial Condition and Results of Operations Results of Operations Gain on auction rate debt securities repurchase agreement, as well as note 7 of our consolidated financial statements.

We are a party to a loan and security agreement, as amended, the Loan Agreement with Silicon Valley Bank, or SVB, providing us with access to up to \$15.0 million of financing in the form of revolving loans, letters of credit, foreign exchange contracts and cash management services such as merchant services, direct deposit of payroll, business credit card and check cashing services.

Advances under the Loan Agreement cannot exceed a borrowing base limit calculated using an advanced rate of 80% on our eligible accounts receivable and an advanced rate of 25% on our eligible inventory (subject to a limit of the lesser of \$3 million and 30% of all outstanding advances), subject to certain reserves established by SVB and other adjustments.

Interest on advances of credit under the Loan Agreement for: financed accounts receivables are equal to SVB's prime rate, which is currently 3.25% per annum, plus 3.0% per annum or if we maintain at all times during any month an adjusted quick ratio of 2.0 to 1.0, then SVB's prime rate plus 1.50% per annum; and financed inventory is equal to SVB's prime rate plus 5.25% per annum or if we maintain at all times during any month an adjusted quick ratio of 2.0 to 1.0, then SVB's prime rate plus 3.25% per annum. The minimum monthly interest charge is \$6,000 per month.

The Loan Agreement is secured by substantially all of our properties, rights and assets, including substantially all of our equipment, inventory, receivables, intellectual property and general intangibles.

The Loan Agreement includes customary representations and warranties for credit facilities of this type. In addition, the Loan Agreement contains a number of covenants that will impose significant operating and financial restrictions on our operations, including restrictions pertaining to, among other things: the condition of inventory; maintenance of an adjusted quick ratio of at least 1.50 to 1.0; intellectual property right protection and registration; dispositions of assets; changes in business, management, ownership or business locations; mergers, consolidations or acquisitions; incurrence or assumption of indebtedness; incurrence of liens on any of our property; paying dividends or making distributions on, or redemptions, retirements or repurchases of, capital stock; transactions with affiliates; and payments on or amendments to subordinated debt. At September 30, 2012 we were in compliance with all covenants except the Adjusted Quick Ratio covenant.

The Loan Agreement also contains events of default customary for credit facilities of this type with, in some cases, corresponding grace periods, including, failure to pay any principal or interest when due, failure to comply with covenants, any material adverse change occurring, an attachment, levy or restraint on our business, certain

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bankruptcy or insolvency events, payment defaults relating to, or acceleration of, other indebtedness or that could result in a material adverse change to our business, we or our subsidiaries becoming subject to judgments, claims or liabilities in an amount individually or in aggregate in excess of \$150,000, any misrepresentations, or any revocation, invalidation, breach or invalidation of any subordinated debt.

On November 29, 2012 we executed a Third Loan Modification Agreement with SVB, which, among other things, waived our failure to comply with the Adjusted Quick Ratio financial covenant as of the months ended September 30, 2012 and October 31, 2012, revised the future Adjusted Quick Ratio covenant level and removed our ability to request financing for Inventory Placeholder Invoices.

The Loan Agreement will expire on March 29, 2013. The Loan Agreement may be terminated prior to March 29, 2013; however, we would be required to pay a \$150,000 early termination fee in connection with a termination by us for any reason or by SVB upon notice and after the occurrence and during the continuance of an event of default. Based on the borrowing base calculation and our outstanding loan balance, we currently have no availability under this facility.

As of December 31, 2012, \$3.4 million was outstanding under the loan agreement. This amount was subsequently paid in full in January, 2013.

In September 2011, we signed a letter of credit with SVB in the amount of \$525,000. The standby letter of credit is required by the agreement negotiated between Air Products and Chemicals, Inc., or Air Products, and us to supply hydrogen infrastructure and hydrogen to Central Grocers at their distribution center. There are no collateral requirements associated with this letter of credit.

Cash and Cash Equivalents

During the nine months ended September 30, 2012, cash used for operating activities was \$15.5 million, consisting primarily of a net loss of \$23.4 million, offset by changes in operating assets and liabilities of \$6.8 million, and net non-cash expenses in the amount of \$1.1 million, including \$3.2 million for amortization and depreciation, \$1.5 million for stock based compensation, \$58,000 for loss on disposal of property, plant, and equipment, offset by a \$3.7 million reduction for the change in fair value of common stock warrant liability. Cash used in investing activities for the nine months ended September 30, 2012 was \$234,000, consisting of purchases of property, plant, and equipment of \$292,000, offset by proceeds from the disposal of property, plant and equipment of \$58,000. Cash provided by financing activities for the nine months ended September 30, 2012 was approximately \$11.4 million consisting primarily of \$17.2 million in proceeds from the public offering offset by \$1.4 million in public offering costs and \$4.4 million in net repayment of borrowings under line of credit.

Financing Activities

On May 31, 2011, we completed an underwritten public offering of 8,265,000 shares of its common stock and warrants to purchase an aggregate of 7,128,563 shares of common stock (including warrants to purchase an aggregate of 929,813 shares of common stock purchased by the underwriter pursuant to the exercise of its over-allotment option). Net proceeds, after underwriting discounts and commissions and other fees and expenses payable by Plug Power, were \$18,289,883 (of this amount \$8,768,143 in fair value was recorded as common stock warranty liability at issuance date). The shares and the warrants were sold together as a fixed combination, with each combination consisting of one share of common stock and 0.75 of a warrant to purchase one share of common stock, at a price to the public of \$2.42 per fixed combination. The warrants are exercisable upon issuance and will expire on May 31, 2016. The exercise price of the warrants upon issuance was \$3.00 per share of common stock and is subject to weighted average anti-dilution provisions in the event of issuance of additional shares of common stock and certain other conditions, as further described in the warrant agreement. Additionally, in the event of a sale of the Company, and under certain conditions, each warrant holder has the right to require us to purchase such holder's warrants at a price determined using a Black-Scholes option pricing model. As a result of the March 28 and 29,

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2012 public offerings described below and pursuant to the effect of the anti-dilution provisions, the exercise price of the warrants was reduced to \$2.27 per share of common stock. Simultaneously with the adjustment to the exercise price, the number of common stock shares that may be purchased upon exercise of the warrants was increased to 9,421,008 shares and we expect that the exercise price of the warrants will be reduced and the number of shares issuable upon exercise of these warrants will be increased as a result of this offering.

On June 8, 2011, we sold 836,750 additional shares of common stock, pursuant to the underwriter's partial exercise of its over-allotment option, resulting in additional net proceeds to Plug Power of \$1,874,990.

On July 1, 2011, we sold 231,000 additional shares of common stock, pursuant to the underwriter's partial exercise of its over-allotment option, resulting in additional net proceeds to Plug Power of \$527,626.

On March 28, 2012, we completed an underwritten public offering of 13,000,000 shares of common stock. The shares were sold at \$1.15 per share for gross proceeds of approximately \$15.0 million. Net proceeds, after underwriting discounts and commissions and other estimated fees and expenses payable by us, were approximately \$13.6 million.

On March 29, 2012, we sold 1,950,000 additional shares of common stock, pursuant to the underwriter's exercise of its over-allotment option in connection with our recently announced public offering, resulting in additional net proceeds to the Company of \$2,085,525.

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 our shares owned by its 5 percent or greater shareholders a change of ownership has occurred under the provisions of IRC Section 382, our Federal and state net operating loss carryforwards could be subject to significant IRC Section 382 limitations.

Based upon an IRC Section 382 study, a Section 382 ownership change occurred in 2011 that resulted in approximately \$675 million of Federal and state net operating loss carryforwards being subject to IRC Section 382 limitations and as a result of IRC Section 382 limitations, approximately \$618 million of the net operating loss carryforwards will expire prior to utilization. As a result of the IRC Section 382 limitations, these net operating loss carryforwards that will expire unutilized are not reflected in our gross deferred tax asset as of December 31, 2011.

The ownership change in 2011 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 of approximately \$9.4 million. This will translate into unfavorable book to tax add backs in our 2011 to 2016 U.S. corporate income tax returns that resulted in a gross deferred tax liability of \$3.6 million at the time of the ownership change and \$2.6 million at December 31, 2011 with a corresponding reduction to the valuation allowance. This gross deferred tax liability will offset certain existing gross deferred tax assets (i.e. capitalized research expense). This has no impact on our current financial position, results of operations, or cash flows because of the full valuation allowance.

As a result of certain equity transactions by five percent stockholders, a Section 382 ownership change occurred during March 2012 that resulted in all but approximately \$14.9 million of the our Federal and state net operating loss carry-forwards expiring prior to utilization, which resulted in the our gross deferred tax asset and related valuation allowance decreasing by approximately \$24.6 million. The ownership change 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 of approximately \$36.5 million. This will translate into unfavorable book to tax add backs in the our 2012 to 2017 U.S. corporate income tax returns that would result in a gross deferred tax liability of \$13.9 million at the time of the ownership change with a corresponding reduction to the valuation

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allowance. This gross deferred tax liability will offset certain existing gross deferred tax assets (i.e. capitalized research expense). These decreases would have no impact on our financial position, results of operations, or cash flows. However, these potential future tax benefits would no longer be available to us.

Contractual Obligations

Contractual obligations as of December 31, 2011, under agreements with non-cancelable terms are as follows:

	Total	<1 year	1-3 Years	3-5 Years	> 5 Years
Operating lease obligations	2,913,968	730,531	850,297	631,923	701,217
Purchase obligations(A)	6,121,642	6,121,642			
Other long-term obligations(B),(C)	114,703	114,703			
Line of credit(D)	5,405,110	5,405,110			
	\$ 14,555,423	\$ 12,371,986	\$ 850,297	\$ 631,923	\$ 701,217

- (A) *Ballard* During 2010, we signed a supply agreement with Ballard Power Systems, or Ballard, which continues through December 31, 2014. Under this agreement, Ballard will serve as the exclusive supplier of fuel cell stacks for the GenDrive product line for North America and select European countries. An addendum to this agreement was signed on June 30, 2011. We have contractual obligations under this addendum to purchase 3,250 fuel cell stacks between the dates of July 2, 2011 and December 31, 2012. We also have contractual obligations related to building maintenance.
- (B) *NYSERDA* We have a contractual obligation to NYSERDA, a New York State Government agency, to pay royalties to NYSERDA based on 0.5% of net sales of our GenCore and GenSys products if product is manufactured in the state of New York. See Note 17 (Commitments and Contingencies) of the Consolidated Financial Statements for more detail.
- (C) *GE* We have a contractual obligation pursuant to a development collaboration agreement with General Electric Company, or GE. We and GE agreed to extend the terms of the agreement such that our remaining obligation to purchase approximately \$363,000 of services as of December 31, 2009 under the agreement became due and payable; however, we and GE entered into a Lease Agreement for space in our Latham, New York facility whereby the parties mutually agreed that the amount owed by us to GE under the development collaboration agreement would be offset by the rent owed by GE to us each month. The development collaboration agreement is scheduled to terminate on the earlier of (i) December 31, 2014 or (ii) upon the completion of a certain level of program activity. See Note 17 (Commitments and Contingencies) of the Consolidated Financial Statements for more detail.
- (D) *SVB* We entered into a revolving credit facility arrangement with SVB on August 9, 2011, and as a result of the Second Loan Modification Agreement entered into with SVB on March 30, 2012, the revolving credit facility now provides availability of up to \$15.0 million, subject to borrowing base limitations, to support working capital needs. See Loan and Security Agreement for additional information regarding the revolving credit facility.

Off-Balance Sheet Arrangements

None.

Quantitative and Qualitative Disclosures about Market Risk

The following discussion should be read together with our consolidated financial statements and related notes to consolidated financial statements included elsewhere in this prospectus.

We invest our excess 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,

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positions or transactions in any material fashion. Accordingly, other than with respect to auction rate debt securities, we believe that, while the investment-grade securities we hold are subject to changes in the financial standing of the issuer of such securities, 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.

As of December 31, 2010, all of our operations had been relocated to the United States. A portion of our total financial performance for 2011 was attributable to activities related to the winding up of operations in both Canada and India. Our exposure to changes in foreign currency rates was primarily related to short-term inter-company transactions with our previous Canadian and Indian subsidiaries and from client receivables in different currencies. As exchange rates vary, our results can be affected.

In addition, we may source inventory among our worldwide operations. This practice can give rise to foreign exchange risk resulting from the varying cost of inventory to the receiving location as well as from the revaluation of intercompany balances. We mitigate this risk through local sourcing efforts.

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BUSINESS

Background

We are a leading provider of alternative energy technology focused on the design, development, commercialization and manufacture of fuel cell systems for the industrial off-road (forklift or material handling) market.

We are focused on proton exchange membrane, or PEM, fuel cell and fuel processing technologies and fuel cell/battery hybrid technologies, 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. Hydrogen can also be obtained from the electrolysis of water. Hydrogen can be purchased directly from industrial gas providers or can be produced on-site at consumer locations.

We concentrate our efforts on developing, manufacturing and selling our hydrogen-fueled PEM GenDrive products on commercial terms for industrial off-road (forklift or material handling) applications, with a focus on multi-shift high volume manufacturing and high throughput distribution sites.

We have previously invested in development and sales activities for low-temperature remote-prime power GenSys products and our GenCore product, which is a hydrogen fueled PEM fuel cell system to provide back-up power for critical infrastructure. While Plug Power will continue to service and support GenSys and/or GenCore products on a limited basis, our main focus is our GenDrive product line.

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. We sell to businesses, government agencies and commercial consumers.

Business Strategy

We are committed to developing effective, economical and reliable fuel cell products and services for businesses, government agencies and commercial consumers. 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, energy security and a sustainable future.

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.

We have made significant progress in our analysis of the material handling market. We believe we have developed reliable products which allow the end customers to eliminate incumbent power sources from their operations, and realize their sustainability objectives through clean energy alternatives.

Our strategy is to focus our resources on the material handling market with our GenDrive product line, which represents an alternative to lead-acid battery configurations. Our strategy also includes the following objectives: decrease product costs by leveraging the supply chain, lower manufacturing costs, improve system reliability, expand our sales network to effectively reach more of our targeted customers and provide customers with high-quality products, 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, sustainability.

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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.

Products

We sell and continue to develop a range of fuel cell products to replace lead-acid batteries in material handling vehicles and industrial trucks for some of North America's largest distribution and manufacturing businesses. Our primary product line is GenDrive, a hydrogen fueled PEM fuel cell system to provide power to industrial vehicles. We are focusing our efforts on material handling applications (forklifts) 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. In October, 2011 we introduced our next generation GenDrive products. These next generation fuel cell units include a simplified architecture featuring 30% fewer components and a scalable design for low power applications, giving customers greater flexibility in managing their deployments. By the third quarter of 2012, the majority of units produced and shipped were based on the simplified architecture. During the fiscal year ended December 31, 2012, we received new orders from Stihl, Mercedes Benz, Lowe's, Carter's and Ace Hardware. We also experienced add-on orders from Walmart, P&G, Coca-Cola, Sysco, Wegmans, Kroger and BMW.

We continue to develop and monitor future iterations of our products aligned with our evolving product roadmap. According to Fuel Cells Bulletin, an industry publication, we had 85% world-wide market share in the fuel cell powered material handling industry as of September 2010.

Product Support & Services

To promote fuel cell adoption and maintain post-sale customer satisfaction, we offer a range of service and support options. These options include installation, commissioning, remote monitoring, product manuals, as well as on-site technical support.

Additionally, GenDrive product support and services may also include customer training and using service personnel from lift truck dealer networks. Such personnel may assist with the commissioning and installation of GenDrive products and, in some cases, regularly scheduled preventative maintenance.

Markets/Geography & Order Status

Our commercial sales for GenDrive products are in the material handling market, which primarily consist of large fleet, multi-shift operations in high-volume manufacturing and high-throughput distribution centers. We sell our GenDrive units at prices that range from \$12,000 to \$35,000 per unit. In 2012, all of our GenDrive product installations were in North America.

We shipped 873 units and received 353 orders for our GenDrive product during the nine months ended September 30, 2012, representing \$9.7 million in orders from material handling customers. We shipped 1,024 units and received 2,503 orders for our GenDrive product during the year ended December 31, 2011, representing \$46.1 million in orders from material handling customers; \$18.1 million of which were received during the fourth quarter. We estimate that we shipped approximately 1375-1390 units during the 12 months ended December 31, 2012, and based on our backlog of booked orders plus potential new orders from our sales funnel, we believe we will be able to ship approximately 2,000 units in 2013. Backlog on December 31, 2012 is estimated to have been 1,319 units, representing approximately \$26.2 million in value. Backlog on December 31, 2011 was 1,969 units representing approximately \$36.0 million in value. Backlog on December 31, 2010 was 527 units representing approximately \$12.8 million in value including approximately \$700,000 related to 20 units that were awarded under a government project. Based on our backlog and sales funnel prospects as of December 31, 2012, we believe that product shipments will increase by 30% to 40% in 2013.

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The following table sets forth certain shipment, order and backlog information (in units):

	Years Ended December 31,		Nine Months ended September 30
	2010	2011	2012
Product Shipments	552	1,024	873
Lease Shipments	98		
Cancellations/Adjustments	(20)	(37)	
Orders	543	2,503	353
Backlog	527	1,969	1,449

We have accepted orders that require certain conditions or contingencies to be satisfied prior to shipment, some of which are outside of our control. Historically, shipments made against these orders generally occur between ninety days and twenty-four months from the date of acceptance of the order.

The assembly of GenDrive products that we sell is performed at our manufacturing facility in Latham, New York. Currently, the supply and manufacture of several critical components used in our products are performed by sole-sourced third-party vendors in the U.S., Canada and China.

We intend to focus our efforts on developing, manufacturing and selling our GenDrive products and do not expect to develop or manufacture GenSys or GenCore products in the near term. The company took no GenCore or GenSys orders in 2012 and did not ship any of these products in 2012.

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, OEMs and their dealer networks.

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 in addition to several competing fuel cell companies. Over the past several years, there has been price competition in these markets. The principal competitive factors in the markets in which we operate include price, 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 with multi shift operations by offering increased productivity with lower operational costs. However, we expect competition in this space to intensify as competitors attempt to imitate our approach with their own offerings. Some of these current and potential competitors have substantial resources and may be able to provide such products and services at little or no profit or even at a loss to compete with our offerings.

Intellectual Property

We believe that neither we nor our competitors can achieve a significant proprietary position on the basic technologies currently used in PEM fuel cell systems. However, we believe the design and integration of our system and system components, as well as some of the low-cost manufacturing processes that we have developed, are intellectual property that can be protected. Our intellectual property portfolio covers among other things: fuel cell components that reduce manufacturing part count; fuel cell system designs that lend themselves

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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.

During 2012, the U.S. Patent and Trademark Office, or USPTO, issued two new patents to us and we have a total of 159 issued patents currently active with the USPTO. At the close of 2012, we had approximately 9 U.S. patent applications pending. The number of pending patent applications decreased in 2012 relative to 2011. Additionally, we have six trademarks registered with the USPTO.

In October 2010, we licensed the intellectual property relating to its stationary power products, GenCore and GenSys, to IdaTech plc on a non-exclusive basis. We maintain ownership of, and the right to use, the patents and other intellectual property licensed to IdaTech. As part of the transaction, we also sold inventory, equipment and certain other assets related to its stationary power business. Total consideration for the licensing and assets was \$5 million and was received during October 2010. The consideration was subject to reduction by a maximum of \$1 million in the event that we did not deliver certain of the assets sold. As of December 31, 2010, \$1.0 million was included in assets held for sale and \$1.0 million was included in other current liabilities in the consolidated balance sheets. Upon delivery of those certain assets in the quarter ended June 30, 2011 the \$1.0 million in consideration was released.

We formed a joint venture company based in France with Axane, S.A. under the name Hypulsion to develop and sell hydrogen fuel cell systems for the European material handling market. As part of the formation of Hypulsion, we and Hypulsion entered into a License Agreement dated as of February 29, 2012 under which we granted a license to Hypulsion of certain intellectual property.

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. A limited production of our class 1 GenDrive product was approved by a European Notified Body to carry the CE Mark. We will continue to design our GenDrive products to meet ANSI and/or other standards in 2013. We will also pursue the approval to carry the CE Mark for class 1, 2 and 3 GenDrive Products from a European Notified Body. The hydrogen tanks used in these systems will be certified to the Pressure Equipment Directive by a European Notified Body. 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 or local government entities may seek to impose regulations or competitors may seek to influence regulations through lobbying efforts.

Raw Materials

Although most components essential to our business are generally available from multiple sources, we currently obtain certain key components including, but not limited to, fuel cell stack materials and energy storage

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devices, from single or limited sources. In 2010, we signed a supply agreement with Ballard Power Systems, or Ballard, which continues through December 31, 2014. An addendum to this agreement was signed on June 30, 2011. Under this agreement, Ballard will serve as the exclusive supplier of fuel cell stacks for Plug Power's GenDrive product line for North America and select European countries. In the fourth quarter of 2012, Ballard had temporarily stopped shipping fuel cell stacks for our GenDrive product line due to a dispute with us, but we have since resolved this dispute and we are once again in good standing with Ballard as our supplier.

We believe there are a few component suppliers and manufacturing vendors whose loss to us could have a material adverse effect upon our business and financial condition. Such vendors include Ballard and Air Squared, Inc. We attempt to mitigate these potential risks by working closely with these and other key suppliers on product introduction plans, strategic inventories, coordinated product introductions and internal and external manufacturing schedules and levels.

Research and Development

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

In October of 2012, we were awarded \$2.5 million from the U.S. Department of Energy to retrofit 15 electronic tow tractors with hydrogen fueled fuel cells, to be deployed at two FedEx Express airport hub locations. In addition, we were awarded a grant from the New York State Energy Research and Development Authority in order to develop fuel cell products that could replace diesel generators in refrigerated trucks.

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 \$5.7 million, \$12.9 million and \$16.3 million in 2011, 2010 and 2009, respectively. We also had cost of research and development contract revenue of \$6.2 million, \$6.4 million and \$12.4 million in 2011, 2010 and 2009, 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.

Employees

As of December 31, 2012, we had 156 employees, including 6 temporary employees. On December 11, 2012, we adopted a restructuring plan to improve organizational efficiency and conserve working capital needed to support the growth of our GenDrive business. In doing so, 22 full-time positions were eliminated at our U.S. facilities. This workforce reduction was substantially completed on December 13, 2012. As a result of the restructuring, we expect to reduce annual expenses by \$3.0 to \$4.0 million.

Facilities

Our principal offices are located in Latham, New York. At our 36-acre campus, we own a 140,000 square foot facility that includes our general office building, our manufacturing facility, and our research and development center. We believe that this facility is sufficient to accommodate our anticipated production volumes for at least the next two years.

Legal Proceedings

In July 2008, Sorooof Trading Development Company Ltd., or Sorooof, filed a demand for arbitration against GE Fuel Cell Systems, LLC, or GEFCS, claiming breach of a distributor agreement and seeking damages of

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\$3 million. Prior to GEFCS' dissolution in 2006, we held a 40% membership interest and GE Microgen, Inc., or GEM, held a 60% membership interest in GEFCS. In January 2010, Sorooof requested, and GEM and Plug Power Inc. agreed, that the arbitration proceeding be administratively closed pending final resolution of the matter in United States District Court, Southern District of New York. On January 22, 2010, Sorooof filed a complaint in United States District Court, Southern District of New York naming, among others, Plug Power Inc., GEFCS, and GEM as defendants. On January 24, 2012, following a motion for judgment on the pleadings and motion for summary judgment, the Court dismissed with prejudice four of Sorooof's claims and dismissed without prejudice two of Sorooof's claims. The Court also dismissed with prejudice all claims against GEFCS. Sorooof filed an

amended complaint on May 14, 2012 against us, GEM, and General Electric Company, re-pleading the two claims that were dismissed without prejudice. On December 12, 2012, the parties participated in a court settlement conference with the presiding judge at the United States District Court for the Southern District of New York. The case was not resolved at the settlement conference and discovery continues. Accordingly, we believe that it is too early to determine whether there is likely exposure to an adverse outcome and whether or not the probability of an adverse outcome is more than remote. We, GEFCS, GEM and General Electric Company, or GE, are party to an agreement under which we agreed to indemnify such parties for up to \$1 million of certain losses related to the Sorooof distributor agreement. GE has made a claim for indemnification against us under this agreement for all losses it may suffer as a result of the Sorooof dispute. To the extent that the dispute results in an adverse outcome for us or for any of the parties for which we have agreed to indemnify, we could suffer financially as a result of the damages we would have to pay on our behalf or that of our indemnitees.

Table of Contents**MANAGEMENT****Executive Officers and Directors**

The following table sets forth certain information about our executive officers, key employees and directors as of the date of this prospectus.

Name	Age	Position(s)
Executive Officers		
Andrew Marsh	56	President, Chief Executive Officer and Director
Gerald A. Anderson	55	Chief Financial Officer
Gerard L. Conway, Jr.	48	General Counsel, Corporate Secretary and Senior Vice President
Erik Hansen	41	Senior Vice President
Adrian Corless	46	Chief Technology Officer, Senior Vice President
Directors		
George C. McNamee(1)	66	Chairman of the Board
Gary K. Willis(1)(2)	67	Director
Maureen O. Helmer(2)(3)	56	Director
Evgeny Rasskazov	28	Director
Larry G. Garberding(2)(3)	74	Director
Douglas T. Hickey(1)(2)(3)	57	Director
Evgeny Miroshnichenko	32	Director

(1) Member of the Compensation Committee.

(2) Member of the Audit Committee.

(3) Member of the Nominating and Corporate Governance Committee.

Andrew J. Marsh has served as our Chief Executive Officer, President and member of the Board of Directors since April 8, 2008. Previously, Mr. Marsh was a co-founder of Valere Power, where he served as CEO and a member of the company's board of directors from the company's inception in 2001 through its sale to Eltek ASA in 2007. Under his leadership, Valere grew into a profitable global operation with over 200 employees and \$90 million in revenues derived from the sale of DC power products to the telecommunications sector. During Mr. Marsh's tenure, Valere Power received many awards such as the Tech Titan award as the fastest growing technology company in the Dallas Fort Worth area and the Red Herring Top 100 Innovator Award. Prior to founding Valere, he spent almost 18 years with Lucent Bell Laboratories in a variety of sales and technical management positions. Mr. Marsh is a member of the board of directors of the California Hydrogen Business Council, a non-profit group comprised of organizations and individuals in the business of hydrogen. Mr. Marsh holds a Bachelor of Science in Electrical Engineering Technology from Temple University, a Master of Science in Electrical Engineering from Duke University and a Masters of Business Administration from Southern Methodist University. We believe Mr. Marsh's qualifications to sit on our Board include his record of success in leadership positions in technology companies having attributes similar to our Company, his extensive experience in management positions as well as his educational background in engineering and business administration.

Gerald A. Anderson joined Plug Power as Chief Financial Officer in July 2007 and, since March 2009, has also served as our Senior Vice President. He is responsible for managing all aspects of our financial, manufacturing operations and information services operations. Prior to joining Plug Power, Mr. Anderson was the Treasurer and Director of Finance for Intermagnetics General Corporation. Utilizing an acquisition growth strategy, he managed finance, treasury, risk management and business valuation functions for the medical device manufacturing company. Prior to that, he was Chief Financial Officer for J Management Company. In addition to managing finance, controllership, merger and acquisition and treasury functions, he also helped set the strategic direction of the company. Earlier in his career, Mr. Anderson spent 15 years with KeyCorp, eventually as Senior

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Vice President, Director of Business Analysis and Management Reporting. He has thirty years of financial experience. Mr. Anderson is a Director of the Cloud Institute for Sustainability Education, a New York City nonprofit organization. He holds a Bachelor of Science degree in Business Administration, with a concentration in Accounting, from the University of Arizona.

Gary K. Willis has been our director since 2003. Mr. Willis joined Zygo Corporation's Board of Directors in June 2009 after retiring as Chairman of the Board of Directors in November 2000, having served in that capacity since November 1998. Zygo Corporation is a provider of metrology, optics, optical assembly, and systems solutions to the semiconductor, optical manufacturing, and industrial/automotive markets. Mr. Willis had been a director of Zygo Corporation since February 1992 and also served as President from 1992 to 1999 and as Chief Executive Officer from 1993 to 1999. Prior to joining Zygo Corporation, Mr. Willis served as the President and Chief Executive Officer of The Foxboro Company, a manufacturer of process control instruments and systems. Mr. Willis is also a director of Rofin-Sinar Technologies, Inc. and Middlesex Health Services, Inc. Mr. Willis holds a Bachelor of Science degree in Mechanical Engineering from Worcester Polytechnic Institute. We believe Mr. Willis' qualifications to sit on our Board include his extensive experience in management and director positions with similar companies as well as his educational background in mechanical engineering.

Gerard L. Conway, Jr. has served as General Counsel and Corporate Secretary since September 2004 and, since March 2009, has also served as our Senior Vice President. In that capacity, Mr. Conway is responsible for advising us on legal issues such as corporate law, securities, contracts, strategic alliances and intellectual property. He also serves as the Compliance Officer for securities matters affecting us. During his tenure, Mr. Conway served as Vice President of Government Relations from 2005 to June 2008 and in that capacity he advocated on energy issues, policies, legislation and regulations on the state, federal, national and international levels on our behalf and the alternative energy sector. Prior to his appointment to his current positions, Mr. Conway served as our Associate General Counsel and Director of Government Relations beginning in July 2000. Prior to joining Plug Power, Mr. Conway spent four years as an Associate with Featherstonhaugh, Conway, Wiley & Clyne, LLP, where he concentrated in government relations, business and corporate law. Mr. Conway has more than nineteen years of experience in general business, corporate real estate and government relations. Mr. Conway holds a Bachelor of Arts degree in English and Philosophy from Colgate University and a Juris Doctorate from Boston University School of Law.

Erik Hansen joined Plug Power Inc. as Vice President of Business Development in 2008 and was appointed Senior Vice President in October of 2009. Mr. Hansen is responsible for directing our sales efforts. Mr. Hansen has more than 15 years of experience with cutting edge technologies related to energy storage systems. Prior to joining Plug Power, he was General Manager of Sales and Systems Engineering for Cobasys LLC in Orion, Michigan, where he worked for eight years. In that role, Mr. Hansen led the decision-making and strategic planning for the manufacture and sales of advanced energy storage solutions for both the transportation and uninterruptible power systems. Mr. Hansen holds a Bachelor of Science degree in Electrical Engineering and a Bachelor of Science degree in Computer Engineering, both from West Virginia University.

Adrian Corless joined Plug Power in April 2007 as Vice President of Technology and was appointed Chief Technology officer in June 2008. In February 2010, Mr. Corless was appointed Senior Vice President and Chief Technology Officer and is currently responsible for the development of Plug Power's products as well as guiding Plug Power's overall technology and Intellectual Property strategies. Prior to joining Plug Power, Mr. Corless was the Chief Technical Officer of Cellex Power Products and was responsible for the technical aspects of the product development process. Prior to joining Cellex, Mr. Corless worked for Ballard Power Systems Inc. and Excellsis Inc. latterly as Program Manager for the Phase 4 fuel cell bus program. Mr. Corless is an active participant in the Industrial Truck Association, an executive board member of the Canadian Hydrogen and Fuel Cell Association, a Technical Advisory Board member for the NRC Institute for Fuel Cell Innovation, and a member of both UL and CSA standards development committees. Mr. Corless holds a Masters of Applied Science degree in Mechanical Engineering from the University of Victoria and is a Registered Professional Engineer in British Columbia, Canada.

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Maureen O. Helmer has been our director since 2004. Maureen O. Helmer is currently a member of the law firm Hiscock & Barclay LLP and is the Chair of the firm's Regulatory Practice Group. Prior to her joining Hiscock & Barclay LLP, Ms. Helmer was a member of Green & Seifter Attorneys, PLLC. From 2003 through 2006 she practiced as a partner in the law firm of Couch White, LLP and then as a solo practitioner. In addition to serving as Chair of the New York State Public Service Commission from 1998 to 2003, Ms. Helmer also served as Chair of the New York State Board on Electric Generation Siting and the Environment. Ms. Helmer has advised international energy, telecommunications and industrial companies on policy and government affairs issues. Prior to her appointment as Chair, Ms. Helmer served as Commissioner of the Public Service Commission from 1997 until 1998 and was General Counsel to the Department of the Public Service Commission from 1995 through 1997. From 1984 through 1995, Ms. Helmer held several positions in the New York State Legislature. She also served as a board member of the New York State Energy Research and Development Authority, the New York State Environmental Board and the New York State Disaster Preparedness Commission during her tenure as Chair of the PSC. In addition, she was Vice Chair of the Electricity Committee of the National Association of Regulatory Utility Commissioners and a member of the NARUC Board of Directors. She was also appointed to serve as a member of the New York State Cyber-Security Task Force. Ms. Helmer earned her Bachelor of Science from the State University at Albany and her Juris Doctorate from the University of Buffalo law school. She is admitted to practice law in New York. We believe Ms. Helmer's qualifications to sit on our Board include her long history of experience with energy regulation, policy and government affairs and advising energy and industrial companies.

George C. McNamee serves as Chairman of our Board of Directors and has served as such since 1997. Mr. McNamee is a Director of iRobot Corporation. He was previously Chairman of First Albany Companies (now GLCH) and a Managing Partner of FA Tech Ventures, an information and energy technology venture capital firm. Mr. McNamee's background in investment banking has given him broad exposure to many financing and merger and acquisition issues. As an executive, he has dealt with rapid-growth companies, technological change, crisis management, team building and strategy. As a public company director, Mr. McNamee has led board special committees, chaired audit committees, chaired three boards and has been an active lead director. Mr. McNamee has previously served on public company boards, including Mechanical Technology Inc. and Home Shopping Network. He has been an early stage investor, director and mentor for private companies that subsequently went public including MapInfo (now Pitney Bowes), META Group (now Gartner Group) and iRobot. He served as a NYSE director from 1999 to 2004 and chaired its foundation. In the aftermath of the 1987 stock market crash, he chaired the Group of Thirty Committee to reform the Clearance and Settlement System. Mr. McNamee has been active as a director or trustee of civic organizations including The Albany Academies and Albany Medical Center, whose finance Committee he chaired for a dozen years. He is also a director of several private companies, a member of the Yale Development Board and a Trustee of The American Friends of Eton College. He received his Bachelor of Arts degree from Yale University. We believe Mr. McNamee's qualifications to sit on our Board include his experience serving on countless boards, his background in investment banking and experience with the financial sector and its regulatory bodies.

Larry G. Garberding has served as director since 1997. Mr. Garberding was a Director and Executive Vice President and Chief Financial Officer of DTE Energy Company and the Detroit Edison Company from 1990 until retiring in 2001. Mr. Garberding was a Certified Public Accountant, a partner with a major public accounting firm, and has been on the board of several corporations, having had responsibility for financial, operational, regulatory and sales activities. Mr. Garberding is currently a director of Altarum Institute, a non-profit research and innovations institute and Intermap Technologies Corporation, a digital mapping company. Mr. Garberding received a Bachelor of Science degree in Industrial Administration from Iowa State University. We believe Mr. Garberding's qualifications to sit on our Board include his extensive experience with power and energy companies and his background in accounting, financing and operations.

Douglas T. Hickey has served as director since October 2011. Mr. Hickey previously served on our Board of Directors from September 1, 2000 to April 24, 2006. Mr. Hickey most recently was Managing Director at Hummer Winblad Venture Partners (HWVP), one of the nation's leading software venture capital firms. Prior to

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joining HWVP in 2001, Mr. Hickey served as CEO for Critical Path, Inc. During his time there, the company grew revenue from less than \$1M to more than \$150M and earned Forbes.com Number-One Fastest Growing Company Award in 2000. Mr. Hickey previously held the CEO and President position for Global Center Inc. At Global Center, he grew the company's revenue from zero to more than \$50M of recurring revenue and achieved profitability. His focus of the company's strategy enabled rapid growth, securing customers like Yahoo, Netscape and Oracle, ultimately leading to our successful sale to Frontier Communications, (NYSE:FRO). Prior to Global Center, Mr. Hickey was CEO and President of MFS DataNet, the leading supplier of data related services to internet service providers and enterprise customers worldwide. MFS grew to more than \$1 billion in revenue and subsequently completed a successful IPO and trade sale. We believe Mr. Hickey's qualifications to sit on our Board include his extensive corporate leadership experience and his proven background growing company revenues.

Evgeny Rasskazov has been a director since October 2011. Mr. Rasskazov is the Head of Department for target capital structure for INTER RAO, or the Group. He is responsible for the Group's projects and initiatives in equity capital markets, optimization of the Group's capital structure and management of equity participations in the asset portfolio. Mr. Rasskazov has extensive experience in investment banking and corporate finance projects, developed through positions held previously in global investment banking firms Merrill Lynch and Barclays Capital. We believe Mr. Rasskazov's qualifications to sit on our Board include his experience with corporate financing and investment banking as well as his background in equity capital markets.

Evgeny Miroshnichenko has been a director since October 2011. Mr. Miroshnichenko is the Director for Strategic Development for INTER RAO. He is responsible for organization of strategic management process, development and implementation of corporate strategy, realization of strategic projects, as well as management of financial investments of the Group. Mr. Miroshnichenko has also built solid experience in corporate governance as he has held director positions in Boards of Directors in a number of Russian electricity companies. We believe Mr. Miroshnichenko's qualifications to sit on our Board include his experience with strategic corporate projects and background in financial investment management and corporate governance.

Composition of our Board of Directors

The number of our directors is fixed at eight (8), and the Board of Directors currently consists of eight (8) members. The Board of Directors is divided into three classes, with three directors in Class I, two directors in Class II, and three (3) directors in Class III. Directors in Classes I, II and III serve for three-year terms with one class of directors being elected by our stockholders at each Annual Meeting of Stockholders. Our directors are divided among the three classes as follows:

The Class I directors are Andrew Marsh, Gary K. Willis and Maureen O. Helmer, and their terms will expire at the annual general meeting of stockholders to be held in 2015;

The Class II directors are George C. McNamee and Mr. Evgeny Rasskazov, and their terms will expire at the annual general meeting of stockholders to be held in 2013; and

The Class III directors are Larry G. Garberding, Mr. Douglas T. Hickey and Mr. Evgeny Miroshnichenko, and their terms will expire at the annual general meeting of stockholders to be held in 2014.

We expect that additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

The Board of Directors has determined that Ms. Helmer and Messrs. Garberding, McNamee, Willis, Hickey, Rasskazov and Miroshnichenko are independent directors as defined in Rule 5605(a)(2) under the Marketplace Rules of the NASDAQ, or the NASDAQ Rules.

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Board Leadership Structure and Board's Role in Risk Oversight

The Board of Directors administers its risk oversight function directly and through its Audit Committee and Corporate Governance and Nominating Committee. The Board and each of these Committees regularly discuss with management our major risk exposures, their potential financial impact on Plug Power and the steps we take to manage them. The Audit Committee is responsible for oversight of Company risks relating to accounting matters, financial reporting and legal and regulatory compliance, while the Corporate Governance and Nominating Committee is responsible for oversight of risks relating to management and Board succession planning, stakeholder responses to our ethics and business practices.

The Chief Financial Officer and the General Counsel report to the Board of Directors regarding ongoing risk management activities at the regularly scheduled, quarterly Board of Directors meetings and may report on risk management activities more frequently, as appropriate. Additionally, risk management is a standing agenda item for the regularly scheduled, quarterly Audit Committee meetings.

Committees of our Board of Directors

Audit Committee

The Audit Committee consists of Messrs. Garberding (Chair), Willis and Hickey, and Ms. Helmer.

Our Board of Directors has determined that each of the members of our Audit Committee is an independent director as defined in the NASDAQ Rules and the applicable rules of the Securities and Exchange Commission, or SEC. In addition, the Board of Directors has made a determination that Mr. Garberding qualifies as an audit committee financial expert as defined in the applicable rules of the SEC. Mr. Garberding's designation by the Board as an audit committee financial expert is not intended to be a representation that he is an expert for any purpose as a result of such designation, nor is it intended to impose on him any duties, obligations, or liability greater than the duties, obligations or liability imposed on him as a member of the Audit Committee and the Board in the absence of such designation.

The Audit Committee's primary responsibility is to have oversight of our accounting and financial reporting processes and audits of our financial statements. In accordance with the Audit Committee's charter, management has the primary responsibility for the financial statements and the financial reporting process, including maintaining an adequate system of internal controls over financial reporting. Our independent auditors, KPMG LLP, or KPMG, report directly to the Audit Committee and are responsible for performing an independent audit of our consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). The Audit Committee, among other matters, is responsible for (i) appointing our independent auditors, (ii) evaluating such independent auditors' qualifications, independence and performance, (iii) determining the compensation for such independent auditors, and (iv) approving all audit and non-audit services. Additionally, the Audit Committee is responsible for oversight of our accounting and financial reporting processes and audits of our financial statements including the work of the independent auditors. The Audit Committee reports to the Board of Directors with regard to:

the scope of the annual audit;

fees to be paid to the auditors;

the performance of our independent auditors;

compliance with accounting and financial policies; and

our procedures and policies relative to the adequacy of internal accounting controls.

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Compensation Committee

The Compensation Committee consists of Messrs. Willis (Chair), McNamee and Hickey, each of whom is an independent director under the NASDAQ Rules. The Compensation Committee's primary responsibilities include: discharging the responsibilities of our Board of Directors relating to compensation of our executive officers, providing oversight of our benefit, perquisite and employee equity programs, and reviewing the adequacy of our management succession plans.

Corporate Governance and Nominating Committee

The Corporate Governance and Nominating Committee, or the Governance Committee, consists of Ms. Helmer (Chair) and Messrs. Garberding and Hickey, each of whom is an independent director under the NASDAQ Rules. The Governance Committee's responsibilities include establishing criteria for Board and committee membership, considering director nominations consistent with the requirement that a majority of the Board be comprised of independent directors as defined in the NASDAQ Rules, identifying individuals qualified to become board members, and selecting the director nominees for election at each Annual Meeting of Stockholders. The Governance Committee is also responsible for developing and recommending to the Board a set of corporate governance guidelines applicable to us and periodically reviewing such guidelines and recommending any changes thereto.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is or has at any time during the past year been one of our officers or employees. None of our executive officers currently serves or in the past year has served as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any other entity that has one or more executive officers serving as a member of our board of directors or as a member of our compensation committee.

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EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

Overview

We provide what we believe is a competitive total compensation package to our executive management team through a combination of base salary, annual incentive bonuses, long-term equity incentive compensation, and broad-based benefits programs. We place emphasis on pay-for-performance based incentive compensation, which is designed to reward our executives based on the achievement of predetermined performance goals. This Compensation Discussion and Analysis explains our compensation objectives, policies and practices with respect to our Chief Executive Officer, Chief Financial Officer, the other three most highly-compensated executive officers and an additional individual for whom disclosure would have been provided but for the fact that he was not serving as an executive officer at the end of the last completed fiscal year as determined in accordance with applicable SEC rules, who are collectively referred to as the Named Executive Officers.

Objectives of Our Executive Compensation Programs

Our compensation programs for our named executive officers are designed to achieve the following objectives:

Attract and retain talented and experienced executives;

Motivate and reward executives whose knowledge, skills and performance are critical to our success;

Provide a competitive compensation package which is weighted towards pay-for-performance and in which total compensation is primarily determined by Company and individual results and the creation of shareholder value;

Ensure fairness among the executive management team by recognizing the contributions each executive makes to our success; and

Motivate our executives to manage our business to meet our short- and long-term objectives and reward them for meeting these objectives.

Our Executive Compensation Programs

Our executive compensation primarily consists of base salary, annual incentive bonuses, long-term equity incentive compensation and broad-based benefits programs. Consistent with the emphasis we place on pay-for-performance based incentive compensation, long-term equity incentive compensation in the form of stock options and restricted stock constitute a significant portion of our total executive compensation.

Within the context of the overall objectives of our compensation programs, our Compensation Committee determined the specific amounts of compensation to be paid to each of our executives in 2012 based on a number of factors, including:

Its understanding of the amount of compensation generally paid by similarly situated companies to their executives with similar roles and responsibilities;

Our executives' performance during 2012 in general and as measured against predetermined performance goals;

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The nature, scope and level of our executives' responsibilities;

Our executives' effectiveness in leading our initiatives to increase customer value, productivity and revenue growth;

The individual experience and skills of, and expected contributions from, our executives;

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The executive s contribution to our commitment to corporate responsibility, including the executive s success in creating a culture of unyielding integrity and compliance with applicable law and our ethics policies;

The amounts of compensation being paid to our other executives;

The executive s contribution to our financial results;

Our executives historical compensation at our Company; and